YEAR 11

economics

2023

Tim Riley M. Ec Dip. Ed

"Economics in Action"

**TIM RILEY
PUBLICATIONS**

DEDICATION

In loving memory of Lola Marie Martin (1919-2012) and Penny Riley (1922-2014)
who were our Mothers and women of exceptional character

© 2022 Tim Riley Publications Pty Ltd

CONTENTS

AUSTRALIAN WEBSITE ADDRESSES

Australian Bureau of Statistics (ABS)	www.abs.gov.au
Australian Chamber of Commerce and Industry (ACCI)	www.acci.asn.au
Australian Competition and Consumer Commission (ACCC)	www.accc.gov.au
Australian Council of Trade Unions (ACTU)	www.actu.org.au
Australian Prudential Regulation Authority (APRA)	www.apra.gov.au
Australian Securities and Investments Commission (ASIC)	www.asic.gov.au
Australian Securities Exchange (ASX)	www.asx.com.au
Business Council of Australia (BCA)	www.bca.com.au
Department of Climate Change, Energy, the Environment and Water	www.dcceew.gov.au
Department of Education	www.education.gov.au
Department of Education, Skills and Employment	www.dese.gov.au
Department of Foreign Affairs and Trade	www.dfat.gov.au
Department of Planning, Industry and Environment	www.environment.nsw.gov.au
Department of Treasury	www.treasury.gov.au
Fair Work Commission (FWC)	www.fwc.gov.au
Fair Work Ombudsman (FWO)	www.fwo.gov.au
Foreign Investment Review Board (FIRB)	www.firb.gov.au
NSW Education Standards Authority (NESA)	www.educationstandards.nsw.edu.au
Productivity Commission (PC)	www.pc.gov.au
Reserve Bank of Australia (RBA)	www.rba.gov.au

PRELIMINARY COURSE OUTCOMES

The Preliminary Course is essentially microeconomic in nature, focusing on aspects of the economic behaviour of consumers, business and governments. Much of this behaviour is influenced by the operation of markets. Two key markets, the labour market and the financial market, are examined in detail. The Preliminary Course provides an essential foundation for the HSC Course in economics.

Students should achieve the following knowledge and skills outcomes in the Preliminary Course:

Outcomes (These are denoted as Preliminary Course Outcomes P1 to P12)

P1   Demonstrates an understanding of economic terms, concepts and relationships;

P2   Explains the economic role of individuals, firms and the government in an economy;

P3   Describes, explains and evaluates the role and operation of markets;

P4   Compares and contrasts aspects of different economies;

P5   Analyses the relationship between individuals, firms, institutions and government in the Australian economy;

P6   Explains the role of government in the Australian economy;

P7   Identifies the nature and causes of economic problems and issues for individuals, firms and governments;

P8   Applies appropriate terminology, concepts and theories in economic contexts;

P9   Selects and organises information from a variety of sources for relevance and reliability;

P10   Communicates economic information, ideas and issues in appropriate forms;

P11   Applies mathematical concepts in economic contexts; and

P12   Works independently and in groups to achieve appropriate goals in set time lines.

In working and studying to achieve these Preliminary Course Outcomes students are expected to:

•   '**Learn to**' examine economic issues and apply economic skills in the content of the course for each of the six Preliminary Course topics.

•   '**Learn about**' the specific content in each of the Preliminary Course topics.

INTRODUCTION TO ECONOMICS

TOPIC FOCUS

This topic focuses on why individuals, businesses and governments need to make choices about the use of resources when engaging in economic decision making. The decisions made over resource use determine the nature of an economic system and lead to a variety or diversity of economic systems in the world such as free enterprise market economies, newly industrialised economies, planned economies, transition economies (from planned to market economies), emerging and developing economies.

Students should learn to examine the following economic issues and apply the following economic skills in Topic 1 of the Preliminary course:

ECONOMIC ISSUES

- Identify the opportunity costs involved in economic decisions made by individuals, businesses and governments at local, state and national levels;

- Examine the ways that the economic problem affects individuals with different levels of income;

- Examine the implications of unemployment and technological change using production possibility frontiers; and

- Compare and contrast the ways that different economies deal with specific problems or issues.

ECONOMIC SKILLS

- Construct and interpret production possibility frontiers;

- Distinguish between equilibrium and disequilibrium situations in the circular flow of income model;

- Explain how an economy might return to an equilibrium situation from a disequilibrium situation;

- Identify bias in media items on economic issues affecting the local, state and national economies;

- Identify key features of an economy through analysis of a variety of information types and sources; and

- Work effectively in groups to investigate aspects of economics and economies.

Economics is the study of how scarce resources are allocated to satisfy the unlimited needs and wants of society. Economics is a social science because it applies a scientific method in analysing human behaviour in relation to economic decision making. The economic problem arises in society because the resources of land, labour, capital and enterprise are scarce in relation to society's needs and wants. As a result of this scarcity of resources, choices have to be made about how these scarce resources are allocated in the production of goods and services to satisfy society's needs and wants.

The major economic decisions made by society are what to produce, how much to produce, how to produce and to whom to distribute production and income. The two main types of economic system that have evolved to solve the economic problem include the market economy and the planned economy. Other types of economic systems include newly industrialised and mixed market economies.

Australia and Indonesia provide a contrast in types of economic systems and levels of economic development. Australia is a mixed market economy classified as highly developed, whilst Indonesia is also a mixed market economy but with a lower level of economic development than Australia.

CHAPTER 1

The Economic Problem

THE NATURE OF ECONOMICS

Economics is referred to as a **social science** because it studies human behaviour. It is a science because it applies a scientific method in developing and testing theories to analyse economic issues and problems. Economics can be defined as the study of the production, distribution and exchange of goods and services in an economic system. It involves the study of the problem of **scarcity of resources** in relation to human needs and wants. Economics is the science which studies human behaviour as a relationship between unlimited ends (needs and wants) and scarce means (resources) which have alternative uses. The needs and wants of people are referred to as 'ends', whilst the 'means' refer to the resources used to produce the goods and services which satisfy these ends. The actual word '**economics**' is derived from the Greek word 'oikonomia' which means 'management of the house'.

The satisfaction of people's needs and wants involves the principle of **opportunity cost** which means that the use of resources always involves an opportunity foregone in using the resources for some other activity or purpose. An economy refers to the way in which the various groups in society (such as consumers, producers or firms and governments) are organised to solve the economic problem. Australia has a market system of economic organisation. Its economy consists of **factor markets** where factor inputs or resources such as land, labour, capital and enterprise are bought and sold; and **product markets** where final goods and services are bought and sold, such as the retail and wholesale goods markets. Economic analysis involves a particular methodology called hypothesising and the testing of economic hypotheses by using empirical data. Economic methodology involves the following three steps:

1. Model building to simplify complex real world behaviour and relationships. This is known as economic hypothesising or the development of economic theories and models;

2. Making assumptions about human behaviour such as self interest and rational behaviour; and

3. Using mathematics and the statistical analysis of data to make inferences and draw conclusions about economic behaviour. This is known as the empirical testing of economic hypotheses.

The process of economic methodology is illustrated in **Figure 1.1**. Logical reasoning and mathematical techniques are used to devise and test economic models. If the model's predictions are supported by empirical testing the model is said to be valid. But if the model's predictions are not supported by empirical testing then economists have to modify their assumptions and re-specify their models. Economics has two broad branches of theory and research: **microeconomics** deals with individual economic behaviour and the operation of markets; and **macroeconomics** is the study of aggregate economic behaviour or activity in the economy as a whole. Other specialised areas of economics include the following:

- Development economics, which deals with the problems faced by developing or emerging countries;
- Welfare economics, which deals with the analysis of the distribution of income and wealth;
- Industry economics, which studies the behaviour of firms and consumers in various types of markets, industries and market structures such as competition and monopoly;
- Labour economics, which deals with the operation of the labour market; and
- The history of economic thought, which studies the development of economic analysis over time.

Economic analysis is largely concerned with **positive economics** which attempts to explain why certain economic behaviour occurs. This involves modelling, empirical testing, drawing inferences and using the results to make policy recommendations to households, firms and governments. **Normative economics** is concerned with improving economic performance by analysing the welfare or distributional impact of economic policies or the outcomes of economic behaviour on individuals and society.

Figure 1.1 The Process of Economic Methodology

```
┌─────────────────────────────┐          ┌─────────────────────────────┐
│ Devise an Economic Model and│ ◄─────── │ Re-define the Assumptions   │
│ Make Assumptions about      │          │ and Specification of the    │
│ Behaviour                   │          │ Model                       │
└─────────────────────────────┘          └─────────────────────────────┘
              │                                         ▲
              ▼                                         │
┌─────────────────────────────┐                        │
│ Draw Inferences and Make    │                        │
│ Predictions According to the│                        │
│ Model                       │                        │
└─────────────────────────────┘                        │
              │                                         │
              ▼                                         │
┌─────────────────────────────┐          ┌─────────────────────────────┐
│ Test Predictions of the     │ ───────► │ Facts Do Not Support the    │
│ Model Using Real World      │          │ Theory                      │
│ Economic Data/Statistics    │          │                             │
└─────────────────────────────┘          └─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐          ┌─────────────────────────────┐
│ Facts Support the Theory    │ ───────► │ Make Policy Recommendations │
└─────────────────────────────┘          └─────────────────────────────┘
```
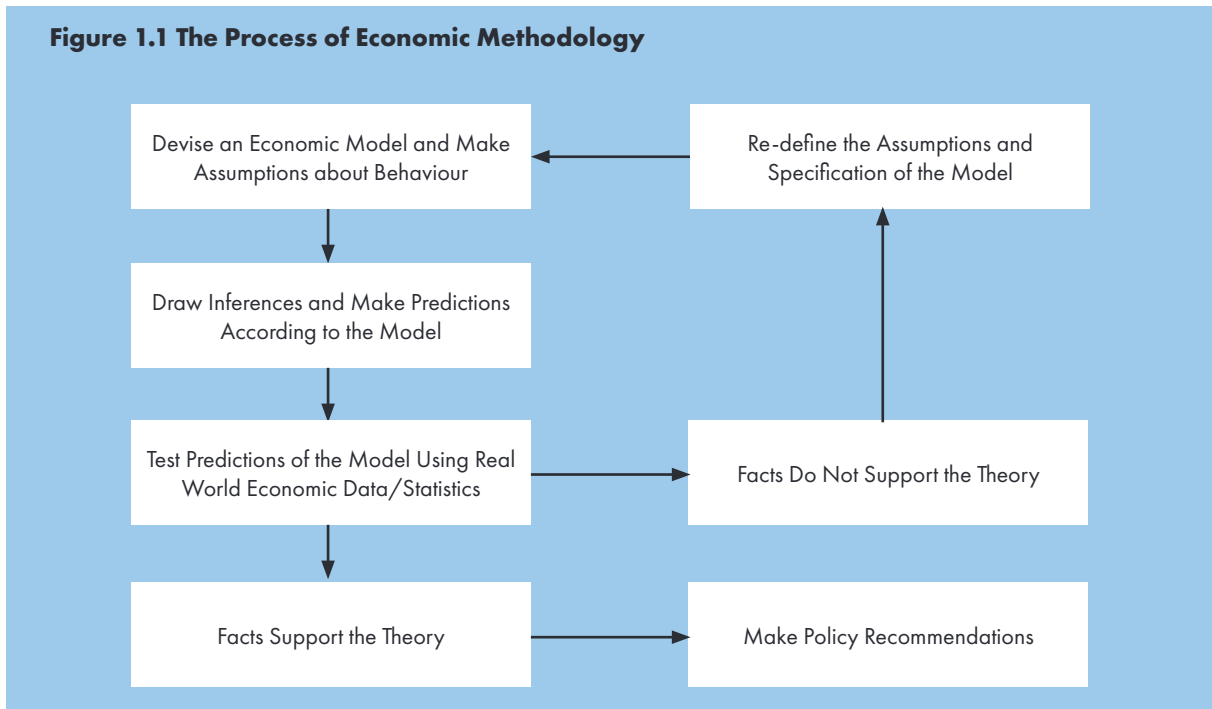
THE ECONOMIC PROBLEM

The economic problem arises because the supply of resources (i.e. land, labour, capital and enterprise) is limited or finite in relation to the demand or wants of individuals. **Wants** are the desires of individuals, communities and countries for goods and services that will satisfy these desires. For example, wants could include food and water to satisfy hunger and thirst, or cars and housing to satisfy the demand for transport and shelter. Basic wants such as food and water, which are essential for life or survival are referred to in economics as **needs**. Luxury wants are the desires for goods and services that assist in raising living standards such as cars and televisions, but they are not considered to be essential for life.

Wants and Needs

Wants are defined as human desires for goods and services which satisfy the demand for items such as food, clothing and shelter. Wants can be classified in economics according to their nature:

- **Basic wants** are needs that all individuals must satisfy to some degree to survive, such as food, water, clothing and shelter. Without these basic wants being satisfied, individuals might not survive in their environment, or at the very least, experience a very low standard of living, or live in poverty.

- **Recurring wants** are those wants that must be continually satisfied, or satisfied at regular intervals, such as food, water, clothing and shelter so that people can physically survive.

- **Substitute wants** are those wants that are interchangeable, such as a consumer wanting to buy a second hand car instead of a new car because it is within the consumer's budget or level of income.

- **Luxury wants** are the desires for goods and services which satisfy needs in excess of basic goods and services needed for survival, such as the desire for holidays, computers, entertainment and cars.

- **Complementary wants** refer to those wants which are derived from other wants such as cars and petrol, knives and forks, computers and printers. These goods are all complementary in use.

- **Individual wants** are the wants of each person according to their preferences and income, such as the types of food, clothing and shelter they prefer and can afford to buy with their money income.

- **Collective wants** are the wants demanded by a community or a group of people such as health care, education, roads, defence, transport, police, ambulance, emergency and fire brigade services.

Since the wants of a society for goods and services are unlimited in relation to the finite supply of resources, the **problem of scarcity** arises since not all wants can be satisfied at once. The main types of goods used to satisfy wants are called consumer goods and capital goods. **Consumer goods and services** basically give immediate satisfaction for consumer wants. Some consumer goods and services are **single use** in that once they are consumed they cease to exist and have to be produced or supplied again such as food, water and petrol. Other consumer goods and services are **durable** and may be used over and over again such as personal computers, mobile phones, televisions and cars. **Capital goods** such as machines, tools, plant and equipment are used to produce more consumer and capital goods in the future and are durable. However capital goods are also subject to **depreciation** (i.e. wear and tear over time) and may have to be replaced in the future. For example, a machine which is worn out or obsolete may have to be replaced by a newer and more efficient machine for use in the production of goods and services.

Resources or the Factors of Production

Resources refer to the factors of production in economics. The factors of production are bought and sold in **factor markets** and are used in the production process to produce goods and services to satisfy the needs and wants of consumers. The quantity and quality of a country's resources will affect the standard of living of its residents. There are four factors of production or types of resources in economics:

1. **Land** refers to all natural resources such as forests, minerals, agricultural land, soil, animals, fish, water, climate and vegetation. The factor income return or payment for the use of land resources is called **rent**. The amount of rent paid is determined by the productivity of land resources.

2. **Labour** refers to the human effort (both intellectual and physical) used in the production of goods and services. A country's labourforce is the percentage of the population actually employed (full time and part time) plus those unemployed but available for work, and actively seeking work. The factor income return or payment for the use of labour resources is called **wages**.

3. **Capital** refers to the 'produced means of production' or the goods that are used to produce more goods and services in the future such as machinery, plant, tools and equipment. Capital goods may also be referred to as producer goods. The factor income return or payment for capital is called **interest** because for capital to be created, savings must be accumulated out of current income, then lent to borrowers through the process of investment. Since the cost of borrowing funds in financial markets is interest, the factor income return or payment to capital is known as **interest**.

4. **Enterprise** or entrepreneurship refers to the ability of entrepreneurs to take risks in organising the other factors of production in a business to produce goods and services for other people. The factor income return or payment to the entrepreneur for risk taking in business is called **profit**.

Resources are finite since their supply cannot be increased in the short term. Although more land can be farmed, more labour created through population growth and immigration, more capital produced and more entrepreneurial resources trained or encouraged, the supply of resources is relatively fixed in the short term in relation to individual and community needs and wants. The factor income returns of rent, wages, interest and profit are called **factor incomes** since they represent the incomes of the owners of these factors of production. For producers or businesses which buy and use the factors of production, the payments made for these resources are known as **factor payments, factor costs** or **factor prices**.

The Problem of Scarcity

The basic economic problem involves the **scarcity of resources** in relation to society's needs and wants. Because of this scarcity of resources, choices have to be made about how resources will be used in production. Scarcity arises because the demand for goods and services used to satisfy needs and wants, exceeds the supply of resources used to produce those goods and services at any point in time. Choices therefore have to be made about which needs and wants should be satisfied first, and which ones should be postponed to a date in the future. For example, firms may use their resources to produce consumer goods in the present and postpone or delay investment in the production of capital goods for the future.

Figure 1.2: The Economic Problem

| Limited or Finite Resources | ←→ | Unlimited Wants |

Relative Scarcity

Choices have to be made Between Alternatives

| How to Produce? | What to Produce and How Much to Produce? | To Whom to Distribute? |

| Resource Allocation, Costs and the Level of Technology | Consumer/Capital Goods Mix, the Level of Consumer Demand and Resource Availability | Distribution of Final Output and Income |

Figure 1.2 illustrates how the economic problem of scarcity arises, which necessitates choices being made at individual, community and national levels about which needs and wants will be satisfied first, and how they will be satisfied with a given level of resources and technology. The economic problem involves decision making about production, resource allocation and the distribution of final output and income. These decisions are illustrated in **Figure 1.2** and involve answering the following four questions:

1. What to produce?   This is a decision about the consumer/capital goods mix in production.
2. How much to produce?   This is dependent on the level of consumer demand and resource availability.
3. How to produce?   This depends on resource availability and the level of technology.
4. To whom to distribute?   This depends on factor incomes and the provision of welfare.

Individual and Social Choices Involve an Opportunity Cost

Individuals as well as societies have to make choices about which wants and needs should be satisfied in the present, and which ones should be satisfied in the future. An example might be an individual consumer who wants to buy both food and clothing with a limited amount of money income. If a person had $100 to go shopping with, he or she could spend $50 on food and $50 on clothing, apportioning the money equally between the two goods they want to buy. Alternatively the consumer could spend $80 on food and $20 on clothing in the hope of saving more money in the future to buy more clothing. Another alternative might be for the consumer to spend $60 on clothing and $40 on food, thereby incurring an opportunity cost by sacrificing less spending on food for more on clothing.

The sacrifice involved in this example is called **opportunity cost** in economics. Opportunity cost or real cost or economic cost refers to the cost of the alternative foregone by present consumption or production decisions. Since most consumers cannot buy everything they want, they must choose between competing alternatives. This process of making choices is known as **economising** or optimising consumption subject to a budget or income constraint. In economising, individuals must weigh up the benefits of having more of one good or service against the cost of having less of another good or service.

Societies also face similar choices in the way that they allocate limited resources or income. A society that places a higher value on current living standards and consumer goods production might allocate more resources to the production of food, clothing, houses, cars and other luxuries, and less on capital goods production such as the building of new factories, shops, offices and farms for the future production of consumer goods and services. In such a situation the society will enjoy higher living standards in the present but lower living standards in the future, because it has not devoted enough resources to investment in the stock of capital goods for the future production of goods and services. This will limit society's future production of consumer goods and services and future standards of living.

On the other hand, a society that places a higher value on future living standards, might allocate more resources to investment in capital goods production in the present, rather than consumer goods production. In such a situation the society will have lower living standards in the present, but enjoy higher living standards in the future as it will be able to produce more consumer goods and services.

Other examples of choices faced by societies include the expenditure of taxation revenue by governments on capital works and community services. For example, a government on behalf of the community which elected it, may face the choice of building a new school or a new hospital versus upgrading a road or increasing expenditure on police or ambulance services. Decisions over these choices are usually resolved through a combination of factors: community preferences, the government's budget constraint, political debate and project specific costs and benefits. Therefore opportunity cost is implicit in all economic decision making, whether by individual consumers, business firms or governments.

✎ REVIEW QUESTIONS

THE ECONOMIC PROBLEM

1. Define the term 'economics'. Why is economics regarded as a social science? Explain the difference between the study of microeconomics and macroeconomics.

2. Using some examples, distinguish between needs and wants. Distinguish between individual and collective wants, complementary and substitute wants.

3. Refer to Figure 1.1 and explain the main steps used in economic methodology. Develop your own economic theory or hypothesis and test it (i.e. by gathering empirical evidence or data or statistics) to see if it is capable of predicting or explaining economic behaviour.

4. Describe the basic characteristics and factor income returns of the four factors of production.

5. Explain how and why the economic problem arises. Refer to Figure 1.2 and explain how individuals and societies must make decisions about alternatives or choices they face in solving the economic problem.

6. Start a glossary of terms and include definitions of the following concepts:

capital goods	enterprise/entrepreneurship	opportunity cost
consumer choices	exchange	production
consumer goods	factors of production	profit
consumer preferences	incomes	rent
consumption	interest	resource allocation
decision making	labour	resources
distribution	land	scarcity
economic model	macroeconomics	technology
economic problem	microeconomics	wages
economics	needs	wants

OPPORTUNITY COST AND PRODUCTION POSSIBILITY CURVES

The cost of the alternative uses of resources in economics is known as **opportunity cost**. Opportunity cost is the cost of the alternative foregone. Opportunity cost may be expressed in terms of money. For example, if you had $20 and spent it on food instead of drinks, the opportunity cost is the $20 worth of drinks foregone. Opportunity cost may also be expressed in terms of time: doing an assignment or exam for two hours may be represented as an opportunity cost of two hours of playing sport or socialising with friends. Opportunity cost can also be applied to the decisions of firms and governments.

Opportunity cost is best illustrated by using a model of the production possibility frontier or curve. An economy's **production possibility frontier** refers to the maximum production potential of the economy with a given, fixed or finite level of resources. The production possibility curve or model for an economy used in the following example has four **simplifying assumptions**:

1. Only two goods, food and cars, can be produced with the limited or finite resources available.

2. All resources are fully employed, so that any one point on the production possibility curve represents the full employment of the economy's available resources of land, labour, capital and enterprise.

3. The level of technology in the economy is assumed to be constant or fixed.

4. Resources are fixed or finite, but can be allocated to the production of one good or another (i.e. food or cars), or some combination of the two goods, because resources are transferable or mobile, and can therefore be switched from one type of production to another.

The production possibilities or possible production combinations for a hypothetical economy, called Zedland, are outlined in the production possibility schedule in **Table 1.1**. It shows various combinations of the production of food and cars using the economy's resources. This data can be graphed to construct the production possibility curve for Zedland shown in **Figure 1.3**, and denoted by the line PQ.

Table 1.1: Production Possibility Schedule for Zedland

Food Production	0	50	100	150	200	Unattainable Points
Car Production	200	150	100	50	0	-----------------
Combination Point	P	A	B	C	Q	G, H and I

At one extreme in **Table 1.1** Zedland could use all of its resources to produce only food (200 units) and no cars (Point Q), or only cars (200 cars) and no food (Point P). Alternatively, it could produce any combination of food and cars between these two extreme positions (e.g. Points A, B or C). For example, with a given level of resources and the current state of technology, Zedland could produce 100 units of food and 100 cars at Point B. Point B therefore represents the full employment of Zedland's resources.

Alternatively Zedland could produce 150 cars and 50 units of food at Point A, which also represents the full employment of resources. The opportunity cost of moving from Point B to Point A is 50 units of food production sacrificed in order to increase car production by 50 units, from 100 units to 150 units. A movement from point A to point B by Zedland would mean a sacrifice (or opportunity cost) of 50 cars to gain an extra 50 units of food output. The opportunity cost involved in the example above can be measured by calculating the opportunity cost co-efficient from **Table 1.1**.

The opportunity cost of moving from point A to point B   =   50/50   =   1 car

The opportunity cost of moving from point B to point A   =   50/50   =   1 food

The opportunity cost co-efficient is known as the **marginal rate of substitution** (MRS) and in the

Figure 1.3: The Production Possibility Frontier for Zedland
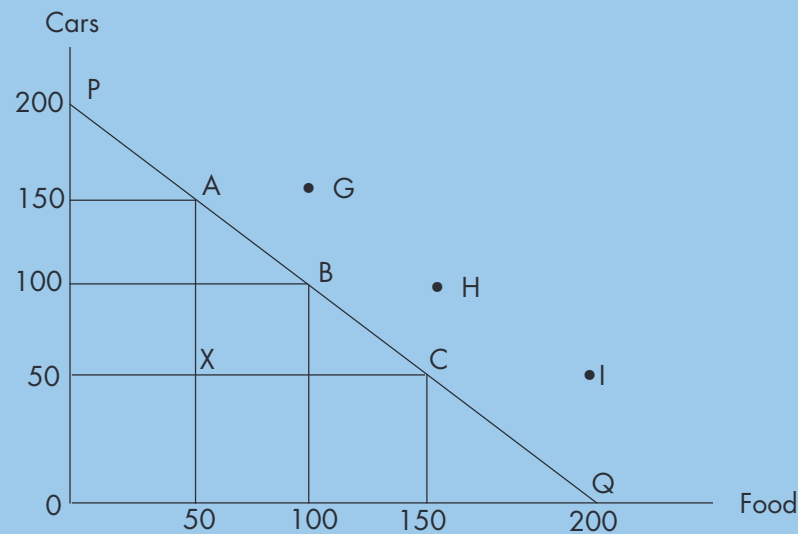
example it is constant (i.e. 1 car for 1 food, or 1 food for 1 car). This is why the production possibility curve in **Figure 1.3** is a straight line denoted by a constant slope or constant MRS. Points G, H and I which lie outside Zedland's production possibility curve (PQ) in **Figure 1.3** are unattainable in the present period, because the current level of resources and the state of technology are not sufficient to achieve these particular production combinations of food and cars. Point X on the otherhand which lies within the production possibility curve represents unemployed resources in the economy of Zedland.

However Points G, H and I may become possible production combinations of food and cars for Zedland in the future if any of the following events occur:

- More resources are discovered, which would increase the production potential of the economy; or
- There is an increase in the productivity of existing resource use; or
- There is an improvement in the level of technological progress.

Production Possibilities, Increased Resources and Technological Progress

If some of the assumptions of the production possibility model for Zedland are relaxed, production alternatives or choices for the economy of Zedland will change. For example, if there is an advance in car production technology (e.g. the use of robots for welding or cheaper car components), the production possibility curve will move outwards from PQ to P_1Q along the car axis, increasing the production potential for cars from 200 to 300 as illustrated in **Figure 1.4**. With the same level of resources an extra 100 cars could be produced, which expands Zedland's production possibility frontier.

Similarly an advance in the technology of food production (such as the use of higher yielding varieties of crops or better fertilisers) could increase food production potential from 200 to 300, shifting the production possibility frontier from PQ to PP_2 along the food axis as illustrated in **Figure 1.4**.

If the assumption about a finite level of resources is relaxed and more resources are discovered or utilised, the existing production possibility curve would shift outwards from the original curve of PQ, to the new curve of P_1P_1, allowing the production of both more cars and more food (i.e. 300 units of each) as illustrated in **Figure 1.5**. But if resources were destroyed by a natural or human disaster (such as a drought, flood or war), the production possibility curve would shift inwards from PQ to P_2P_2 in **Figure 1.5**, reducing the production possibilities for both car and food production to 100 units of each good.

Figure 1.4: The Effect of Technological Progress on the Production Possibility Curve
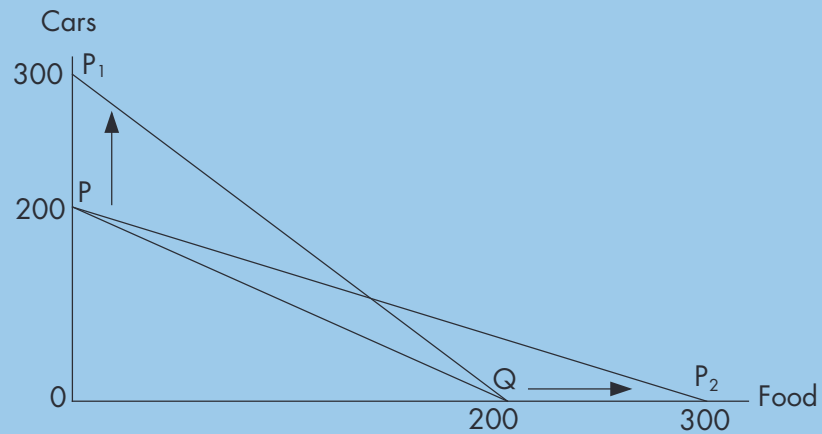
Figure 1.5: The Effect of Changes in Resources on the Production Possibility Curve
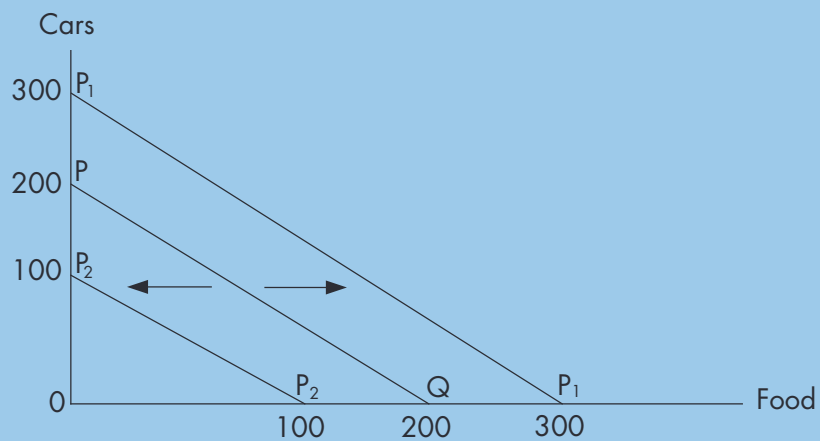
Figure 1.6: Unemployed Resources and the Production Possibility Curve
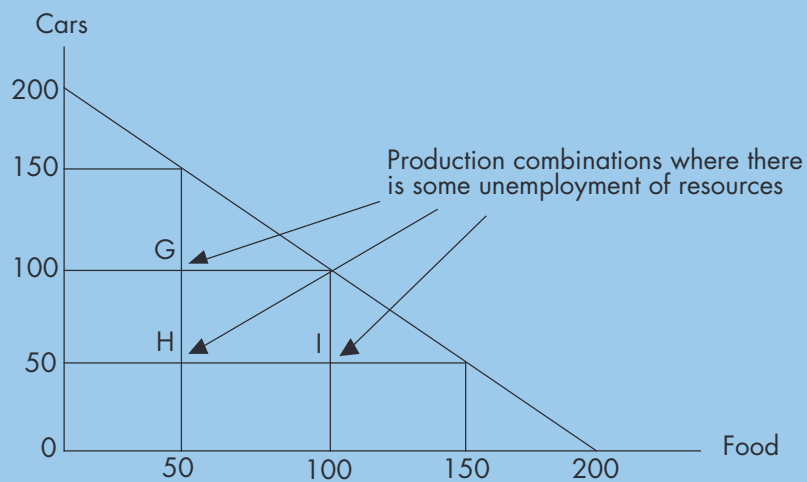
A further assumption that can be relaxed to make the production possibility model more realistic is that resources may not be fully employed. This means that some land, labour, capital or entrepreneurial resources are unemployed or idle, leading to the economy not achieving its full production potential. This is illustrated in **Figure 1.6** by points G, H and I, which lie within the production possibility frontier, and indicate inefficient production and the existence of unemployed resources in the economy.

In the real world, resources may not be perfectly substitutable (i.e. allowing them to be switched easily from type of production to another). For this reason countries' production possibility frontiers may not be represented by straight lines with constant marginal rates of substitution between productive inputs or resources. When resources are not perfectly substitutable in production, the production possibility curve for consumer and capital goods is concave to the origin as illustrated in **Figure 1.7**.

Inward and outward movements of the production possibility frontier can still however be shown if resources and the level of technological progress change. A reduction in the quantity of resources or a fall in the productivity of resources will be represented by a leftward or inward movement of the production possibility curve from PP to P_2P_2 in **Figure 1.7**. An increase in resource use or an improvement in the productivity of resource use due to technological change or the enhanced productivity of resources will result in an outward movement in the production possibility curve from PP to P_1P_1 in **Figure 1.7**.

Production Possibilities and Economic Growth

Production possibility curves can also be used to illustrate how the process of economic growth occurs. In **Figure 1.7** an economy operating at Point A is producing more consumer goods and less capital goods than an economy operating at Point B. Therefore the economy at Point A will have higher living standards in the present than the economy at Point B because it is producing more consumer goods.

However the economy at Point B, which is increasing its productive capacity by producing more capital goods in the present, may enjoy higher living standards in the future than the economy at Point A.

Economic growth occurs when more resources are utilised or existing resources are utilised more productively, causing an outward movement of the production possibility frontier. In such a case the economy at Point A in **Figure 1.7** could move to Point C, and the economy at Point B could move to Point D, with both economies enjoying higher living standards in the present, but also increasing their productive potential in the future by increasing their production of capital goods. This means that both economies could enjoy higher living standards in the future. If both economies moved from operating on curve PP to curve P_1P_1 in **Figure 1.7**, this would represent the process of economic growth.

Figure 1.7: Movements in Concave Production Possibility Curves
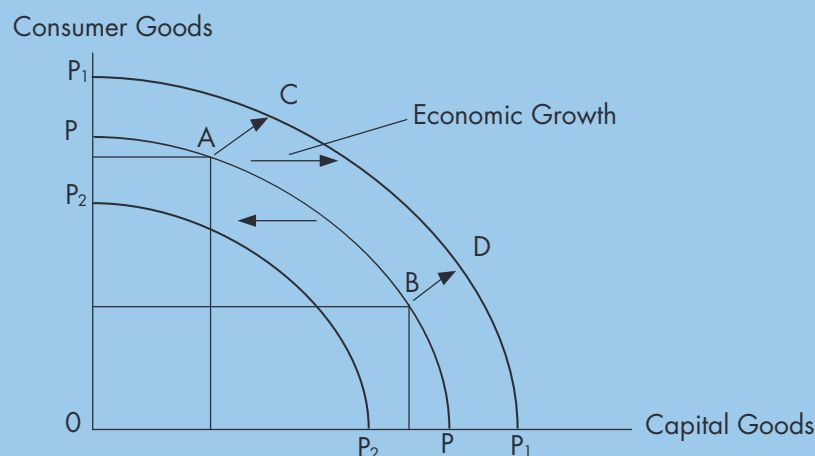
✍ REVIEW QUESTIONS

OPPORTUNITY COST AND PRODUCTION POSSIBILITY CURVES

1. Define the principle of opportunity cost and give an example of opportunity cost in economics.

2. What is a production possibility schedule? How can a production possibility curve be derived from a production possibility schedule?

3. Discuss the main assumptions of the production possibility model. Why do economists make simplifying assumptions when devising and using economic models?

4. (a) Use the following data to construct a production possibility curve for a hypothetical economy:

Clothing	0	10	20	30	40	50
Houses	75	60	45	30	15	0

(b) Calculate the opportunity cost of producing the first 15 houses.

(c) What is the marginal rate of substitution between house and clothing production?

(d) Mark in the position of an economy on the curve you have constructed which produces 20 units of clothing and 45 houses. How would you describe this economy's resource use?

(e) If the productivity of resource use increased, doubling the production possibilities for both clothing and houses, construct the new production possibility curve that would result.

(f) Explain why production possibility curves may be concave to the origin.

(g) Explain how the process of economic growth can be represented by the new production possibility curve constructed in Question 4 (e).

5. In the following model of a production possibility curve, explain why production at point A will yield higher living standards for an economy in the present, relative to an economy producing at point B, which will yield higher living standards for the economy in the future.
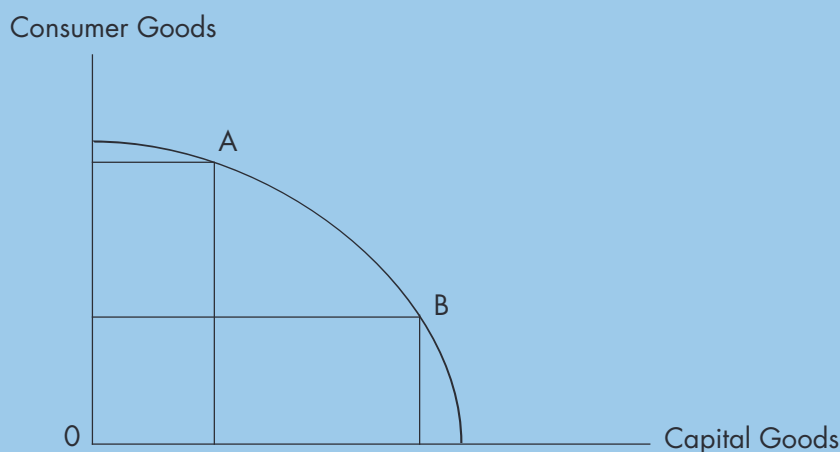
The Future Implications of Current Choices

The main objective of engaging in economic activity is to maximise the returns from using the resources that are available. This is known as **allocative efficiency**, where resources are allocated according to the preferences of consumers and society for certain goods and services. Individuals, business firms and governments attempt to allocate resources or income to maximise satisfaction or returns. However the current choices made by consumers, firms and governments have implications for their future choices. This is known as the inter-temporal budget constraint (i.e. spending money now may mean less money in the future, or spending less money now may mean more money in the future) as shown below.

Current Choices	Current Implications	Future Implications
Spend money or use resources or Save some resources	Higher living standards or Lower living standards	Lower living standards or Higher living standards
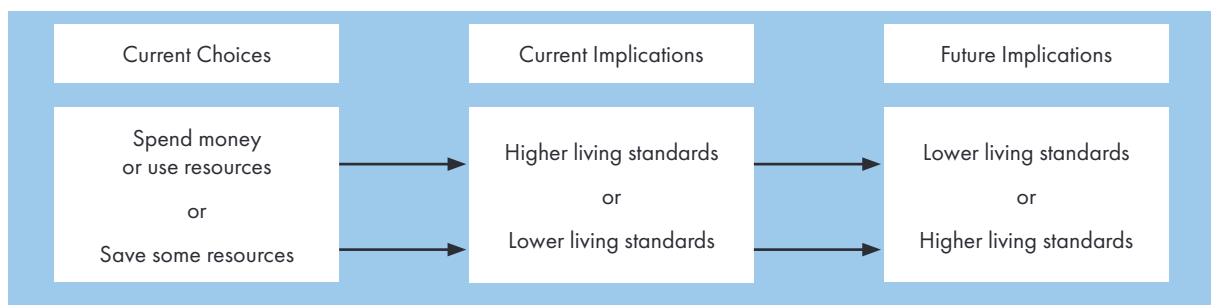
Consumers

For individuals or consumers with a limited money income or a budget constraint, current spending decisions reflect the individual's desire to maximise their satisfaction of needs and wants by buying goods and services in the present which maximise a consumer's **utility** (or satisfaction). Choices faced by consumers in the present are the opportunity cost of buying essential goods and services (such as food, housing and clothing) now and foregoing luxuries such as holidays and new cars for the future.

The choices faced by consumers also include spending all of their income in the present and not saving any proportion of their income for future want satisfaction. Alternatively, a consumer could spend some proportion of their income in the present to gain satisfaction of some wants but also save some proportion of their income in the present for future want satisfaction (e.g. saving for the purchase of a new car or a holiday). In reality most consumers in Australia spend most of their income but save around 5%-10% of their income for future want satisfaction through voluntary private saving. They also save for retirement through compulsory (SGL of 10.5%) and voluntary superannuation contributions.

Businesses

Firms are also faced with present and future choices. In the present period, firms face the opportunity cost of producing some goods and services and not others. If an entrepreneur decides to produce books, the opportunity cost may be the magazines or newsletters that could have been produced with the same resources. Also business income or profits can be distributed as dividends to the owners or shareholders in the present period to satisfy wants, or be retained by the business and used later for investment in capital goods for future production and want satisfaction. Most businesses undertake some investment of current income to increase production and profits in the future. An example would be a business that invests in new technology to increase its productivity, profits and competitiveness in the future.

Governments

Governments mainly source their income or revenue from the collection of taxes, fees and charges, the proceeds from the privatisation of public trading enterprises (PTEs) and the profits of PTEs. A government has limited taxation revenue or resources to spend on community infrastructure like schools, roads and hospitals, and community services such as social security, education, health and defence. Choices therefore are made by local, state, territory and federal governments in the present period about how resources in the government's annual budget are allocated to these competing uses.

For example, spending by the Commonwealth and NSW governments on the Sydney 2000 Olympic Games involved an opportunity cost of the other infrastructure and community services which could have been provided for the community in the present such as schools, roads, hospitals and parks.

If a government budgets for a deficit (i.e. where government spending exceeds government revenue) in the present period, it may face higher debt levels and lower spending levels in the future. Alternatively if a government budgets for a surplus in the present period (i.e. government spending is less than government revenue) it may be possible for the government to repay current debt and spend more money in the future on infrastructure and community services such as education and health care.

✍ REVIEW QUESTIONS

THE FUTURE IMPLICATIONS OF CURRENT CHOICES

1. Using examples, explain how the decisions made by individual consumers in the present period may affect the choices for spending and saving they face in the future.

2. Using examples, explain how the decisions made by businesses in the present period may affect their choices for the distribution of profits and investment in the future.

3. Using examples, explain how the decisions made by governments in the present period may affect their choices in spending and the budget outcome in the future.

ECONOMIC FACTORS UNDERLYING DECISION MAKING

A wide range of economic factors influence the decision making of consumers, firms and governments. Social, cultural, psychological, historical and political factors can also influence their decision making.

Consumers

(a) Spending and Saving

A consumer may spend or save all of his/her income, or spend some and save some proportion of their current income. In economics, algebraic notation is used to denote aggregates such as consumption, saving and income. Consumption (C) of goods and services is that part of income not saved, whereas savings (S) is that part of income not consumed. Income (Y) is either gross or taxable income (GY) or disposable income (DY), which is gross income minus taxation (GY - T) paid to the government. The basic **macroeconomic relationship** between income (Y), consumption (C) and saving (S) is denoted in Equation 1:

Income = Consumption + Saving: (1) $Y = C + S$

Consumption (C) can be expressed as: (2) $C = Y - S$

Saving (S) can be expressed as: (3) $S = Y - C$

The consumption of goods and services is carried out to satisfy basic needs and wants. As income increases, consumers may increase their absolute level of consumption spending. But as income rises, the relative proportion of income consumed or spent tends to fall, since basic needs and wants are more easily satisfied. Consumers on low incomes tend to consume more of their incomes than people on higher incomes. Low income earners therefore may save none of their current income or very little. High income earners on the otherhand, have a greater ability to save, since they are more easily able to afford to buy both necessities and luxuries, leaving some of their current income to devote to saving.

People save for security against unforeseen future events; for investment in income earning assets; or to finance the purchase of goods and services in the future. A famous economist called John Maynard Keynes (1888-1946) wrote in *The General Theory* (1936) that there were three main motives for saving:

- The **transactionary motive** of consumers for holding money balances (saving) was to finance cash purchases of goods and services (i.e. market exchange transactions) in the present;

- The **precautionary motive** of consumers was to hold money balances for precautionary income or purchases (i.e. to pay for unforeseen expenses in the future such as car repairs); and

- The **speculative motive** of consumers was to hold money balances to invest in shares, government bonds, real estate or cash in order to earn a rate of return on the money invested.

(b) Work

The type of work or employment performed by individuals will affect their decision making. Employment can be classified as professional, trade, semi skilled or unskilled. Usually the higher the level of skills, education, training and qualifications required in a job the higher the potential income earned by an individual. The higher the income earnt, the higher the potential levels of consumption and saving by an individual. This can lead to higher standards of living for people on higher incomes relative to people on middle and low incomes, whose lower incomes constrain their levels of consumption and saving.

(c) Education

Education refers to the ability of people to increase their knowledge, skills and competencies through training and development. A higher level of education will increase a person's income earning capacity in the future, whereas a lower level of education or basic education will result in a relatively lower level of lifetime income. Levels of education include the basic skills of literacy and numeracy acquired in primary and secondary schools; trade or TAFE qualifications acquired through apprenticeship training leading to trades qualifications; and tertiary qualifications gained at universities and colleges, leading to employment in professions such as the law, medicine, accounting, teaching and architecture.

(d) Retirement

Retirement is a period in a person's life cycle when they cease full time paid work and receive superannuation payments or a government age pension as income. Retirement influences decision making since employers must contribute 10.5% of employees' gross wages (which represents the worker's share of their employer's productivity gains) to compulsory superannuation. Employees are also encouraged to make voluntary superannuation contributions through the provision of tax incentives by the Australian government. With the ageing of the Australian population and the increasing demands on the Australian government to finance social security payments and age pensions for retirees, more emphasis has been placed on self funded retirement, with tax incentives given to individuals for voluntary superannuation contributions above the minimum compulsory 10.5% Superannuation Guarantee Levy (SGL) paid by employers into the superannuation accounts of their employees.

(e) Voting and Participation in the Political Process

Voting patterns tend to reflect a number of different factors such as family voting patterns, perceptions of individual politicians, major political parties, their leaders and policy platforms, and the potential effects of their policy platforms on the economic circumstances of consumers and households.

There are stereotypes of people whose economic circumstances determine their political affiliations e.g. highly paid and skilled professionals might vote for the Liberal Party, believing in a well managed economy with more business opportunities for the self employed. Alternatively a factory worker who is semi skilled and a member of a trade union might vote for the Australian Labor Party because it is a traditional workers' party. Middle income people might vote for the Greens or an Independent in either or both the Lower and Upper Houses in federal politics. Minor parties and independents may have a stronger stance on key issues such as the environment, social justice and government accountability, than major political parties such as the Liberal Party, the Australian Labor Party and the National Party.

However many voters do not fit these stereotypes and are called 'swinging voters' because they may cast a different vote in each election (i.e. vote for a different political party or candidate), thereby influencing voting patterns if a trend emerges that favours one party and leads to their election to government. Individuals may also become politically active by joining trade unions, professional associations, political parties or interest groups, to lobby for changes in the *status quo* and to improve economic circumstances on issues such as child care, superannuation and climate change that affect their lives.

Voter stereotypes have been less evident in Australian elections since 1996 when the former Howard government was first elected. An overwhelming number of working class voters and trade union members voted to return the government in the 2004 election, endorsing its sound economic management. This changed in the 2007 federal election when the Rudd Labor government was elected partly because of opposition to the previous Howard government's *WorkChoices* legislation. In the 2010 federal election the ALP formed a minority government with the support of the Greens and several independents in the House of Representatives. In the 2013 federal election the Liberal-National party coalition under Tony Abbott won a large majority to form a new government based on the repeal of the carbon and mining taxes, returning the budget to surplus and stopping illegal boat arrivals. In the 2016 and 2019 federal elections the Coalition government was returned with a narrow majority. In 2022 the ALP won government, but widespread voter dissatisfaction led to a record number of Independents being elected.

Business

Business is primarily run for the maximisation of profits. Profit is equal to the total revenue from sales less the total costs of production. The pricing of goods and services is important as total business costs must be covered and a surplus accumulated for entrepreneurs to gain sufficient profit or a return on their capital to stay in business. The total revenue (TR) of a business is determined by the price it sells its product or service for in a market, multiplied by the volume of the output sold i.e.

Total Revenue (TR) = Price x Quantity Sold

Prices are usually determined by production costs and the 'mark up' (i.e. profit margin) or the return to the entrepreneur in terms of profits. This is known as the 'cost plus pricing' principle i.e.

Price = Costs + Mark Up (Profit Margin)

Production mainly involves the use of labour and capital as well as other resources. A business must decide on the most efficient combination of capital and labour to use. Australian industries such as agriculture, mining and manufacturing tend to be more capital intensive than service industries, which are larger employers of labour since they are producing and marketing services to consumers. Producers try to maximise the productivity of resource use by allocating resources to their most highly valued uses. Producers have an incentive to minimise resource costs, whilst maximising revenue, in order to maximise profits. Businesses will charge the highest possible price that the market will pay for their product or service, and this price is dependent on costs, demand and the level of industry competition.

Since labour costs represent over 70% of production costs for most businesses, industrial relations or the negotiation of wages and working conditions between employers and employees is important to businesses in containing labour costs and maximising productivity. In Australia, a system of federal Modern Awards is administered by the Fair Work Commission which establishes minimum wages and conditions of work for various occupations and types of work. The *Fair Work Act 2009* contains eleven National Employment Standards (NES) which are minimum national standards of employment for workers. Modern Awards, the NES and annual adjustment of the National Minimum Wage by the Fair Work Commission provide the basic Safety Net of the federal industrial relations system in Australia.

Since 1991 wage negotiations have become more decentralised and deregulated under the principle of **enterprise bargaining**. This is where groups of workers represented by a trade union are able to negotiate wage increases and changes in working conditions with their employer in return for productivity increases. This alternative stream of industrial relations or wage adjustments is encouraged under the *Fair Work Act 2009* through the negotiation of enterprise agreements based on 'good faith' bargaining.

Government

The Australian government imposes and collects taxes from individuals on their income and most areas of spending, as well as taxing the profits of businesses and companies to raise revenue to finance its spending commitments. State and territory governments also raise revenue through taxes, fees and fines as well as grants. Governments influence the decisions of individuals and businesses in four main ways:

1. Governments allocate resources through their spending decisions for the provision of infrastructure such as transport, roads, schools, hospitals and telecommunications, and collective services such as social security, health, education, defence, police, fire fighting and ambulance services.

2. The federal government attempts to stabilise economic activity through the conduct of economic policies such as monetary and fiscal policies. The federal government may reduce interest rates for example if it believes unemployment is rising or it may budget for a deficit to increase the level of economic activity. Changes in interest rates will affect the cost of credit for consumers and businesses, whereas higher public spending may help to increase economic activity and employment e.g. The Australian government used monetary and fiscal stimulus to support the economy in 2020-21 during the COVID-19 pandemic and recession.

3. Governments play a redistributive role by implementing a progressive system of taxation where individuals are taxed according to the level of income they earn, and a proportion of tax revenue is used to fund transfer payments such as pensions and allowances to the aged, unemployed, sick, disabled and low income families that satisfy eligibility requirements such as means tests and assets tests. The tax-transfer system therefore helps to redistribute incomes in the community.

4. The Australian government and other levels of government (the states and territories) act as regulators of economic behaviour and attempt to protect individual consumer rights and increase competition in markets to raise efficiency and lower prices. Examples of government regulation that affect the decision making of individuals and firms include the following:

   • Price control, price regulation and price surveillance in certain markets and industries;

   • The provision of a framework of law and order for commercial dealings in markets;

   • The application of a national competition policy (i.e. the *Competition and Consumer Act 2010*) to protect consumer sovereignty in markets and to ensure competitive conduct by firms;

   • Minimum wage legislation, the safety net of Modern Awards and the eleven National Employment Standards (NES) under the *Fair Work Act 2009* to protect employees in the workplace; and

   • Legislation to control environmental externalities (e.g. pollution) through regulation, and the use of market based instruments such as fines, fees, taxes and licences to regulate resource use.

✐ REVIEW QUESTIONS

ECONOMIC FACTORS UNDERLYING DECISION MAKING

1. Explain the relationship between income, consumption and saving for individuals. Distinguish between the consumption and savings habits of individuals on high, middle and low incomes.

2. What did J. M. Keynes suggest were the three main motives or reasons for individual saving?

3. Discuss how the nature of work, education, retirement, voting patterns and participation in the political process may affect individual economic decision making.

4. Discuss some of the major economic factors underlying the decision making of businesses.

5. Discuss some of the major economic factors underlying the decision making of governments.

☯ CHAPTER 1: SHORT ANSWER QUESTIONS

The following table shows the production possibilities for wheat and rice in a hypothetical economy.

Wheat	100	80	60	40	20	0
Rice	0	25	50	75	100	125

Answer the following questions in the spaces provided.   Marks

1. What is the opportunity cost of producing the first 20 units of wheat?   (1)

    _____

    _____

2. What is the opportunity cost of increasing wheat production from 80 to 100?   (1)

    _____

    _____

3. If the economy was producing a combination of 20 rice and 70 wheat what could be   (2)
    concluded about its resource use?

    _____

    _____

    _____

4. Briefly explain TWO separate factors that could cause the production of wheat to increase if the   (2)
    model's assumptions were relaxed.

    _____

    _____

    _____

5. List FOUR assumptions made in any production possibility model.   (4)

    _____

    _____

    _____

    _____

☯ CHAPTER FOCUS ON THE ECONOMIC PROBLEM

"Specifically, economics recognises that resources with the ability or potential to satisfy our desires are scarce relative to what we desire or want. The basic economic problem is therefore regarded as one of suggesting organisational means for allocating the use of resources so that scarcity is minimised, or wants or desires of citizens are as fully satisfied as possible, relative to the limited availability of resources which can be used to satisfy these desires."

Source: Tisdell, C.A. (1982), *Microeconomics of Markets*, John Wiley & Sons, Milton.

Explain how the economic problem arises in society and why it is related to scarcity, choices and decision making.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

☯ CHAPTER 1: EXTENDED RESPONSE QUESTIONS

1. What is meant by the economic problem? Explain how the economic problem arises. How do individuals, firms and governments deal with the choices that arise from the scarcity of resources?

2. What are the main assumptions of the production possibility model?   Using a production possibility model, demonstrate the principle of opportunity cost. Explain what happens in this model when the model's assumptions are relaxed.

✌ CHAPTER SUMMARY

INTRODUCTION TO ECONOMICS

1. Economics is a social science because it studies human behaviour and uses a scientific method for model building (simplifying the real world) and the analysis of economic problems and issues. Economics is the study of how scarce resources are allocated between competing uses or ends.

2. The basic economic problem that arises in all societies is that resources are scarce relative to people's needs and wants.

3. The scientific method used in the study of economics is based on model building (or hypothesising); making assumptions about human behaviour; and drawing inferences or conclusions after testing economic hypotheses or economic theories by using statistical (empirical) data.

4. Wants in economics are defined as human desires for goods and services. Needs in economics are defined as the basic wants of people needed for survival such as food, clothing and shelter.

5. There are four resources or factors of production in economics. These resources are land, labour, capital and enterprise or entrepreneurship. The respective factor income returns to these four factors of production or resources are rent, wages, interest and profit.

6. The economic problem of scarcity leads to societies making choices in relation to the following questions:

    - What to produce?   This is about choosing between consumer and capital goods production

    - How to produce?   This is about what level of technology and resources to use in production

    - How much to produce?   This is about resource availability and the level of demand in economies

    - To whom to distribute?   This involves the distribution of income, market exchange and social needs

7. Making choices over how to use resources involves the principle of opportunity cost. Opportunity cost refers to the cost of the alternative foregone in the production or consumption of goods and services.

8. A production possibility curve for an economy can be constructed from a production possibility schedule, which shows possible combinations of the production of two goods using a fixed or finite amount of resources. The production possibility curve shows the opportunity cost of producing more of one good or service in terms of less production of another good or service.

9. Improvements in technology and productivity, and increased resource use, can shift the production possibility curve outwards leading to a higher rate of economic growth. A decline in technology or productivity, or resource availability, will shift the production possibility curve inwards causing a lower rate of economic growth.

    If an economy chooses to produce a combination of goods that lie within its production possibility curve (PPC) there will be unemployed resources. Production points outside the production possibility curve are not possible because resources and technology are inadequate to achieve these production combinations. Production points on the PPC represent fully employed resources.

10. A major aim of economic activity is to achieve allocative efficiency, where resources are allocated according to society's preferences for certain goods and services over others. Choices made in the present will affect the resources available in the future to satisfy consumer needs and wants.

11. Economic factors underlying decision making include the spending and saving patterns on the part of individual consumers; the types and prices of goods and services produced by businesses; and the types of collective goods and services provided by governments to the community.

CHAPTER 2

The Operation of an Economy

An economy refers to the way in which a society is organised to solve the economic problem of the scarcity of resources in relation to consumers' needs and wants. Economies perform the important function of co-ordinating economic activities such as resource allocation, production and distribution. They also provide a framework of law and order for the operation of markets where goods and services are exchanged. The economic organisation of economies has evolved into different forms with distinct approaches to solving the economic problem. There are two broad types of economic system:

- The market or free enterprise economy is based on a system of markets and prices, which allocate resources and allow private property rights, the profit motive and freedom of enterprise; and

- The planned economy is based on a system of government ownership of most resources, and the allocation of these resources according to government or state planning priorities and targets.

Both types of economic system need to perform the three functions of production, distribution and exchange. This involves answering the following four basic questions raised by the economic problem:

1. **What to produce?**   This is a production question based on demand and society's preferences

2. **How much to produce?**   This is a production question based on consumer demand and resource availability

3. **How to produce?**   This is a production question based on resource availability, costs and the level or state of technology or know how

4. **To whom to distribute?**   This is a distribution and exchange question based on income and each person's productivity and contribution to production

PRODUCTION: WHAT, HOW MUCH AND HOW TO PRODUCE?

Most societies and economic systems have a variety of land, labour, capital and entrepreneurial resources which can be used for producing goods and services. However since resources are scarce relative to society's needs and wants, decisions have to be made over the choice of goods and services to be produced. The '**what to produce**' question is answered by an economic system responding to society's scale of preferences for certain goods and services over others. If the members of a society generally want consumer goods and services to be produced to raise their current living standards, then individual producers will be guided by these preferences to produce the variety of consumer goods and services demanded by individuals. If resources are allocated efficiently, consumers' needs and wants will be satisfied, and producers will maximise profits. This is known as **allocative efficiency**.

The '**how much to produce**' question raised by the economic problem involves the determination of the quantities of goods and services to be produced, depending on the level and pattern of consumer demand, and the availability of resources. This is an important question for two reasons. Firstly, estimates of demand will influence the quantity of resources used by producers. Secondly, the volume of production must coincide with the volume of demand to achieve the most efficient allocation of resources. If insufficient resources are allocated to production, there will be a shortage of goods and services and some wants will be left unsatisfied. On the other hand, if too many resources are allocated to production, this will lead to overproduction, a surplus of goods and services and the waste of resources.

The '**how to produce**' question involves the method of production to be used. This will depend on the current state of technological progress and resource availability. In a market economy, producers

are guided by the incentive of **profit maximisation** and will attempt to minimise production costs by producing the volume of output in the most efficient way. Producers will select a method of production influenced by the availability and cost of resources; the nature of the goods and services to be produced; and the state of technology. Resources which are scarce relative to others will command higher prices to reflect that scarcity. Producers will only use those resources if individuals are willing to pay for the goods and services they are used to produce. Since resources are relatively scarce, they will be allocated to their most highly valued uses in production i.e. where the returns to the factors of production are highest.

The production methods used by firms also depend on resource availability. The most important resources used in production are labour and capital. Labour intensive production will take place if labour is relatively abundant and cheap to use. This is often the case in developing countries with low per capita incomes such as India and China where **labour intensive production methods** are used for example to grow wheat and rice, since unskilled labour is abundant and wages are low relative to the cost of capital resources. In developed countries with high per capita incomes such as Australia and the USA, more **capital intensive production methods** are used to grow wheat and rice because capital is more abundant and cheaper to employ relative to the availability and higher cost of labour resources.

DISTRIBUTION AND EXCHANGE: TO WHOM TO DISTRIBUTE?

The distribution of the output of goods and services depends on individual incomes. Each individual's income in society is determined by their employment, productivity and contribution to production. The higher this contribution, the higher the level of personal income. The higher the level of personal income, the greater the ability of consumers to purchase goods and services and raise living standards.

The ability to earn income depends on each person's education, training, qualifications, skills, experience, type of employment and opportunities to participate in production. The overall functional distribution of income is determined by each factor's contribution to production. In Australia in 2021-22, household income was mainly sourced from contributing labour resources to production with wages and salaries accounting for 55.8% of total national income. Profit, rent, interest and dividends accounted for 29.2%, welfare payments for 9% and other sources for 6% of total national income in 2021-22.

The distribution of personal income changes over time, but individuals earning high incomes are able to purchase more goods and services and have higher living standards than those on middle and low incomes. Market economies tend to have an unequal distribution of income because individuals are free to accumulate income and wealth. Most governments however provide a minimum income and standard of living to those people who cannot or do not contribute to production and therefore do not earn sufficient market income. People such as the unemployed, the aged, the sick, the disabled, single parents, veterans and low income families with children receive welfare payments in the form of pensions, allowances and transfers which are financed from progressive taxation. The government's tax/transfer system helps to redistribute income from high income earners to low income earners and makes the distribution of income less unequal than if it was determined solely by market forces.

In planned economies such as Cuba and North Korea, incomes are basically determined by the government and many prices are also set by government agencies. There is a more equal distribution of income and the prices of basic foodstuffs, clothes, housing and utilities such as electricity, gas and water may be subsidised to make them more affordable for the majority of the population. However it was evident in many former socialist or planned economies such as Russia and Poland that political elites received higher incomes than ordinary workers, and also had access to privileges such as luxury Western consumer goods. In addition, many basic consumer goods were in short supply and the vast majority of consumers had to queue daily for basic staples such as bread, milk, meat, eggs and vegetables, as these goods were rationed because of their scarcity in relation to the overall level of consumer demand.

The exchange of goods and services (usually for money) involves the operation of markets where prices act as a rationing device in the distribution process between producers and consumers.

In market economies a system of private property rights provides the foundation for the operation of the price system. Private property rights denote the private ownership of resources and entitle the owner (under a system of law and order for protecting property rights) to enforce them in a court of law; transfer them if they wish to sell them or buy them at an agreed price; and exclude non paying users from using them if they do not have the income to pay the market price for the use of resources.

Prices are monetary indicators of the relative value of goods and services in an economy. Prices guide the decision making process in an economic system in four main ways:

1. Prices match the output of goods and services by producers with the demand of consumers. For example, an increase in demand will lead to a rise in the price of a good, helping to equate the demand for that good with its available supply.

2. Prices ration the limited supply of resources and commodities. For example, if a resource becomes scarce like oil, a rise in oil prices to reflect this scarcity will encourage careful consumption, exploration for new oil reserves, and the development of alternative energy sources such as solar, wind, geothermal and electric or battery power.

3. Prices help to prevent the wastage of resources by avoiding shortages and surpluses of production in relation to demand, so that producers are encouraged to produce the exact amount of output to satisfy demand (i.e. allocative efficiency) with the resources available so that demand equals supply.

4. Prices act as signalling devices to producers and consumers to adjust their economic behaviour (i.e. through changes in demand and supply) in relation to changing market conditions.

In market economies exchange takes place in both factor and goods markets. **Factor markets** are where the factors of production such as land, labour, capital and enterprise are bought and sold. **Goods markets** are where final goods and services that are produced by businesses are sold to consumers.

✎ REVIEW QUESTIONS

PRODUCTION, DISTRIBUTION AND EXCHANGE

1. Define an economic system. Discuss the four questions that an economic system must answer in order to solve the economic problem.

2. Using examples, compare the characteristics of a market economy with a planned economy.

3. Complete the following table by explaining how the market and planned economic systems solve the economic problem:

Economic Decisions	Market Economy	Planned Economy
What to Produce?		
How Much to Produce?		
How to Produce?		
To Whom to Distribute?		

RESOURCES AND THE PROVISION OF INCOME

Goods and services are produced by using a combination of resources. Resources are classified in economics according to their source. **Land** resources refer to all naturally occurring elements or environmental resources which may be utilised for production such as climate, atmosphere, soils, vegetation, animals, fish stocks, landforms or topography, minerals, rivers, oceans, lakes and water. The supply of land resources is finite or fixed in relation to demand. Therefore the price of land resources is largely determined through demand. An increase in demand will lead to a rise in price, whereas a reduction in demand will lead to a lower price for resources. The factor income return to land is **rent**.

Labour resources refer to the knowledge, skills, education, training, health, experience and overall productivity of the workforce in performing production tasks. The labourforce consists of all those people in the population who are employed (part time and full time), and the unemployed, who are available for work and actively seeking work. The output of labour over time is referred to as labour productivity. Labour productivity can be raised by using capital equipment to increase output, by using more inputs, or by using existing inputs more efficiently. The return to labour's contribution to production is **wages**. Wages in a competitive labour market are determined by the interaction of the demand for labour and the supply of labour. When the demand for labour is equal to the supply of labour, the equilibrium wage rate and quantity of employment are established in the labour market.

Capital refers to the produced means of production, or the goods and services used to produce more goods and services in the future, such as machinery, tools, plant and equipment. Before the process of capital accumulation can take place, there must be saving out of current income set aside for investment in capital goods. Investment is the process by which capital is accumulated for future want satisfaction:

$$Saving \longrightarrow Investment \longrightarrow Capital\ Accumulation$$

The return to capital is called **interest** as interest is the cost of borrowing funds for investment purposes from lenders in financial markets. The rate of interest is the annual percentage return paid to lenders by the borrowers of funds. The rate of interest is determined by the demand and supply of funds or money in the money market. An increase in the demand for money caused by an increase in incomes would lead to a rise in nominal interest rates. An increase in the supply of money or a fall in money demand could lead to a fall in the nominal rate of interest. The **real interest rate** or real cost of borrowing refers to the nominal interest rate minus an allowance for future inflation or inflationary expectations:

$$Real\ Interest\ Rate\ =\ Nominal\ Interest\ Rate\ -\ Inflationary\ Expectations$$

Lenders of funds must be compensated for any future rise in inflation. Nominal interest rates therefore incorporate a real return on borrowed funds plus compensation for any rise in inflation in the future which may reduce the real returns to the lender. If inflation rises, lenders will raise nominal interest rates to potential borrowers to maintain the real rate of interest or the real return on borrowed funds.

Entrepreneurship or enterprise refers to the risk taking behaviour of entrepreneurs in establishing, managing and operating small, medium and large scale business enterprises. The entrepreneur combines the other three factors of production (i.e. land, labour and capital) to produce final goods and services. Entrepreneurs provide the following skills in the production activities or process of businesses:

• The organisation of the four factors of production of land, labour, capital and enterprise;

• Risk taking behaviour in borrowing funds to establish and manage a business;

• Decision making over the combination of resources to be used in production activities;

• Innovation and research and development to improve the rate of technological progress; and

• Capital accumulation and investment in new plant and equipment to expand future production.

Table 2.1: The Factors of Production and Factor Income Returns

Factor of Production	Factor Income Return
Land (natural or environmental resources)	Rent
Labour (the human effort in production)	Wages
Capital (plant, machinery, tools and equipment)	Interest
Enterprise (risk taking behaviour by entrepreneurs)	Profit

The return to enterprise is called **profit**. Profit is equal to the positive difference between the total revenue (TR) earned by a business and its total costs (TC) of production. **Normal profit** is the rate of profit sufficient to keep the entrepreneur in business or the industry in which a firm operates. **Supernormal profit** is profit over and above what is necessary to keep the entrepreneur in business or the industry in which a firm operates and is usually earnt by businesses with a large degree of market power such as monopolies (e.g. Australia Post) and oligopolies (e.g. oil companies such as BP, Shell, Caltex and Mobil).

The factor income returns paid to the owners of the factors of production (see **Table 2.1**) are determined by the quantity and quality of the resources that are used in production. Essentially factor income returns are influenced by the productivity of each factor of production. Income returns are paid to households by firms for the use of productive resources. **Gross income** is subject to income taxation by the Australian government. **Disposable income** is equal to gross income minus taxation. To calculate **final income**, cash and non cash benefits (i.e. the social wage) paid by Australian the government are added to disposable income, and indirect taxes (e.g. GST, excise and customs duties) are subtracted i.e.

Final Income = Gross Income − Taxation + Social Wage − Indirect Taxes

The provision of income in an economic system like Australia may be represented by a model such as that depicted in **Figure 2.1**. Households provide resources to firms and the government through **factor markets**. Firms and governments pay households factor incomes in return. Firms supply goods and services to households and governments through **goods markets** in return for money expenditure. Governments provide goods and services and transfer payments directly to households and firms, and collect taxes (e.g. income tax, company tax, GST, excise and customs duties) from households and firms.

Figure 2.1: The Market Economy and the Provision of Income
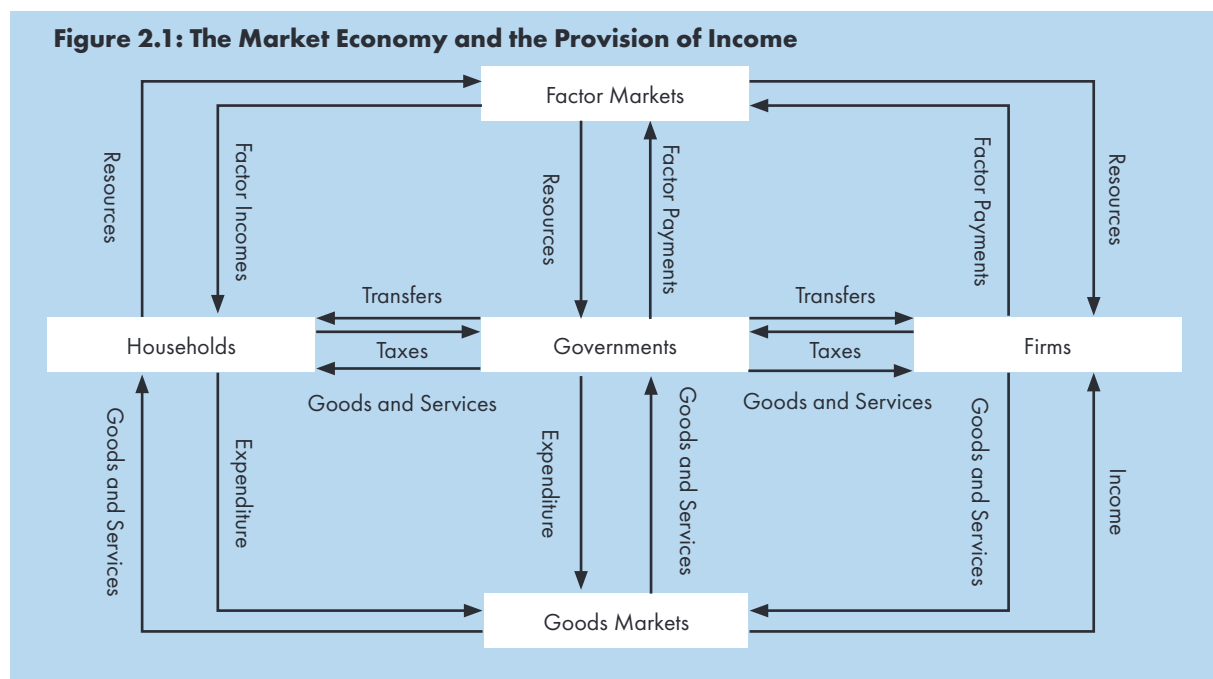
THE PROVISION OF EMPLOYMENT AND THE QUALITY OF LIFE

In **Figure 2.1** it is clear that there is a high level of specialisation in an economy which leads to **interdependence** between households, firms and governments. As the owners of productive resources, households depend on firms (and to a lesser extent the government) for the provision of employment and the payment of income. Firms depend on resources and the expenditure by households on final goods and services for their income. Both firms and households pay taxes to the government, which in turn, provides collective goods and services and transfer payments such as welfare and subsidies.

Employment in Australia is created by both the private sector and the government sector. In 2021-22 private firms provided 85.9% of all jobs for wage and salary earners and governments about 14.1% of the total. Employment in Australia is categorised according to the main sectors of economic activity:

* **Primary industry** businesses are involved in raw material extraction such as agriculture, mining, fishing, hunting and forestry. Businesses in the farming and mining industries are classified as operating in primary industry. Primary industries employed 4.1% of the labourforce in 2021-22.

* **Secondary industry** or manufacturing includes businesses (such as steel making, food processing and clothing manufacture) that process raw materials or inputs into usable products for consumers and other businesses. Secondary industry employed 6.2% of the labourforce in 2021-22.

* **Tertiary or service industry** includes all businesses involved in the retailing, wholesaling and distribution of goods and services to consumers. This sector includes retail shops, banks, supermarkets, restaurants and cafes, and services such as banking, finance, insurance, education, health and entertainment. Tertiary industry employed 89.7% of the total labourforce in 2021-22.

Figure 2.2 shows the composition of the Australian workforce in 2021-22. Employment in the primary sector (agriculture and mining) declined from 7% in 1990 to 4.1% in 2021-22 because of the increasing use of capital, and the effect of droughts and floods. In 2021-22 agriculture employed 2.1% and mining 2% of the labourforce, with an expansion in the mining sector's share of employment with strong export demand (especially for iron ore and LNG) in 2021-22. In manufacturing, increased levels of automation, greater use of capital, tariff cuts and closure of car plants led to a decline in its labourforce from 15.4% of total employment in 1990 to 6.2% in 2021-22. As the Australian economy re-balanced its sources of growth towards the services sector after the mining investment boom, the tertiary sector increased its share of employment and accounted for 89.7% of total employment in 2021-22.

The labourforce consists of people working part time and full time, and the unemployed, who are actively seeking work but are unable to find suitable employment. The employment status of the Australian workforce between 2016-17 and 2021-22 is shown in **Table 2.2**. In 2019-20 the **COVID-19 pandemic** and government lockdown of the economy led to large falls in full time and part time employment, and a rise in the number of people unemployed, before a recovery in 2020-22 as shown in **Table 2.2**.

Figure 2.2: Australian Employment by Industry in 2021-22

Primary Industry 4.1%

Manufacturing Industry 6.2%

Tertiary Industry 89.7%
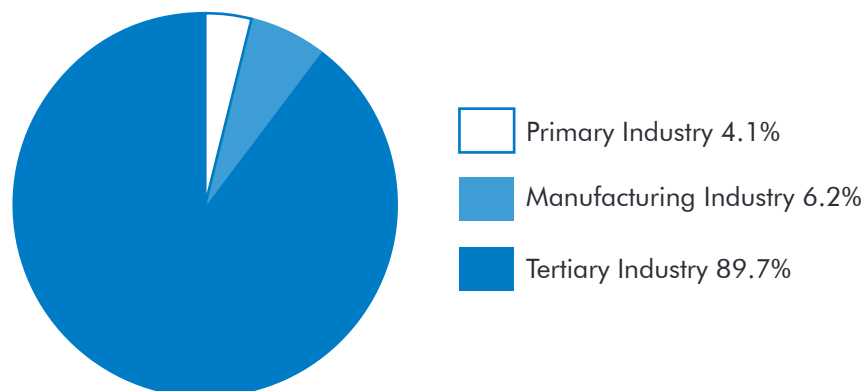
Source: ABS (2022), *Labour Force, Australia*, Catalogue 6291.0.55.003, September. Table 04

Table 2.2: The Australian Labour Force 2016-2022 (total employed and unemployed persons)

Year	Full Time Employed Persons	Part Time Employed Persons	Unemployed Persons	Total Australian Labour Force
2016-17	8,318,700	3,841,300	726,800	12,886,800
2017-18	8,556,700	4,006,100	719,000	13,281,800
2018-19	8,816,200	4,059,600	701,700	13,577,500
2019-20	8,489,100	3,839,400	992,300	13,320,800
2020-21	9,016,800	4,137,400	679,100	13,833,300
2021-22	9,496,300	4,103,000	493,900	14,093,200

Source: ABS (2022), *Labour Force*, Catalogue 6202.0, June. NB: Figures are trend estimates in June each year

The **quality of life** in an economy depends on the quantity and quality of both material and non material goods and services in the economy and the community. Material considerations include the level of income that individuals can earn, the types and nature of employment available, and people's access to a range of consumer goods and services. Non material considerations include access to a range of collective goods and services such as health care, education, social welfare, public transport, housing, defence, law and order and emergency services. Other quality of life indicators include access to safe drinking water, a clean environment, and a safe community free from crime and civil disorder. Another important consideration in the quality of life is the extent of personal freedom in the economy and the ability of citizens to participate in the political process through democratic elections and voting.

In advanced market economies like Australia and the USA, per capita incomes averaged between US$56,760 (Australia) and US$70,430 (USA) per annum in 2021 (World Bank), with the majority of the population enjoying a high standard of living through access to a wide range of consumer goods and services. Taxation revenue paid to governments in market economies, finances the provision of collective goods and services such as social welfare, transport, education and health services. These services help to increase life expectancy, reduce infant mortality and the incidence of endemic diseases, and improve rates of educational literacy and labour mobility. Individuals are also free to elect governments of their choice (democracies) and there is significant awareness of environmental issues, with resources allocated to reducing environmental pollution and climate change. This helps to improve environmental quality, raise living standards and the quality of life in advanced market economies like Australia and the USA.

In market economies, economic activity tends to occur in cycles. These cycles form the **business** or **trade cycle** which is characterised by four main phases: upswings, booms, downswings and recessions. Over time, the general trend is for economic activity to increase and for living standards, employment and the quality of life to rise. The business cycle is represented in **Figure 2.3**, which shows the four main phases of the business cycle, the length of the business cycle, and the attempts by the government to smooth out the fluctuations in the business cycle by conducting counter cyclical or stabilisation policies such as monetary and fiscal policies. In each stage of the business cycle, production, income, employment and the quality of life may all be affected by changes in economic activity:

- In the **upswing** phase of the business cycle, expenditure, output, income and employment levels rise. Higher levels of tax collections to governments may finance increased spending on infrastructure, community services, welfare and environmental quality which can raise the quality of life.

- In the **boom** phase of the cycle, expenditure, output, income and employment levels reach a maximum point as economic activity peaks. Shortages of labour and other resources may occur, leading to inflation of the price level. The government may use contractionary policies to slow down economic activity to a more sustainable level, including lower inflation and the preservation of environmental resources to achieve ecological sustainability and improve the quality of life.

Figure 2.3: The Four Phases of the Business Cycle
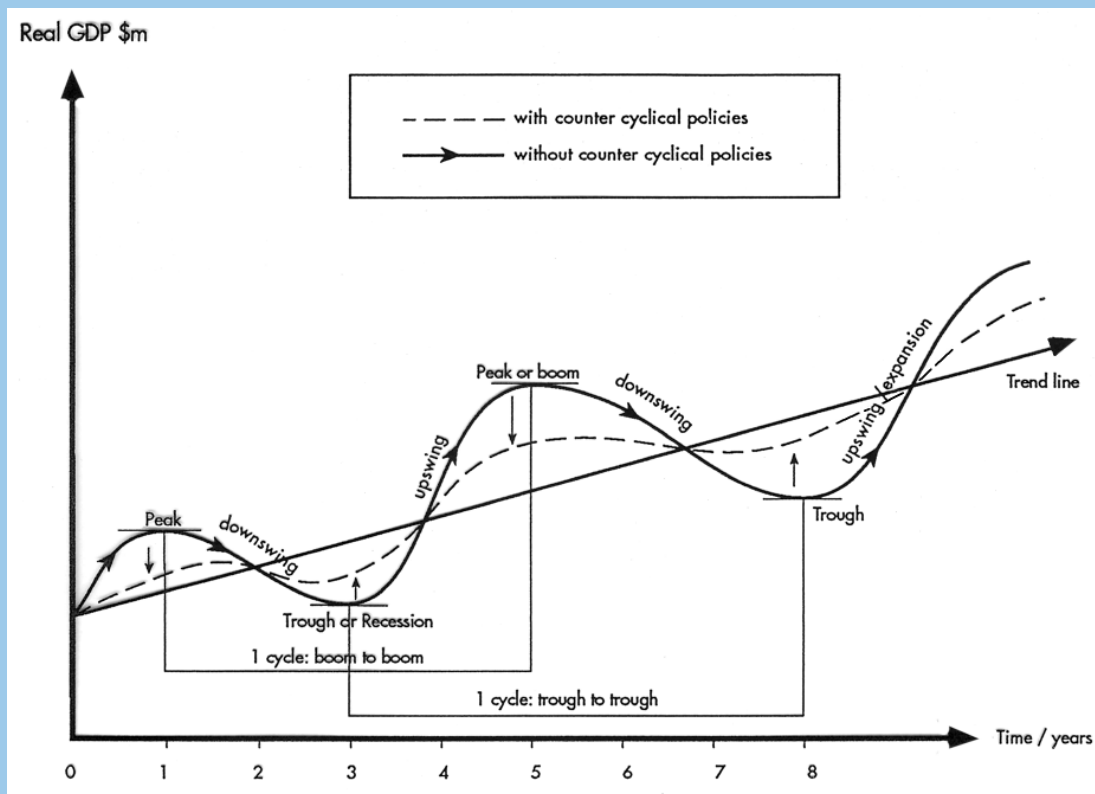
- In the **downswing** phase of the business cycle, expenditure, output, income and employment opportunities begin to fall as economic activity decelerates. With less economic activity there may be less demand for labour leading to some unemployment of resources in the economy and a decline in the quality of life for some individuals and households because of falling incomes.

- In the **recession** phase of the business cycle, expenditure, output, income and employment opportunities reach a minimum point as economic activity troughs. An excess supply of labour leads to rising unemployment, and deflation may occur, as businesses attempt to clear unsold inventories of goods and services by cutting prices. The government may use expansionary macroeconomic policies to stimulate spending and activity during the recession stage of the business cycle.

✒ REVIEW QUESTIONS

RESOURCES, INCOME, EMPLOYMENT AND QUALITY OF LIFE

1. How is the supply of resources linked to the provision of income in a market economy?

2. Refer to Figure 2.1 and explain how a market economy functions through a series of interdependent sectors (households, firms and governments), goods markets and factor markets.

3. Using examples, distinguish between primary, secondary and tertiary employment.

4. Refer to Figure 2.2 and Table 2.2 and discuss the pattern of employment in Australia in 2021-22 and how this has changed over time. What factors influence the quality of life in an economy?

5. Refer to Figure 2.3 and discuss the four main phases of the business cycle. How can governments use macroeconomic policies (i.e. monetary and fiscal policies) to influence changes in this cycle and the quality of life?

THE CIRCULAR FLOW OF INCOME MODEL

The circular flow of income model can be used to simplify the structure and workings of a market economy like Australia. The five sectors of the economy represented in this economic model are the household, firms, finance, government and overseas sectors. A sector is defined as an aggregation of economic units which perform a similar economic activity or function. A **closed economy** is one where there is no overseas sector and therefore no international trade. An **open economy** on the otherhand is one characterised by the inclusion of an overseas sector and international trade and money flows.

The Household Sector

The household sector consists of all individuals in the economy who earn income (i.e. wages, rent, interest and profit) by selling productive resources (i.e. land, labour, capital and enterprise) to the firms sector. With the money income earnt, households purchase goods and services from the firms sector to satisfy their needs and wants and to improve or maintain their standard of living and quality of life.

The Firms Sector

The firms sector consists of all private business enterprises in the economy which produce and distribute goods and services to consumers. Firms buy productive resources (i.e. land, labour, capital and enterprise) from the household sector and make factor income payments (i.e. wages, rent, interest and profits) in return for the use of these productive resources. Firms attempt to maximise profits from their production activities by minimising their production costs for resources and maximising their revenue from the sale of goods and services to consumers in product markets.

The Finance Sector

The finance sector consists of all financial institutions (i.e. banks and non bank financial intermediaries or NBFIs) who engage in the borrowing and lending of money and the sale and purchase of financial assets and services to firms and households. Financial institutions attempt to maximise profits by charging a higher rate of interest to borrowers than they pay to the public for depositing funds.

The Government Sector

The government sector consists of the economic activities of local, state, territory and federal governments in Australia. Governments raise revenue through taxes, rates, fees and charges, and the profits of public trading enterprises (PTEs). They use this revenue to provide collective goods and services to the community such as law and order, defence, education, health, social security and community services.

The Overseas Sector

The overseas sector consists of firms who are the exporters and importers of goods and services to and from the rest of the world. **Trade flows** refer to **exports** of goods (e.g. wool, wheat, beef, iron ore, coal and natural gas) and services (e.g. freight, travel, insurance, education and tourism) sold by Australian firms to foreigners, and **imports** of goods (e.g. food, beverages, cars and machinery) and services (e.g. freight, travel, insurance, education and tourism) purchased by Australian residents from foreigners.

International money or financial flows are also included in the overseas sector such as the borrowing and lending of money between Australian residents and foreign financial institutions and companies, and the payments and receipts (e.g. dividends, interest, rent and profits) associated with such transactions. All international trade transactions between Australia and the rest of the world are recorded in the **balance of payments** by the Australian Bureau of Statistics (ABS). The balance of payments consists of three main accounts known as the current account, the capital account and the financial account.

The Two Sector Model: Households and Firms

The simple two sector circular flow of income model is based on the following six assumptions:

1. The economy consists of only two sectors: households and firms.
2. Households spend all of their income (Y) on goods and services or consumption (C). There is no saving (S) out of current household income. Therefore Y = C and S = 0
3. All the output (O) produced by firms is purchased by households through their expenditure (E).
4. There is no financial sector.
5. There is no government sector.
6. There is no overseas sector.

Figure 2.4: The Simple Two Sector Circular Flow of Income Model
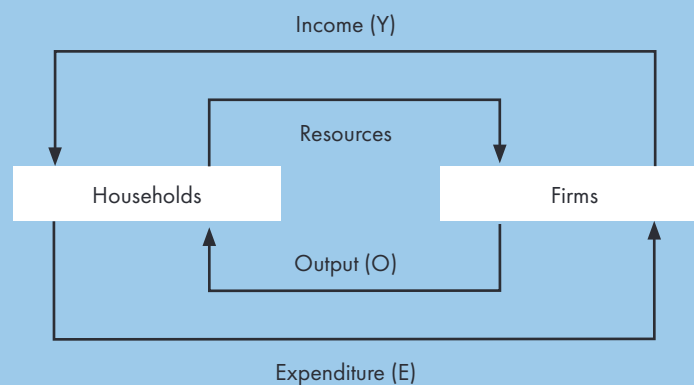
In the simple two sector model represented in **Figure 2.4**, **equilibrium** is defined as a situation in which there is no tendency for the levels of income (Y), expenditure (E) and output (O) to change i.e.

$$Y = E = O$$

This means that all household income (Y) is spent (E) on the output (O) of firms, which is equal in value to the payments for the productive resources purchased by firms from the household sector.

The Three Sector Model: Households, Firms and the Financial Sector

If assumptions one to four in the two sector circular flow of income model are relaxed, and the financial sector is included, this means that the **leakage of saving** (S) from households to the financial sector is introduced, and also the **injection of investment** (I) from the financial sector to business firms. Saving is that part of income not spent, and investment is defined as the process of capital accumulation by firms. **Figure 2.5** shows the three sector model consisting of the households, firms and finance sectors.

Saving is a leakage out of current income, since it represents money lent by the household sector to the financial sector in return for interest payments. If saving occurs, not all of current output will be purchased. Firms will cut back production and demand less resources from households, leading to lower factor or household incomes. This process is represented in **Table 2.3**. In period one, all household income of $2,000 is spent or consumed on available output. But if households decide to save 10% of their income in period two, $200 is saved and only $1,800 worth of output is consumed. Firms will react by cutting back production in period three by $200 worth of output. They will do this by buying $200 less resources from households and so household incomes will fall by $200 to $1,800.

Table 2.3: The Effect of Saving on the Circular Flow of Income

Period	Output	Income	Consumption	Saving	Effect on Income, Output and Employment
1	$2000	$2000	$2000	0	constant
2	$2000	$2000	$1800	$200	constant
3	$1800	$1800	$1620	$180	falling
4	$1620	$1620	$1458	$162	falling
5	$1458	$1458	$1312.2	$145.8	falling

If households maintain their savings ratio at 10% of income, expenditure, output and income will continue to fall in period four (from $1,800 to $1,620) and in period five (from $1,620 to $1,458).

If this process was to continue the economy would go into a recession leading to lower levels of expenditure, output, income and employment. However if the leakage of saving is offset by the injection of funds through investment (I) by firms, the circular flow will remain in equilibrium. Financial institutions mobilise the savings of the household sector by lending money to firms wishing to undertake investment in new capital equipment or new plant. For equilibrium to be maintained in the three sector model:

(1) $Y = E = O$

Since $Y = C + S$ (Income = Consumption + Saving)
and $O = C + I$ (Output = Consumption goods + Investment goods)
Therefore: $S = I$ (Saving = Investment)   **Equilibrium condition (three sector model)**

Disequilibrium will occur in the three sector model if $S \neq I$ (i.e. savings does not equal investment)

If $S > I$ Y, E, O and employment will fall, leading to a recession and higher unemployment in the economy. This represents a **contraction** in the circular flow of income since the leakage of saving (S) exceeds the injection of investment (I) funds i.e. $S > I$ and Y falls

If $S < I$ Y, E, O and employment will rise, leading to a boom and higher employment in the economy. This represents an **expansion** in the circular flow of income since the leakage of saving (S) is less than the injection of investment (I) funds i.e. $S < I$ and Y rises

Figure 2.5: The Three Sector Circular Flow of Income Model
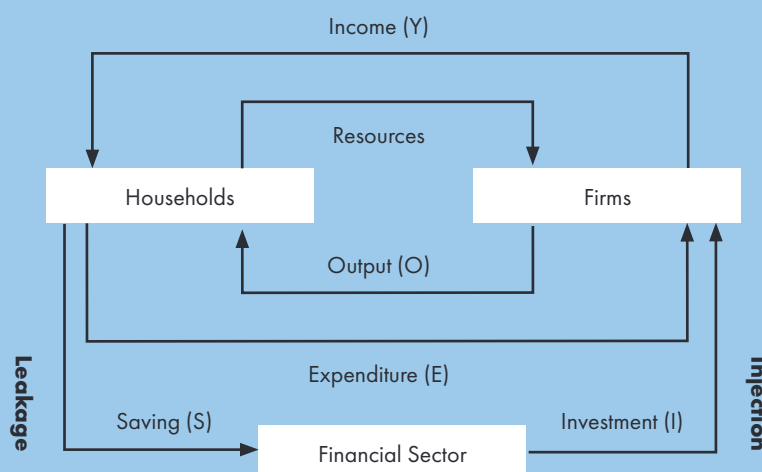
The Four Sector Model: Households, Firms, Finance and Government Sectors

With the relaxation of assumption five (i.e. no government sector), the government sector is introduced into the circular flow of income model, leading to the **leakage of taxation** (T) and the **injection of government spending** (G). Taxes are paid by households and firms to the government and are a leakage out of current income, reducing the expenditure on current goods and services. Taxation therefore reduces the levels of income, expenditure, output and employment in the circular flow of income model.

To offset the leakage of taxation (T), the government spends taxation revenue in providing collective goods and services (e.g. health and education), infrastructure and transfer payments (e.g. pensions, allowances, unemployment benefits and subsidies) to the household sector and the firms sector.

The government's budget outcome is equivalent to the difference between government taxation revenue and government spending (i.e. T - G). If the government budgets for a deficit (i.e. where G > T) this will have an expansionary effect on economic activity. If on the otherhand the government budgets for a surplus (i.e. where G < T) this will have a contractionary effect on economic activity. If the government balances its budget (i.e. a neutral budget, where G = T) this will have a neutral effect on economic activity. The four sector model of the circular flow of income is shown in **Figure 2.6**.

Equilibrium in the four sector model occurs when the sum of the two leakages of savings (S) and taxation (T) equals the sum of the two injections of investment (I) and government spending (G) i.e.

$$S + T = I + G \qquad \textbf{Equilibrium condition (four sector model)}$$

Disequilibrium will occur in the four sector model if the sum of total leakages (S + T) does not equal the sum of total injections (I + G), causing the levels of income, output, expenditure and employment to fall or rise e.g.

If S + T > I + G   Leakages exceed injections causing the levels of income, output, expenditure and employment to fall, leading to a **contraction** in economic activity (i.e. a downswing in the business cycle) and higher unemployment in the economy.

If S + T < I + G   Injections exceed leakages causing the levels of income, output, expenditure and employment to rise, leading to an **expansion** in economic activity (i.e. an upswing in the business cycle) and lower unemployment in the economy.

Figure 2.6: The Four Sector Circular Flow of Income Model
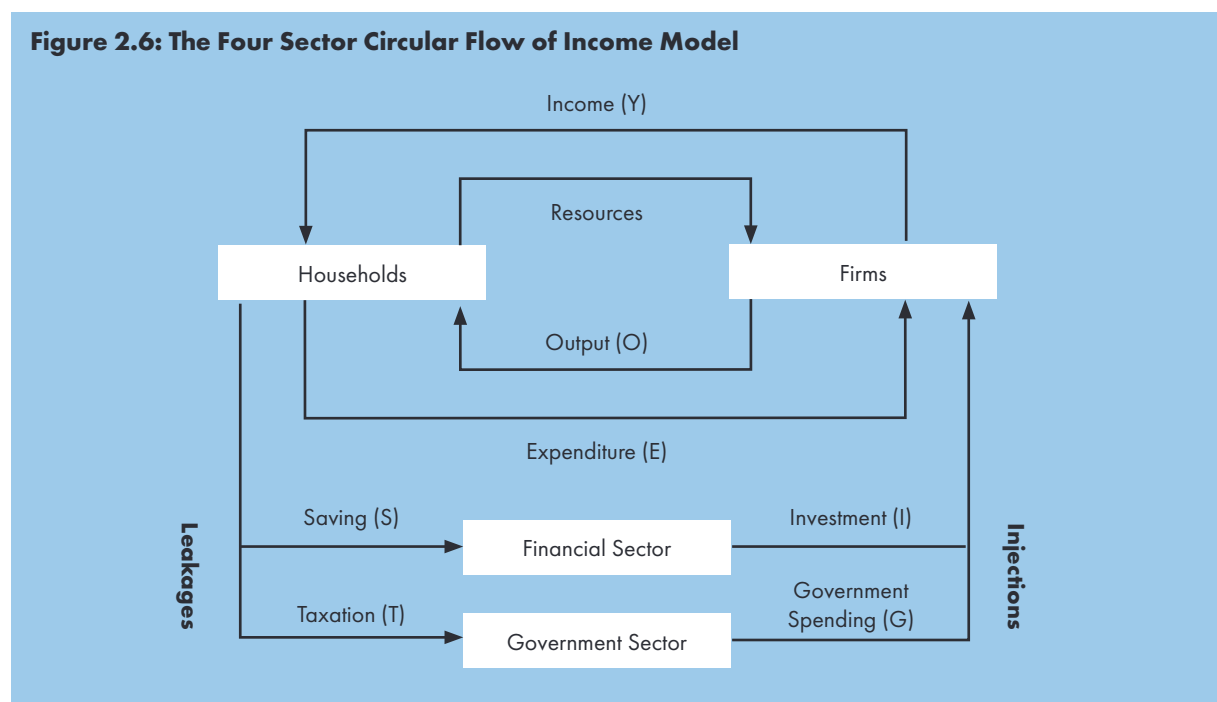
The Five Sector Model: Households, Firms, Finance, Government and Overseas Sectors

By relaxing assumption six in the simple two sector circular flow of income model, and adding the overseas sector, the **leakage of imports** (M) and the **injection of exports** (X) are added to the model. This means that we are now dealing with an **open economy model** and not a closed economy model.

Imports (M), which represent spending by Australian residents on goods and services from the rest of the world, are a leakage out of current income and reduce income, expenditure, output and employment in the circular flow of income model.

Exports (X) of goods and services generate income for exporters from overseas residents who pay for these exports. Exports are an injection of income into the circular flow of income model and increase income, expenditure, output and employment. The five sector model is illustrated in **Figure 2.7**.

Equilibrium in the five sector open economy model of the circular flow of income will occur when total leakages (S + T + M) are equal to total injections (I + G + X) i.e.

$$S + T + M = I + G + X \qquad \textbf{Equilibrium condition (five sector model)}$$

Disequilibrium will occur in the five sector model if the sum of total leakages does not equal the sum of total injections, causing the levels of income, output, expenditure and employment to fall or rise e.g.

If S + T + M > I + G + X   Leakages exceed injections causing the levels of income, output, expenditure and employment to fall, and a **recession** or contraction in economic activity and higher unemployment in the economy.

If S + T + M < I + G + X   Injections exceed leakages causing the levels of income, output, expenditure and employment to rise, and a **boom** or expansion in economic activity and lower unemployment in the economy.

Figure 2.7: The Five Sector Circular Flow of Income Model
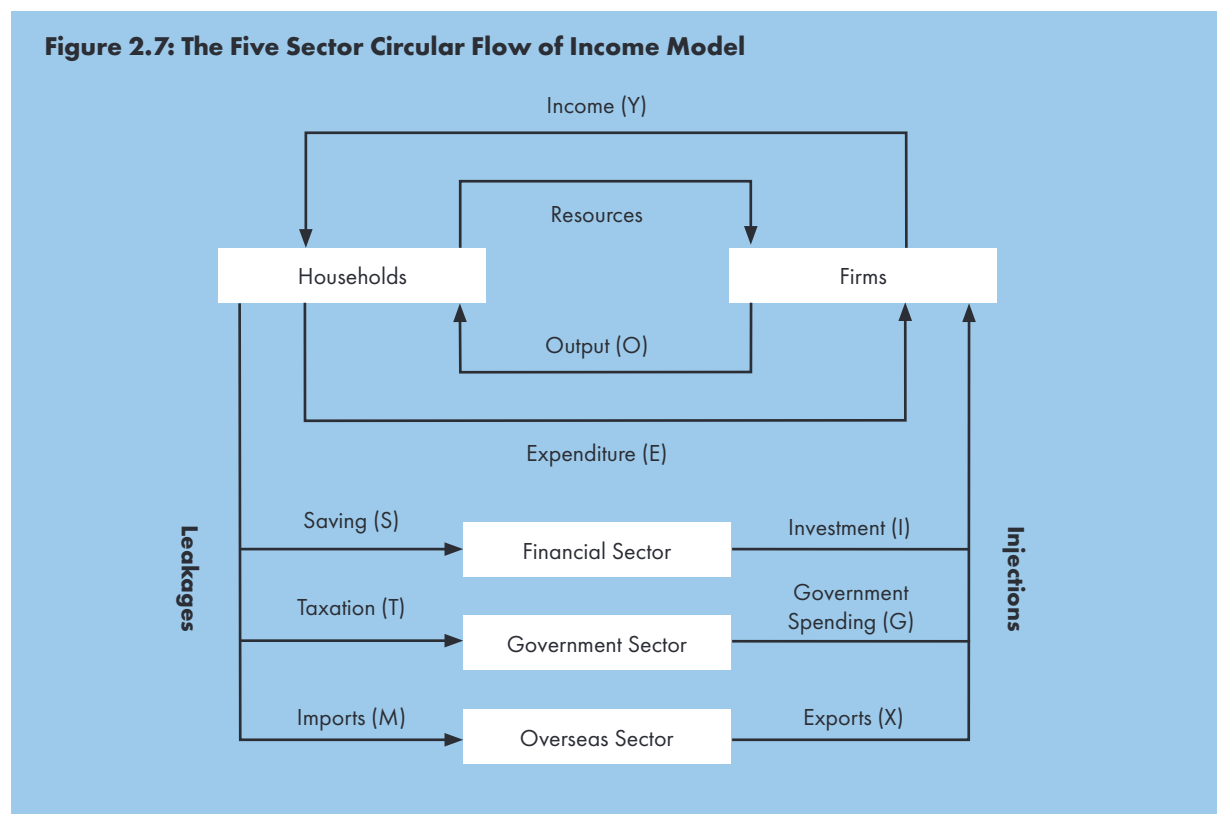
Regaining Equilibrium in the Five Sector Circular Flow of Income Model

If disequilibrium occurs in the five sector circular flow of income model, changes in income, expenditure and output will lead to equilibrium being regained in the economy at a time in the future:

- For example, if S + T + M > I + G + X in the five sector model, the levels of income, expenditure and output will fall, causing a contraction or recession in economic activity. As income falls, households will cut back their saving, pay less taxation to the government and spend less on imports. Hence the leakages of saving, taxation, and imports will fall until they equal the injections of investment, government spending and exports, and a lower level of equilibrium income will be established.

- For example, if S + T + M < I + G + X in the five sector model, the levels of income, expenditure and output will rise, causing an expansion or boom in economic activity. As income rises, households will increase their saving, pay more taxation to the government and spend more on imports. Hence the leakages of savings, taxation and imports will rise until they equal the injections of investment, government spending and exports, and a higher level of equilibrium income will be established.

✎ REVIEW QUESTIONS

THE CIRCULAR FLOW OF INCOME MODEL

1. List the six assumptions of the simple two sector circular flow of income model.

2. Distinguish between a closed economy and an open economy.

3. Explain the concept of equilibrium in the simple circular flow of income model in Figure 2.4.

4. Refer to Figure 2.5 and Table 2.3 and explain what happens when the financial sector is introduced into the circular flow of income model. What could cause disequilibrium to occur in the three sector model? How is equilibrium regained?

5. Which leakage and injection occur in the circular flow of income model when the government sector is introduced? What are the implications for the economy if the sum of S + T are not equal to the sum of I + G? Refer to Figure 2.6 and the text in your answer.

6. Explain what the equilibrium condition is when the overseas sector is introduced into the five sector circular flow of income model. Distinguish between the causes of a recession and a boom in economic activity in the five sector model. Refer to the text and Figure 2.7 in your answer.

7. How could the government use macroeconomic policies to correct a disequilibrium situation in an open economy that was experiencing a boom or a recession?

8. Add the following terms to a glossary by finding out their correct definitions:

assumptions	factor incomes	investment
boom	finance sector	leakage
business cycle	financial flows	output
circular flow of income	firms sector	overseas sector
contraction	government sector	quality of life
disequilibrium	government spending	real flows
equilibrium	household sector	recession
expansion	imports	saving
expenditure	income	taxation
exports	injection	trade flows

🌀 CHAPTER 2: SHORT ANSWER QUESTIONS
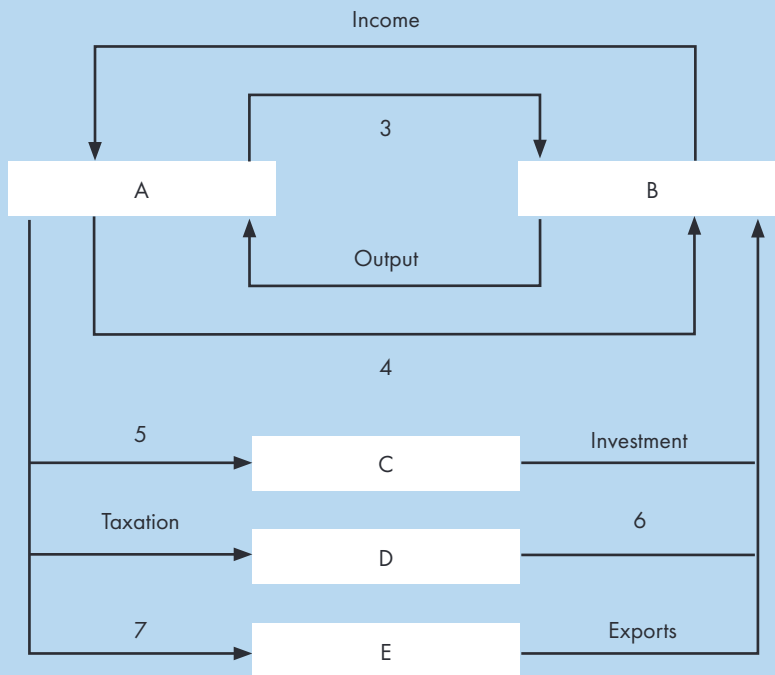
The diagram above shows the five sector circular flow of income model for an economy.   Marks

1.   Name the sectors of the model that correspond to the following letters in the diagram: (2.5)

A_____   B_____   C_____

D_____   E_____

2.   Name the flows that correspond to the following numbers on the diagram: (2.5)

3_____   4_____   5_____

6_____   7_____

3.   Explain the difference between a leakage and an injection in the five sector circular flow of   (2)
      income model by using an example of each.

_____

_____

4.   Explain how equilibrium and disequilibrium may occur in the five sector circular flow   (3)
      of income model.

_____

_____

_____

_____

_____

_____

CHAPTER FOCUS ON THE OPERATION OF AN ECONOMY

"Economic systems can be distinguished along many lines, but two seem most important. The first is, how is economic activity co-ordinated - by the market or by government planning? The question does not of course demand an 'either', 'or' answer. Rather the choice extends over an entire range, running from *laissez faire* to rigid central planning, with many variations in between.

Society must decide to what extent it wants decisions made by individual businesses and consumers, each acting in their own self interest, to determine their economic destiny and to what extent it wants to persuade these businesses and consumers to act more 'in the national interest'."

Source: William J. Baumol and Alan S. Blinder (1985), *Economics*, Harcourt Brace Jovanovich, Orlando, USA.

Compare and contrast the ways that different economies deal with the economic problem of scarcity.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 2: EXTENDED RESPONSE QUESTIONS

1. Explain the four functions of an economic system. Contrast the ways in which the market economy and the planned economy attempt to solve the economic problem. Use examples where possible to illustrate your answer.

2. Explain the main forms of income and employment in a market economy like Australia. How are the levels of income and employment influenced by changes in the business cycle?

3. Discuss the six main assumptions of the simple two sector circular flow of income model.   Explain what happens to the model when these assumptions are relaxed. How can disequilibrium arise in the five sector circular flow of income model?

4. Analyse the main flows between the five sectors in the five sector circular flow of income model. How is equilibrium established in the model? Explain how equilibrium is regained if disequilibrium occurs in the model.

5. In a hypothetical economy, if S = 100, T = 150 and M = 50, and I = 200, G = 200 and X = 100, explain how the process of equilibrium income is determined.

✌ CHAPTER SUMMARY

THE OPERATION OF AN ECONOMY

1. An economy refers to the way in which a society is organised to solve the economic problem of the scarcity of resources in relation to society's needs and wants.

2. A market economy like Australia is characterised by freedom of enterprise, private property rights and the profit motive. In a market economy, resources are allocated according to consumer demand, through a system of product and factor markets based on the price mechanism.

3. In a planned economy like North Korea or Cuba resources are largely owned by the government and allocated according to government planning priorities such as defence and heavy industry.

4. Both the market and planned economic systems perform the functions of production, distribution and exchange. This involves answering the four basic questions raised by the economic problem of what to produce?; how much to produce?; how to produce?; and to whom to distribute?

5. Goods and services produced by an economy involve the use of a combination of land, labour, capital and entrepreneurial resources. The owners of these resources are paid factor incomes for their use such as rent, wages, interest and profit. Resources are bought and sold in factor markets, whereas final goods and services are bought and sold in product markets.

6. Employment in a market economy is created by both the private and public or government sectors. The main categories of industries which employ labour and other resources are threefold:

    *   Primary industry, which produces raw materials such as agriculture, mining, forestry and fishing.

    *   Secondary industry or manufacturing, which uses raw materials to produce finished goods for consumers and other businesses.

    *   Tertiary or service industry, which involves the retailing, wholesaling and distribution of final goods and services to consumers and businesses.

7. The quality of life of citizens in an economy depends on the level of per capita income, access to a variety of consumer goods and services, as well as non material factors such as the extent of law and order, environmental quality, life expectancy, access to health care, education and social welfare.

8. Market economies like Australia experience changes in the level of economic activity over time which are known as business cycles. The business cycle has four main phases which are known as the upswing, boom, downswing and recession.

9. The circular flow of income model is a simplified version of the workings of a market economy. In the five sector circular flow of income model, there are household, firms, finance, government and overseas sectors, and the flows of resources, output (O), expenditure (E) and income (Y) between these sectors. The three leakages in the five sector model are savings (S), taxation (T) and imports (M), and the three injections are investment (I), government spending (G) and exports (X).

10. Equilibrium in economics is a situation in which there is no tendency for change. In the five sector circular flow of income model, equilibrium occurs when total leakages equal total injections i.e.

    $S + T + M = I + G + X$

11. Disequilibrium occurs in the five sector circular flow of income model when total leakages are not equal to total injections, causing either an expansion or contraction in economic activity i.e.

    $S + T + M \neq I + G + X$

CHAPTER 3

Economies:
Their Similarities and Differences

Economic systems are classified according to how they solve the economic problem in terms of the production, distribution and exchange of goods and services. The three main criteria used to classify the different types of economic systems include the following:

1. Whether productive resources are owned by private individuals (i.e. the private sector) or the government (i.e. the public sector) and the allocation of property rights over the use of resources.

2. The role of markets and the market forces of demand and supply in allocating resources (including labour and capital), determining prices and distributing incomes in the economy.

3. The role of the government in economic life, including the production of goods and services and the provision of infrastructure and social welfare services to the community.

TYPES OF ECONOMIC SYSTEMS

The two broad types of economic system are the market economy and the planned economy. Market economies like Australia and the USA are organised through a series of product and factor markets involving buyers and sellers of final goods and services and productive resources. The price system or price mechanism allocates resources according to consumer and producer preferences. In market economic systems, individuals make the key economic decisions guided by self interest, the profit motive and the freedom to pursue the acquisition of private property through freedom of enterprise.

The Market Economy

Market or advanced industrialised or capitalist economies such as Australia, New Zealand, the USA, Japan, the UK, Germany, France, Canada and Italy solve the economic problem in the following ways:

• **What to produce and how much to produce** are determined by the operation of the price mechanism, with consumer preferences and consumer sovereignty determining the pattern of production and the quantities of output to be produced. For example, producers will only maximise profits by producing those goods and services that consumers are willing and able to purchase. An increase in consumer demand relative to producer supply will cause prices to rise and producers will respond by increasing production to meet the increase in demand for goods and services by consumers.

• **How to produce** is determined by the profit motive as producers will attempt to use the least cost combination of resources in producing their output. The demand for productive resources (e.g. labour) is derived from the demand for final goods and services. The demand for resources will also be dependent on resource availability and relative factor prices or resource prices in factor markets. The state of technology will also influence the methods of production used, with producers favouring the most efficient or least cost method of production in order to maximise profits.

• **To whom to distribute** is determined by the distribution of factor incomes, with those on higher incomes having a greater ability to consume goods and services, relative to those on lower and middle incomes. Incomes will be determined by each person's contribution to production as measured by their marginal productivity. People with high levels of skill, education, training, experience and productivity such as doctors and other professionals will tend to earn higher incomes than those with less skill and education and lower productivity such as factory workers and labourers. Incomes also depend on the market demand for various labour skills and relative factor prices in factor markets, with skills in high demand such as trade skills commanding relatively higher factor prices.

Some of the key characteristics of advanced market or capitalist economies include the following:

- Private ownership of property through the existence and enforcement of private property rights;

- Freedom of enterprise for individuals to select their type of employment or establish, run and own businesses, and freedom of choice in their spending, employment and voting decisions;

- Motivation of individual behaviour through self interest, private property and the profit motive;

- The exercise of consumer sovereignty in the market place through consumer spending decisions;

- The price mechanism is the main device for resource allocation in product and factor markets;

- Competition between consumers (for goods and services) in product markets, and between producers (for resources) in factor markets; and

- A limited role of government in economic life by providing infrastructure and social welfare.

The Mixed Market Economy

Market economies are also referred to as mixed market economies, because although the private sector makes most of the economic decisions, governments also play a significant role in providing collective goods and services (such as health, education and social welfare), redistributing income, regulating some private sector activities, and attempting to stabilise economic activity through the use of macroeconomic and microeconomic policies. Governments intervene in market economies in the following ways:

- As a regulator, in establishing and enforcing a framework of law and order and regulations which protect consumers and producers in their commercial market dealings.

- As a provider of collective goods and services and infrastructure such as defence, health, education, transport and social welfare for the economy as a whole.

- As a producer of goods and services that the market will not provide at all, or not in sufficient quantities, such as public transport, health, education, defence and postal services.

- To redistribute income through the systems of progressive taxation and social welfare payments or tax transfers to ensure a more equal distribution of income and wealth in the community.

- As a stabiliser of economic activity through the conduct of counter cyclical policies (such as monetary and fiscal policies) to achieve the government's macroeconomic goals of economic growth, price stability, full employment, and external balance.

Newly Industrialising Economies

Another type of economic system is the newly industrialised economy (NIE) such as Singapore, Taiwan, Hong Kong SAR and South Korea. These four NIEs are countries which were formerly developing economies characterised by low per capita incomes and living standards, but have industrialised rapidly, developed an export capacity, and sustained high rates of economic growth. As a result of rapid development, the four NIEs raised their living standards considerably in the 1990s and 2000s and have per capita incomes between US$47,490 (South Korea) and US$102,450 (Singapore), and are classified as advanced industrialised market economies (AIEs) and known as the **Asian Tigers**.

The successful NIE development strategy is based on high rates of domestic saving; foreign investment and trade; development of high labour productivity through education and training; and an active role played by their governments in co-ordinating the development strategy. Higher per capita incomes and living standards have enabled the NIEs to achieve the status of advanced countries, with others such as the 'Mini Dragons' of Indonesia, Malaysia, The Philippines and Thailand pursuing a similar strategy of market development, together with a strategic role for government in the development process in the 2000s. The high growth rates achieved by the NIEs in the Asian region in the 1990s was known as the 'Asian Miracle'. However in 1997 a series of currency crises caused by a lack of foreign investor confidence, a withdrawal of capital and large foreign debts led to the '**Asian Financial Crisis**'.

The Planned Economy

Planned economies such as China, Cuba, Yemen, North Korea and the former Soviet Union used command planning or government planning to allocate resources according to the priorities for production set by a state planning authority or agency. The governments of these countries are (or were) Communist and adopted the economic system of socialism based on the theory of socialism developed by Karl Marx and Friedrich Engels in *Das Kapital* and the *Communist Manifesto*. Under socialism the state makes most of the production, distribution and exchange decisions and sets prices and incomes according to government planning priorities or goals. Within the planning framework there is little scope for individual economic decision making and freedom of choice or the operation of free markets:

- **What and how much to produce** are decided by the government through a central planning agency which establishes short, medium and long term plans which set out production priorities (such as the output of raw materials, capital and consumer goods and defence equipment) and production targets for priority industries. The government decides how resources are allocated between industry and agriculture, and individual farms and factories are given production targets or quotas to meet, in contributing to the achievement of the overall target under the state industrial or agricultural plan.

- **How to produce** is determined by the government using estimates of resource balances and demand, to allocate resources in sufficient quantities to meet output targets. Labour resources are allocated through the use of differential wage rates paid by the planners, and coercion or forced labour by the state if wage differentials fail to encourage the adequate supply of workers into priority areas.

- **To whom to distribute** is determined by the government attempting to share out production on the basis of need and areas of state priority. Higher wages and salaries are paid to workers in priority areas (e.g. defence and heavy industry) but a high level of corruption occurs because members of the Communist Party and the political elite can use their power and position to improve their living standards in relation to ordinary citizens. Prices are set by the planners and basic foodstuffs, water, housing and electricity are often subsidised and health and education may be provided at zero cost.

Some of the key characteristics of planned economies include the following:

- Public ownership of property and resources (i.e. the means of production);
- Limited personal economic and political freedom and a low material standard of living;
- Motivation of individual behaviour through coercion, state propaganda and national goals;
- The absence of freely operating product and factor markets and market determined prices;
- Central planning is the main allocative mechanism in product and factor markets;
- Production is largely carried out by state owned and operated enterprises (SOEs); and
- A dominant role is played by the government in economic, political, military and cultural life.

The Economy in Transition

In 1989 the Berlin Wall dividing East and West Berlin came down, marking the decline of Communist governments in many Eastern European countries which had experienced Communist rule and socialist planning since 1945. Countries such as the former Czechoslovakia, Poland, Romania, Hungary and the former states of the USSR such as Russia and the Ukraine, are now making the transition from planned economic systems to market economic systems. This is a result of the election of democratic governments in these nations and the desire of the majority of citizens to raise their incomes and standard of living by having more economic and political freedom through a system of market allocation, free trade and less government involvement in production decisions and economic, political and cultural life.

Economies in transition have implemented wide ranging reforms such as the establishment of markets, and prices determined by the market forces of demand and supply. In addition their economies have been opened up to foreign trade and investment, and governments have developed a framework of private property rights and designed monetary and fiscal policies to improve macroeconomic performance.

Table 3.1: Types of Economic Systems

Economic System	Ownership of Resources	Role of the Market	Role of the Government
1. Market Economy (e.g. USA)	Private Ownership of Resources	Market Allocation of Resources	Limited Government Intervention in Markets
2. Mixed Market Economy (e.g. Australia)	Private Ownership of Resources	Market Allocation of Resources	Substantial Government Intervention in the Economy
3. Planned Economy (e.g. North Korea)	Government Ownership of Resources	Limited Role of Markets	Government Planning of Resource Allocation
4. Newly Industrialised Economy (e.g. Taiwan)	Private Ownership of Resources	Market Allocation of Resources	Major Role in Developing Strategic Industries
5. Economy in Transition (e.g. Poland)	Changing from Government to Private	Increasing Role of Market Allocation	Significant but Declining Role of Government
6. Emerging and Developing Economies (e.g. the BRICs)	Private and Public Ownership of Resources	Increasing use of Markets for Resource Allocation	Major Role of Government in the Development Process

The eleven countries of Poland, the Czech Republic, the Slovak Republic (Slovakia), Hungary, Latvia, Lithuania, Estonia, Slovenia, Croatia, Bulgaria and Romania have made a rapid and successful transition to becoming market economies and were admitted as full members of the European Union (EU) between 2004 and 2013. This has increased their integration with Europe and opened up trade and investment opportunities for their economies. Macedonia, Serbia and Montenegro have also applied for future EU membership. The main features of market, mixed market, planned, newly industrialised, transition, emerging and developing economic systems are summarised in **Table 3.1** above.

Emerging and Developing Economies

A major change in the global economy has been the increasing importance of emerging and developing economies in their contribution to world output and world trade. Within this group of economies, the major emerging economies of Brazil, Russia, India and China (the BRICs) have become very dominant by sustaining higher rates of economic growth than advanced economies such as the USA, the Euro Area, Japan and the NIEs. This is why the BRICs are classified as major emerging economies. However the success of the BRICs and other emerging economies in sustaining high rates of growth and development has not been matched by many other developing economies such as Albania, Turkey, Bangladesh, Cambodia, Pakistan, Egypt, Chad, Malawi and Bolivia. The following is a description of the main features and examples of emerging and developing economies:

- Emerging economies or high middle income economies had per capita incomes ranging from US$4,256 to US$13,205 in 2021. Major emerging economies are Brazil, Russia, India and China (the BRICs), Mexico, Nigeria and South Africa and oil exporting countries in the Middle East such as Saudi Arabia, Kuwait and the UAE. As a group they have increased their contribution to world output and trade and have undergone rapid economic development. This has led to a significant reduction in poverty through rising per capita incomes, increased access to education and health care, and a general rise in living standards for their populations. In total the BRIC emerging economies accounted for around 31.1% of world output and about 18.3% of world trade in 2021.

    Emerging economies tend to use a system of markets for resource allocation but the government also plays an important role in the development process through the operation of State Owned Enterprises (SOEs) in some countries such as China and the Russian Federation.

- The developing countries or economies are located in developing Asia, the Middle East and North Africa, Sub Saharan Africa and the Western Hemisphere (Latin America). Many of these countries are members of the Organisation of Petroleum Exporting Countries (OPEC) and have large oil exports to the rest of the world, whilst others such as Brazil and Venezuela are significant resource exporters. Emerging and developing economies are classified by the IMF according to their geographic region and accounted for 57.9% of world GDP and 38.6% of world trade in 2021. Together emerging and developing countries accounted for 86% of world population in 2021.

  Developing economies are also known as low income economies since their levels of per capita income ranged from less than US$1,085 to a high of US$4,255 according to the World Bank in 2021. Most of the poorest developing economies are located in Sub Saharan Africa with countries such as Togo, Malawi, Zambia, Guinea, Liberia, Chad, Congo, Mali and Niger characterised by per capita incomes of less than US$1,085 in 2021. Whilst there is some link between increased global economic integration, increased trade and a reduction in poverty, this has not occurred in many developing countries. The reasons are a lack of resources, poor levels of governance, political instability and trade barriers faced in accessing export markets in advanced economies.

An important grouping of countries to Australia in the Asian region is the Association of South East Asian Nations (ASEAN). ASEAN consists of the ten countries of Singapore, Malaysia, Indonesia, Thailand, the Philippines, Brunei, Vietnam, Laos, Cambodia and Myanmar (Burma). Economic ministers from ASEAN, Australia and New Zealand signed the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) Agreement in Thailand in February 2009 to promote free trade in the region.

✒ REVIEW QUESTIONS

TYPES OF ECONOMIC SYSTEMS

1. Explain how market economies solve the economic problem of scarcity.

2. Make a list of some examples of market economies. Why are they also called advanced industrialised or capitalist economies? What are the key characteristics of a market economy?

3. Discuss the role of the government in a mixed market economy like Australia.

4. Using examples, explain the meaning of a 'newly industrialised economy'.

5. Explain how planned economies like North Korea and Cuba solve the economic problem.

6. What is an economy in transition? Why are many former socialist and Communist countries in Europe now classified as economies in transition?

7. Discuss the advantages and disadvantages of market and planned economies.

8. Using examples distinguish between emerging and developing economies.

9. Discuss the reasons for the recent rapid growth of emerging economies like China and India.

10. Add the following terms to a glossary:

capitalism	government intervention	planning priority
communism	living standards	planning target
developing economy	market allocation	price mechanism
economic development	market economy	property rights
economic system	mixed market economy	resource allocation
economy in transition	newly industrialised economy	socialism
emerging economy	planned economy	state owned enterprise

A COMPARATIVE STUDY OF AUSTRALIA AND INDONESIA

Australia and Indonesia provide an interesting comparison of economic systems. Indonesia is one of Australia's closest and fast growing neighbours in the Asian region and is of significant economic, political, diplomatic, cultural and strategic importance to Australia. Both countries have mixed market economies but Australia is an advanced economy whilst Indonesia is classified as an emerging or developing economy with a lower level of per capita income and standard of living than Australia.

Australia is a small open economy situated in the South Pacific with a population of 25.7m in 2021 and a land area of some 7,741,200 square kilometres. Australia is classified as a mixed market economy, because whilst most economic decisions are made by private market forces, the Australian government modifies this behaviour through its legislative powers. Australia has a parliamentary system of government based on the Westminster system of parliamentary democracy, with voters electing a federal government (on a preferential basis) for a period of three years. Australia also has six state and two territory governments which are elected on a democratic basis. At the last federal election in May 2022 the Australian Labor Party was elected to government with ALP leader Anthony Albanese becoming the new Prime Minister. This was the first Labor government to be elected since 2010. The current Indonesian President, Joko Widodo, (elected in 2014) won a second term as president in an election in April 2019 and was re-elected for a second term of five years which will end in 2024.

The Australian Economy

Australia is classified by the World Bank as an advanced industrialised or developed economy because its Gross Domestic Product (GDP) was US$1,461.1b in current prices in 2021, thirteenth largest in the world. Its per capita income was US$55,290 per annum in 2021, ranking it twenty first highest in the world. The main sectors of the Australian economy include agriculture, forestry, fishing, mining, manufacturing and services. Australia shares common features with other advanced countries:

- High per capita income and living standards and a democratic system of government
- High trade orientation of the economy through exports and imports of goods and services
- An exporter of agricultural, mining and manufactured goods, and services such as tourism and education
- Industrialised with a manufacturing base that includes steel and process manufacturing
- High levels of saving and investment including foreign direct and portfolio investment
- A high level of human development with widespread access to education, health and social welfare services and a high degree of environmental quality

The Indonesian Economy

Indonesia is a much larger country than Australia with a population of 276.4m people in 2021. Indonesia is a large open economy located on both sides of the Equator to the north of Australia, but is largely in the southern hemisphere. Indonesia is an archipelago of over 6,000 inhabited islands with a total surface area of 1,916,900 square kilometres whereas Australia is an island continent. Indonesia has a tropical, rainy climate and dense rainforest vegetation in contrast to Australia being a mainly dry and arid continent with major issues over water security, and the occurrence of droughts and bushfires.

Indonesia's main islands include Java, Sumatra, Kalimantan, Sulawesi, Bali, the Moluccas, Irian Jaya and Indonesian Timor. Ethnically, Indonesia was settled by Malay peoples and came under the influence of Arab traders exploiting the spice trade. The dominant religion in Indonesia is Islam, being the largest Islamic country in the world, whereas Australia is predominantly a Christian country settled by people of British origin. The majority of Indonesia's population is situated on the main island of Java, with other concentrations on the islands of Sumatra, Sulawesi, Kalimantan, Bali, Indonesian Timor and Irian Jaya. Indonesia's land area is only 1,916,900 square kilometres with a population density of 147 persons per square kilometre compared to Australia's 3 persons per square kilometre in 2021. The population density on the main island of Java in Indonesia is higher where over 140m people reside.

Table 3.2: Indicators of the Relative Size of the Australian and Indonesian Economies

Indicator	Australia	Indonesia
Population (2021)	25.7 million	276.4 million
Population Density (people per sq km) 2021	3	147
Surface Area (thousands of sq. kms) (2018)	7,741.2	1,916.9
GDP (current prices 2021)	US$1,461.1b	US$1,143.1b
GDP per capita (PPP 2021)	US$55,290	US$12,560
GDP growth (2010-20)	2.5%	4.9%
GDP per capita growth (2021)	1.3%	2.6%

Sources: World Bank (2022), *World Development Indicators 2022*, World Bank, Wash. DC & DFAT Fact Sheet.

Indonesia is classified as a developing economy because of its modest but growing level of per capita income of US$12,560 in 2021 (refer to **Table 3.2**). It is industrialising and growing rapidly, being the 23rd largest economy in the world and the largest in South East Asia. It is reliant on agriculture, manufactures, mining and tourism for domestic income and export income. Cash crops include coffee, sugar, rubber and palm oil introduced by Dutch, Portuguese and British colonialists in the seventeenth century. However Indonesia has sizable reserves of petroleum and is a member of the Organisation of Petroleum Exporting Countries (OPEC). Indonesia's GDP in 2019 was US$1,143.1b and averaged 4.9% annual growth between 2010 and 2020, nearly double Australia's growth rate of 2.5%.

Indonesia became an independent republic in 1945 after being a Dutch colony. Its first President, Sukarno, launched national development programmes to raise the living standards of a population with one of the world's lowest per capita incomes. In 1965 a military coup led by General Suharto deposed Sukarno and military rule existed until 1998 when democratic elections were held, and Muslim leader Abdurrahman Wahid became President. Wahid was impeached and lost power in July 2001 over charges of corruption, and Megawati Sukarnoputri (Sukarno's daughter) was sworn in as the new President of Indonesia and held office until her electoral defeat in 2004 by Dr Susilo Bambang Yudhoyono.

President Susilo Bambang Yudhoyono was elected to a second and final five year term as Indonesian president in July 2009 by winning around 61% of the national vote and a majority in 27 of Indonesia's 34 provinces. Dr Yudhoyono was the first Indonesian president to be re-elected in free and fair democratic elections in Indonesia since the fall of the Suharto military government in 1998. In July 2014, former mayor of Solo and Governor of Djakarta, Joko Widodo ('Jokowi') won Indonesia's presidential election.

The major sectors of the Indonesian economy include services, manufacturing, agriculture, forestry, fishing and mining. Major Indonesian industries include petroleum and natural gas, textiles, apparel and mining. Major agricultural products include palm oil, rice, tea, coffee, spices, timber and rubber. Indonesia shares many of the features of other emerging and developing countries such as:

• Low per capita incomes and living standards which are rising due to sustained growth in GDP

• Low but increasing trade orientation of its economy as it embraces globalisation through ASEAN

• Exports of agricultural goods and raw materials such as rice, forestry, oil and natural gas

• Industrialising with a growing manufacturing base accounting for 19.9% of GDP in 2020

• Low levels of saving and investment, but a growing middle class of over 50m with rising savings

• Low quality of human development with a majority of the population having limited access to education, health and social welfare services. Relative poverty is therefore widespread in Indonesia.

Basic indicators of the relative size of the Australian and Indonesian economies are listed in **Table 3.2.**

Economic Growth

Economic growth refers to changes in a nation's output of goods and services over time. It is measured in terms of Gross Domestic Product (GDP) which is a valuation of a country's total production in a year. Australia has a larger economy than Indonesia in terms of nominal Gross Domestic Product despite Indonesia's much larger population. In 2021 Australia's GDP was US$1,461.1b making it the thirteenth largest economy in the world. Its average rate of GDP growth between 2010 and 2020 was 2.5% as its economy transitioned to non mining sources of growth. In contrast, Indonesia had a GDP of US$1,143.1b in 2021 and was ranked 23rd in the world in terms of economic size. Indonesia's average annual growth rate in GDP was 4.9% between 2010 and 2020 after recovering from the Asian currency crisis in 1997 and the Global Financial Crisis in 2009.

Both the Australian and Indonesian governments used fiscal stimulus packages of increased government spending to support their economies during the Global Financial Crisis in 2009. The Indonesian government used a US$6.2b fiscal stimulus package of tax cuts, infrastructure investment and subsidies to boost domestic demand. The Australian government also implemented a number of fiscal stimulus measures in 2008-09 such as the $10b *Economic Security Strategy* and the $42b *Nation Building and Jobs Plan* to support domestic economic growth and employment during the Global Financial Crisis. In 2020-21 both the Australian and Indonesian governments used fiscal and monetary stimulus policies to support their economies during the **COVID-19 pandemic** which led to recessions in both countries.

The rates of economic growth for Australia and Indonesia between 2016-17 and 2021-22 are shown in **Figure 3.1**. Indonesia recorded higher annual growth in real GDP than Australia up to 2020-21 when it entered a recession due to the COVID-19 pandemic, recording negative growth of -1.5% whilst Australia's growth slowed to 1.4%. Indonesia has increased its exports to the rest of the world and opened its economy to foreign investment. Indonesia is the largest market economy in South East Asia and is a member of the Association of the South East Asian Nations (ASEAN) and the G20. Indonesia's major export markets include China, Japan, the USA, Singapore and Australia.

Australia recorded strong rates of economic growth in the 2000s with strong demand for mineral resources during the global resources boom. This led to rising commodity prices for resources such as iron ore, coal and LNG, which lifted Australia's terms of trade by 30%. This provided stimulus to Australia's national income and supported strong growth in output and exports. Australia's major export markets include China, Japan, ASEAN, Korea, Taiwan, the EU, Hong Kong and New Zealand. Australia signed the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) Agreement in 2009 to strengthen trade ties with ASEAN countries. Australia's rate of economic growth was 3.9% and Indonesia's was 3.7% in 2021-22 with strong economic recoveries after the COVID-19 pandemic.

Figure 3.1: Rates of Economic Growth for Australia and Indonesia 2016-17 to 2021-22
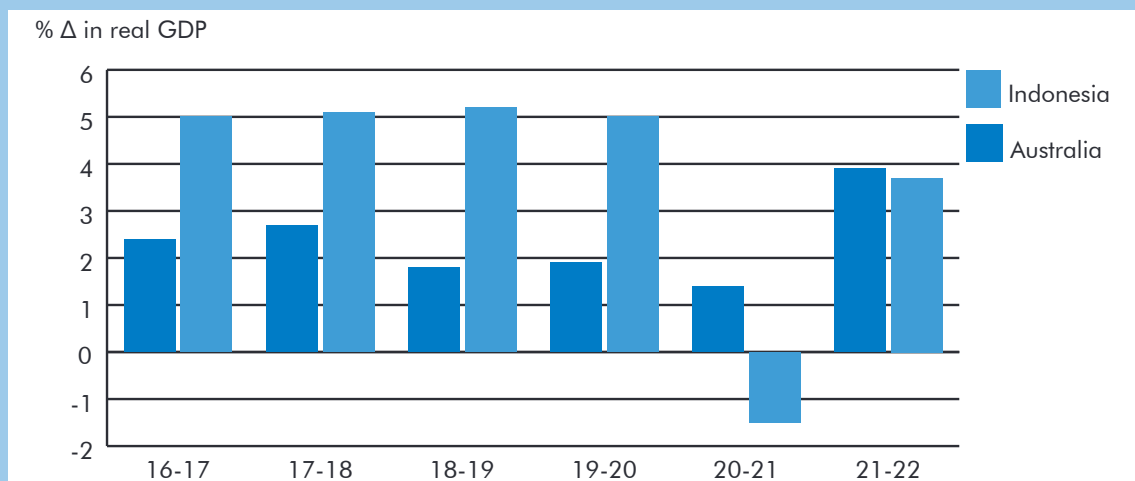
Source: DFAT (2022), Fact Sheets on Indonesia and Australia.

Quality of Life

The quality of life refers to material and non material indicators of the standard of living of a country's population. The World Bank calculates a Human Development Index (HDI) for most countries in the world which measures the following three important indicators of the quality of life:

1. Life expectancy at birth
2. Mean years of schooling (i.e. literacy)
3. Gross National Income (GNI) per capita in US dollars

Australia's HDI value was 0.951 in 2021 and Indonesia's was significantly lower at 0.705 in 2021. Important quality of life indicators include the following:

• Access to food, housing, water, health, education, community and welfare services;

• Access to adequate levels of sanitation, waste disposal and clean water;

• Access to a clean and healthy environment;

• Adequate provision of law and order and the control of crime and civil disorder; and

• Participation in government decision making including democratic elections and human rights, freedom of association, speech, worship, movement and assembly.

In its *Human Development Report 2022* the UNDP calculated a Human Development Index (HDI) based on life expectancy at birth, mean years of schooling and Gross National Income per capita for 191 countries. Indonesia's HDI value was 0.705 in 2021, ranking it 114th out of 191 countries. This ranking improved significantly from 124th in 2011 due to the continuing reduction in poverty in Indonesia. Over the long term between 1990 and 2021, Indonesia's HDI rose from 0.523 to 0.705 indicating a substantial improvement in the quality of life and a general fall in income poverty.

Australia's HDI value was 0.951 in 2021, ranking it fifth behind Switzerland (1st), Norway and Ireland (2nd), Iceland (3rd) and Hong Kong SAR (4th). Australia's HDI value rose from 0.865 in 1990 to 0.951 in 2021, indicating a general improvement in the quality of life, compared to the large improvement in the quality of life in Indonesia over the same period. Selected quality of life indicators for Australia and Indonesia calculated by the UNDP in the *Human Development Report Statistical Update 2022* and the World Bank's *World Development Indicators 2022* are listed in **Table 3.3** and show the contrast in the quality of life between the populations in Australia and Indonesia.

Table 3.3: Selected Quality of Life Indicators for Australia and Indonesia in 2021

Quality of Life Indicator	Australia	Indonesia
Life Expectancy at Birth (2021)	84.5 years	67.6 years
Mean Years of Schooling (2021)	12.7 years	8.6 years
GNI per capita (PPP US$) 2021	US$49,238	US$11,466
Human Development Index (HDI) value 2021	0.951	0.705
Prevalence of Child Malnutrition (2012-20)	0.0%	10.1%
Urban Population (% of total) 2020	86.0%	57.0%
Access to Sanitation (% of urban population) 2020	100%	85.6%
Under 5 Mortality Rate per 1000 live births (2020)	3.5	22.5
Access to Clean Water (% of population) 2020	100%	91.6%

Source: UNDP (2022), *Human Development Report Statistical Update 2022, & World Development Indicators 2022.*

Employment and Unemployment

Australia had a total population of 25.7m in 2021 and a workforce of 13,500,000 persons. The participation rate of the working age population was 64.5% (see **Table 3.4**). In contrast, Indonesia with a population of 276.4m in 2021, had a workforce of 136,500,000 persons, which was over ten times larger than Australia's workforce, and Indonesia's participation rate was 66.1% compared to 64.5% in Australia. In 2020 males accounted for 53.2% of the Australian workforce and females for 46.8%. In contrast, in 2020, 60.6% of Indonesia's workforce was accounted for by males and 39.4% by females.

In Australia in 2020, an average of 2.5% of the workforce was engaged in primary industry, 7.4% in manufacturing and 90.1% in services, whilst in Indonesia, 28.1% of the workforce was engaged in primary industry, 21.4% in manufacturing and 50.5% in services, reflecting the lower level of development and specialisation in Indonesia compared to Australia. The structure of employment in Australia reflects a highly specialised economy with the majority (90.1%) of employment concentrated in the service sector. In contrast in 2020, Indonesia had an average of 28.1% of employment in the primary sector, reflecting the large extent of subsistence and commercial agriculture in its economy.

Unemployment in Australia averaged 6.3% of the workforce in 2020-21 (see **Table 3.4**) with the impact of the COVID-19 pandemic on the labour market. In Indonesia the unemployment rate rose to 20% of the workforce after the Asian crisis in 1997, but fell to an average of 4.2% in 2020-21 due to annual economic growth of around 5% between 2015 and 2020 despite the impact of the COVID-19 pandemic on the economy in 2020. In Australia the unemployment rate fell to 4.2% in 2007-08 due to seventeen years of sustainable economic growth, which resulted in substantial employment growth. However unemployment rose to 5.8% at the height of the Global Financial Crisis in 2009 before falling to around 5.2% in 2009-10. It rose to an average 5.6% between 2013 and 2019 after the end of the mining investment boom, as the economy transitioned to non mining sources of economic growth and recorded below trend growth. After 28 years of economic growth, Australia experienced the COVID-19 recession in 2020 with the unemployment rate rising to 7.4% before falling to 6.3% in 2021.

In the 1980s Indonesia adopted a birth control policy which reduced the population growth rate from above 2% in the 1980s to 1.3% between 2000 and 2020. Another key Indonesian government policy called '**transmigration**' involved transferring over 2.5m Javanese to less populated islands such as Irian Jaya and West Timor. Employment opportunities have been created through this policy, helping to absorb some of the growth in the workforce, and keeping the unemployment rate lower in the late 1990s and early 2000s compared to the 1980s. Despite higher economic growth in the 2000s, 18% of Indonesia's population was under the international poverty line of US$3.20 per day in 2021.

Table 3.4: Population and Labourforce Data for Australia and Indonesia 2020-21		
Labourforce Indicator	Australia	Indonesia
Total Population 2021	25,700,000	276,400,000
Population Aged over 15 years (2021)	20,817,000	207,300,000
Total Labourforce (2020)	13,500,000	136,500,000
Labourforce Average Annual Growth % (2015-2020)	1.4%	1.8%
Participation Rate 2020	64.5%	66.1%
Unemployment Rate (% of workforce) average 2020-21	6.3%	4.2%
Primary Employment 2020 (% of total workforce)	2.5%	28.1%
Secondary Employment 2020 (% of total workforce)	7.4%	21.4%
Tertiary Employment 2020 (% of total workforce)	90.1%	50.5%

Source: World Bank (2022), *World Development Indicators 2022*, World Bank, Washington DC.

The Distribution of Income

The distribution of income refers to the shares of national income or GDP received by equal shares of a country's population. **Table 3.5** shows the distribution of income shares for Australia and Indonesia from data compiled by the World Bank. Both countries have relatively unequal distributions of income but the distribution of income is more unequal at the top 10%-20% of the distribution in Indonesia than Australia. The distribution of income is also more unequal at the lowest 20% of the distribution in Indonesia. For example, the poorest 20% of the population in Australia received 7.3% of national income compared to 7.1% in Indonesia, but the poorest 10% of the population in Australia received 2.7% of total national income compared to 3% in Indonesia. However the richest 20% of the population in Indonesia received 44.9% of total national income compared to 41.8% in Australia, and the richest 10% of the population in Indonesia received 29.6% of total national income, which was higher than the 26.6% of total income received by the richest 10% of the population in Australia.

Table 3.5: Distribution of Income Shares for Australia and Indonesia

Country	Survey Year	Poorest 10%	Poorest 20%	Richest 20%	Richest 10%	Gini Index	Ratio of Income Share of the Richest 20% to the Poorest 20%
Australia	2018	2.7	7.3	41.8	26.6	0.343	5.7
Indonesia	2021	3.0	7.1	44.9	29.6	0.373	6.3

Source: World Bank (2022), *World Development Indicators 2022*, Washington DC. Table 1.3

The Gini Index is a measure of income inequality, with the higher the Gini Index, the greater the level of overall income inequality. From **Table 3.5** it is clear that overall income inequality was greater in Indonesia with a Gini Index of 0.373 (2021) compared to a Gini Index of 0.343 (2018) in Australia.

Table 3.6 shows data on the extent of income poverty in Indonesia in 2021, with 18% of the population estimated by the World Bank to be living on less than US$3.20 per day, which is the accepted measure of the international poverty line. This was equivalent to a person in Indonesia living on 49,483 rupiah per day. At the higher poverty line of US$5.50 per day, a majority or 50.2% of the Indonesian population was estimated to be below this poverty line which was equivalent to a person living on 85,050 rupiah per day, sufficient only to pay for basic needs such as food, clothing and housing.

Table 3.6: The Extent of Income Poverty in Indonesia in 2021

Poverty line of US$3.20 per day	49,483 rupiah
Poverty line of US$5.50 per day	85,050 rupiah
Percentage of Population below US$3.20 per day	18.0%
Percentage of Population below US$5.50 per day	50.2%

Source: World Bank (2022), *World Development Indicators 2022*, Washington DC. Table 1.2

The distribution of income in Australia is made more equal through the operation of the systems of progressive taxation and social welfare payments. The higher the income earnt by a taxpayer the more tax they pay because they move into higher tax brackets which attract a higher marginal taxation rate (MTR). A significant proportion of progressive income tax revenue is used by the Australian government to finance social welfare payments to low income earners in the form of pensions, unemployment benefits and family allowances. In contrast the systems of progressive taxation and social welfare in Indonesia are much less robust and generous and low income earners are mainly reliant upon the support of family, friends and local communities for income support if they experience income poverty.

Environmental Sustainability

Indonesia's large population and rapid industrialisation have led to a deterioration in the quality of the environment and the depletion of agricultural lands. The pressure for faster growth and higher export income has also led to significant deforestation (see **Table 3.7**). This has largely occurred because of the expansion of the paper, timber and palm oil exporting industries. The policy of transmigration has also contributed to environmental degradation with the relocation of people from the heavily populated island of Java to Irian Jaya and East Timor and other outer islands of the Indonesian archipelago.

Extensive forest fires in Indonesia have a serious impact on the environment and are largely associated with illegal logging and land clearing in forests especially in Sumatra. Dense smog from Indonesia affects other countries in the region such as Singapore and Malaysia, with pollution from forest fires in northern Sumatra frequently leading to a permanent haze over South East Asia. Other environmental problems include high levels of carbon dioxide emissions, over exploitation of marine resources from overfishing, air pollution, traffic congestion, garbage and sewerage disposal and access to clean water.

In contrast, Australia has a high level of environmental quality despite being a highly urbanised society with 86% of its population residing in its major capital and regional cities in 2020. Landuse is zoned by local governments with commercial and industrial landuse separated from residential land use and agriculture. Strict environmental standards are enforced in Australia through the federal *Environment Protection and Biodiversity Conservation Act 1999* and state environmental protection legislation. However achieving environmental sustainability in Australia is challenged by the following issues:

* Air pollution is caused by emissions from coal fired electricity stations and carbon monoxide emissions from motor vehicles in Australian state capital cities of Sydney, Melbourne and Brisbane.
* Land degradation occurs in many rural areas because of irrigation, erosion, salinity, land clearing and overgrazing by sheep and cattle. This is a major problem in the Murray-Darling River Basin.
* Water contamination (e.g. algal bloom) is also a problem in inland waterways such as the Murray-Darling Basin and the Nepean-Hawkesbury River system in Sydney.
* Greenhouse gas emissions are high in Australia because of the large coal fired electricity industry and the burning of fossil fuels in industry, as well as the consumption of petroleum products through private and commercial transport. Australian environmental policies include signing the *Kyoto Protocol* in 2007, use of a carbon tax (2012) and Direct Action (2014) to cut carbon pollution. The Australian government committed in 2021 to achieving net zero emissions by 2050.
* Preventing overexploitation of forests, coasts and waterways, and preservation of World Heritage Areas such as Uluru, the Great Barrier Reef, Tasmanian wilderness areas and Kakadu National Park.

Table 3.7: Indicators of Environmental Quality for Australia and Indonesia

Environmental Indicator	Australia	Indonesia
Freshwater Resources (Cubic Metres per capita) 2017	19,998	7,914
Access to Safe Water (% of Total Population) 2020	100%	88.7%
Annual Deforestation (%, Average Annual Rate 2000-15)	-0.21%	-0.59%
Nationally Protected Areas ('000s sq. kms) 2004	734.1	203.1
Nationally Protected Areas (% of Total Land and Marine Areas) 2018	29.7%	5.3%
Fossil Fuels (% of Total Energy Use) 2015	89.6	66.1
Carbon Dioxide Emissions (Millions of Metric Tonnes) 2018	387.1	576.9
Carbon Dioxide Emissions per capita (Metric Tonnes) 2018	15.5	2.2

Source: The World Bank (2022), *World Development Indicators 2022*, World Bank, Washington DC.

The Role of Government

In Australia and Indonesia the government plays a significant role in economic life. General government consumption accounted for 19% of GDP in Australia in 2019 but only 9% of GDP in Indonesia in 2019. The Indonesian government has a very low tax base due to low per capita incomes, collecting only 9.8% of GDP in taxes in 2019 compared to the Australian government's 23.4% of GDP in 2019. Both governments undertake major spending on current and capital items and achieved small budget surpluses up until the Global Financial Crisis in 2009 when the government budgets of both countries moved sharply into deficit as the growth in tax revenue fell and fiscal stimulus spending was used to support economic and employment growth. Budget deficits were forecast to grow between 2020 and 2023 due to stimulus spending during the COVID-19 pandemic.

Health Care

The Indonesian government generally spends less on health, education and social welfare than the Australian government as a percentage of GDP and in terms of total government expenditure. In the 2022-23 budget the Australian government allocated $105.7b to health care which represented 16.8% of total budget outlays. This spending was mainly directed to medical, hospital and aged care services during the COVID-19 pandemic. In Indonesia health expenditure by the government represented 2.9% of GDP in 2019 and was directed at conducting universal immunisation programmes amongst infants to prevent tuberculosis, measles, smallpox, typhoid and cholera. Other health priorities include preventing the incidence of malaria and the spread of HIV/Aids as well as the containment of avian influenza (bird flu) in humans and animals. The Indonesian government has also allocated more resources to reducing maternal and infant mortality rates and works with international aid agencies such as the World Bank and World Health Organisation (WHO) to improve health outcomes in Indonesia. This was the case in 2020-21 with mass vaccination programmes during the COVID-19 pandemic.

Education

The Indonesian government has made a large investment in education mainly by ensuring that education services are available to all Indonesian children. The Indonesian government allocated 3.6% of GDP and 20.5% of total public expenditure to education in 2019 (see **Table 3.8**). The Australia-Indonesia Basic Education Programme supported raising the net enrolment rate in primary education from 92% to 100% by 2020. The Australian government is building or extending 2,000 junior secondary schools across 21 Indonesian provinces, including some of Indonesia's poorest and most remote areas. The secondary enrolment ratio was 88.9% in 2020 and the Indonesian government is working to raise this to 95% by 2025. In contrast, the Australian government allocated $44.7b to school, vocational and higher education in the 2022-23 budget, representing 7.1% of total budget expenditure.

Social Welfare

The Australian government provides a well targeted and means tested welfare system with $221.6b or 35.3% of total government expenditure allocated to social security and welfare in the 2022-23 budget. The Indonesian government increased the percentage of its total spending on welfare from 13.2% in 1990 to 26.2% in 2006. It received US$871.4m in official development assistance or **foreign aid** from the World Bank in 2013 to alleviate poverty. In 2015-16 the Australian government was estimated to provide A$366.4m in aid to Indonesia for health, education and infrastructure. Poverty rates have declined markedly in Indonesia but are still high. In 2021 some 18% of Indonesia's population was estimated by the World Bank to be living on less than US$3.20 per day, and 50.2% living on less than US$5.50 per day. In response to the Global Financial Crisis Australia provided a US$1b Standby Loan to Indonesia as part of a US$5.5b World Bank package which included funds made available by the Asian Development Bank. In 2009 Indonesia was estimated to have received US$1,131m in official development assistance to alleviate poverty which was equivalent to about US$5 per person in Indonesia. Growth in per capita incomes and employment in Indonesia have helped to reduce poverty.

Table 3.8: The Role of Government in Australia and Indonesia

Central Government Finances (% of GDP)	Australia	Indonesia
Current Tax and other Revenue 2018 (% of GDP)	25.7	13.0
Current Expenditure 2018 (% of GDP)	26.1	14.8
Capital Expenditure 2000-17 (average annual % growth)	4.6	7.3
Overall Budget Surplus/Deficit 2021-22 (% of GDP)	-5.0	-4.5

Public Expenditure on Education	Australia	Indonesia
Public Expenditure on Education (% of GDP) 2019	5.3	3.6
As a % of Total Government Expenditure 2019	13.6	20.5
Primary and Secondary (% of all levels of education) 2002-05	75.0	81.0
Higher Education (% of all levels of education) 2002-05	25.0	19.0
Adult Literacy Rate % 2010-19	100.0	95.5
Primary Enrolment Rate (% of relevant age group) 2018	96.4	93.5
Secondary Enrolment Rate (% of relevant age group) 2018	92.3	78.7
Tertiary Rate (% of relevant age group) 2018	90.3	36.3

Health Profile	Australia	Indonesia
Public Expenditure on Health (% of GDP) 2018	9.3	2.9
Health Expenditure per capita (PPP US$) 2018	US$5,425.30	US$375.20
Doctors per 100,000 people 2010-2018 (average)	370	40

Role of Government in the Economy	Australia	Indonesia
Subsidies and Current Transfers (% of Total Government Expenditure) 2018	67.0	49.0
Military Expenditure (% of GDP) 2020	2.1	0.9
Total Government Consumption Expenditure (% of GDP) 2019	19.0	9.0
Highest Marginal Tax Rate on Individual Income 2017	45%	30%
Corporate Tax Rate 2020	30%	34%

Sources: The World Bank (2022), *World Development Indicators 2022, World Bank,* Washington DC.
UNDP (2022), *Human Development Report Statistical Update 2022,* UNDP, New York.
NB: PPP is purchasing power parity which adjusts output or expenditure for national variations in prices and market exchange rates.

Figure 3.2: The Extent of Poverty and Conflict in Indonesia
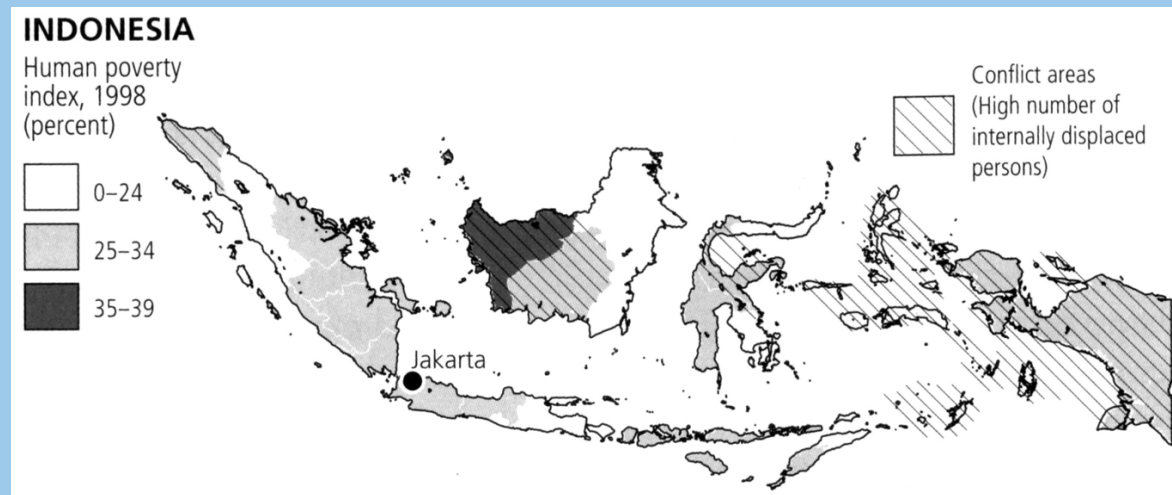
Source: UNDP (2003) *Human Development Report,* Oxford University Press.

The challenges faced by the Indonesian government in raising the levels of health, education and social welfare are compounded by sharp regional disparities in the human poverty index (HPI) which occur across and within the archipelago of Indonesia (refer to **Figure 3.2**). Frequent and often violent separatist conflicts have occurred in regions with a high incidence of poverty and sharp communal divisions along religious, ethnic and social lines. This includes regions such as Aceh, Ambon, the Moluccas, Kalimantan and Irian Jaya, where separatists have used armed struggle to seek independence from the central Indonesian government in Djakarta.

The 2004, 2009, 2014 and 2019 Indonesian Presidential Elections

In September 2004 Indonesia held its first direct democratic presidential elections in which former minister and army general Dr Susilo Bambang Yudhoyono won the election in a landslide as a majority of Indonesians were dissatisfied with the lack of reform and progress in reducing poverty under former president Megawati Sukarnoputri. Dr Yudhoyono committed his government to rebuilding the Indonesian economy and improving living standards with major reforms in the following priority areas:

- A major campaign against corruption in government and in the private sector which reduces efficiency and deters foreign investment;

- A concerted effort to reform the corrupt and politicised legal system in Indonesia which reduces the respect for the rule of law, and undermines confidence in the government and public service;

- A commitment to fostering higher rates of economic growth and development to create more employment opportunities and to reduce the widespread incidence of income poverty in Indonesia;

- Reducing the government's budget deficit and increasing public investment in infrastructure to improve economic efficiency and increase economic growth and development; and

- Increasing spending on education and health to improve the quality of life of Indonesians and to create more opportunities for young people to participate in education and employment.

Following his re-election as Prime Minister of Australia in October 2004, John Howard attended the inauguration of Indonesia's President Susilo Bambang Yudhoyono. He committed the Australian government to working with the Indonesian government to fight terrorism in the region by signing the **Lombok Treaty** and strengthening economic and trade relations between Indonesia and Australia. In February 2009 in Thailand, economic ministers from ASEAN, Australia and New Zealand signed the **ASEAN-Australia-New Zealand Free Trade Area** (AANZFTA) Agreement. In 2020 the **Indonesia-Australia Comprehensive Economic Partnership Agreement** came into force to strengthen trade ties.

In July 2009 free democratic elections resulted in Susilo Bambang Yudhoyono winning a second term of five years as Indonesian President. The Rudd Labor government welcomed Dr Yudhoyono's election victory as a means of bringing more stability and security to Indonesia as Australia's major regional neighbour. Indonesia and Australia co-operated in trade, economic policy, and regional security matters and measures to prevent the spread of terrorism in Indonesia and the region. Indonesia withstood the impact of the **Global Financial Crisis** in 2008-09 with government cash payments to households and employment programmes underpinning an economic recovery.

In July 2014, Joko 'Jokowi' Widodo won a close Presidential election against former military general Prabowo Subianto who contested the election result. Mr Joko, a self made businessman from a poor family, faced large obstacles to his authority and policy agenda because he was from outside the political and military elite. He was inaugurated on October 20th 2014, with former Australian Prime Minister Tony Abbott attending the ceremony. Mr Joko was committed to rebuilding the security, intelligence and military ties between Australia and Indonesia which were damaged after the election of the Abbott government because of its 'turn back the boats' policy towards asylum seekers and evidence of the Australian security services spying on Indonesia's former President Yudhoyono and his advisers. President Widodo visited Australia in February 2017 and met with former Prime Minister Turnbull. They discussed common interests such as investment, employment, 'open sea lanes', and co-operating to fight terrorism. New Prime Minister Scott Morrison travelled to Jakarta in 2018 to meet Joko Widodo and discuss details of the proposed **Indonesia-Australia Comprehensive Economic Partnership Agreement**. This free trade agreement was signed in 2019 and came into force in 2020. Joko Widodo won a second five year term as President in April 2019. President Widodo visited Australia in 2020 and gave a speech in the Australian Parliament, strengthening the ties between Australia and Indonesia.

Terrorism in Indonesia

After bomb attacks on international hotels in Jakarta in 2000, terrorism spread to the Indonesian island of Bali. On October 12th 2002 a terrorist attack took place on foreign tourists and local Indonesians at the Sari Club in Kuta in Bali. The bombers, including the mastermind Imam Samudra, were arrested and found to have links to the radical Islamic extremist group of Jemaah Islamiah. The attack was condemned by the leaders of Indonesia and Australia as the extent of casualties was large, with 202 people losing their lives, including 88 Australians. A memorial service commemorating the twentieth anniversary of the bombings was held in October 2022 in Bali, attended family and friends of those who lost their lives in the Bali bombings in 2002. Former Prime Ministers Julia Gillard and Tony Abbott have attended previous memorial services in Bali.

The Indonesian Police and Australian Federal Police co-operated in intelligence gathering and forensic investigations, to determine the cause of the Bali bombings and to locate and arrest the perpetrators. The arrest of Imam Samudra, the mastermind of the Bali bombings, and the leaders of Jemaah Islamiah, Abu Bakar Bashir and Hambali in late 2002 uncovered an organised group of terrorists which had planned and carried out the bombings on the islands of Java and Bali. The main impact of the Bali bombings on the Indonesian economy was a downturn in tourism and 'capital flight' by foreign investors.

On September 9th 2004 the Australian embassy was attacked in Djakarta with some loss of life and numerous casualties. The bombers were again linked to the Jamaah Islamiah group who were found to be responsible for the Bali bombings and those in Djakarta in 2000 at the Marriott Hotel.

Despite the direct attacks on Australians in Indonesia in 2002 and 2004 there was a significant level of co-operation between the Indonesian and Australian governments and police in investigating the attacks, arresting those responsible, and implementing measures to improve security for Indonesians and Australians working or holidaying in Indonesia. Despite the attacks, Australia and Indonesia have maintained close diplomatic relations. This has been difficult for both countries and societies which are in the same geographic region, but have significant historical, political, cultural, ethnic and religious differences. **Extract 3.1** details some of the major economic links between Australia and Indonesia.

Extract 3.1: Economic Links Between Australia and Indonesia in 2020-21

Trade

Total exports to Indonesia were valued at $11,700m and total imports from Indonesia were valued at $5,200m in 2020-21. Major Australian exports to Indonesia were wheat ($1,800m), coal ($1,600m) and iron ore and concentrates ($900m). Indonesia accounted for 1.8% of Australia's merchandise exports and was the source of 1.6% of Australia's imports in 2020-21. Major Indonesian exports to Australia in 2020-21 were crude petroleum ($400m), monitors, projectors and TVs ($300m), tobacco ($200m), footwear ($200m) and wood ($200m). In 2020-21 exports and imports of services (such as travel, tourism and education) to and from Indonesia were disrupted by the closure of international borders due to COVID-19.

Education

In 2020-21 an estimated 15,527 Indonesian students were studying in Australia. Education related travel was valued at $988m of Australian service exports in 2019-20.

Tourism

In 2015-16 Australian visitors to Indonesia were estimated at 1,181,700. Australian tourism in Indonesia was valued at $3,730m and transportation at $297m in 2018-19. This fell in 2020-21 due to the COVID-19 pandemic and international border closures but began to recover in 2022 as borders were re-opened and travel re-commenced.

Foreign Aid

Indonesia is Australia's second largest aid recipient after Papua New Guinea. Australian aid flows to Indonesia were estimated at $293.7m in 2020-21 to promote development including better quality health (e.g. COVID-19 vaccines) and education.

Foreign Investment

In 2020-21 total Australian investment in Indonesia was $4.2b. Around 250 Australian companies have a presence in Indonesia in providing goods and services and investment in the resources and energy sector. Indonesian investment in Australia in 2020-21 totalled $579m.

Source: DFAT (2022), *Fact Sheet and Country Brief on Indonesia*, www.dfat.gov.au.

Despite the level of co-operation between the Indonesian and Australian authorities over security matters, further terrorist attacks occurred in Indonesia in 2005 in Tentena (Ambon) and Bali, where bombs were exploded in restaurants in Kuta and Jimbaran Bay, killing and injuring a number of Australians, Indonesians and other foreigners. Further attacks took place in the Marriott and Ritz Carlton hotels in Djakarta in July 2009. These attacks further undermined domestic and international confidence in the security infrastructure of Indonesia although a number of terrorists were either killed or arrested in 2009.

Figure 3.3 shows the location of the October 1st 2005 attacks on the predominantly Hindu island of Bali, a popular tourist destination for Australians and other overseas visitors. With over 150,000 tourists visiting Bali each year, and tourism contributing 5% to Indonesia's GDP, these attacks disrupted the Balinese economy and led to a fall in confidence over security on Indonesia's most popular tourist island. Unfortunately these attacks occurred at a time when the Balinese economy had just begun to recover from the terrorist attacks on October 12th 2002 in Kuta which killed 202 people.

Figure 3.3: Location of Terrorist Attacks in Bali in October 2005

Source: *The Sydney Morning Herald* (2005), Weekend Edition, October 8-9.

The Indian Ocean Tsunami

On December 26th 2004 an earthquake with a magnitude of 9.0 on the Richter scale, occurred off the west coast of Sumatra, Indonesia, setting off a string of tidal waves in the Indian Ocean that caused a natural disaster of tragic proportions. The human toll was devastating, with over 140,000 people estimated to have lost their lives and a further 150,000 were missing. Over 1.5m people were displaced from their homes by the disaster and total damages were estimated at $US8.4b by the IMF (**Table 3.9**).

The countries suffering the highest casualties were Indonesia (227,000) and Sri Lanka (36,940), with India (16,389) and Thailand (8,438) suffering major losses as well. The human and economic costs of the disaster were immense. The destruction of homes and loss of livelihoods caused extreme poverty for hundreds of thousands of people. Based on preliminary estimates by the IMF and World Bank the damage was estimated at 4.5% of GDP in Sri Lanka, 1.6% of GDP in Indonesia, 0.3% of GDP in Thailand and 0.2% of GDP in India. The main economic sectors affected in these countries included residential, commercial and industrial real estate, tourism, fishing and agriculture. **Table 3.9** provides a summary of the estimated human and economic costs of the tsunami disaster in affected countries.

Table 3.9: The Human & Economic Impact of Indian Ocean Tsunami on Southern Asia							
	Human Cost		*Real GDP Growth 2005*		*Damages*		*Aid Pledges*
	Dead & Missing	*Displaced*	*Pre Tsunami*	*Post Tsunami*	*US$m*	*% of GDP*	*US$m*
India	16,389	646,967	6.8%	6.8%	2.0b	0.2%	0
Indonesia	227,000	425,000	5.5%	5.25%	4.5b	1.6%	3.9b
Maldives	108	13,000	6.5%	1.0%	406m	47.0%	108m
Sri Lanka	36,940	420,259	6.0%	5.3%	1.0b	4.5%	308m
Thailand	8,438	na	5.9%	5.6%	500m	0.3%	0
Total	288,875	1,505,226	na	na	8.4b	na	4.3b

Source: IMF (2005), *World Economic Outlook*, p15.   na not applicable

Indonesia suffered the greatest loss of life and economic damage of all the countries affected by the tsunami. Some of the key implications of the disaster for Indonesia's economy included the following:

- Indonesia's GDP was reduced by 0.25% in 2005.

- Indonesia's inflation rate increased as food and transportation prices rose.

- Government spending in Indonesia rose by $US1.7b or 0.5% of GDP to finance reconstruction.

- Expenditure on reconstruction by the Indonesian government increased the demand for imports of specialised materials and equipment, which caused a deterioration in the balance of payments.

- The Indonesian government received $US4b of foreign aid to finance reconstruction.

- The Indonesian government accepted assistance from the International Monetary Fund (IMF).

- The Indonesian government accepted a one year moratorium on debt servicing costs of $US4.5b.

Australia's response to the tsunami was to send military and civilian relief workers and aid to the affected regions of Indonesia, especially in Aceh province. In the 2005-06 federal budget the Australian government committed $1b over five years to help Indonesia recover from the devastating human and economic damage caused by the Boxing Day tsunami. These funds were divided equally between grant assistance and concessional loans for development projects. Combined with Australia's existing aid programme, this brought Australia's commitment to Indonesia to a total of $1.8b over five years.

In addition, the Australian government provided funding of $69m between 2005 and 2009 to develop a tsunami warning system which provides 24 hour surveillance for the detection and early warning of tsunamis threatening Australia and South West Pacific nations. The aid package in 2005 built goodwill in Indonesia, which is beneficial to Australia's strategic and economic interests in the region. In return, Indonesia supported Australia's desire to join ASEAN which led to the signing of the **ASEAN-Australia-New Zealand Free Trade Area** (AANZFTA) Agreement in 2009. Indonesia was affected by natural disasters in 2006 and 2010 with the volcanic eruption of Mount Merapi and an earthquake in Yogyakarta in Java in 2006 which killed over 5,000 people and left thousands of people homeless. An earthquake and tsunami occurred in 2010 in the Mentawai Islands west of Sumatra and the Mount Agung volcano erupted in Bali in September 2017. Further natural disasters occurred in 2018 with a devastating earthquake on the island of Lombok, and an earthquake and tsunami in Palu in Sulawesi. Australia along with other countries and the World Bank pledged significant disaster relief to Indonesia.

The COVID-19 Pandemic

Both Australia and Indonesia were affected by the COVID-19 pandemic in 2020-21. Both economies entered recessions in 2020, with government budget deficits and net debts rising substantially because of the use of fiscal stimulus packages to support activity and employment. COVID-19 infections rose to 300,000 in Indonesia with over 11,000 reported deaths. With a more advanced health system and government lockdown of the economy, Australia recorded 27,000 infections and 900 deaths. The Australian government committed more aid and medical equipment in 2020-21 to help Indonesia deal with the coronavirus pandemic, especially the rollout of vaccines to vaccinate most of the population.

✍ REVIEW QUESTIONS

A COMPARATIVE STUDY OF AUSTRALIA AND INDONESIA

1. Contrast Australia and Indonesia in terms of population size, location, geography, government, culture and economic size.

2. Compare and account for the rates of economic growth for Australia and Indonesia between 2016-17 and 2021-22 from Figure 3.1.

3. What are the main indicators of the quality of life in Australia and Indonesia?

4. Contrast the levels of employment and unemployment in Australia and Indonesia.

5. Contrast environmental sustainability in Australia and Indonesia. What are the main causes of environmental problems in each country? Discuss environmental policies used in each country.

6. Contrast the role of government in Australia and Indonesia in terms of health care, education and social welfare.

7. Discuss the policy challenges faced by the Indonesian government in reducing income poverty.

8. Refer to Figure 3.2 and discuss the extent of poverty and armed conflict in Indonesia.

9. How did the Bali bombings affect Indonesia's economy and its relations with Australia?

10. Discuss the impact of terrorist attacks in the 2000s in Indonesia on the Indonesian economy.

11. Discuss the impact of the Boxing day tsunami in 2004 and more recent natural disasters on Indonesia's economy and the relations between Indonesia and Australia.

12. How did the COVID-19 pandemic impact on the Indonesian and Australian economies in 2020? What policy actions were taken by each government in response to the COVID-19 pandemic?

☯ CHAPTER FOCUS ON THE INDONESIAN ECONOMY

Indonesia - GDP and Population

	1968-82	1983-96	1997-99	2000-10	2021
Real GDP growth	7.5%	7.2%	-6.4%	5.2%	4.9%
Real GDP pc growth	4.9%	5.3%	-7.7%	4.0%	2.6%
Population growth	2.4%	1.7%	1.3%	1.2%	1.3%
Share of world GDP	1.0%	1.4%	1.2%	1.4%	1.7%
Share of world population	3.4%	3.5%	3.5%	3.5%	3.5%

"Indonesia's economy has expanded strongly over recent decades, notwithstanding the sharp economic contraction that occurred during the 1997-98 Asian Financial Crisis. This strong pace of growth has seen Indonesia become an increasingly important part of the global economy. It is now the fourth largest economy in East Asia - after China, Japan and South Korea - and the 15th largest economy in the world on a purchasing power parity (PPP) basis. Furthermore, its share of global output - currently just under 1.5% - is expected to continue to rise over the years ahead."

Source: Reserve Bank of Australia (2011), *Bulletin*, December Quarter.

Discuss the implications of Indonesia's recent growth performance on its economic development.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

☯ CHAPTER 3: EXTENDED RESPONSE QUESTIONS

1. What are the four functions of an economic system? Contrast the way in which the market economy and the planned economy attempt to solve the economic problem. Use examples where possible to illustrate your answer.

2. Compare and contrast the Australian and Indonesian economies in terms of economic growth and development. What role does the government play in each country's economy? What problems does each country face in sustaining its rate of economic growth?

CHAPTER 3: SHORT ANSWER QUESTIONS

Indicator	Australia	Indonesia
GDP per capita US$ (Purchasing Power Parity 2021)	US$55,290	US$12,560
GDP annual growth rate (%) 2010-20	2.5%	4.9%
Adult literacy (%) 2015-20	100.0%	96.0%
Life expectancy (years) 2021	84.5 years	67.6 years
GDP (US$ current prices 2018)	US$1,461.1b	US$1,143.1b

Source: World Bank (2022), *World Development Indicators 2022 and the Human Development Report 2022.*

Refer to the data in the table for Australia and Indonesia and answer the questions below.   Marks

1. Which of the two countries would be classified as an emerging or developing economy?   (1)

_____

_____

2. Which of the two countries has the largest economy?   (1)

_____

_____

3. Discuss ONE reason for Australia's higher per capita income than Indonesia's in 2021.   (1)

_____

_____

4. Discuss TWO reasons for Australia's GDP growth being lower than Indonesia's between 2010 and 2020.   (2)

_____

_____

_____

_____

5. Explain TWO problems encountered by the Indonesian government in promoting economic growth and development in the Indonesian economy.   (5)

_____

_____

_____

_____

_____

_____

_____

_____

✌ CHAPTER SUMMARY

ECONOMIES: THE SIMILARITIES AND DIFFERENCES

1. Economic systems are classified according to the ownership of resources; the role of market forces in allocating resources in the economy; and the role of government in the economy.

2. The market economic system is characterised by freedom of enterprise, private property rights, the profit motive and the use of a system of markets to allocate resources. What to produce and how much to produce are determined by the operation of the price mechanism. The price mechanism refers to the interaction between demand and supply in markets to determine the equilibrium prices and the quantities of goods and services made available for sale to consumers. How to produce is determined by the profit motive of firms who will attempt to use the least cost combination of resources in production. To whom to distribute is determined by the level of factor incomes and people's access to goods and services according to their level of personal income.

3. The planned economic system is characterised by government ownership of resources. Production, distribution and exchange take place according to government or state planning priorities and targets. What and how much to produce are determined by a central planning authority according to government priorities. How to produce is determined by resource balances, the state of technology and the allocation of resources to priority areas of production. To whom to distribute is determined by the government setting wages and prices according to priorities, with workers in high priority sectors such as the military and defence earning higher incomes than those in low priority sectors. Many collective goods and services in planned economies such as housing, utilities, health and education are subsidised or provided at low cost by the government to citizens.

4. The mixed market economy is an economic system characterised by the private sector making the majority of the economic decisions, with the government also playing an important role in providing collective goods and services; stabilising economic activity through the use of economic policies (e.g. monetary and fiscal policies); and redistributing incomes through progressive taxation and social security payments to improve social welfare and alleviate income poverty in the community.

5. Newly industrialising economic systems refer to economies such as Hong Kong SAR, Singapore, South Korea and Taiwan, which have industrialised and raised their levels of income to become advanced market economies. They have sustained high rates of economic growth through increased exports, high labour productivity and levels of education, and the encouragement of foreign investment in developing their resources and export industries. Governments in newly industrialised economies have also played a major role in co-ordinating economic growth and development strategies by emphasising foreign investment and trade, and improving labourforce education, training and productivity.

6. Economies in transition refer to economies in the former Eastern Bloc in Europe (such as the Russian Federation, the Ukraine and Poland) which have made, or are in the process of making, the transition from socialist or planned economic systems, to becoming market economic systems.

7. Emerging economies include Brazil, Russia, India and China (the BRICs) which have sustained high rates of economic growth relative to the advanced economies in recent years. The developing economies include countries such as Indonesia and Nigeria which are sustaining high rates of economic growth but still have widespread levels of income poverty in their societies.

8. Australia and Indonesia provide a comparison of two market economic systems where the government also plays a major role. Both countries are located in the same region but Australia has a much smaller population, higher level of economic development and per capita income than Indonesia, which has a very large population and lower levels of development and per capita income. Australia sustained high rates of economic growth during the resources boom between 2005 and 2007 whilst Indonesia's growth was limited by the impact of the Asian Financial Crisis in 1997 and the Boxing Day tsunami in 2004. However both countries recovered from the Global Financial Crisis in 2009 with the application of fiscal stimulus by their respective governments. In 2020 both Australia and Indonesia entered recessions due to the COVID-19 pandemic. The Australian and Indonesian governments used fiscal stimulus policies to support their economies. In 2021 and 2022 both the Australian and Indonesian economies achieved positive economic growth with strong recoveries after the COVID-19 pandemic and recession in 2020.

CONSUMERS AND BUSINESS

TOPIC FOCUS

This topic focuses on the investigation of how consumers and businesses make decisions about the choices they face, recognising that in a market economy, both are motivated largely by self interest. Consumers attempt to maximise the utility or satisfaction they gain from consuming goods and services subject to their limited budget or money income constraint. Businesses on the otherhand attempt to maximise profits subject to the constraint of cost minimisation, because of limited resources and their alternative uses in the production of goods and services to satisfy consumers' needs and wants.

Students should achieve the following knowledge and skills outcomes in Topic 2 of the Preliminary Course:

ECONOMIC ISSUES

- Examine the impact of income on the spending and saving decisions of individuals;
- Assess the extent to which consumer sovereignty is achieved in a variety of markets;
- Investigate the relative significance of the various sources of income in Australia; and
- Work in groups to investigate the factors leading to change in a particular industry.

ECONOMIC SKILLS

- Analyse the impact of changes in consumer income levels on the types of production within the economy; and
- Explain the role of firms in solving the economic problem.

Consumers and businesses play a major role in any economy. Consumers work for money income and spend and save some proportion of their income. The relationship between consumer income (Y), consumption (C) and saving (S) can be analysed through the consumption and savings schedules and the consumption and savings functions. Income is equal to consumption plus saving (i.e. $Y = C + S$).

Consumers are responsible for buying goods and services from businesses. A number of factors influence consumption spending including income, prices, consumer preferences and advertising. The main sources of consumer income include wages and salaries, profit, rent, interest, dividends and social welfare or transfer payments from the government to low income households and families unable to earn sufficient market income.

Businesses can either be unincorporated such as sole traders and partnerships, or incorporated such as private and public companies. Businesses combine the four factors of production to produce the final output of goods and services. Businesses are also classified according to whether they are in the primary, secondary, tertiary, quaternary or quinary sectors of the economy.

A firm's production process in the short run can be analysed by using the model of the production function which illustrates the law of diminishing returns. The model of internal and external economies and diseconomies of scale can also be used to illustrate the nature of a firm's cost structure and production process in the long run. Investment and technological change can impact on a firm's production process by altering the methods of production, output, employment, prices and profits.

CHAPTER 4

The Role of Consumers in the Economy

CONSUMER SOVEREIGNTY

Consumers refer to all individuals in an economy who consume goods and services to satisfy their needs and wants. **Consumer sovereignty** refers to how the pattern of consumer spending determines the pattern of production and resource allocation. Through their spending decisions, consumers express their preferences in the market place. Businesses attempt to maximise profits by producing the goods and services demanded by consumers. Therefore consumer spending determines what is produced.

Consumer sovereignty is very important because it guarantees that firms will attempt to not only maximise profits, but will do so by achieving efficiency in production. If firms are efficient they will produce goods at least cost (i.e. **technical efficiency**); allocate resources in such a way as to satisfy consumer preferences in the market place (i.e. **allocative efficiency**); and respond to changing consumer preferences and technological improvements over time (i.e. **dynamic efficiency**).

PATTERNS OF CONSUMER SPENDING AND SAVING

Consumption spending is that part of income spent on consumer single use and durable use goods and services. Saving is that part of income not spent. The basic relationship between consumer income (Y), consumption (C) and saving (S) is denoted by the following equation:

$$Y = C + S$$

John Maynard Keynes (1883-1946) in *The General Theory of Employment, Interest and Money* (1936) developed a mathematical function to explain consumer spending called the consumption function, and a savings function to explain savings behaviour. The **consumption function** expresses consumption spending in terms of autonomous consumption (i.e. consumption spending unrelated to changes in the level of income) and induced consumption (i.e. consumption spending related directly to changes in the level of income). The consumption function can be expressed as equation (1):

(1) $C = C_0 + cY$ where   C is total consumption

C_0 is autonomous consumption (independent of changes in income)

c is the marginal propensity to consume or MPC or $\Delta C/\Delta Y$

Y is disposable income

The **average propensity to consume** or APC is consumption divided by income, whereas the **marginal propensity** (or tendency) **to consume** or MPC is the change (Δ) in consumption spending (C) resulting from a change in income (Y) i.e.

$$APC = \frac{C}{Y} \qquad MPC = \frac{\Delta C}{\Delta Y}$$

The **savings function** is in the functional form expressed in equation (2):

(2) $S = -C_0 + sY$ where   S is total saving

$-C_0$ is autonomous saving (dissaving or debt when income is zero)

s is the marginal propensity to save or MPS or $\Delta S/\Delta Y$

Y is disposable income

Table 4.1: The Consumption and Savings Schedules

(Y	=	C	+	S)	APC	MPC	APS	MPS
0		50		-50	0	0.5	0	0.5
50		75		-25	1.5	0.5	-0.5	0.5
100		100		0	1.0	0.5	0	0.5
150		125		25	0.83	0.5	0.17	0.5
200		150		50	0.75	0.5	0.25	0.5

The **average propensity to save** or APS is saving divided by income, whereas the **marginal propensity (or tendency) to save** or MPS is the change (Δ) in saving (S) resulting from a change in income (Y) i.e.

$$APS = \frac{S}{Y} \qquad MPS = \frac{\Delta S}{\Delta Y}$$

The consumption and savings functions can be calculated from the consumption and savings schedules shown in **Table 4.1**, which illustrates various amounts of consumption and savings over a range of incomes. For example, at an income level of zero, autonomous consumption is 50 and **dissaving** (where consumers go into debt because consumption exceeds income or C > Y) is -50. As income increases, the level of dissaving decreases until the **breakeven level of income** of 100 is reached, where all income is spent but savings are zero (i.e. Y = C = 100, and S = 0). At an income level of 150, consumption is 125 and saving is positive 25. At an income level of 200, consumption is 150 and saving is positive 50. Equation (3) states the equation for the consumption function in **Table 4.1**:

(3)   C = 50 + 0.5Y   (where autonomous consumption is 50 and the MPC is 0.5)

The APC declines with income but the MPC is a constant 0.5 of income. For example, between income levels of 50 and 100 in **Table 4.1** the APC falls from 1.5 to 1.0 but the MPC is constant at 0.5:

$$MPC = \frac{\Delta C}{\Delta Y} = \frac{25}{50} = 0.5$$

Equation (4) states the equation for the savings function from the savings schedule in **Table 4.1**:

(4)   S = -50 + 0.5Y   (where autonomous saving or dissaving is -50 and the MPS is 0.5)

The APS increases with income but the MPS is a constant 0.5 of income. For example, between income levels of 50 and 100 in **Table 4.1** the APS rises from -0.5 to 0 but the MPS is a constant 0.5:

$$MPS = \frac{\Delta S}{\Delta Y} = \frac{25}{50} = 0.5$$

Equation (5) shows that the sum of the consumption and savings functions must equal income (Y):

(5)   50 + 0.5Y - 50 + 0.5Y = Y

Equations (6) and (7) show that the sum of the APC and APS must equal one, as does the sum of the MPC and MPS:

(6)   APC + APS = 1

(7)   MPC + MPS = 1

The consumption and savings functions in equations (3) and (4) above, can be graphed by plotting income on the horizontal axis and consumption or saving on the vertical axis as shown in **Figure 4.1**.

Figure 4.1: The Consumption and Savings Functions
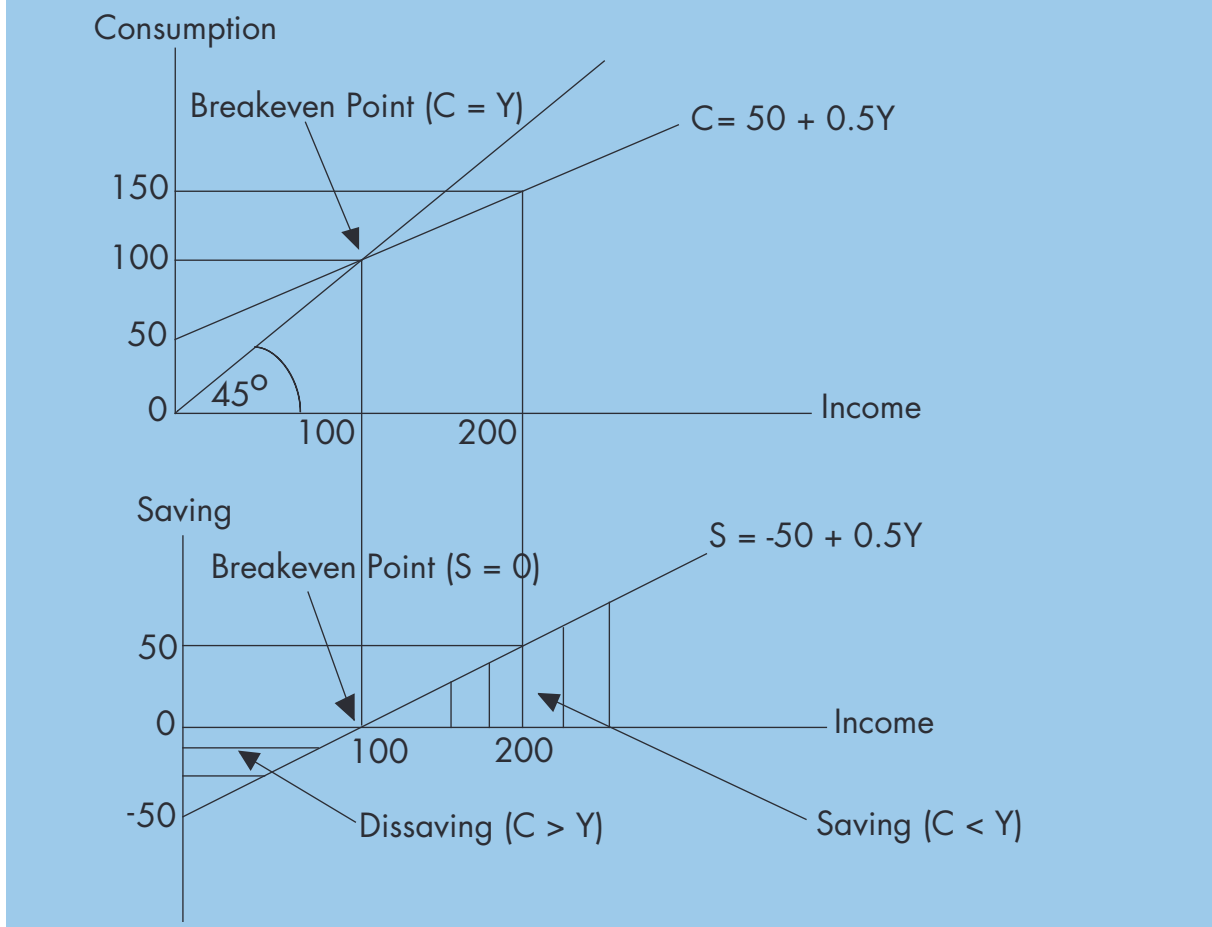
The levels of consumption and savings vary with income. Low income households will spend a large proportion of disposable income and have a low propensity to save i.e. they have a high APC and a low APS. Households with a high level of disposable income will spend a lower proportion of their income on consumption but have a higher propensity to save i.e. they have a lower APC and a higher APS.

The MPC and MPS measure changes in consumption and savings with changes in income. Individuals and households on higher incomes have a higher MPS and lower MPC relative to individuals and households on lower and middle levels of income, who tend to have a higher MPC and a lower MPS.

In the economy as a whole, developed countries and newly industrialised countries tend to have higher savings ratios than developing and emerging economies. As economic growth occurs, rising levels of consumer disposable income mean that average and marginal propensities to consume tend to decline, but the average and marginal propensities to save tend to rise. This helps to explain the process of capital accumulation in developed economies, which is reliant on a high level of savings from consumers being channelled into investment projects. This assists a nation to expand its capital stock, which can increase the rate of economic growth in the long run, as the economy increases its productive capacity.

In contrast, developing countries which may not experience high levels of economic growth and increases in disposable income, tend to have high average and marginal propensities to consume and low average and marginal propensities to save. Therefore with a low levels of savings, there is a shortage of funds for investment and low rates of capital accumulation. This helps to explain why many developing countries often experience difficulties in sustaining high rates of economic growth. They often rely on foreign investment and foreign aid to supplement their low levels of domestic savings to finance investment.

Table 4.2: Household Final Consumption Expenditure 2020-21 and 2021-22 ($m)

Category of Spending	2020-21	2021-22	%△
*Food	106,083	110,764	4.4
Cigarettes and tobacco	16,861	18,007	6.8
Alcoholic beverages	24,123	24,988	3.6
*Clothing and footwear	38,947	43,691	12.2
*Rent and other dwelling services	229,186	235,262	2.7
Electricity, gas and other fuel	27,827	27,494	-1.2
Furnishings and household equipment	53,082	53,709	1.2
Health	76,273	77,945	2.2
Purchase of vehicles	24,783	25,836	3.8
Operation of vehicles	48,078	49,190	2.3
Transport services	8,228	14,016	70.3
Communications	23,279	23,662	1.6
Recreation and culture	108,423	116,056	7.0
Education services	54,355	57,184	5.2
Hotels, cafes and restaurants	55,125	67,944	23.2
Insurance and other financial services	98,816	92,882	-6.0
Other goods and services	64,734	64,441	-0.4
Total Household Final Consumption	**1,058,203**	**1,103,071**	**4.2**

Source: ABS (2022), *Australian National Accounts*, Catalogue 5206.0, June. Table 8 *Basic consumer necessities

Consumption patterns can also vary with the age and personal circumstances of consumers over their life cycle. For example, the consumption patterns of married couples, retired persons, couples with children and single persons will vary according to their economic circumstances as well as income. In 2020-21 Australian consumption patterns changed dramatically due to the **COVID-19 pandemic** with lockdowns, higher unemployment, more people working from home, less use of transport and a large increase in online shopping. As lockdowns were lifted in 2021-22 consumer spending increased from $1,058,203m to $1,103,071m. The basic necessities of food, clothing and footwear and rent and other dwelling services accounted for 35.3% of household final consumption expenditure in 2021-22 (refer to **Table 4.2**) with large increases in spending on clothing and footwear (12.2%), transport (70.3%) and hotels, cafes and restaurants (23.2%) once lockdowns and restrictions were eased in 2021-22.

Table 4.2 shows the main components of household final consumption expenditure in 2020-21 and 2021-22 in Australia compiled by the Australian Bureau of Statistics (ABS) and the percentage change in each expenditure category between 2020-21 and 2021-22. Total household consumption expenditure was $1,103,071m in 2021-22, rising by $44,868m or 4.2% between 2020-21 and 2021-22.

A typical person's life cycle consumption pattern (C) is characterised by three major periods in their life: youth, maturity and old age. In each of these periods, income, consumption and saving can vary as shown in **Figure 4.2**. Typically income (Y) is comparatively low during the early years (youth) and later years of life (old age and retirement). With a stream of disposable income (Yd) shown in **Figure 4.2** the individual will aim for a consumption pattern something like C, dissaving (when C > Y) during periods of youth and old age when income is low, and saving (when C < Y) during the high income years (maturity) when they are in the workforce and earning their maximum level of disposable income.

Figure 4.2: The Life Cycle Consumption Hypothesis
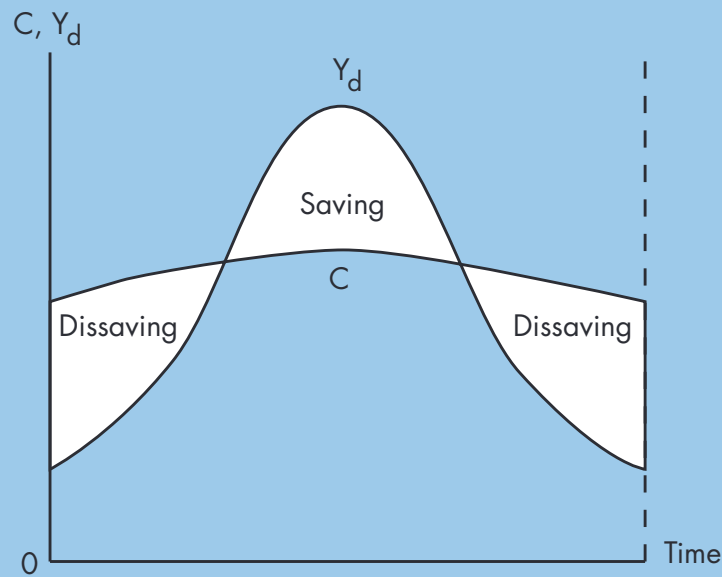
A typical person's life cycle consumption pattern will depend on their type of employment, level of current disposable income, the wealth accumulated from past saving, and their expected pattern of future income. Superannuation is now a major means of saving for retirement, so that consumption patterns can be maintained in old age when income levels for most persons and couples diminish.

✍ REVIEW QUESTIONS

PATTERNS OF CONSUMER SPENDING AND SAVING

1. Explain what is meant by the term 'consumer sovereignty'.

2. Define disposable income, consumption and saving. What is the basic mathematical relationship between disposable income (Y), consumption (C) and saving (S)?

3. Explain the main components of the consumption and savings functions.

4. Define the APC, APS, MPC and MPS. What is the relationship between the APC and APS? What is the relationship between the MPC and MPS?

5. How do the APC, APS, MPC and MPS vary with different levels of income (i.e. low, middle and high incomes)?

6. Devise consumption and savings schedules for the following consumption and savings functions: C = 100 + 0.8Y and S = -100 + 0.2Y. Graph the consumption and savings functions from these schedules. Calculate and label the breakeven level of income (i.e. when C = Y or S = 0) on the graph.

7. Calculate the percentages of total household final consumption expenditure accounted for by each category of spending in 2021-22 in Table 4.2. Why did Australian consumption spending patterns change during the COVID-19 pandemic in 2020-21? What categories of spending recovered in 2021-22 once lockdowns were lifted and social mobility increased?

8. Refer to Figure 4.2 and the text and explain the life cycle hypothesis of consumption spending for a typical consumer.

FACTORS INFLUENCING INDIVIDUAL CONSUMER CHOICE

Income

The level of disposable or after tax income (i.e. gross income - taxation) is the main determinant of consumer spending patterns. Increases in disposable income are usually accompanied by an increase in consumption spending. The average propensity to consume or APC decreases with income, and the marginal propensity to consume or MPC may also decline with increases in income, as more income is devoted to saving. The more income a consumer earns the greater the choices available for both spending and saving. As income increases a consumer may increase both consumption and saving, or increase their MPS which means that their MPC will decline. In terms of consumption, as income rises consumers may be able to afford more discretionary purchases of luxury consumer goods and services such as holidays, new cars, mobile phones, furniture, appliances and restaurant meals. Higher incomes may also increase the propensity for saving and the acquisition of financial assets through the purchase of shares, bonds and real estate, as well as interest bearing or term deposits in financial institutions.

As income rises the demand for goods and services will rise, but a decrease in income will lead to a fall in the demand for goods and services. This is the case for most goods and services which are considered to be **normal goods**. For **inferior goods** and services, a rise in income may lead to a fall in consumption or demand, and a fall in income may lead to a rise in consumption or demand e.g. the demand for low quality substitutes such as generic brands of groceries versus the demand for branded grocery items.

Price

The prices of goods and services will influence consumer choice. The key concept in this instance is **relative prices**, since consumers will make spending decisions according to the relative prices of goods and services in the same category (e.g. choosing between a brand name and a generic brand for essential goods like washing powders, flour or shampoo), and the relative prices of goods and services that are substitutes (e.g. butter and margarine) for each other, or complementary in use (e.g. cars and petrol).

Consumer demand also tends to have an inverse relationship with price. As the price of a good or service rises (e.g. petrol), consumers will react by buying less of the good or service, since more disposable income is needed to buy the same quantity of the good or service before the price rise. Alternatively, if the prices of goods and services fall, more will be demanded since a consumer will be able to buy more of the good or service with their disposable income. A fall in price will lead to a rise in a consumer's **real income** (i.e. money income adjusted for inflation), but a rise in price will lead to a fall in a consumer's real income. Real income refers to the purchasing power of money income or disposable income.

The Price of Substitutes

Substitute goods and services are those that can be used as alternatives to other goods and services in consumption. For example, a consumer may buy tea in preference to coffee if they prefer tea to coffee. If however the price of coffee falls relative to tea, a consumer who is indifferent between tea and coffee, may switch their expenditure from tea to coffee. Another example might be butter and margarine. If a consumer prefers butter, but will also consume margarine if no butter is available, they may switch their expenditure to margarine if the price of butter rises relative to the price of margarine.

The Price of Complements

Complementary goods and services are those that are used in conjunction with each other in consumption e.g. knives and forks; cars and petrol; salt and pepper; and bread and butter. If two goods, A (e.g. petrol) and B (e.g. cars) are complementary in use, a rise in the price of good A will lead to a fall in the demand for good B. Alternatively a fall in the price of good A may lead to an increase in the demand for good B.

For example, a rise in the price of petrol may lead to a fall in the demand for new cars and mechanical or maintenance services, whereas a fall in the price of new cars may lead to increased consumption of new cars, and a rise in the demand for petrol and services associated with the maintenance of new cars.

Consumer Preferences and Tastes

Consumers have different preferences and tastes for particular goods and services. No two individuals have exactly the same preferences and tastes for all goods and services. For example, a consumer may prefer coffee to tea and the colour blue to green and other colours for clothes and cars. Another consumer may prefer tea to coffee and red or yellow in preference to blue or green for clothes and cars.

Consumer tastes and preferences may be influenced by a variety of factors such as changes in the weather, fashion, education, social or peer pressure and mass media and online advertising. A change in tastes or preferences towards a particular good or service may lead to increased demand and consumption of that good or service. A change in tastes or preferences away from a particular good or service may lead to decreased demand or consumption of that good or service e.g. consumers may prefer to buy more cold drinks, ice creams and salads on a hot day and less hot drinks and hot take away food. On a colder day they may prefer to buy hot take away food and hot drinks rather than cold drinks, ice creams and salads.

Advertising

Advertising is the dissemination of information or images about a good or service by firms to consumers through the mass media of radio, television, newspapers, magazines, the internet, social media and mobile phones. Advertising campaigns can influence consumer preferences and tastes by informing and/or persuading consumers to buy more of a good or service, or to switch their demand from a competitor's good or service to their own. This has been the case during and after the 2020-21 COVID-19 pandemic with consumers encouraged to do shopping online rather than at 'bricks and mortar' stores.

Informative advertising conveys information to consumers about the price, quantity, quality, range and availability of a product or service. In contrast, **persuasive advertising** attempts to build brand loyalty by persuading consumers to link consumption of the good or service with a certain social image or psychological attribute of the product or service e.g. the consumption of Nike sports products may be linked to success in sport and non conformity with the established traditions of sport. Celebrities are also often used to endorse products in persuasive advertisements to encourage consumer brand loyalty or to entice consumers to switch to the consumption of the product and away from a competing good.

✍ REVIEW QUESTIONS

FACTORS INFLUENCING INDIVIDUAL CONSUMER CHOICE

1. Explain how the level of income can influence consumer spending decisions.

2. How do the relative prices of goods and services influence consumer spending choices?

3. Distinguish between substitute and complementary goods and services. How would a change in the price of a substitute good affect the demand for a good? How would a change in the price of a complementary good affect the demand for a good?

4. Using some examples, explain the role of consumer preferences and tastes in influencing consumer choice and consumption patterns.

5. Distinguish between informative and persuasive advertising. How can advertising in the mass media and electronic/social media influence consumer choice and spending decisions?

SOURCES OF INCOME

The main sources of income in Australia are the factor income returns of wages and salaries, rent, interest and profit. **Figure 4.3** shows the composition of Australian household incomes in 2021-22 with wages and salaries (55.8%) being the main source of labour income earnt in Australia. Wages and salaries and supplements are earnt from contributing labour to the production process. Wages are usually expressed as a weekly amount whereas salaries are expressed as an annual amount. Supplements refer to extra earnings such as wages for overtime, penalty rates, allowances for travel, clothing, meals, accommodation, tips and bonuses. Wages and salaries are termed '**earned income**' since people must work as employees for private and government businesses to receive wages and salaries as income.

Non wage income is known as '**unearned income**' and accounted for 29.2% of total household income in 2021-22. It is mainly sourced from the activities of persons who own businesses (and earn profit) or are part owners of a business and share in the profits by receiving dividends. Other forms of non wage income are rent from the ownership of real property (e.g. industrial, commercial, rural and residential real estate), and interest received for lending savings for capital accumulation. Interest may be paid and used as income by people who own savings accounts, debentures, notes and bonds. Profit, rent and interest are not sourced from contributing labour directly to the production of goods and services and are known as unearned income. Other sources of unearned income include commission earnt by sales persons, fees earnt by professionals such as doctors and lawyers, and royalties earnt by authors.

The composition of factor income returns is largely influenced by the level of economic growth and the rate of unemployment. If the rate of unemployment is falling and more people are employed, the share of national income going to wages and salaries is likely to rise. However if economic activity is falling (e.g. during the recession in 2020) and the unemployment rate is rising, the share of factor incomes going to wages and salaries is likely to fall. Between 2009-10 and 2021-22 the share of national income going to wages and salaries fell from 57% to 55.8%, as the unemployment rate rose and wages growth slowed to 2.5% per annum. The returns to non wage income earners also tend to rise during times of high economic activity and fall during recessions. The share of non wage incomes as a proportion of total national income rose from 28.7% to 30% between 2009-10 and 2018-19, as a resumption of the resources boom (after the Global Financial Crisis in 2008-09) and higher house and share prices contributed to the growth in profit, rent, interest and dividend income. Profit growth was very strong in the mining sector and this led to increased dividend payments to the shareholders of mining stocks.

Personal income is the money and the value of benefits in kind received by individuals during a period, in return for their factors of production (land, labour, capital and enterprise), or as transfer payments from the government in the form of pensions, job search allowances and other types of welfare assistance.

Figure 4.3: Sources of Household Income 2021-22

- Wages and Salaries 55.8%
- Profit 19.2%
- Rent, Interest and Dividends 10%
- Social Benefits 9%
- Other 6%
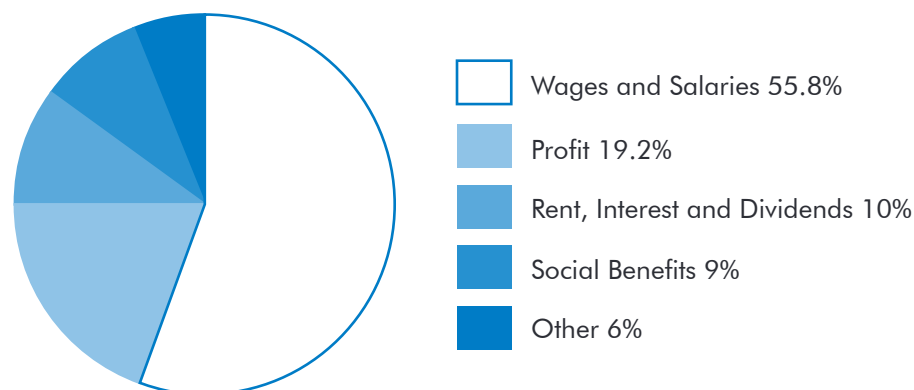
Source: ABS (2022), *Australian National Accounts*, Catalogue 5206.0, March, Table 20.

Table 4.3: The Sources of Household Income in Australia 2021-22

	Annual $m	% of Total Gross Income	%△ from 2018-19
Compensation of employees (wages and salaries)	1,020,586	55.8	5.8
Gross operating surplus and mixed income (profits)	350,441	19.2	6.7
Property Income (rent, interest and dividends)	181,902	10.0	-11.1
Social Benefits Receivable (social welfare)	164,622	9.0	-13.4
Non Life Insurance Claims	51,876	2.8	11.4
Current Transfers to Non Profit Institutions	52,112	2.9	17.4
Other Current Transfers	6,062	0.3	-13.5
Total Gross Income	1,827,601	100.0	4.7

Source: ABS (2022), *Australian National Accounts*, Catalogue 5206.0, March. Table 20, Household Income A/C

The majority of personal income (85%) in 2021-22 was received as wages, profits, rent and interest and dividends. The main forms of earned personal income include wages and salaries from the contribution of labour to production. The main forms of unearned income include rent from the use of land, interest on capital, and profit from business enterprises. **Income is a flow concept** in economics since it varies according to a person's contribution to production (i.e. the type of job, hours of work and pay rates), and may change over time as this contribution changes, due to personal and economic circumstances.

The main sources of household income in Australia are wages and salaries (making up between 55% and 65% of total household income), profits, dividends, rent and interest (25% to 30%) and pensions and benefits (8% to 15%). These shares of household income vary over time according to changes in the rates of economic and employment growth, the rate of unemployment, asset prices (such as share and house prices), wage and salary rates, and government social security and taxation policy. There was a dramatic increase in Australian government spending in 2020-21 on social benefits as the rate of unemployment rose and payments such as JobSeeker and JobKeeper were made to eligible persons. About 56% of households have wages or salaries as their main source of income, 29% of households have pensions or benefits as their main source of income, 7% have interest, rent or dividends as their main source of income, and 8% have profits from their own business as their main source of income.

Table 4.3 shows the main sources of household income from the household income account compiled by the ABS for 2021-22. Wages and salaries and supplements (i.e. workers' compensation and superannuation), termed as 'compensation of employees', accounted for 55.8% of total gross income in 2021-22. Gross operating surplus and mixed income represents the income from profits generated by private incorporated and unincorporated trading enterprises and accounted for 19.2% of total gross income in 2021-22. Property income refers to rent, interest and dividends received by households (e.g. retirees and wealth holders) and accounted for 10% of total gross income in 2021-22. A majority of dividend, rent and interest income is received by self funded retirees, who are not reliant on government social benefits such as pensions and social benefits or allowances for an income in retirement.

Social benefits accounted for 9% of total gross income in 2021-22, including pensions and other means tested government allowances, paid by the Australian government to households unable to earn sufficient market income to sustain a minimum standard of living. Non life insurance claims (2.8% of total gross income in 2021-22) represent net payments to households from non life insurance policies, and current transfers to non profit institutions (2.9% of the total in 2021-22) include non capital transfers from the government to charitable institutions. Other current transfers include government transfers to households not elsewhere classified and represented 0.3% of total gross income in 2021-22.

Personal **wealth** is the net value of real and financial assets owned by individuals at a particular point in time. Real assets include property (e.g. real estate) and consumer durables (e.g. motor vehicles and household contents). Financial assets include cash, bank deposits, superannuation, shares and bonds. The net value of assets is calculated by subtracting any debts (i.e. financial liabilities such as mortgages and personal loans) owed by an individual from the gross value of their assets. **Wealth is a stock concept** in economics since it is the amount of a person's net assets or net worth at any one point in time.

There is a strong correlation between income and wealth. People with little wealth usually have low incomes, while people with substantial wealth usually have high incomes. This is because wealth generates income, and high incomes can generate increasing levels of wealth. High income earners usually have high saving ratios, which allows them to accumulate wealth such as property and financial assets, which in turn generates unearned forms of income such as profits, rent, interest and dividends. The main exception to this trend is owner occupied housing, which can sometimes lead to people (particularly the elderly living in valuable houses or home units) being 'asset rich but income poor'. Persons with a substantial stock of wealth will have the ability to derive unearned sources of income such as profit, rent and interest, in addition to earned sources of income such as wages and salaries.

Social Welfare

Wages, rent, interest and profits are earnt by individuals contributing resources to the production process. However for members of society who are unable to find employment, or are too young, old, disabled or sick to work for paid income, the government provides them with an income from taxation revenue which is redistributed from taxpayers in the form of transfer payments which are summarised in **Table 4.4**. Some of the main transfer payments paid by the Australian government to households are:

- Pensions for the aged, disabled, widows, veterans and the sick;
- Family allowances to low income families with dependent children;
- Unemployment benefits (e.g. JobSeeker) paid to unemployed persons actively seeking work;
- Youth allowances paid to students from low income families in full time education or training; and
- Special payments to Aborigines and Torres Strait Islanders for their advancement in the community.

The Australian government implements social policy through the tax-transfer system to promote a more equitable distribution of income. Social policy involves the use of the following instruments:

- Welfare expenditure (social assistance or welfare benefits) and tax transfers;
- The progressive system of personal income taxation;
- Social wage elements of government spending such as public health, education and housing; and
- Government labour market programmes such as the system of Modern Awards and the National Employment Standards (NES) administered by the Fair Work Commission as a safety net for low income workers. The Fair Work Commission also adjusts the National Minimum Wage annually.

The various forms of government social welfare are administered and paid by Centrelink. All social welfare benefits are subject to means and assets tests, and are targeted at the most needy people in society. Means and assets tests are applied to reduce the incidence of welfare fraud and to contain social security spending, which may become a burden on existing taxpayers who contribute indirectly to financing transfer payments to the underprivileged by paying progressive taxation to the government.

Welfare payments were 9% of total household income in 2021-22, with government expenditure on social security and welfare estimated at $228,790m in the October 2022-23 budget. This represented 35.5% of total government expenditure in the 2022-23 federal budget. The reduced expenditure on social security and welfare in the 2022-23 budget ($228,790m) was due to the falling unemployment rate after the COVID-19 pandemic and reduced stimulus payments by the government to households.

Table 4.4: Types of Social Security Assistance and Eligibility Criteria 2022-23 (f)

Category of Assistance	Types of Assistance	Eligibility Criteria
Assistance to the Aged ($85,888m in 2022-23)	Age Pension and Allowance Residential Care Subsidies Home and Community Care Partner Allowance	61 for women & 65 for men Income and Assets tests Approved Facilities Frailty or Disability Born on or before 1.7.55
Assistance to Veterans and Dependants ($8,232m in 2022-23)	War Widow's Pension Disability Pension	Service Related Death Service Related Disability
Assistance to People with Disabilities ($69,257m in 2022-23)	Disability Support Pension NDIS	Medical Impairment
Assistance to Families with Children ($40,656m in 2022-23)	Family Allowance Parenting Payment Family Tax Payment Child Payments Maternity Allowance	Means Testing Sole Parents Family Income Test Disability/Orphan Birth of Child
Assistance to the Unemployed and Sick ($14,006m in 2022-23)	JobSeeker Allowance Sickness Allowance	Income Test of Partner Illness or Incapacity
Other Welfare Programmes ($2,623m in 2022-23)	Special Benefit/Widow's Pension	Age and other Criteria
Assistance for Indigenous Australians ($2,958m in 2022-23)	Various Programmes to close gaps on Indigenous disadv.	Approved by Council of Aust. Governments (COAG) - 2008
General Administration $5,170m		

Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23* (October), Canberra.
Total social security and welfare spending was estimated at $228,790m in the October 2022-23 budget.
NB: Most welfare payments are indexed to inflation and subject to a means test and assets test. The growth in social security spending is due to population ageing, the introduction of the NDIS and stimulus spending during the COVID-19 pandemic in 2020 including the JobSeeker, JobKeeper and Coronavirus Supplement payments.

✎ REVIEW QUESTIONS

SOURCES OF INCOME

1. Distinguish between earned and unearned sources of income.

2. What are the main sources of earned income in Australia?

3. What are the main sources of unearned income in Australia?

4. Refer to Figure 4.3 and discuss the composition of household income in Australia in 2021-22. Aside from wages, rent, interest and profit, what are some other sources of household income?

5. Why does the Australian government provide social welfare payments? Which groups of individuals are eligible for such social welfare payments? Refer to Table 4.4 in your answer.

6. Why are social welfare payments subject to eligibility criteria and means testing in Australia?

7. Aside from welfare payments, what other instruments of social policy does the government use to make the distribution of income in Australia more equal?

✍ REVIEW QUESTIONS

8. Add the following terms and abbreviations to a glossary:

advertising	consumption function	rent	wages
breakeven income	dissaving	saving	wealth
complements	earned income	savings function	APC
consumer preferences	household income	social welfare	APS
consumer sovereignty	interest	substitutes	MPC
consumption	profits	unearned income	MPS

☯ CHAPTER 4: SHORT ANSWER QUESTIONS
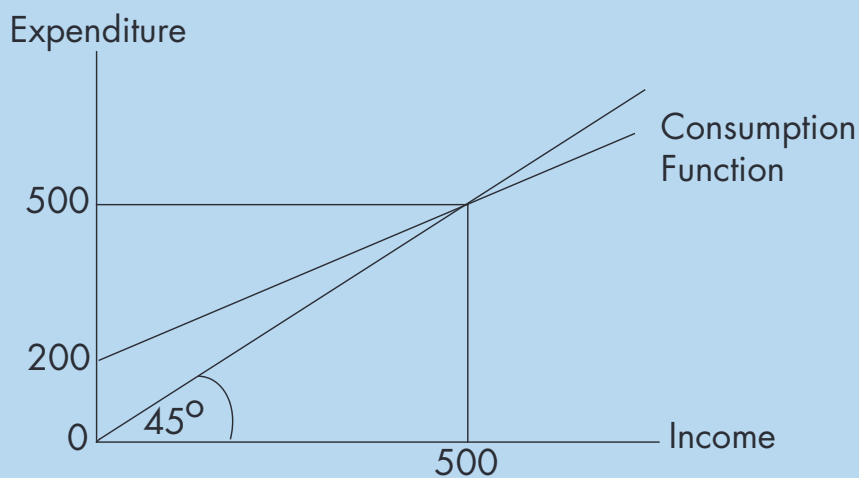
Refer to the diagram of the consumption function above and answer the questions below.   Marks

1. What is the breakeven level of income?   (1)

2. What is the equation of the consumption function?   (1)

3. What is the equation of the savings function?   (1)

4. Calculate and state the value of the MPC.   (1)

5. Calculate and state the value of the MPS.   (1)

6. Explain the relationship between the MPC and MPS.   (1)

7. Discuss TWO factors that influence consumption spending decisions by individuals.   (2)

8. Discuss TWO factors that influence savings decisions by individuals.   (2)

☯ CHAPTER FOCUS ON INCOME, CONSUMPTION AND SAVING

Household consumption, disposable income and savings rate
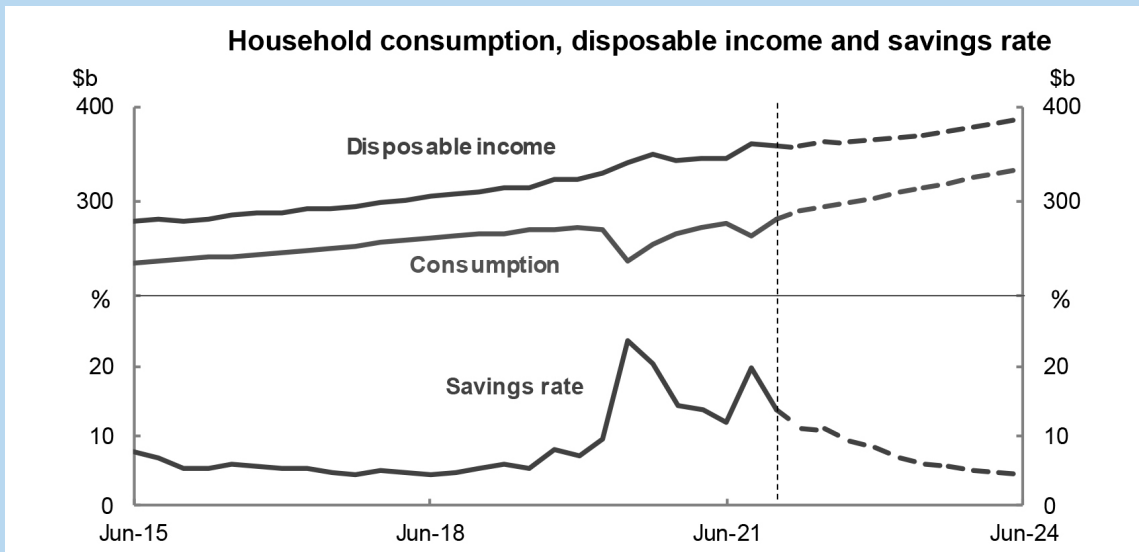
"Household consumption rebounded by 6.3% in the December quarter of 2021 to exceed pre-pandemic levels for the first time. This result reflects pent-up demand for discretionary goods and services following the easing of Delta restrictions. Household consumption is forecast to grow by 3.5% in 2021-22, 5.75% in 2022-23 and a further 3.75% in 2023-24. Consumption growth will be driven by increased services demand as household spending behaviour normalises and the savings rate declines. Household balance sheets are in a strong position relative to the pre-pandemic period because of economic support measures and restricted consumption options during lockdowns."

Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23, Budget Paper No. 1*, March.

Discuss trends in household income, consumption and saving in Australia between 2020 and 2022.

_____

_____

_____

_____

_____

_____

☯ CHAPTER 4: EXTENDED RESPONSE QUESTIONS

1. Define the terms 'income', 'consumption' and 'saving'. What is the mathematical relationship between these three terms? Graph the consumption and savings functions and explain the relationship between the APC and APS, and the MPC and MPS as income increases.

2. Explain the main sources of household income in Australia. Distinguish between earned and unearned sources of income. Why and how does the Australian government make social welfare payments available to some individuals and households in Australian society?

✌ CHAPTER SUMMARY

THE ROLE OF CONSUMERS IN THE ECONOMY

1. Consumers refer to individuals in an economy who consume goods and services with their disposable income (after tax income) in order to satisfy their needs and wants.

2. Consumer sovereignty refers to how consumers, through their spending patterns, influence the types and quantities of goods and services produced by firms. Consumer sovereignty is important because it can lead to allocative efficiency, since firms in attempting to maximise profits, will only produce those goods and services that are demanded by consumers to satisfy their needs and wants. This also means that consumer sovereignty influences resource allocation in production.

   Firms which produce goods and services at minimum cost are said to achieve technical or productive efficiency. If firms respond to changes in consumer preferences for goods and services over time they are said to achieve dynamic efficiency. This can lead to more choice and lower prices for consumers.

3. The basic relationship between income (Y), consumption (C) and saving (S) is the following:

   $Y = C + S$

4. The consumption function is in the following form:

   $C = C_0 + cY$ where: C is total consumption

                                      C_0 is autonomous consumption

                                        c is the marginal propensity to consume or $MPC = \Delta C/\Delta Y$

                                        Y is disposable income

5. The savings function is in the following form:

   $S = -C_0 + sY$ where: S is total saving

                                        $-C_0$ is autonomous saving (i.e. dissaving when income is zero)

                                        s is the marginal propensity to save or $MPS = \Delta S/\Delta Y$

                                        Y is disposable income

6. The sum of the consumption and savings functions equals income (i.e. C + S = Y).

   The sum of the MPC and MPS equals one (i.e. MPC + MPS = 1).

   The consumption and savings functions can be graphed by using values from the consumption and savings schedules, which show values for consumption and savings over a range of incomes.

7. Factors influencing consumer choice include the level of personal income; the prices of various goods and services; the prices of substitute goods and services; the prices of complementary goods and services; consumer preferences and tastes; and advertising by firms through the mass and social media.

8. The two main categories of income in Australia are referred to as earned and unearned income. Earned income includes wages and salaries paid to individuals for contributing their labour to production. The main sources of unearned income include profit, rent, interest and dividends.

9. Social welfare payments are made by the Australian government mainly to eligible individuals and low income families. They include pensions, allowances and other payments. These welfare payments are means tested and assets tested and targeted at the aged, the unemployed and sick, the disabled and low income individuals and families to provide them with income support and a minimum standard of living in the community.

CHAPTER 5

The Role of Business in the Economy

The role of business in an economy is to produce goods and services in order to satisfy consumers' needs and wants. Businesses also fulfil this function in order to maximise profits. In carrying out this function businesses employ resources including land, labour, capital and enterprise and therefore create income and employment opportunities for the labourforce in primary, secondary and tertiary industries.

DEFINITION OF A FIRM AND AN INDUSTRY

A firm is any business organisation which uses resources to produce goods and services to satisfy consumers' needs and wants, usually in return for a profit. Business firms are classified according to both their legal structure and the type of production activity or industry in which they operate.

In terms of legal structure, there are **unincorporated business enterprises** such as sole traders and partnerships, where there is unlimited liability for the debts of the business, and most of the capital is either provided by the owners and/or borrowed from financial institutions. Unlimited liability means that the owners of a sole tradership or a partnership are liable for all the debts of the business, even to the extent of having to sell their personal property to pay any unpaid debts or liabilities of the business.

Incorporated business enterprises such as private and public companies have limited liability for debts and raise capital through the issue of shares either privately or publicly. In limited liability companies shareholders are only liable for the debts of the company to the extent or value of their shareholding. **Table 5.1** summarises the main features of incorporated and unincorporated business enterprises.

A group of firms producing a similar range of goods or services constitutes an industry. Various industries can be identified and defined in the Australian economy such as the following:

- **Primary industry** consists of all those firms engaged in the extraction of natural resources (such as agriculture, mining, fishing, hunting and forestry), and accounted for 12% of Australia's GDP and 4.1% of total employment in 2021-22. The resources boom has increased the share of the mining sector (9.4%) to this industry's overall contribution to Australian GDP in recent years.

- **Secondary industry** consists of all firms engaged in the manufacturing of usable products from natural resources produced by primary industry, such as the simple and complex processing of minerals and other natural resources into consumer goods such as clothes, electrical goods, furniture and food. It also includes firms which manufacture capital goods such as trucks, machinery and computers for use by other firms and industries. Manufactured goods are classified as either simply transformed manufactures (STMs) or elaborately transformed manufactures (ETMs). Manufacturing accounted for 5.6% of GDP and 6.4% of employment in Australia in 2021-22.

- **Tertiary industry** consists of firms selling final goods and services to consumers and other businesses. Examples of tertiary services include retailing, wholesaling, education, health, finance, insurance, recreation, transport, communications, entertainment, community and personal services. Tertiary industry accounted for 82.4% of GDP and 89.5% of employment in Australia in 2021-22.

- **Quaternary industry** refers to the information technology services provided by individuals and firms in the information and communications technology (ICT) industry.

- **Quinary industry** refers to firms and individuals who provide personal services directly to other firms and individuals in the economy such as maintenance services.

Although quaternary and quinary industries are defined separately, they are included as part of tertiary industry in calculating its 82.4% share of Australian GDP and 89.5% share of employment in 2021-22.

Table 5.1: Types of Business Firms According to Legal Structure

UNINCORPORATED BUSINESS ENTERPRISES: SOLE TRADERS AND PARTNERSHIPS

Features	Sole Trader	Partnership
Number of Owners	One owner	Two to twenty owners
Management	Owner/manager	Management shared by skills and expertise
Start up Capital	Personal savings/bank loans	Shares provided by partners/borrowings
Liability	Unlimited liability for debts	Unlimited liability for debts
Expansion	Borrowings, retained profits	Retained profits, borrowings, new partners
Advantage	Independent management	Access to more capital than sole traders
Disadvantage	Unlimited liability for business debts	Limited capital from partners which may limit the possibility for business expansion
Examples	Tradespeople, small retailers	Doctors, dentists, solicitors and accountants
Legal Status	Registered business name	Partnership agreement creates a legal entity

INCORPORATED BUSINESS ENTERPRISES: PRIVATE AND PUBLIC COMPANIES

Features	Proprietary Company (Pty Ltd)	Public Company (Ltd)
Number of Owners	One to fifty owners	Minimum of three shareholders plus a company secretary
Management	Board of directors elected by the shareholders. Managers appointed to run the business	Board of directors elected by the shareholders. Directors appoint salaried managers to run the business
Start up Capital	Private invitation to buy shares through the issue of a company prospectus	Public invitation (float) to buy shares in the company through sharebrokers, financial markets and the issue of a company prospectus
Types of Shares	Ordinary shares	Ordinary, preference and contributing shares
Transfer of Shares	Unlisted on the ASX Private sale and purchase	Listed on the ASX if desired Public sale and purchase of shares
Voting Rights	One vote per one ordinary share	One vote per one ordinary share
Liability	Limited liability of shareholders	Limited liability of shareholders
Expansion	Borrowings, profits, private sale of shares by invitation	Profits, borrowings, public sale of new shares (i.e. a float or new share issue - IPO)
Advantage	Raising capital is easier because shares in the company can be sold privately	Access to more capital than private companies, since shares can be sold to the the public on the securities exchange (ASX)
Disadvantage	Not publicly listed on the ASX	Complexity of management structure
Examples	Family businesses	BHP Group Ltd, NAB Ltd, Telstra Corp. Ltd
Legal Status	Proprietary Limited Company (Pty Ltd)	Must have Limited (Ltd) in its name Compliance with ASIC and ASX listing rules

Table 5.2: Contribution by Industry Sector to Australian GDP and Employment - 2018 to 2022

	2018-19	2019-20	2020-21	2021-22
Gross Domestic Product $m				
Agricultural Output	$44,424m	$37,500m	$48,285m	$53,557m
Mining Output	$146,229m	$167,860m	$196,034m	$197,081m
Manufacturing Output	$103,656m	$103,545m	$109,818m	$116,989m
Services Output	$1,556,691m	$1,573,407m	$1,621,729m	$1,723,660m
Total GDP	$1,851,000m	$1,882,312m	$1,975,866m	$2,091,287m
Employment				
Agricultural Employment	326,200	363,100	313,700	287,300
Mining Employment	238,000	247,300	267,800	270,500
Manufacturing Employment	871,700	862,200	952,000	867,800
Services Employment	11,524,600	11,104,500	11,480,200	12,191,500
Total Employment	12,960,500	12,577,100	13,013,700	13,617,100

Source: ABS (2022), *Australian National Accounts*, Sept., and *Labour Force, Australia*, Detailed, August

The contribution of firms according to major industry sectors (agriculture, mining, manufacturing and services) in Australia between 2018-19 and 2021-22 to output (GDP) and employment is shown in **Table 5.2**. Key trends in **Table 5.2** are the recovery in agricultural output after droughts and floods, and a large increase in mining output and employment in 2019-22 due to the strong demand for coal, iron ore and LNG exports, and the continued growth in services output. Manufacturing output and employment increased in 2020-21 with demand for manufactures during the COVID-19 pandemic. Total employment increased in 2021-22 with an economic recovery after the impact of the **COVID-19 pandemic** on service sector employment in 2020 with the lockdown of major industries such as retailing.

A Firm's Production Decisions

A firm's main production decisions include selecting the appropriate mix of inputs (i.e. raw materials, intermediate goods, labour, capital and enterprise) to produce final output (i.e. goods and services) that are demanded by consumers in markets. The firm's production process is illustrated in **Figure 5.1**. It involves the application of technology and management expertise to the exact combination of inputs or productive resources to minimise production costs, and to produce final goods and services in sufficient quantities and qualities to satisfy the market demand of consumers and make business profits.

Figure 5.1: The Firm's Production Process

Productive Resources (Inputs)	The Production Process	Supply of Outputs

• Land
• Labour
• Capital
• Enterprise
	• Combination of Inputs
	
	• Application of Technology
	
	• Management expertise
		• Goods
		  - finished
		  - intermediate
		• Services
		  - personal/consumer
		  - commercial/business
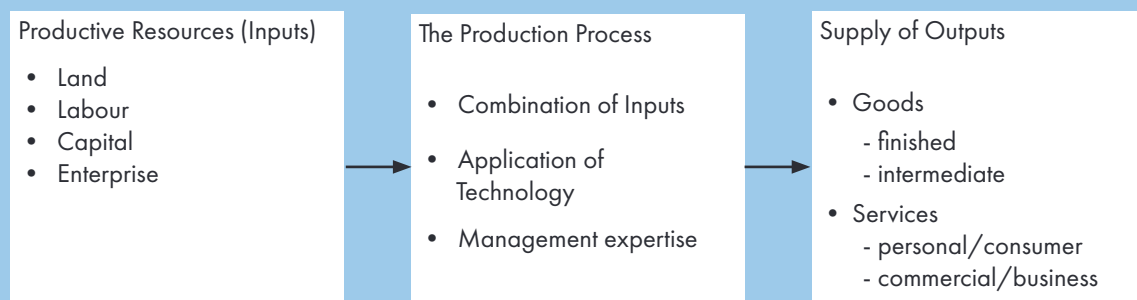
In business the entrepreneur's economic problem and the firm's economic problem include decisions made in relation to the following production questions:

- **What goods and services to produce?**: This includes determining what the market demands and the preferences and expertise of the entrepreneur who is running and managing the firm.

- **What quantities of goods or services to produce?**: The firm must satisfy market demand so that revenue is maximised and costs are minimised in order to maximise the firm's profits.

- **How to produce?**: This is a question of the resources and technology available to be used in the production process. Entrepreneurs will attempt to produce output at minimum or least cost.

- **How to organise and manage production?**: The entrepreneur must create a management structure to plan, organise, lead and control the production process. The factors of production must be paid for from operating revenue, and a profit made to compensate the entrepreneur for risk taking behaviour such as financing and organising the production activities of the business.

✎ REVIEW QUESTIONS

DEFINITION OF A FIRM AND AN INDUSTRY

1. Distinguish between a firm and an industry.

2. Outline the main characteristics of sole traders, partnerships, private and public companies from Table 5.1.

3. What are the advantages and disadvantages of unincorporated and incorporated business enterprises? Refer to Table 5.1 in your answer.

4. Using examples, distinguish between primary, secondary, tertiary, quaternary and quinary industries in Australia.

5. Refer to Table 5.2 and calculate the percentage shares of GDP and employment accounted for by primary, secondary and tertiary industries in 2021-22. How and why have these shares changed over time? Why has the service sector's share of output and employment generally increased over time?

6. How did the COVID-19 pandemic impact on industry shares of output and employment in 2019-20?

7. Refer to Figure 5.1 and explain how the firm attempts to solve its economic problem.

8. What specific production decisions does the entrepreneur and the firm have to make?

9. Add the following terms to a glossary: sole trader, partnership, private company, public company, limited liability, unlimited liability, primary industry, secondary industry, tertiary industry.

BUSINESS AS A SOURCE OF GROWTH AND INCREASED PRODUCTIVE CAPACITY

The firm is organised in such a way as to establish clear goals that guide business behaviour. The main goal that is assumed to apply to a firm's market behaviour in economics is **profit maximisation**. In the theory of production in economics, two production periods are studied. The **short run** is a production period where some costs are fixed (e.g. the rent for using business premises) and some are variable (e.g. wages paid to labour) and the scale of plant or operations is also fixed. In the **long run** production or planning period all costs may become variable, as the firm can vary or expand its scale of plant or operations, or even close down, if it is not making a profit. In the long run, the firm's management can expand the business by increasing productive capacity, thereby contributing to the growth in production or output, as well as the employment of labour and other resources such as raw materials and capital.

THE GOALS OF THE FIRM

The goals of the firm are usually selected by the firm's owners and implemented by the managers. In unincorporated business enterprises the owner is usually the manager. However in incorporated business enterprises there is usually a **separation of ownership from control** of the firm. The shareholders are the owners of the firm, who elect a board of directors to run or control the company. The goals of the firm will tend to reflect the preferences of the owners and managers; the level of competition in the industry in which the firm operates; the firm's legal structure; and the general economic environment.

Profit Maximisation

Profit maximisation occurs at the point where there is the greatest positive difference between the total revenue (TR) of the firm, which is gained from selling goods and services, and the total cost (TC) of employing or using resources to produce those goods and services. Profit is calculated as follows:

Profit (π) = Total Revenue (TR) - Total Cost (TC)

Total revenue is equal to the number of units of output sold by the firm multiplied by the price at which they are sold by the firm to consumers in markets:

Total Revenue (TR) = Price (P) x Quantity (Q) Sold

Total costs (TC) include fixed costs (FC) such as rent, which do not vary with output, and have to be paid even if the firm is not producing in the short run. Variable costs (VC) are also part of total costs and include costs such as wages and raw materials which tend to vary directly with the firm's output.

Total Cost (TC) = Fixed Costs (FC) + Variable Costs (VC)

Firms are assumed to not just try and achieve profits but to maximise profits. If total costs equal total revenue (i.e. TC = TR) the firm will break even. If total costs exceed total revenue (i.e. TC > TR) the firm will incur a loss and may have to consider shutting down if the trading position cannot be changed to make the firm more efficient and profitable in the long run. If total revenue exceeds total costs (i.e. TC < TR) the firm is making a profit, but profit maximisation only occurs where there is the greatest positive difference between total revenue and total cost.

Maximising Sales or Total Revenue

Rather than maximising profits, a firm may attempt to maximise sales or total revenue (i.e. price multiplied by the quantity of goods sold) in order to try and increase its market share relative to its competitors. Another reason for sales maximisation might be that managers, by achieving maximum sales, may use this to try and raise their own status, salaries and bonuses within the business. Firms that try to maximise sales may produce large volumes of output and spend more money on sales and promotional effort, market research and advertising than would firms seeking to maximise profits.

If the goal of sales maximisation is not achieved, the firm may incur larger costs of production which may cause profitability to fall. New entrants into industries often attempt to maximise sales by charging prices below their competitors to attract customers away from a competing brand (e.g. Optus discounting STD calls in competing with Telstra in the 1990s when it entered the telecommunications market).

This price cutting strategy could also lead to lower revenue for a firm if it is unsuccessful. A new firm, unless it is backed by large amounts of capital, cannot sustain losses for long periods of time in seeking to gain a profitable market share (e.g. Compass Airlines could not sustain losses in competing with Ansett and Australian Airlines for market share and sales growth in the early 1990s, and went out of business). In such cases of unsuccessful market competition, the firm will exit the industry after incurring large losses and accumulating debts to its creditors, and may eventually be placed in liquidation.

Maximising Growth

Firms may seek to maximise the growth in business assets rather than profits and sales, as this may ensure that the firm survives in the long run. Growth may lead to increasing market share relative to competitors. A firm seeking to maximise its growth in the long run may undertake large investment in new plant and equipment to increase its productive capacity in the future to meet expected increases in the demand for its products or services. A growth oriented firm may use joint ventures with other companies or a system of franchising to promote its brand name and corporate presence in the market place. Mergers and takeovers are also key vehicles for achieving the goal of maximising growth.

Increasing Market Share

Increasing its share of the market may be the goal of a firm, since a greater market share should ensure that the firm increases its profitability in the long run. If a firm is a new entrant into a market and faces considerable opposition from incumbent competitors, it may use a pricing strategy of undercutting competitors' prices to entice customers to switch from an existing product to its new product or service.

Meeting Shareholder Expectations

Businesses attempt to maximise profits, and incorporated businesses such as proprietary and public companies pay dividends from their profits to their shareholders or owners. Shareholders have an expectation that the business will increase its profits over time thereby increasing their dividend income. They also expect capital growth through rising share prices and a rising price to earnings ratio (i.e. P/E ratio). Maintaining a sound and ethical corporate image is also important to shareholders. For unincorporated businesses (i.e. sole traders and partnerships), the owners are usually the managers of the business and their expectations may be different and involve goals other than profit maximisation:

- Maintaining a reasonable return on the capital invested in the business;

- Providing employment for the owners of the business and their families or partners; and

- Achieving growth of the business through franchising or expansion of the business into other niche markets such as export markets or other geographic regions or locations or market segments.

Satisficing Behaviour

Satisficing behaviour refers to the theory that managers attempt to achieve a range of goals that meet profit and performance projections, but above all ensure the security of the managers' jobs, status and prestige, salary and fringe benefits, corporate image, power and lifestyle. However a satisfactory level of profitability, sales revenue and market share will still need to be achieved by the managers of the firm.

✎ REVIEW QUESTIONS

THE GOALS OF THE FIRM

1. Why does the firm need to establish operational goals?

2. Explain the concept of profit maximisation. Why do economists assume that firms attempt to maximise profits?

3. Using examples, briefly explain the additional goals of a firm such as sales maximisation, growth maximisation, increasing market share, meeting shareholder expectations and satisficing behaviour.

4. Define the following terms: short run, long run, price, total revenue, profit, profit maximisation, loss, quantity sold (output), fixed costs, variable costs and total cost.

COST AND REVENUE THEORY

Costs refer to the explicit monetary payments (e.g. rent, wages, interest and profit) made by firms for the use of productive resources such as land, labour, capital and enterprise in the production process. There are five main types of production costs which are defined and explained below:

1. Fixed costs (FC) are costs such as rent and interest which do not vary with output. These costs still have to be paid by the firm in the short run whether or not they are producing output.

2. Variable costs (VC) are costs such as wages and raw materials which do vary with output. The more output a firm produces in the short run the higher will be its variable costs of production.

3. Total costs (TC) refer to the sum of fixed costs and variable costs of production for a firm i.e.

    TC = FC + VC

4   Average cost (AC) refers to the average cost of producing a unit of output by a firm. Average costs are determined by dividing the total cost (TC) of production by the number of units of output (O) produced by a firm i.e.

$$AC = \frac{TC}{O}$$

5. Marginal cost refers to the change in total cost as one more unit of output is produced by a firm i.e.

$$MC = \frac{\Delta TC}{\Delta O}$$

Table 5.3 shows fixed, variable, total, average and marginal costs of production for a hypothetical firm.

Table 5.3: Fixed, Variable, Total, Average and Marginal Costs ($m)

Output	Fixed Cost	Variable Cost	Total Cost	Average cost	Marginal Cost
0	$2m	0	$2m	0	0
1	$2m	$7m	$9m	$9m	$7m
2	$2m	$12m	$14m	$7m	$5m
3	$2m	$19m	$21m	$7m	$7m
4	$2m	$30m	$32m	$8m	$11m
5	$2m	$43m	$45m	$9m	$13m
6	$2m	$58m	$60m	$10m	$15m

*   Total revenue (TR) refers to the total sales receipts a firm receives from selling a given level of output and is equal to the price multiplied by the quantity of output sold i.e.

    TR = Price x Output

*   Average revenue (AR) refers to the average price a firm receives for selling its output. It is calculated by dividing total revenue (TR) by the number of units of output (O) sold i.e.

$$AR = \frac{TR}{O}$$

*   Marginal revenue refers to the change in total revenue as one more unit of output is sold by a firm i.e.

$$MR = \frac{\Delta TR}{\Delta O}$$

Table 5.4 shows average, total and marginal revenue for the same firm in our example. The firm sells each successive product for a lower price as this reflects the demand for its product. For example, one unit is sold for $15m and the firm receives a total revenue of $15m. But if it sells three products it will receive $33m in total revenue. Therefore the average revenue or price is $11m per unit of output sold.

Table 5.4: Average, Total and Marginal Revenue ($m)

Output	Average Revenue	Total Revenue	Marginal Revenue
0	0	0	0
1	$15m	$15m	$15m
2	$12.5m	$25m	$10m
3	$11m	$33m	$8m
4	$10m	$40m	$7m
5	$9m	$45m	$5m
6	$8m	$48m	$3m

We can now determine whether the firm in our example makes a profit or a loss over the range of output of one to six units of output produced. This is shown in **Table 5.5**.

Table 5.5: Total Revenue, Total Cost and Profit or Loss ($m)

Output	Total Revenue	Total Cost	Profit/Loss
0	0	$2m	-$2m
1	$15m	$9m	$6m
2	$25m	$14m	$11m
3	$33m	$21m	$12m
4	$40m	$32m	$8m
5	$45m	$45m	$0m
6	$48m	$60m	-$12m

In microeconomics total profit (π) is equal to total revenue (TR) minus the total cost (TC) of production i.e.

Total Profit (π) = Total Revenue (TR) - Total Costs (TC)

Profit Maximisation is where there is the greatest positive difference between total revenue and total cost.

The firm makes a loss of -$2m if it does not produce any output at all because it must still pay for its fixed costs of production. When one unit of output is produced a profit of $6m is made. This rises to $11m with two units of output sold, and to $12m with three units of output sold. Total profit however falls to $8m when the firm produces four units of output, and it breaks even when it produces and sells five units of output. If six units of output are produced the firm will make a loss of -$12m.

Profit is therefore maximised at $12m by producing three units of output, as this is the point where there is the greatest positive difference between total revenue and total cost.

EFFICIENCY AND THE PRODUCTION PROCESS

Productivity

Productivity refers to the volume of output produced in terms of the volume of inputs used to produce that output over time. Total factor or **multifactor productivity** (MFP) refers to the productivity of all the factors of production combined to produce a given volume of output over time. **Single factor productivity** (SFP) refers to the productivity of each factor of production over time e.g. land productivity, labour productivity, capital productivity and entrepreneurial productivity. Productivity over time can be measured by using the following formulae in Equations (1), (2) and (3):

$$(1)\ \text{Productivity} = \frac{\text{Output}}{\text{Inputs}} \qquad (2)\ \text{MFP} = \frac{\text{Output}}{\text{All Inputs}} \qquad (3)\ \text{SFP} = \frac{\text{Output}}{\text{Single Input}}$$

It is in the interests of the entrepreneur to gain the maximum productivity from the factors of production in order to minimise costs and maximise output from a given level of resources. This avoids the wastage of resources in production. The main sources of productivity improvements in the production process include the increased specialisation of the factors of production through the following means:

- **The division and specialisation of labour** refer to the acquisition of knowledge, skills and experience by labour in production. This can reduce the time taken to complete work tasks, and promote the use of capital in combination with labour in production. The specialisation and division of labour can also be promoted through education and training, which can improve the quality and quantity of human capital used in the production process. An example of the specialisation of labour in the building industry would be the various occupations of carpentry, plumbing, electrical trades, tiling, painting, landscaping, bricklaying and concreting. The division of labour would be these trades working together to construct a building such as a residential house or block of apartments, industrial factory, commercial office complex, a retail shopping centre or a warehouse.

- **The specialisation or localisation of land or industry** refers to the trend for firms and industries to locate near each other or in specific locations to reduce production costs. Cost savings may come about from more efficient and cheaper access to raw materials, labour, transport, markets, finance, energy and other support services or inputs. Examples of the localisation of industry are the Port Kembla industrial region in NSW where firms making steel products are located close to the steelworks, or retail firms located in Sydney's Central Business District (CBD) being able to access a large market and support services such as labour, transport, banking, finance and insurance.

- **The specialisation of capital or large scale production** refers to the use of large scale mass production techniques to produce large volumes of output. Manufacturing firms commonly employ highly specialised machines and mass production processes to produce their output. This allows for a high volume of output at minimum cost, and the use of specialised labour and land resources in combination with specialised capital such as automated/computerised production lines in factories.

  An example of the specialisation of capital would be the production of motor vehicles using robotic welding machines and specialised labour on an assembly line to manufacture car components using advanced capital equipment and technology including computer aided design (CAD).

The factors of production can also be substituted for each other, or used in combination in production. The use of capital with land, labour and entrepreneurial resources increases the productivity of these resources, leading to increasing single factor productivity as well as multifactor productivity.

The advantages of rising factor productivity include lower costs; lower prices; increased efficiency; an increased range of goods and services; higher profits and real incomes; enhanced rates of economic growth and technological progress; and rising international competitiveness. However disadvantages that may arise from increasing single and multifactor productivity may include structural unemployment through the de-skilling of labour, and higher rates of structural and technological change in production and industry, because of increased demands for the re-skilling and multi-skilling of the workforce.

THE LAW OF DIMINISHING RETURNS

In the **short run** production period the firm has a fixed scale of plant or operations, and both fixed and variable factors of production. However in the **long run** production period, the scale of a firm's plant is variable and all factors of production may be varied. Fixed factors of production are those that do not vary with output such as land and capital. For example, one machine and one piece of land may be used by a farmer to grow wheat. Variable factors of production vary with output in the short run, and include labour and raw materials. For example, a farmer may employ more units of labour and use more quantities of fertiliser on a farm, if they want to increase the output of wheat over time.

The **law of diminishing returns** or variable proportions suggests that as increasing quantities of a variable factor are added to a fixed factor of production in the short run, total output will eventually decline, leading to diminishing returns to the variable factor. Various assumptions are made regarding the use of the following economic model to explain the law of diminishing returns:

- There are only two factors of production: land and labour.

- One factor such as land is a fixed factor, and the other factor, such as labour, is a variable factor.

- A farmer is assumed to use various quantities of the variable factor of labour in combination with the fixed factor of land to produce or grow wheat.

- The level of technology and all other factors of production are held constant.

Table 5.6. shows the production function or schedule for a farmer who is growing wheat, using a fixed amount of land (i.e the fixed factor), and varying amounts of labour (i.e. the variable factor).

Total physical product (TPP) refers to the total output of goods using the sum of both fixed and variable factors of production. In **Table 5.6** TPP refers to the total output of wheat using a fixed amount of land and varying amounts of labour inputs. For example if one unit of land and seven units of labour are used to grow wheat, total wheat output or TPP will be 56 units of wheat.

Table 5.6: A Model of the Production Function for Wheat

Fixed factor (Land)	Variable Factor (Labour)	Total Physical Product (TPP)	Average Physical Product (APP)	Marginal Physical Product (MPP)
1	0	0	0	0
1	1	5	5	5
1	2	12	6	7
1	3	21	7	9
1	4	32	8	11
1	5	45	9	13
1	6	54	9	9
1	7	56	8	2
1	8	56	7	0
1	9	50	5.5	-6

Average physical product (APP) is equal to the total physical product (TPP) divided by the number of units of the variable factor of labour (L) e.g. the APP of 8 units of labour is 7 when TPP of 56 units are produced. APP is a measure of the productivity of the variable factor of production labour (L) i.e.

$$APP \quad = \quad \frac{\text{Total Physical Product}}{\text{Units of Variable Factor}} \quad = \quad \frac{\text{TPP}}{\text{L}}$$

Marginal physical product (MPP) is the change in total physical product (TPP) that occurs with the addition of one more unit of the variable factor of labour i.e.

$$MPP \quad = \quad \Delta TPP \quad = \quad TPP_{t} - TPP_{t-1} \qquad \text{where} \quad t \quad = \quad \text{time}$$

For example the MPP of the 5th unit of labour is 13 units. The values for total physical product, average physical product and marginal physical product calculated in **Table 5.6** are graphed in **Figure 5.2**.

Total physical product increases at an increasing rate with each successive unit of labour employed between 1 and 5. This indicates increasing returns to the variable factor of labour. After the employment of the sixth unit of labour, TPP still increases but at a decreasing rate. This indicates diminishing returns to the variable factor of labour. TPP reaches a maximum of 56 after the employment of the eighth unit of labour and thereafter declines. This indicates negative returns to the variable factor of labour.

Average physical product increases between the employment of the first and sixth units of labour. This indicates the rising productivity of labour as the total physical product of wheat increases with each successive unit of labour employed. If APP is rising, this indicates that the MPP of each successive unit of labour is also rising. MPP must exceed APP for this to occur. The sixth unit of labour maintains the same level of productivity as the fifth (9 units), but the productivity of the seventh, eighth and ninth units of labour, whilst positive, begin to decline. The MPP of the seventh, eighth and ninth units of labour are less than the APP of each of these workers, indicating the declining productivity of labour.

Marginal physical product indicates the rate of change in TPP. MPP rises from 5 with one unit of labour to reach a maximum of 13 with the employment of the fifth unit of labour. Thereafter MPP falls and reaches zero with the employment of the eighth unit of labour, and becomes negative (-6) with the employment of the ninth unit of labour. If MPP exceeds APP, TPP will rise at an increasing rate. When MPP is less than APP, APP will fall, and TPP will increase at a decreasing rate. When MPP equals APP, APP will be at a maximum (at 6 units of labour). When TPP is at a maximum at 56 units with 8 units of labour employed, the MPP is zero and if a ninth unit of labour is employed MPP is negative six (-6).

Figure 5.2: Graphs of TPP, APP and MPP for Wheat Output
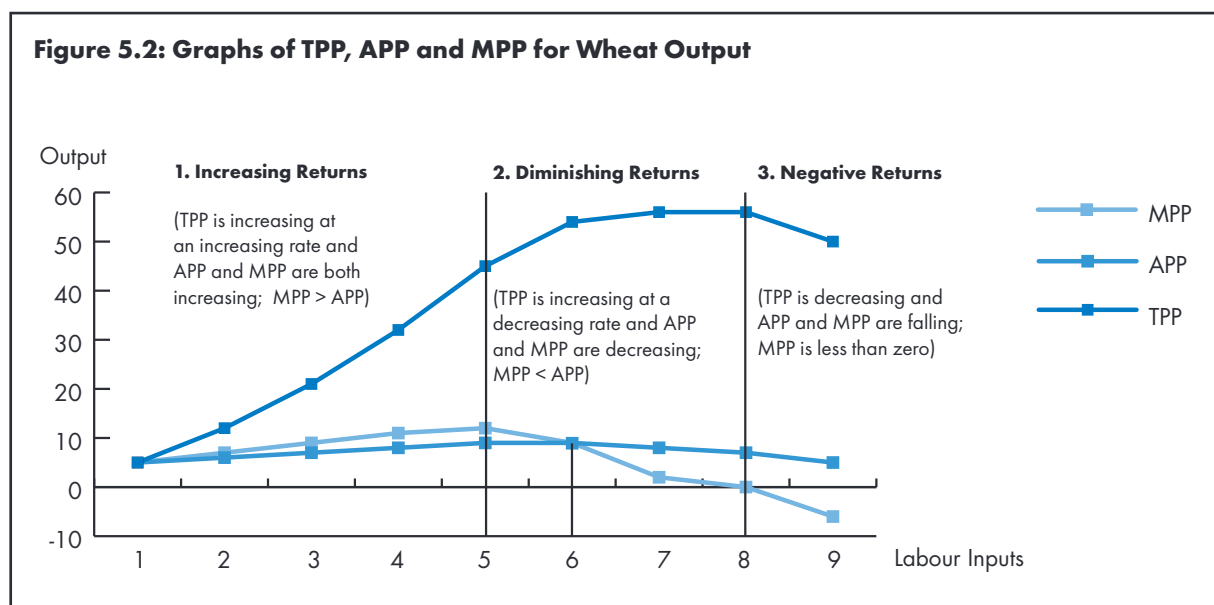
Table 5.7 summarises the findings from the economic model of diminishing returns used in **Table 5.6** and graphed in **Figure 5.2**. The principle of diminishing returns is important in guiding firms to use the most efficient combination of resources to produce their output. As long as MPP is positive and rising, additional quantities of variable inputs like labour can be used. The main constraint faced by a firm in the short run is that a fixed factor such as land or capital cannot be utilised indefinitely with increasing quantities of a variable factor such as labour. Diminishing returns to the variable factor will eventually set in or occur, if the marginal productivity of a variable factor such as labour falls.

Table 5.7: A Summary of the Model of Diminishing Returns

Labour Employed	TPP	APP	MPP	Returns
1 to 5 Units	Increasing at an increasing rate	Positive and Rising	Positive and rising MPP > APP	Increasing returns to the variable factor of labour
6 to 8 Units	Increasing at a decreasing rate	Positive but falling	Positive but falling MPP < APP	Decreasing returns to the variable factor of labour
9 Units	Decreasing	Positive but falling	Negative	Negative returns to the variable factor of labour

✎ REVIEW QUESTIONS

PRODUCTIVITY AND THE LAW OF DIMINISHING RETURNS

1. What is meant by productivity? Distinguish between single factor and multifactor productivity.

2. Using examples, explain the benefits of the specialisation of labour (the specialisation and division of labour), land (localisation of industry) and capital (large scale production and automation).

3. State the law of diminishing returns. What are the assumptions of an economic model used to explain the law of diminishing returns? What is the difference between increasing, decreasing and negative returns to a variable factor such as labour?

4. Explain the difference between fixed and variable factors of production and the short and long run production periods. Define the concepts of TPP, MPP and APP in production.

5. Graph the TPP, APP and MPP curves from the following production function and determine the point at which diminishing returns to labour in production set in or occur.

Land	Labour	TPP	APP	MPP
1	1	25		
1	2	40		
1	3	60		
1	4	70		
1	5	80		
1	6	85		

ECONOMIES OF SCALE

In the **long run production period** the firm can avoid the onset of diminishing returns by varying any or all of the factors of production. This includes the scale of plant it is using to produce output (e.g. firms may expand the size of a farm, mine, factory, warehouse, shop or office complex). In expanding productive capacity a firm may be able to generate what are known as economies of scale.

Economies of scale refer to the reductions in average costs or costs per unit of output as output increases. They are the 'savings of size' if a firm is able to increase the size or scale of its plant or operations in the long run production period. For example, a business may find that with increasing market share or growth in market demand for its product or service, it may need to expand its scale of operations, such as building or renting a larger farm, factory, shop, office or warehouse complex. In the long run production period all factors can become variable, including fixed factors such as land and capital.

With reference to the firm's long run average total cost curve (LRAC) curve it is possible to use an economic model to show how economies of scale can come about. The LRAC curve is often referred to as the **planning** or **envelope curve** since it represents the locus of points that join average costs associated with differing levels of output and plant sizes for a firm. In **Figure 5.3** if the firm produced output level OX, its average cost (AC) of production would be AC. Average cost is found by dividing the total cost or TC (i.e. the sum of fixed and variable costs) of output by the number of units of output (O) i.e.

(1)   AC   = $\dfrac{TC}{O}$ (2)   TC = FC + VC

Total cost (TC) consists of both fixed costs (FC) such as rent on land and variable costs (VC) such as wages for employing labour. If the firm expanded its plant size in the long run and produced at output level OY in **Figure 5.3**, the average cost of this level of output would fall from AC to AC_1. The average cost (AC_1) at output OY is the minimum point (T) on the LRAC, and is the lowest average cost per unit of output that the firm can achieve for any given level of output with this scale of plant.

This minimum point (T) on LRAC in **Figure 5.3** is known as the point of **technical optimum** or the point of **technical efficiency** because average cost is minimised, and this is also the optimal scale of plant size for the firm. This is the achievement of an economy of scale by the firm. By the firm having a bigger plant size, the average or unit cost of production falls from AC to AC_1, and this is indicated by the downward sloping part of the LRAC curve between output levels OX and OY.

Figure 5.3: Internal Economies and Diseconomies of Scale
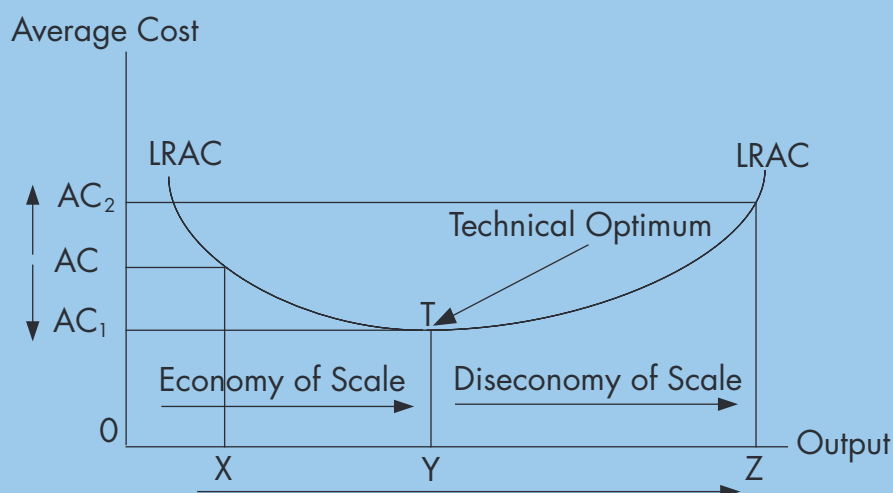
If the firm continued to increase its plant size and produced OZ level of output, the average cost would rise from AC_1 to AC_2. By increasing the level of output from OX to OY, the firm is experiencing economies of scale since larger plant sizes result in falling average costs. However by increasing the level of output further from OY to output level OZ, the firm experiences **diseconomies of scale** since average costs per unit of output start to rise with increasing plant size. There are two types of economies and diseconomies of scale: internal and external, which are discussed in the following sections.

Internal Economies of Scale

Internal economies of scale refer to the cost savings or cost advantages/reductions that accrue to the firm because it becomes more efficient in allocating its internal resources. Internal economies of scale are represented by the downward sloping section of the LRAC curve between points OX and OY in **Figure 5.3**. Internal economies of scale result from cost savings from within the firm's direct span of control or management. Sources of internal economies of scale can include the following:

- **Increased specialisation and division of labour** which may lead to higher labour productivity and output. This may be sourced from increased education and training of labour resources.

- **Increased specialisation of capital** which may raise total factor productivity and labour productivity in particular. Total output will increase as a result of using specialised capital in production.

- **Lower input costs** through the discounted purchase of raw materials and other inputs in bulk.

- **Access to cheaper finance** may result from a firm increasing its scale of production due to larger market share, sales and profits. Larger companies or businesses tend to pay lower interest rates on their borrowings, because the risk associated with borrowing is less than for small businesses.

- **By-products or waste materials may be used from large scale production** because of recycling or the creation of a market for waste products from the production process e.g. a printing business may recycle excess paper for usable products such as business cards, note pads and packaging.

- **Research and development** (R and D) and technological advances may lead to new products and processes for a firm, which may lower production costs and increase the sales of its output.

Internal Diseconomies of Scale

Internal diseconomies of scale refer to increases in production costs per unit as output increases such as between points OY and OZ in **Figure 5.3**. Increases in plant size beyond the point of technical optimum (T) will lead to rising average costs as the fixed factor (e.g. land or capital) is incapable of yielding further reductions in average costs. This may be caused by any or all of the following factors:

- The **management of the firm may become too complex and costly** to co-ordinate as there is a lack of communication between different departments and different layers of management (i.e. senior, middle and supervisory levels of management) leading to bureaucratic inertia or inefficiency.

- **Increased output may only occur with more variable factors** (e.g. labour and raw materials) which may raise variable costs and increase average costs at the given level of plant size.

- **Congestion in the production process,** errors in production, higher costs in the distribution of products and the administration of the business, may raise costs to such an extent that average costs keep rising and become difficult to control and reduce.

External Economies of Scale

External economies of scale result from reductions in average costs due to factors outside the firm's direct control. These may be the result of growth in the industry in which the firm operates, causing a reduction in the long run average cost curve faced by all firms in the industry. This situation is illustrated

Figure 5.4: External Economies and Diseconomies of Scale
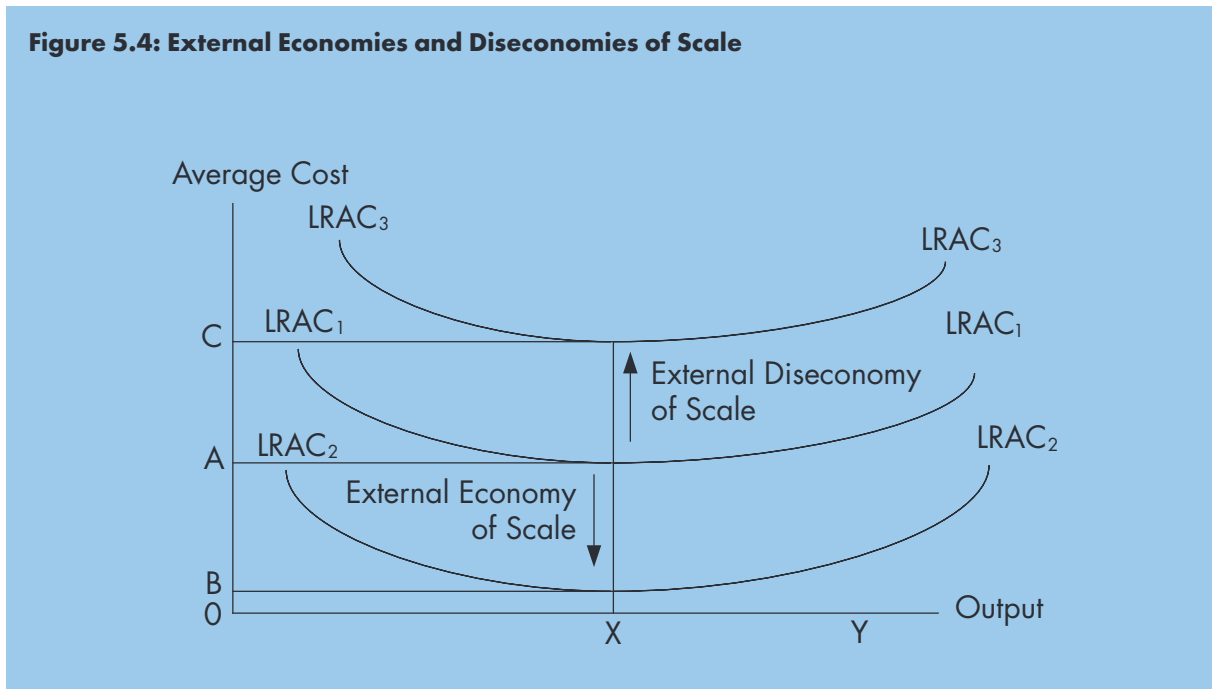
in **Figure 5.4**. The LRAC curve shifts down from $LRAC_1$ to $LRAC_2$, leading to lower average costs over the whole range of output. For example, at output level OX the average cost is reduced from OA to OB. External economies of scale may result from the localisation of industry or industrial agglomeration, where firms in a similar industry locate near each other to reduce costs such as the following:

- **Lower resource costs** because of proximity to natural resources e.g. the steelworks at Port Kembla are located near Illawarra coal deposits.

- **Improved transport facilities** provided by government to service the needs of major industrial, mining or commercial complexes. These could include expanded rail, bus, port or airport services.

- **Access to cheaper power and infrastructure** provided by the government for the whole industry.

- **Proximity to a healthy, educated, trained and skilled labourforce** which increases labour productivity and provides a skills base for firms in the whole industry (such as a technology park).

- **Research and development** of new methods of production and new products as a result of industry co-operation or government funded research and development through bodies such as CSIRO and universities that commercialise their research and development.

- **Access to a lower cost of finance** due to growth and profit opportunities in the industry as a whole.

External Diseconomies of Scale

External diseconomies of scale result from increases in average costs due to factors outside the firm's direct control. They may be due to the growth of the industry in which the firm operates, leading to a rise in the long run average cost curve faced by firms in the industry. This is illustrated in **Figure 5.4**. The LRAC curve shifts upwards from $LRAC_1$ to $LRAC_3$ leading to higher average costs over the whole range of output. For example, at output level OX the average cost is increased from OA to OC. External diseconomies of scale may also result from the localisation of industry or industrial agglomeration because of increasing congestion, pollution and competition between firms in the industry:

- **Higher resource costs** may be paid as firms compete for available resources or inputs.

- **Increased government regulation** of the industry, which can add to the compliance costs of the industry and each firm involved in that production activity. Examples could include regulations over pollution emissions, the disposal of hazardous wastes or traffic and parking restrictions. Other examples could be onerous government zoning laws, development applications and building codes.

- **Higher labour costs** due to labour skills shortages, as the industry expands and higher wages and fringe benefits have to be paid by firms to attract (and retain) skilled labour in the industry.

- **Increased congestion and pollution** in the industry e.g. a lack of extensive or suitable parking facilities or higher levels of traffic congestion and industrial pollution in an industrial region.

Returns to Scale

A related but different concept to economies of scale is returns to scale. Returns to scale refer to the relationship between inputs and outputs (refer to **Table 5.8**). As a firm alters its plant size, the ratio of its inputs to outputs may also change:

- Increasing returns to scale occur when inputs (e.g. land, labour, capital and enterprise) are for example, doubled, and output more than doubles (e.g. from 16 to 48 in **Table 5.8**). This also occurs over output range XY in **Figure 5.3** and output range OX in **Figure 5.4**.

- Constant returns to scale occur when inputs for example, are doubled, and output exactly doubles e.g. in **Table 5.5**, output exactly doubles from 48 to 96, when the labour employed increases from 8 units to 16 units, and capital employed increases from 2 units to 4 units.

- Decreasing returns to scale are when inputs are doubled, but output increases by less than double. This would occur in the portion of the LRAC curve in **Figure 5.3** between point OY and YZ and between X and Y in **Figure 5.4**. This occurs in **Table 5.8** between an output of 96 and 180 units.

Table 5.8: An Example of Returns to Scale

Units of Labour	Units of Capital	Units of Total Output	Returns to Scale
4	1	16	Increasing
8	2	48	Constant
16	4	96	Decreasing
32	8	180	

✍ REVIEW QUESTIONS

ECONOMIES OF SCALE

1. Define an economy of scale. Distinguish between an economy and a diseconomy of scale.

2. Why do economies and diseconomies of scale occur in the long run? Draw a diagram of the long run average cost curve to illustrate the relationship between output and average cost. Mark in the point of technical optimum, and economies and diseconomies of scale on the diagram.

3. Explain the difference between internal economies of scale and internal diseconomies of scale. What are some possible causes of internal economies and diseconomies of scale in production?

4. Explain the difference between external economies of scale and external diseconomies of scale. What are some possible causes of each? Draw a diagram to illustrate how external economies and diseconomies of scale can arise in production.

5. Explain the difference between increasing, constant and decreasing returns to scale.

THE IMPACT OF INVESTMENT, TECHNOLOGICAL CHANGE AND ETHICAL DECISION MAKING ON THE FIRM

Investment is the creation of new capital goods by a firm which can assist in increasing the productive capacity of a firm to produce more consumer and capital goods in the future. **Technological change** refers to changes in the methods and techniques used to produce, distribute and market goods and services. Investment is required to undertake research and development (**R & D**), which may result in technological change. **Innovation** is often associated with this process, as new products and processes can result from technological improvements in the production process.

When a firm undertakes investment spending it can be separated into three components as suggested by the following equation:

Gross Investment = Net Investment + Replacement Investment (Depreciation of the Capital Stock)

Gross investment refers to the total level of investment spending undertaken, including new or net investment which is the net addition to the existing capital stock, plus **replacement investment** to allow for the depreciation of the existing capital stock. Capital goods depreciate over time because of wear and tear and obsolescence, and have to be replaced with new capital goods to maintain or increase a firm's current productive capacity. **Net investment** on the other hand is investment in new plant and equipment and inventories. **Inventory investment** refers to investment by a firm in raw materials, intermediate goods and new plant and equipment that increases the firm's existing productive capacity.

Capital widening takes place if the firm is able to maintain the rate of growth of its capital stock with the rate of growth of the labourforce, whereas **capital deepening** will take place if the rate of growth of the capital stock exceeds the rate of growth of the labourforce. Capital widening and deepening are important means by which labour and multifactor productivity can be raised by firms in the long run.

Production Methods

As a result of investment and technological change, production methods may also change from being labour intensive to being more capital intensive. When capital is combined with labour, the productivity of labour is usually increased, resulting in more output and higher multifactor productivity. Production methods may become more mechanised, computerised, automated and digitalised. This can lead to an increase in the speed of production, helping to reduce production time and average costs. A result of this can be the release of resources for use in the distribution and marketing of final goods and services.

Prices

The relationship between investment, technological change and prices is that lower production costs may be passed on to consumers by firms in the form of lower prices, thereby raising their real incomes. For example, as investment in new computer hardware and software technology has reduced production costs, these savings have led to lower prices, and a greater range or choice for consumers in buying both new computer software and hardware products. Other manufactured goods have also tended to fall in price, leading to greater consumption by a wider cross section of people of various incomes. In addition, generic and non generic brands have been developed (to accommodate for different consumer tastes and income levels) which have also increased the range of consumer choice in product markets.

Employment

The impact of investment and technological change on a firm's level of employment can be twofold. Firstly, new technology will lead to the demand for specialist labour skills which may exist within the firm through the training of existing staff. If not, then the firm will create job opportunities for

newly skilled staff in information technology, precision engineering or the use and operation of highly specialised capital equipment. Secondly, the introduction of new technology and capital goods may lead to some **structural unemployment** as the existing skills of some workers may become redundant due to new production methods being introduced which are labour saving. Those workers who are made redundant will have to be re-trained and placed in other departments of the firm, or paid compensation in the form of a redundancy pay out and assisted with re-training and relocation for alternative employment. Some level of **de-skilling** may also occur because of structural change, and the demands for re-skilling and up-skilling will vary with the rate of structural change in the economy and in particular industries such as printing, publishing, car manufacturing and telecommunications.

Output

A firm's output may increase dramatically due to the introduction of new investment and technological change. Due to the existence of internal and external economies of scale, and returns to scale, the firm may experience falling unit costs and increasing returns to scale as output increases with a more optimal scale of plant. The firm's output mix may also change due to **economies of scope** where joint products may be produced sharing the same inputs, which can also lower average costs. Greater product or service variety may also be possible with new investment and technological change, which can lead to new products and services being produced or existing ones being modified and improved in quality.

Profits

Businesses invest in new capital and technology with a view to increasing their stream of profits in the future. If new capital and technology can increase a firm's competitiveness in domestic and world markets, enabling it to capture a greater market share, this will lead to higher total revenue. The firm may also be able to cut its costs of production and reap economies of scale. With lower costs of production, the savings may be passed on to consumers in the form of lower prices and/or improved products. This in turn may lead to a higher level of sales, and if total revenue grows more than proportionately to total costs, total profit may increase, leading to further growth of the firm in its industry. The firm may also experience a rise in its market power if it is able to reap **supernormal profits** by eliminating competition in the market place. Microsoft, Google, Facebook, Amazon and Apple are good examples of companies which have reached a dominant global position, partly because of their ability to innovate and absorb smaller competitors, and thereby accumulate supernormal profits from their various market segments in the global computer, Internet, mobile phone, social media and electronic commerce industries.

Types of Products

Investment in new capital and technology which reduces costs can also lead to the development of new products and services such as smart phones and Internet services. Lower costs may give a firm the flexibility to shift some of its resources out of certain types of production, which can be maintained with higher productivity of existing resources. New products or a greater variety of products can lead to a more diverse production base (i.e. diversification) and further growth and expansion of a business firm. This may come about from widening the market or deepening the market, enabling the firm to target new markets or increase its penetration of existing markets by taking sales away from its competitors.

Such growth and expansion can come about from horizontal and vertical integration or the diversification of the product or service base. These forms of business expansion are illustrated in **Figure 5.5**.

- **Horizontal integration** is where a firm takes over (acquisitions) or merges (mergers) with other firms engaged in the same line of production i.e. producing the same types of goods or services.
- **Vertical integration** is where a firm takes over or merges with other firms engaged in a different stage of production i.e. producing goods or services in line with its production process.

Figure 5.5: Methods of Business Expansion
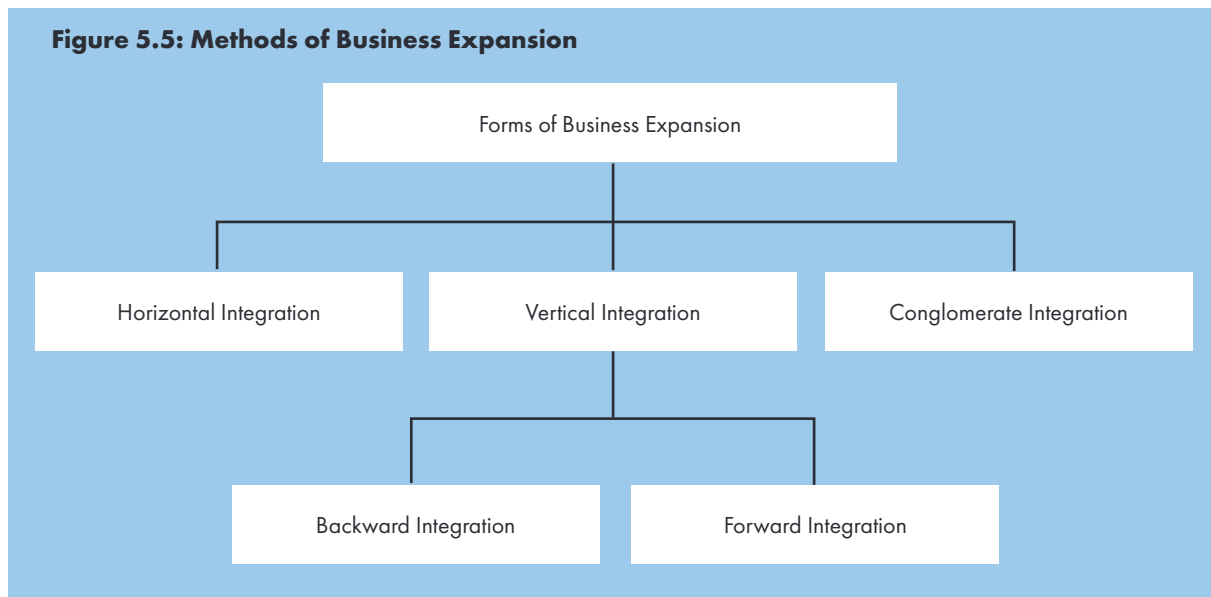
- **Backward integration** is where a firm takes over or merges with a raw material supplier.
- **Forward integration** is where a firm takes over or merges with another firm engaged in the wholesaling or retailing of its product or service.
- **Conglomerate integration** is where a firm establishes subsidiaries or buys subsidiaries which are under the control of one firm (i.e. the parent or holding company). These subsidiaries may not necessarily produce goods and services related to the parent company's line of production.

Globalisation

Globalisation refers to the creation of a single world market for goods and services caused by:

- The revolution in information and communications technology (ICT) and lower transport costs;
- Reductions in barriers to world trade such as cuts to subsidies and tariffs and other trade barriers;
- The increasing dominance of multi-national corporations (MNCs) in world trade; and
- The greater mobility of capital and finance between countries and regions (i.e capital mobility).

Globalisation has led to small, medium and large scale firms investing in new capital and technology to access the global market for goods and services. Often this is facilitated through access to the **Internet** or information super highway, which allows firms to target new markets outside of traditional domestic markets, or new firms servicing niche markets within the global market or domestic market.

There is a growing amount of **electronic commerce** in world trade, particularly in the provision of services such as telecommunications, social media, travel, tourism, banking and finance, insurance, business services such as accounting, and in the fields of sport, leisure, recreation, media and entertainment.

Manufactured goods, particularly elaborately and simply transformed manufactured goods (i.e. ETMs and STMs), have also been standardised and customised for sale in global markets in Europe, the Americas and East Asia. This has resulted in the spread of global brands for many goods and services.

Multinational corporations (MNCs) which are dominant in many global markets have **global production networks**, which often utilise low labour costs in developing countries. This enables MNCs to reap economies of scale by standardising their production facilities through global production webs or supply chains. The reduction in production costs and the marketing of standardised goods and services globally assists MNCs in maximising profits on a global scale. An excellent example of global production webs include the location of many manufacturing plants of MNCs in the low cost Special Economic Zones in Southern and Eastern China. Another example is the relocation of MNC call centres to Southern Indian cities such as Bangalore and Hyderabad to take advantage of lower labour costs.

Environmental Sustainability

Environmental sustainability refers to the use of natural resources in a way that preserves resources for use by future generations and does not degrade or pollute the environment in the present. Firms have an important role to play in the preservation of resources by ensuring that their production activities do not contribute to environmental problems such as pollution, land degradation, loss of biodiversity and increased levels of greenhouse gas emissions (which can accelerate the rate of climate change).

The natural environment is a source of natural resources for private production and the receptacle for waste for many industries in advanced, emerging and developing economies. The management of environmental problems by individuals and firms is important for ensuring that the quality of life is not reduced through the over exploitation of both **renewable and non renewable environmental resources**, and the pollution of the natural environment by unsustainable growth in private production activities.

Figure 5.6 shows how households and firms interact with the natural environment. Households and firms are two of the main sectors in an economic system which interact with the environment. There are three main flows between an economic system and the natural environment:

1. The natural environment is a **source of raw materials** or environmental inputs such as air, water, soil, forests, climate, minerals, fish and other biodiversity (such as plants, animals, birds and insects) used by humans for production, consumption and recreational utility.

2. The natural environment is a **receptacle for both biodegradable and non biodegradable waste** products from households and firms. Some of this waste may cause pollution and the degradation of the natural environment such as oil spills or the dumping of toxic wastes into waterways.

3. The natural environment **provides amenities** or **renewable resource flows** such as beautiful landscapes, wildlife, beaches, harbours, mountains, forests, lakes and rivers which can be used for recreational and leisure activities by humans such as sport and tourism.

Increasingly firms are being encouraged to recycle non renewable resources in their production processes and to use alternative technologies and renewable energy sources (such as solar, wind, tidal and geothermal power) to reduce their emissions of greenhouse gases, which will help to slow the rate of global climate change and achieve a greater level of domestic and global environmental sustainability.

Figure 5.6: The Economic Uses of the Natural Environment
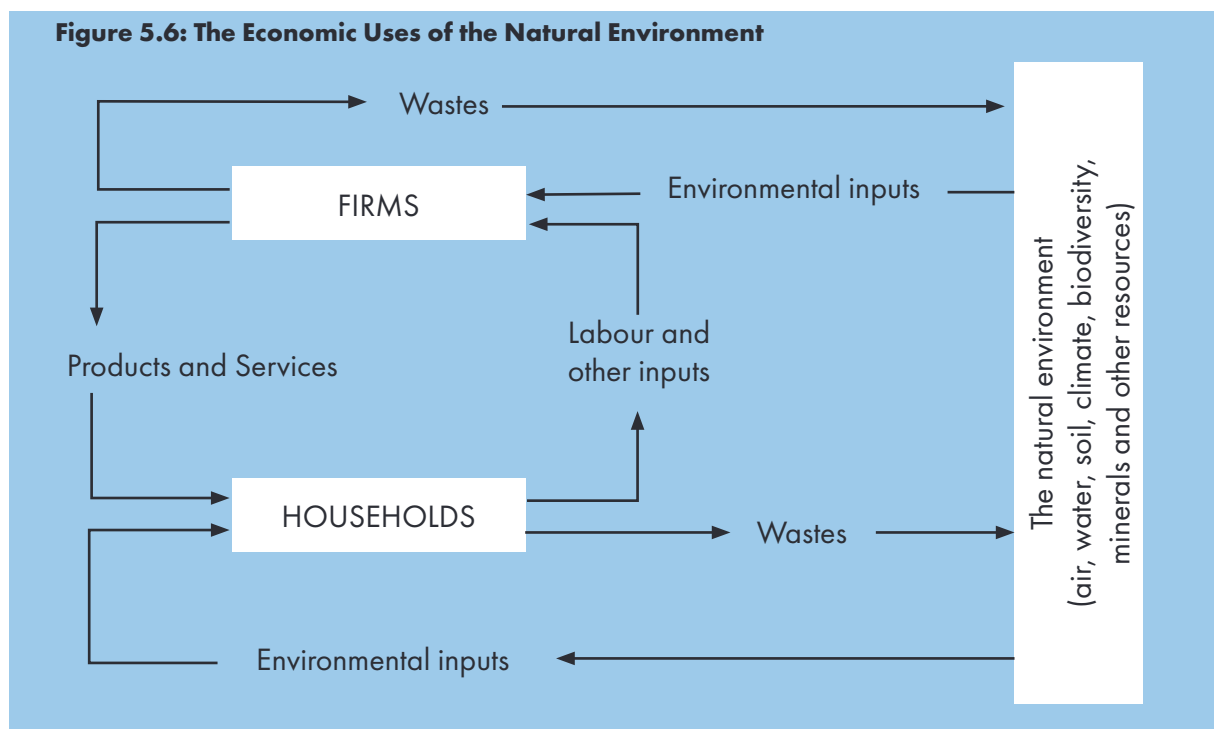
Ethical Decision making

Ethics refer to the fundamental principles of 'right and wrong' that guide human behaviour. In relation to businesses, ethical principles are evident in the scrutiny that business activities are subjected to by governments, communities and individuals in relation to the public interest and community standards. In business, a formal set of ethical principles is embodied in the various types of legislation which regulate business activities such as manufacturing, marketing, finance, accounting, taxation and employment relations. Apart from these legal sanctions which regulate business behaviour and conduct, there is also a set of moral principles which society upholds for the 'greater good', which apply to all individuals including the employees, owners, shareholders, managers and directors of businesses and companies.

In the 2000s there have been many examples of unethical business and corporate behaviour, both in Australia and globally. These include the payment of bribes by the Australian Wheat Board to the Iraqi government to secure wheat contracts; under funding of compensation by James Hardie for employees suffering from asbestosis; price fixing in the packaging industry by the Visy Group and Amcor Ltd; the massive oil spill caused by BP in the Gulf of Mexico; and evidence of misconduct by the Hayne *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry*.

Government legislation has also generally been strengthened to deal with cases of white collar crime including fraud, misleading conduct and behaviour, embezzlement and money laundering. In many cases, company directors have been held personally, legally and financially responsible for their actions, since their behaviour and decisions can affect the various stakeholders in a business or company such as:

*   Customers concerned over honesty, product standards, safety and prices.
*   Shareholders concerned over returns on their investment portfolios and corporate image.
*   Employees concerned over wages, employment security and workplace health and safety (WHS).
*   Local communities concerned over the impact of business activities on suppliers, local communities and the natural environment.
*   Suppliers/creditors concerned about the solvency of business customers.
*   Governments concerned over the payment of taxes and business compliance with legislation.
*   Society at large, concerned over the issue of corporate citizenship and corporate governance.

The recent occurrence of major cases of corporate fraud, 'wage theft', the operation of cartels and price fixing and misconduct in the banking, superannuation and financial services industry in Australia illustrate the need for a strong regulatory framework in markets including financial and product markets. All businesses, but especially large corporations which hold billions of dollars of assets and employ large workforces must comply with the following legislative requirements imposed by the Australian government and its agencies in order to protect major stakeholders in markets:

*   Accurate and regular reporting of financial accounts;
*   Disclosure of relevant and important financial documents; and
*   Compliance with specific regulations and legislation affecting an industry.

In Australia there is a strong regulatory framework enforced by the following government authorities:

*   The ACCC enforces the *Competition and Consumer Act 2010*, helping to uphold competition in markets, protect consumers and prevent anti-competitive behaviour by firms;
*   The ASIC regulates companies and enforces the *Corporations Act*, as well as being responsible for consumer protection in financial markets;
*   The Australian Prudential Regulation Authority (APRA) has responsibility for the prudential supervision of banks and all deposit taking institutions (DTIs), and the Reserve Bank of Australia (RBA) is responsible for ensuring the stability of the entire Australian financial system;
*   The Fair Work Commission and Fair Work Ombudsman enforce the *Fair Work Act 2009*; and
*   The Attorney General's Department investigates cyber attacks and strengthens cyber security.

✍ REVIEW QUESTIONS

THE IMPACT OF INVESTMENT, TECHNOLOGICAL CHANGE AND ETHICAL DECISION MAKING ON THE FIRM

1. Define investment and technological change. How are they related to each other?

2. Why are investment and technological change important to a firm's growth and competitive position?

3. Explain the difference between gross, net and replacement investment. How are they linked?

4. Why may a firm invest in capital widening and capital deepening?

5. What effects might investment and technological change have on a firm's production methods, prices and employment?

6. What effects might investment and technological change have on a firm's output, profits and the types of products it produces?

7. Explain how a firm can grow through horizontal and vertical integration and diversification.

8. Using examples distinguish between backward and forward integration.

9. What is meant by globalisation? How have investment and technological change led to opportunities for firms in the global market place?

10. Discuss the link between the process of globalisation and the development of global production webs and supply chains by multinational corporations (MNCs).

11. Explain how multinational corporations can use global production networks and supply chains to reap economies of scale in production. Use an example of an MNC like Apple or Google to illustrate your answer.

12. What is meant by environmental sustainability? Explain how firms could contribute to environmental problems through their production activities.

13. Discuss how firms can make their production activities more environmentally sustainable.

14. Discuss the importance of ethical decision making in business activities.

15. How does the Australian government regulate business activities to protect consumers, employees, investors, businesses and the community?

16. Define the following terms and add them to a glossary:

backward integration	horizontal integration
business expansion	inventory investment
conglomerate integration	investment
depreciation of capital	mergers
diversification	net investment
environmental sustainability	replacement investment
ethical decision making	structural change
forward integration	takeovers
globalisation	technology
gross investment	vertical integration

CHAPTER 5: SHORT ANSWER QUESTIONS

Quantity of Labour	Total Physical Product
1	200
2	290
3	370
4	430
5	470
6	490
7	480

Refer to the table above of a firm's production function and answer the questions below.   Marks

1. What is the marginal physical product (MPP) of the fifth labourer?   _____ (1)

2. What is the average physical product (APP) of the seventh labourer?   _____ (1)

3. How many labourers are employed before diminishing returns set in?   _____ (1)

4. Explain what is meant by the law of diminishing returns.   _____ (2)
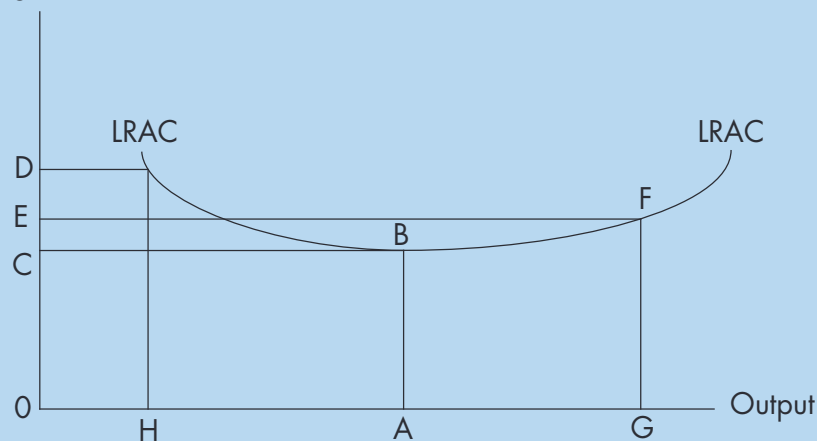
Refer to the diagram above of a firm's long run average cost curve and answer the questions below.

1. What is the point of technical optimum for the firm?   _____ (1)

2. Over output range AG what type of returns is the firm experiencing?   _____ (1)

3. If the firm increased output from OH to OA by how much would its average cost fall?   (1)

4. Distinguish between an economy and a diseconomy of scale.   (2)

☯ CHAPTER FOCUS ON THE ROLE OF BUSINESS IN THE ECONOMY

Machinery & Equipment Investment
Private, non-mining sector, chain volume
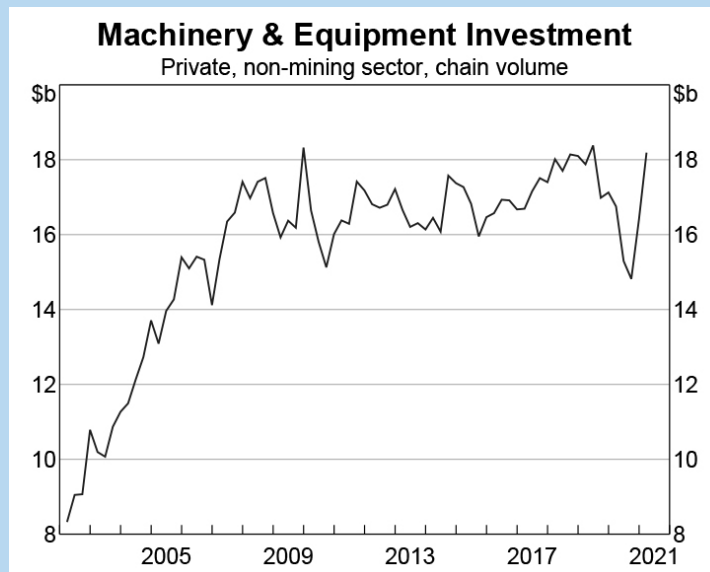
"Business investment recovered more quickly than expected after falling sharply at the onset of the pandemic. Private non-mining business investment increased by 4 per cent in the March quarter. The increase was underpinned by strong machinery and equipment investment, particularly in the manufacturing, construction, retail and agriculture sectors. Firms have responded to the tax incentives for investment from the Australian Government, the rapid recovery in domestic activity and strong growth in profits over the past year. These factors, together with further increases in surveyed measures of business conditions and capacity utilisation, are likely to have continued to support machinery and equipment investment in the June quarter.

In contrast to the rapid recovery in machinery and equipment investment, private non-residential construction investment declined by more than expected in the March quarter. This partly reflected lower investment in sectors that have been adversely affected by the pandemic, such as office buildings and retail property."

Source: Reserve Bank of Australia (2021), *Statement on Monetary Policy*, August.

Discuss the reasons why businesses undertake investment and why private business investment began to increase in Australia in 2021 after falling in 2020.

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 5: EXTENDED RESPONSE QUESTIONS

1. What are the main features of sole traders, partnerships, private and public companies? What advantages do companies (incorporated businesses) have over unincorporated businesses such as sole traders and partnerships?

2. Explain the main goals of business firms and the importance of profit maximisation.

3. What is meant by the law of diminishing returns? Use an economic model and state its assumptions to show the behaviour of total, average and marginal physical product in illustrating the law of diminishing returns.

4. Distinguish between internal and external economies of scale. What are the main sources of internal and external economies of scale? What might cause internal and external diseconomies of scale to arise in a firm's production process?

5. Why do firms undertake investment spending? What impact do investment and technological change have on production methods, prices, output, profits and employment?

6. Distinguish between horizontal, vertical and conglomerate integration. How can these methods of business expansion lead to increased profits for firms? Use examples to illustrate your answer.

7. Discuss the main reasons for the emergence and spread of the process of globalisation. Explain the link between the global production networks of multinational corporations and economies of scale.

8. Discuss the main goals of firms and the importance of environmental sustainability and ethical decision making in a firm's behaviour in markets.

✌ CHAPTER SUMMARY

THE ROLE OF BUSINESS IN THE ECONOMY

1. A firm is any business organisation established to produce goods and services in order to satisfy consumers' needs and wants usually in return for a profit. An industry is a collection or aggregation of firms engaged in a similar line or range of production of goods and services.

2. The main types of business firms classified according to their legal structure include sole traderships, partnerships, proprietary (private) companies and public companies.

3. The main types of industries classified in the Australian economy include the primary, secondary, tertiary, quaternary and quinary industries.

4. A firm's production process consists of combining productive inputs (i.e. land, labour, capital and enterprise) with technology and management expertise in order to produce outputs such as goods and services for consumers and other businesses.

5. A firm faces two production or planning periods known as the short run and the long run. The short run is where some factors of production are fixed (such as the scale of plant) and some factors of production are variable (such as labour and raw materials). The long run is a production period where all factors of production can become variable, so that a firm can change its scale of plant in order to expand production.

6. The main goal of a firm is to maximise profits (π) by achieving the greatest positive difference between total revenue (TR) and total cost (TC). Other goals of the firm may include the maximisation of sales or total revenue; maximising growth of the firm; increasing the firm's market share; meeting shareholders' expectations; and satisficing behaviour, where managers may seek to enhance their own power, status, income and prestige in the business.

7. Productivity refers to the amount of output produced in terms of the volume of inputs used over time. Firms can increase their productivity through the specialisation of the factors of production such as the division and specialisation of labour; the specialisation or localisation of land or industry; and the specialisation of capital through large scale production techniques.

8. The law of diminishing returns suggests that as increasing quantities of a variable factor (such as labour) are added to a fixed factor (such as land or capital) in the short run, total output will eventually decline, leading to diminishing returns to the variable factor. A model of a firm's production function can illustrate this law by showing trends in total physical product (TPP), average physical product (APP) and marginal physical product (MPP) with increasing variable inputs.

9. Economies of scale refer to reductions in unit costs of production as a firm increases its output. Economies of scale may be realised in the long run production period as a firm increases its scale of plant. There are two types of economies of scale: internal and external. Internal economies of scale arise from improvements in the productivity of resource use within the firm. External economies of scale are derived from productivity improvements outside the firm's direct operations, such as improved transport or education facilities provided by the government to an industry.

10. Diseconomies of scale arise when a firm's unit costs of production rise when output increases. There are both internal and external sources of diseconomies of scale.

11. Returns to scale refer to the relationship between the volume of inputs used in production and changes in total output.

12. Investment and technological change can impact on a firm's production methods; the employment of labour; the output produced; the prices of its products; the level of profits; and the types of products produced.

13. Environmental sustainability and ethical decision making are important considerations in a firm's market behaviour. Business behaviour is mainly regulated by governments through legislation.

MARKETS: DEMAND AND SUPPLY

TOPIC FOCUS

This topic focuses on the operation of markets in a market economy. It examines the way in which market prices are determined through the interaction of the forces of demand and supply and the range of market structures with varying degrees of competition. The explanation and calculation of the price elasticities of demand and supply are also undertaken. The topic also explores the reasons for government intervention in markets to set minimum prices (price floors); maximum prices (price ceilings); impose taxes; overcome the effects of market failure through the provision of public goods and merit goods; and to reduce the incidence of externalities in production. Students should achieve the following knowledge and skills outcomes in Topic 3 of the Preliminary Course:

ECONOMIC ISSUES

- Identify how business and government can use information from the market;
- Examine the forces in an economy that tend to cause prices to rise;
- Identify reasons why governments may intervene in certain markets;
- Explain how market solutions can lead to improved efficiency;
- Examine the nature of competition in markets characterised by oligopoly and monopoly;
- Identify some of the problems that can result from a reliance on market solutions in an economy;
- Discuss how market forces can lead to environmental problems such as pollution; and
- Propose alternatives to market solutions.

ECONOMIC SKILLS

- Graph demand and supply curves and interpret the impact on market equilibrium of changes in market forces;
- Analyse non equilibrium market situations and propose solutions to them;
- Calculate the price elasticity of demand using the total outlay method; and
- Work in groups to investigate and report on the nature of competition within a specific industry.

Markets are situations in which buyers and sellers are in contact with each other for the purpose of exchange. The two main types of markets are product markets where final goods and services are bought and sold; and factor markets where the factors of production or resources are bought and sold.

The forces of demand and supply interact to determine equilibrium prices and quantities in both product and factor markets. Changes in either demand or supply conditions can lead to changes in market equilibrium prices and quantities. The price elasticity of demand and supply refers to the responsiveness of demand and supply to small changes in the price of a good or service.

Governments intervene in markets for a variety of reasons. They can implement price control and price support schemes; impose indirect taxes to raise revenue; and provide merit and public goods if they are not supplied in sufficient quantities by markets. Governments also intervene in markets to control negative externalities such as pollution which can arise from private production activities.

A variety of market structures can be identified in an economy based on the number of buyers and sellers; the ease of entry into the market; and the nature of the product sold. These market structures include perfect competition; monopolistic competition; oligopoly; duopoly; and monopoly.

CHAPTER 6

Demand and Supply

THE ROLE OF THE MARKET

A market is a situation in which buyers and sellers are in contact with each other for the purpose of exchange. Markets no longer have to be physical places because changes in technology and telecommunications have enabled market exchange to take place through the use of telephone networks, mobile telephones, computers, the internet and other technologies in creating electronic markets. Electronic markets involve electronic commerce such as online shopping, auctions and financial transactions. The main types of markets in a market economy are product and factor markets as illustrated in **Figure 6.1**.

Product or goods and services markets refer to where and how final goods and services are bought and sold. Consumers buy final output with their money incomes. Firms supply final output and receive sales revenue in return. Examples of product markets include the markets for fresh fruit and vegetables, meat and fish, groceries, household goods, consumer durable goods (e.g. cars, TVs, DVDs, washing machines and dishwashers) and personal services (e.g. insurance, banking, finance, health care, entertainment, and recreation). Most of these goods and services are sold in retail and wholesale markets.

Factor markets refer to markets where the factors of production are bought and sold such as the labour market, the capital market, the market for raw materials, and the market for management or entrepreneurial resources. Households supply productive resources in return for the payment of factor incomes. Firms buy productive resources in return for making factor payments at factor prices. The interaction between product and factor markets involves the principle of derived demand. **Derived demand** refers to the demand for productive resources, which is derived from the demand for final goods and services or output. For example, if consumer demand for new cars rose, producers will respond by increasing their demand for the productive inputs or resources used to produce new cars.

Product and factor markets interact to determine equilibrium prices and quantities of the various goods, services and resources bought and sold. Equilibrium refers to a market situation in which there is no tendency for change. When demand and supply are in equilibrium there is no tendency for the price and quantity demanded or supplied to change. This situation is called **market equilibrium**.

Markets are equilibrating devices since they determine what and how much is produced (according to consumer demand and resources); how output is produced (according to technology and resources); and

Figure 6.1: The Role of Product and Factor Markets in the Economy
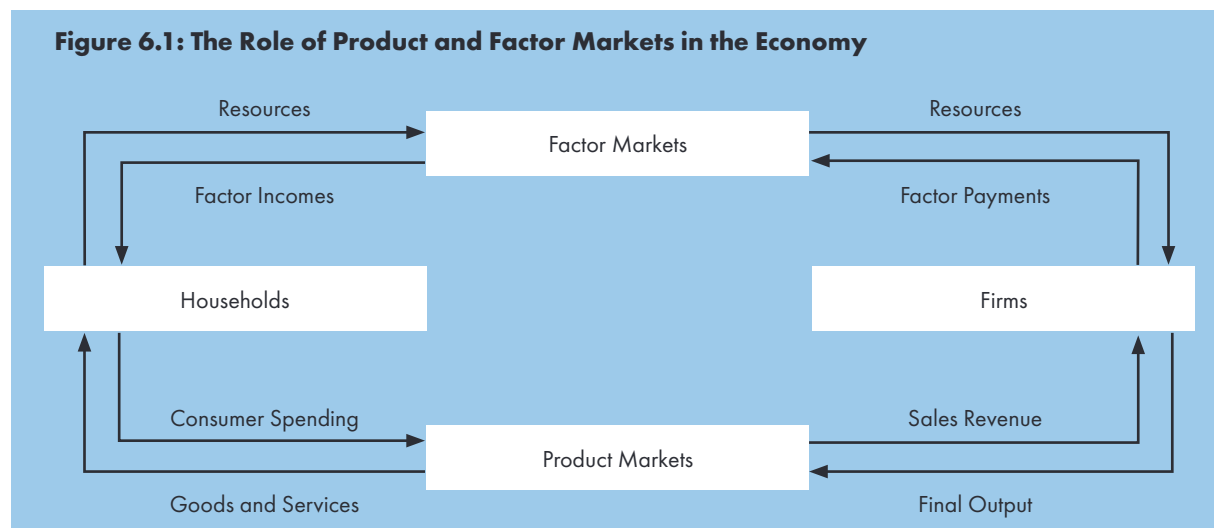
Table 6.1: The Role of Prices in the Process of Market Clearing

Equilibrium	Demand equals supply	Prices do not change
Disequilibrium	Demand exceeds supply (a shortage)	Prices rise to ration output
Disequilibrium	Supply exceeds demand (a surplus)	Prices fall to clear the surplus

to whom final output is distributed (determined by market incomes). Markets are the main allocative mechanism or price mechanism for solving the universal economic problem of scarcity. In market economies, markets discriminate in favour of those people who have the market income or capacity to pay for goods, services and resources. They also discriminate in favour of people who are first in the market being prepared to pay for goods, services and resources. Markets discriminate against those with the least amount of market income or capacity to pay for goods, services and resources.

The Role of Prices in Market Economies

The interaction between demand and supply determines equilibrium prices in markets. The prices of goods and services serve five main functions in market economies such as Australia:

1. **Prices reflect the relative scarcity of goods and services** in terms of their supply.

2. **Prices help to allocate resources** in the production of goods and services which yield the highest returns or profits to producers.

3. **Prices act as incentives** or signals for producers and entrepreneurs to take risks in organising the factors of production to produce the goods and services demanded by consumers.

4. **Prices act as a rationing device** in enabling markets to clear. For example, a surplus of goods in a market will usually lead to a fall in price, to encourage demand and discourage production. Alternatively, a shortage of goods in a market would lead to a rise in price, causing demand to fall and production or supply to rise (refer to **Table 6.1** for the role of prices in **market clearing**).

5. **Prices are an equilibrating device** in markets. Changes in prices bring about equilibrium between demand and supply if they are in a disequilibrium situation such as a shortage or surplus of goods.

Opportunity cost refers to the cost of the alternative consumption or production of a good or service foregone. Relative prices reflect the relative opportunity cost of selecting one alternative, relative to another alternative in consumption or production. Consider the example in **Table 6.2** of the relative prices of movie tickets to theatre tickets for single young people. If movie tickets cost $20 each and theatre tickets cost $60 each, we can conclude from this example that going to the theatre is three times more expensive than going to the movies, whereas the movies will cost an individual one third of what it would cost to go to the theatre.

Other things being equal (*ceteris paribus*) we would expect more people to go to the movies than to the theatre because it is relatively cheaper based on relative prices. The price differential between movie and theatre tickets therefore helps to ration theatre tickets relative to movie tickets, and signals to consumers the relative opportunity cost of consuming these two alternative or substitute services.

Table 6.2: Opportunity Cost and Relative Prices

Movie Tickets	*Theatre Tickets*	*Opportunity Cost of a Theatre Ticket*	*Opportunity Cost of a Movie Ticket*
$20	$60	3 movie tickets	0.33 of a theatre ticket

✎ REVIEW QUESTIONS

THE ROLE OF THE MARKET

1. What is meant by a market? Describe an example of a market which exists in a physical sense. Why don't markets have to be physical places? What factors have enabled market exchange to be conducted in a non physical or electronic environment (e.g. the Internet and mobile apps)?

2. What are the functions of product and factor markets in a market economy? Refer to Figure 6.1 and discuss how the market system (of product and factor markets) solves the economic problem of scarcity in market economies like Australia.

3. What role do prices play in a market economy? Using an example, explain how relative prices reflect the relative opportunity cost of the consumption of various goods and services.

4. How do changes in prices equilibrate markets? What is the difference between market equilibrium and market disequilibrium? How do surpluses and shortages arise in markets and how are they cleared?

5. Define the following terms and add them to a glossary:

ceteris paribus	factor prices	product market
derived demand	factor returns	production
disequilibrium	marginal utility	relative prices
electronic commerce	market clearing	resources
equilibrium	money income	scarcity
factor incomes	online shopping	shortage
factor market	opportunity cost	surplus
factor payments	price mechanism	total revenue

THE THEORY OF DEMAND

Demand refers to the quantity demanded of a good or service by consumers at a particular price at a specified time. Demand is influenced by a range of factors such as disposable income, the prices of other goods and services, consumer tastes, advertising, technology, fashion, the age and income distribution of the population and seasonal influences. Demand refers to **effective demand**, which is the ability of consumers not only to want or desire goods and services, but to have the ability to pay for goods and services with their money income. Demand is based on the utility or satisfaction consumers derive from consuming goods and services. As the quantity of goods and services consumed increases, the **marginal utility** (or change in total utility) gained from each successive unit consumed diminishes.

The **law of demand** states that the quantity demanded of a good varies inversely with its price. As price rises the quantity demanded decreases. If price falls then the quantity demanded will rise. The law of demand holds for **normal goods**, but there are exceptions called inferior or **Giffen goods** where demand may respond in the same direction as the price movement e.g. a fall in price may lead to less being demanded, if consumers consider the good to be inferior, and switch their spending to a better quality good e.g. switching expenditure to a branded grocery and away from a generic or unbranded grocery.

Alternatively, a rise in the price of a basic staple such as rice or bread may lead poor or low income families to buy more rice or bread and less fish or meat. Another exception to the law of demand may be a **status or position good** where consumers respond to a price rise by increasing their demand e.g. a rise in the price of a new Ferrari car may make it more of a status symbol, with only the very rich being able to afford to buy a new model, thus increasing their demand for new Ferrari cars as the price rises.

Table 6.3: Individual and Market Demand Schedules for Bananas

Price (per kg)	Quantity Demanded by Person A	Price (per kg)	Quantity Demanded by Person B	Price (per kg)	Quantity Demanded by the Market (A + B)
$1	40	$1	30	$1	70
$2	35	$2	25	$2	60
$3	30	$3	20	$3	50
$4	25	$4	15	$4	40
$5	20	$5	10	$5	30
$6	15	$6	5	$6	20
$7	10	$7	0	$7	10
$8	0	$8	0	$8	0

Individual demand refers to the demand for a good or service by an individual in a market. **Market demand** refers to the sum of individual demands for a certain good or service. The demand schedule (refer to **Table 6.3**) is simply a table showing the various quantities demanded of a good or service over a range of prices. An individual demand schedule such as those for Person A and Person B for bananas in **Table 6.3** shows the quantities of a good (e.g. bananas) demanded by one person over a range of prices i.e. from $1 per kilogram to $8 per kilogram. A market demand schedule shows the aggregation of individual demand schedules for a good or service over a range of prices. For example, in **Table 6.3**, aggregating Person A's and Person B's individual demand for bananas, gives rise to the market demand schedule for bananas, with various quantities of bananas being demanded over a range of prices from $1 to $8 per kilogram. This schedule is graphed as a market demand curve in **Figure 6.2**.

In analysing how markets work or operate, economists make the assumption of *ceteris paribus*, a Latin term that means 'other things being equal'. This means that when analysing changes in demand in relation to price changes or other determinants of demand, all other factors that influence demand (such as income and tastes) are held constant. Using either individual or market demand schedules, a demand curve can be graphed by plotting the price of the good or service on the vertical axis and the quantity demanded of the good or service on the horizontal axis as shown in **Figure 6.2**.

Figure 6.2: The Market Demand Curve for Bananas
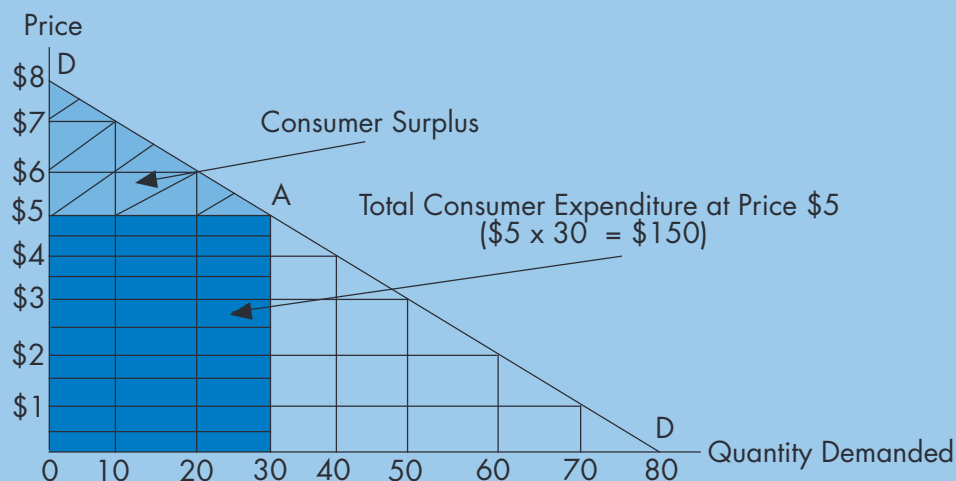
Unless otherwise stated, demand curves used in microeconomic analysis are usually market demand curves for particular goods or services. Each point on the demand curve shows a particular price and quantity combination (see **Figure 6.2** which shows the demand for bananas over a range of prices).

The demand curve for a normal good slopes downwards from left to right indicating that demand is a negative function of price (i.e. demand falls as price increases and demand rises as price falls). This reflects the fact that consumers will only buy more of a good or service at lower prices, since they derive less marginal utility (or satisfaction) from the additional units of the good or service consumed.

The area or rectangle shaded under the demand curve in **Figure 6.2** represents **consumer expenditure** or the **total outlay** (e.g. 30 bananas purchased at a price of $5 leads to $150 in expenditure or total outlay). The triangle above this rectangle and below the demand curve represents the consumer surplus. The **consumer surplus** represents the amount of expenditure that consumers save by purchasing the good or service at a price below what they were willing to purchase the good or service for e.g. consumers paid $5 per kg for 30 kgs of bananas, but were prepared to pay up to but not more than $8 per kg.

Factors Affecting Individual and Market Demand

A number of important factors affect the level of individual and market demand. The main determinants of individual demand include the following factors:

- **The price of the good or service** e.g. usually the higher the price the less quantity demanded, and the lower the price the more quantity demanded.

- **The prices of other goods and services** e.g. the relative prices of substitute or complementary goods and services will affect the demand for a good or service.

- **The level of individual income** i.e. the higher individual incomes, the more quantity demanded, and the lower individual incomes, the less quantity demanded of a good or service.

- **The personal preferences and tastes of the consumer and trends in fashion or style** i.e. consumers will demand more of a good or service if they prefer it to others, and demand less of a good or service if they do not prefer it in relation to others. For example, changes in fashion and technology lead to new goods and services being produced, and consumers may switch their demand away from existing goods and services to newer and better quality products that suit their needs.

The main determinants of market demand include factors which affect individual demand, plus factors affecting demand in the economy as a whole and in certain markets such as the following:

- **The size of the population, its age composition and the distribution of people according to their sex, marital status and socio-economic status** e.g. an increase in the size of the population may increase the market demand for a good or service. The ageing of the population may also lead to increased demand for goods and services such as health care and pharmaceuticals. Rising incomes may raise the socio-economic status of more of the population, which may lead to increased demand for housing and luxury consumer goods and services such as new cars and holidays.

- **The distribution of consumer and household incomes** e.g. a more equal distribution of income may lead to a rise in the demand for luxury consumer durables as they become more affordable to more people in the community. Conversely a less equal distribution of income may lead to increased demand for necessities by low income households.

- **Consumer expectations about the future** e.g. if consumers expect the price of a good or service to rise in the future they may purchase more of it in the present. Alternatively if consumers expect the price of a good or service to fall in the future, they may postpone their current purchases of the good or service and increase their demand for the good or service in the future if the price falls.

- **The level of technological progress** e.g. a technological breakthrough which leads to a new or better quality product or model (such as plasma TV screens, iPads or new models of mobile smart phones such as iPhones) may lead to increased demand for that product or service.

Movements Along the Demand Curve Due to Price Changes

Extensions (or expansions) and contractions in demand are movements along an existing demand curve, in response to changes in the price of a good or service. None of the determinants affecting either individual or market demand have changed due to the assumption of *ceteris paribus* in microeconomic analysis. **Figure 6.3** illustrates these movements along the demand curve, using notation.

An **extension in demand** occurs when demand increases, due to a fall in price, according to the law of demand. A **contraction in demand** occurs when the price rises, causing demand to fall according to the law of demand. **Figure 6.3** illustrates an extension and a contraction in demand. If the initial price of the good or service is OP, and price rises from OP to OP_1, demand contracts from OQ to OQ_1. Consumer expenditure on the good changes from PAQO to P_1BQ_1O, and the consumer surplus decreases from triangle PAD to triangle P_1BD. If price falls from OP to OP_2, demand extends or expands from OQ to OQ_2. Consumer expenditure on the good increases from rectangle PAQO to P_2CQ_2O, and the consumer surplus increases from triangle PAD to triangle P_2CD. Therefore extensions and contractions in demand are only caused by price changes and not other individual or market demand factors.

Figure 6.3: An Extension and a Contraction in Demand
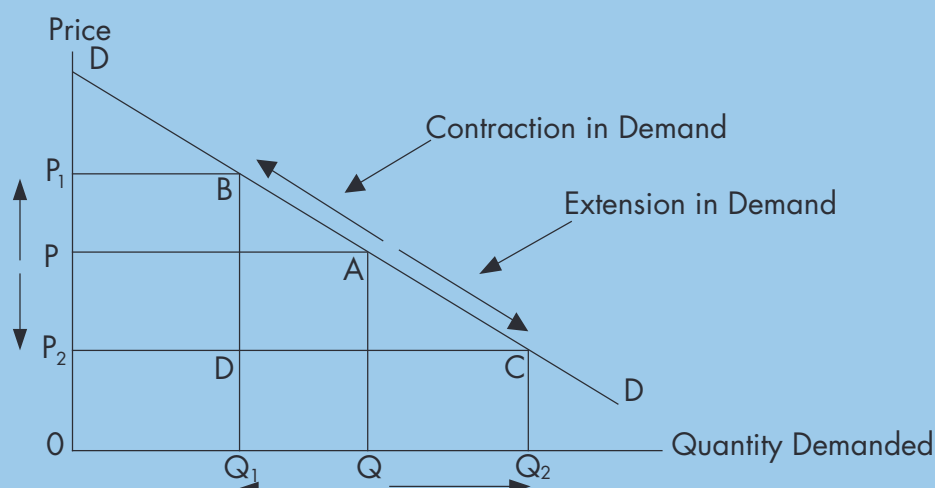
Shifts in the Demand Curve Due to Changes in Demand Conditions

Shifts in the demand curve are caused by changes in any of the determinants or factors affecting individual or market demand. A shift in the demand curve requires a new demand curve to be constructed, since the intensity or strength of demand has changed due to a change in demand conditions. Shifts in the demand curve to the right and to the left of the original demand curve are illustrated in **Figure 6.4**.

A **shift to the right of the demand curve** leads to an increase in demand. If the original demand curve was DD, the new demand curve is now D_1D_1 in **Figure 6.4**. At the original price of OP, consumers bought quantity OQ when demand was DD. With the increase in demand to D_1D_1, consumers are now willing to buy quantity OQ_1 at price OP. Also consumers would now be willing to buy more of the good or service at every possible price and be willing to pay a higher price for any given quantity of the good or service. For example, consumers would be willing to purchase quantity OQ at price OP_1.

An increase in demand is caused by a change in a factor affecting demand such as a rise in consumers' money incomes due to a tax cut, or a change in tastes in favour of a particular good or service. Another factor that could cause an increase in demand would be an increase in the size of the population.

Figure 6.4: An Increase and a Decrease in Demand
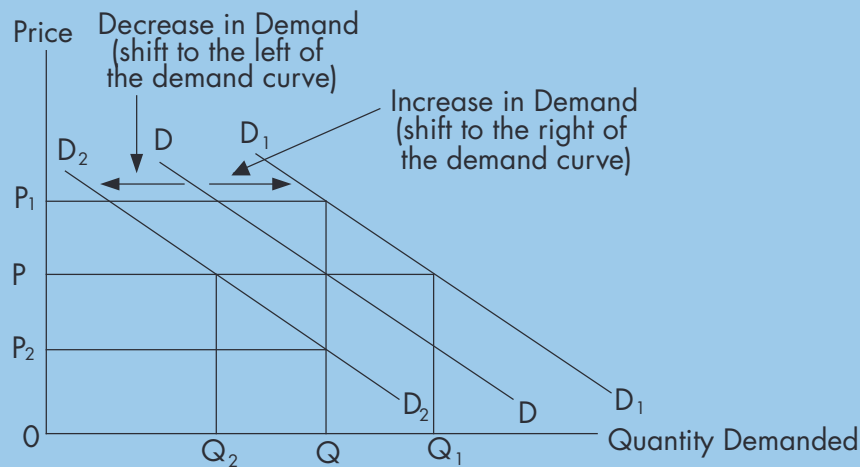
A tax cut would raise consumers' disposable incomes, causing a possible increase in the demand for luxuries such as holidays and new cars. This means that not only are consumers willing to buy more goods or services at the same price, but they are also willing to buy the same quantities as before, but at higher prices. Similarly a change in tastes or preferences towards a good or service would lead to an increase in demand by consumers for that good or service. This could be due to a technological improvement in the quality of a good or service. Similarly an increase in population could lead to an increase in the demand for certain goods and services such as food, transport and child care facilities.

A **shift to the left of the demand curve** leads to a decrease in demand. If the original demand curve was DD, the new demand curve is now D_2D_2 in **Figure 6.4**. At the original price of OP, consumers bought quantity OQ when demand was DD. With a decrease in demand to D_2D_2, consumers are now only willing to buy the lesser quantity of OQ_2 at price OP.

Also consumers would now only be willing to buy less of the good or service at every possible price, and be prepared to pay a lower price for any given quantity of the good or service. For example, consumers would only purchase quantity OQ at the lower price of OP_2.

A decrease in demand is caused by a factor affecting demand such as a fall in real income due to higher inflation. This means that not only are consumers willing to buy less goods or services at the same price, but they are also only prepared to buy the same quantity as before but at a lower price.

THE FACTORS INFLUENCING SHIFTS IN THE DEMAND CURVE

Changes in the Prices of Other Goods and Services

Changes in the prices of substitute goods and services, and complementary goods and services, can affect the demand for goods and services. A rise in the price of a substitute good could cause an increase in demand for a good. A fall in the price of a substitute good could cause a decrease in the demand for a good. The demand for a good which has close substitutes is therefore positively related to changes in the price of those substitutes e.g. the relative prices of butter and margarine which are substitutes in use.

A rise in the price of a complementary good could cause a shift to the left in the demand curve for a good. A fall in the price of a complementary good could cause a shift to the right in the demand curve for a good. The demand for a good which has complementary goods associated with it, is therefore negatively related to changes in the price of complements e.g. the relative prices of cars and petrol.

Changes in Tastes, Preferences and Fashion

If tastes, preferences or fashion change in favour of the demand for a good or service (such as new clothes, electronic goods and entertainment) then consumers may increase their demand for the good or service, causing a shift to the right of the existing demand curve. If tastes, preferences and fashion move away from the demand for a good or service (such as cigarettes and gambling), consumers may decrease their demand for the good or service, causing a shift to the left of the existing demand curve.

Changes in Income

For normal goods, an increase in consumer income will lead to an increase in demand and a shift to the right of the existing demand curve. A decrease in consumer income will lead to a decrease in demand and a shift to the left of the existing demand curve.

For inferior or Giffen goods, an increase in consumer incomes may lead to a decrease in demand, and a shift to the left of the existing demand curve as consumers may switch their demand to superior quality goods e.g. buying a brand name of washing powder instead of a generic brand of washing powder.

For normal goods considered to be necessities, and the demand for which is already satisfied, a rise in income may leave the demand for that good unchanged e.g. the demand for many household items such as matches, salt, sugar and flour may not change as a result of a change in consumer incomes.

Changes in Population Size, Composition or Age Distribution

An increase in the size of the population (due to a rise in the rate of natural increase or immigration) may increase the demand for goods and services because there are more consumers in the market for goods and services. A decrease in population size may lead to a decrease in the demand for goods and services as there are fewer consumers in the market.

Changes in the composition of the population may also lead to changes in demand. With the increasing number of ethnic minorities in the composition of Australia's population, there are increasing demands and new demands for products and services that reflect various cultural backgrounds. For example, there has been an increase in demand for takeaway and restaurant foods from a variety of ethnic backgrounds such as Lebanese, Japanese, Thai, Vietnamese, Indian, Italian, Greek, Chinese and Turkish.

Also higher rates of family formation in a population may lead to increased demand for housing, household furnishings and equipment, education, healthcare and family holidays. These changes in demand could result from an increase in the birth rate which in itself could increase the demand for baby clothes, food, bottles, prams, high chairs, cots, blankets, toys, car seats and child care services.

A change in the age distribution of the population may also lead to changes in demand patterns. A more youthful population age structure may lead to an increase in the demand for children's toys, education and sporting equipment, whereas an ageing population may lead to an increase in the demand for health care, nursing homes, pharmaceuticals and medical equipment.

Changes in Income Distribution

Changes in the distribution of income may affect the demand for goods and services. A more even or equal distribution of income may increase the demand for luxury consumer durables by low and middle income groups, whereas a more uneven or unequal distribution of income may lead to increased demand for necessities by low and middle income groups, and a decrease in the demand for luxury goods and services. Taxation policy can also influence income distribution and demand. For example, higher rates of income taxation on the rich may reduce their demand for luxury goods and services, whereas lower rates of taxation on the rich may increase their demand for luxury goods and services.

Consumer Expectations

Consumer expectations about the future trends in prices, economic activity and government economic policy may affect demand patterns. If consumers expect the prices of goods and services to rise in the future, they may increase their demand in the present. For example, the introduction of the goods and services tax (GST) on many goods and services in Australia on July 1st 2000, led to some increase in the demand for goods not previously taxed. In contrast if consumers expect the price of a good or service to fall in the future they may postpone their demand or even reduce their demand for that good or service e.g. new car prices fell with the abolition of sales tax, after the GST was introduced in 2000. New car sales fell in the latter half of 1999 as consumers postponed their purchase of new and used vehicles in anticipation of the expected price reductions due to the tax changes introduced on July 1st 2000.

Technological Progress

Technological progress can lead to the development of new and better quality products and services, which may make existing products and services obsolete. Consumers may switch their demand to the new or superior products and services or newer models of the same product e.g. consumers switching their demand from old mobile phones to smart phones, VCRs to DVD players, old TVs to flat screen plasma TVs and from old computer software and hardware to new computer software and hardware.

✍ REVIEW QUESTIONS

THE THEORY OF DEMAND

1. Define the term 'demand' and explain what is meant by 'effective demand'.

2. What is the difference between individual and market demand? Explain what a demand schedule shows. Construct your own market demand schedule and graph the market demand curve using the price and quantity information from the market demand schedule.

3. Explain the law of demand. What factors influence individual and market demand?

4. What is the difference between the consumer surplus and total consumer outlay or expenditure?

5. Draw a diagram and label it using notation, to show an extension and a contraction in demand. Describe the factors that can cause an extension and a contraction in demand.

6. Draw, label and explain a diagram illustrating the difference between an increase (i.e. shift to the right) and a decrease (i.e. shift to the left) in demand.

7. Write an extended response on the factors that can cause shifts in the demand curve: changes in the prices of other goods and services; changes in tastes, fashion and preferences; changes in income; changes in population; changes in income distribution; changes in consumer expectations; and changes in technology. Use diagrams to illustrate your answer.

8. Define the following terms and add them to a glossary:

complementary good	expectations	marginal utility
consumer surplus	extension in demand	market demand
contraction in demand	Giffen good	normal good
decrease in demand	increase in demand	status good
demand	individual demand	substitute good
demand curve	inferior good	total outlay
demand schedule	law of demand	utility

THE PRICE ELASTICITY OF DEMAND

The price elasticity of demand (E) refers to the responsiveness of the quantity demanded due to a small change in the price of a good or service. The price elasticity of demand is measured by the following basic or general formula, which simply measures the percentage change in the quantity demanded (%ΔQd) divided by the percentage change in the price (%ΔP) of the good or service:

$$E = \frac{\%\Delta Qd}{\%\Delta P} \qquad e.g. \quad E = \frac{15\%}{10\%} = 1.5$$

An example of the price elasticity of demand would be if the price of takeaway food fell by 10% and the quantity demanded of takeaway food rose by 15%. The price elasticity of demand co-efficient would be 1.5. This means that the demand for takeaway food is relatively elastic, since the quantity demanded has changed by a greater percentage than the initial percentage change in the price of takeaway food. Elasticity is an important concept because it enables economists to measure the responsiveness of the demand for a good or service in response to a small change in the price of that good or service:

- **Demand is price elastic** if the change in the quantity demanded is proportionately greater than the initial change in price e.g. if the price of new cars fell by 5% and the demand for new cars increased by 10%, the demand for new cars is relatively price elastic. For demand to be price elastic the co-efficient of the price elasticity of demand (E) must be greater than one (i.e. E > 1);

- **Demand is price inelastic** if the change in the quantity demanded is proportionately less than the initial change in price e.g. if the price of cigarettes rose by 5% and the demand for cigarettes fell by 1%, the demand for cigarettes is relatively price inelastic. For demand to be price inelastic the co-efficient of the price elasticity of demand (E) must be less than one (i.e. E < 1); and

- **Demand is unit elastic** if the change in the quantity demanded is proportionately the same as the initial change in price e.g. if the price of tomatoes rose by 10% and the demand for tomatoes fell by 10%, the demand for tomatoes is unit elastic. For demand to be unit elastic the co-efficient of the price elasticity of demand (E) must be equal to one (i.e. E = 1).

Table 6.4 summarises the three main types of price elasticity of demand, their elasticity co-efficients and their interpretation. The four main methods that can be used to measure the price elasticity of demand (E) include the following:

- The general or percentage change method;
- The total outlay or revenue method;
- The arc method; and
- The point method.

Table 6.4: Interpreting the Co-efficient of the Price Elasticity of Demand

Elasticity	Elasticity Co-efficient	Interpretation of the Elasticity Co-efficient
Price elastic	E > 1	The percentage change in quantity demanded is greater than the percentage change in the price of the good or service
Price inelastic	E < 1	The percentage change in quantity demanded is less than the percentage change in the price of the good or service
Price unit elastic	E = 1	The percentage change in quantity demanded is equal to the percentage change in the price of the good or service

The Total Revenue Method

Total revenue or total outlay is equal to the price multiplied by the quantity sold. Calculating changes in total revenue in response to price changes is another way of measuring the price elasticity of demand:

- **Demand is elastic if total revenue (TR) moves in the opposite direction to a change in price** i.e. if price rises and total revenue falls, or price falls and total revenue rises, demand is price elastic. In **Table 6.5** demand is price elastic over the price range from $4 to $5 and from $5 to $6 because as price rises total revenue or outlay falls from $120 to $90.

- **Demand is inelastic if total revenue (TR) moves in the same direction as a price movement** i.e. if price rises and total revenue rises, or price falls and total revenue falls, demand is price inelastic. In **Table 6.5** demand is price inelastic over the price range $1 to $2 and from $2 to $3 since total revenue rises from $80 to $120.

- **Demand is unit elastic if total revenue (TR) remains constant after a price movement** i.e. if price rises and total revenue does not change, or price falls and total revenue does not change, demand is unit elastic. In **Table 6.5** demand is unit elastic over the price range $3 to $4 as total revenue remains constant or unchanged at $120.

Table 6.5: An Example of Measuring Elasticity Using the Total Revenue Method

Price	Quantity Demanded	Total Revenue	Price Elasticity of Demand
$1	80	$80	
			Inelastic
$2	50	$100	
			Inelastic
$3	40	$120	
			Unit elastic
$4	30	$120	
			Elastic
$5	20	$100	
			Elastic
$6	15	$90	

The Arc Method

The arc method of calculating the price elasticity of demand is a more accurate measure of the price elasticity of demand, since it averages the change in the quantities demanded over the average of the price changes, and is calculated by using the following formula:

$$E = \frac{\dfrac{Q_1 - Q_2}{Q_1 + Q_2}}{\dfrac{P_1 - P_2}{P_1 + P_2}} = \frac{\dfrac{80 - 50}{80 + 50}}{\dfrac{1 - 2}{1 + 2}} = 0.69$$

where
Q_1 = Original quantity demanded
Q_2 = New quantity demanded
P_1 = Original price
P_2 = New Price

Using the example of the quantity demanded falling from 80 to 50 over the price range $1 to $2 in **Table 6.5**, the arc formula can be used as above to calculate the price elasticity co-efficient of 0.69. Since the co-efficient is less than one, demand is price inelastic over this range, which confirms the result found by using the total revenue method for calculating the price elasticity of demand.

The Point Method

The point method for calculating the price elasticity of demand co-efficient is used for small changes in price, and may be inaccurate when calculating the price elasticity of demand for larger changes in price. The point formula is as follows:

$$E \;=\; \dfrac{\dfrac{\Delta Q}{Q}}{\dfrac{\Delta P}{P}} \;=\; \dfrac{\dfrac{30}{80}}{\dfrac{1}{1}} \;=\; 0.375$$

where
ΔQ = Change in quantity demanded
Q = Original quantity demanded
ΔP = Change in the price
P = Original price

Using the example of the quantity demanded falling from 80 to 50 over the price range $1 to $2 in **Table 6.5**, the point formula can be used as above to calculate the elasticity co-efficient of 0.375. Since the co-efficient is less than one, demand is price inelastic over this range, which confirms the results found by using both the total revenue and arc methods for calculating the price elasticity of demand.

Income Elasticity of Demand

The measurement and interpretation of the elasticity of demand can also be applied to the responsiveness of demand to changes in consumer income. The income elasticity of demand co-efficient can be derived by using the following formula:

$$E \;=\; \dfrac{\%\Delta Qd}{\%\Delta Y}$$

where $\%\Delta Qd$ = Percentage change in quantity demanded
        $\%\Delta Y$ = Percentage change in income

If consumer incomes increased on average from $1,000 to $1,100 per week and the demand for takeaway food increased from $40 to $60 per week, the income elasticity of demand co-efficient could be calculated and interpreted as follows:

$$E \;=\; \dfrac{\%\Delta Qd}{\%\Delta Y} \;=\; \dfrac{50}{10} \;=\; 5$$

Since the income elasticity of demand co-efficient is 5 and is greater than one, we can conclude that the demand for takeaway food is relatively income elastic or responsive to changes in income.

Cross Elasticity of Demand

The measurement and interpretation of the elasticity of demand can also be applied to the responsiveness of demand to changes in the prices of other goods and services. This is known as the cross elasticity of demand. The cross elasticity of demand co-efficient can be derived by using the following formula:

$$E = \dfrac{\%\Delta Qd \text{ of Good Y}}{\%\Delta P \text{ of Good X}}$$

where $\%\Delta Qd$ of Good Y =   Percentage change in the quantity demanded of Good Y
       $\%\Delta P$ of Good X =   Percentage change in the price of Good X

The cross elasticity of demand can be applied to situations where two goods are related in consumption such as substitutes and complements. In the case of substitute goods there will be a positive cross elasticity co-efficient, and in the case of complements there will be a negative cross elasticity co-efficient. Consider the following two examples:

If the price of beef rose from $5/kg to $6/kg and the demand for chicken rose from 50 to 65	If the price of petrol rose from $1.05/litre to $1.20/litre and the demand for new cars fell from 50 per month to 40 per month
$E = \dfrac{\%\Delta Qd \text{ of Good Y}}{\%\Delta P \text{ of Good X}} = \dfrac{30}{20} = 1.5$	$E = \dfrac{\%\Delta Qd \text{ of Good Y}}{\%\Delta P \text{ of Good X}} = \dfrac{-20}{14.2} = -1.4$
E > 1 and is positive in sign. The demand for chicken is cross elastic. Chicken and beef are therefore substitutes in consumption.	E > 1 but is negative in sign. The demand for new cars is cross elastic. Cars and petrol are therefore complements in consumption.

FACTORS AFFECTING THE ELASTICITY OF DEMAND

Factors which affect the responsiveness of demand due to price changes, income changes and changes in the prices of substitute and complementary goods and services, include whether the good is a luxury or necessity; the durability of the good; the availability of substitute and complementary goods; the proportion of income spent on the good; and the length of time which has elapsed since a price change.

Necessities and Luxuries

Goods and services which are classed as necessities such as bread, milk, sugar and flour tend to have a relatively inelastic demand, whereas goods classed as luxuries such as new cars, holidays, furniture, TVs and DVD players tend to have a relatively elastic demand. Luxury goods tend to be more durable than single use essential goods. The more durable a good is (e.g. lounge suites and furniture) the more elastic the demand relative to single use goods (e.g. food and drinks) which may be consumed immediately and require recurrent consumption and therefore have a relatively inelastic demand. Habit forming or addictive goods and services such as alcohol, tobacco, illicit drugs (such as heroin, cocaine and methamphetamine) and gambling tend to have an inelastic demand relative to those goods which are non habit forming or non addictive.

Existence of Close Substitutes

Goods for which close substitutes exist (e.g. different brands of cars) tend to have a relatively more elastic demand than goods for which there are few if any close substitutes (e.g. electricity). The cross elasticity of demand co-efficient tends to be positive for substitute goods and negative for complementary goods.

Complementary Goods

Goods used in conjunction with each other in consumption such as cars and petrol tend to have relatively inelastic demand. A rise in the price of petrol is not likely to be followed by a larger proportionate fall in the demand for petrol.

Proportion of Income Spent on the Good

If the proportion of a consumer's income spent in consuming a good is relatively small, the demand for that good will tend to be relatively inelastic e.g. a rise in the price of matches or lighters will not lead to a larger proportionate fall in demand, due to the small percentage of household income spent on matches or lighters. If however the proportion of a consumer's income spent on the good is relatively large, such as the consumption of luxuries like new cars, holidays or alcoholic spirits, a rise in the price or a fall in the price may be accompanied by a larger proportionate change in demand, making demand relatively price elastic for these types of goods and services.

The Length of Time Since a Price Change

The elasticity of demand can also be influenced by the amount of time that has elapsed since the price of a good or service has changed. In general terms the greater the lapse of time, the higher is the elasticity of demand because consumers will adjust their demand according to the development of substitute goods and services. If the price of a good or service rises and there are few substitutes available, consumers may continue consuming similar quantities of the good or service. With more time elapsing and substitutes being developed, consumers have more time to adjust their demand and consumption patterns by reducing their purchases of the good or service, and finding cheaper alternatives to consume.

Table 6.6: Estimates of Real World Price Elasticity Co-efficients

Elastic Demand by Industry	Elasticity Co-efficient	Inelastic Demand by Product	Elasticity Co-efficient
Airline travel	2.25	Beer	0.77
Alcoholic spirits	1.84	Wine	0.72
Household appliances	1.48	Fish products	0.52
Furniture	1.46	Meat products	0.49
Electrical machinery	1.40	Tobacco	0.48
Cement	1.30	Fruit and	
Scientific equipment	1.27	vegetable products	0.43
Entertainment	1.12	Confectionery	0.40
Electricity	1.12	Railway transportation	0.38
		Water transportation	0.28
		Cotton, silk and flax	0.27
		Road transportation	0.18
		Bread and cakes	0.12

Source: McTaggart, D. and C. Findlay, M. Parkin (1992), *Economics*, Addison-Wesley Publishers Ltd, Sydney.

In the real world a combination of the above factors may affect the price elasticity of demand for various goods and services e.g. the demand for cigarettes is relatively inelastic because tobacco is a drug of addiction and expenditure on cigarettes may represent a small proportion of a consumer's income. On the other hand the demand for new cars is relatively elastic since expenditure on a new car is a large proportion of a consumer's income. Also there are many competing brands of new cars, which means that substitutes are readily available and this increases the price elasticity of demand for new cars.

The estimates of some real world price elasticity co-efficients for both industry groupings of products and services, and individual product groupings appear in **Table 6.6**.

The Price Elasticity of Demand and the Slope of the Demand Curve

The slope of a demand curve does not necessarily indicate the degree of price elasticity of demand. Most market demand curves are downward sloping from left to right and are of varying elasticity throughout their length (refer to **Figure 6.5**), with elasticity decreasing as price decreases (i.e. small changes in price are accompanied by even smaller changes in the quantity demanded of the good or service).

Where the demand curve intersects the price axis, demand is perfectly price elastic since consumers may demand an infinite quantity at that price. The elasticity co-efficient is therefore infinity (E = ∞).

At the other extreme, where the demand curve intersects the quantity axis, demand is perfectly inelastic since consumers will demand a finite or fixed quantity of the good or service at any price. The elasticity co-efficient is therefore zero (E = 0).

Between these two extremes, demand can be elastic, unit elastic or inelastic. Unit elasticity occurs at the midpoint of the demand curve, where the average price and average quantities demanded are such that the percentage changes in price and quantity are equal, and the elasticity co-efficient is equal to one.

Figure 6.5: The Price Elasticity of Demand and the Slope of the Demand Curve

Price $

Perfectly Elastic E = ∞

50

Elastic Range E > 1

Unit Elastic E = 1

25

Inelastic Range E < 1

Perfectly Inelastic E = 0

0

25   50

Quantity Demanded
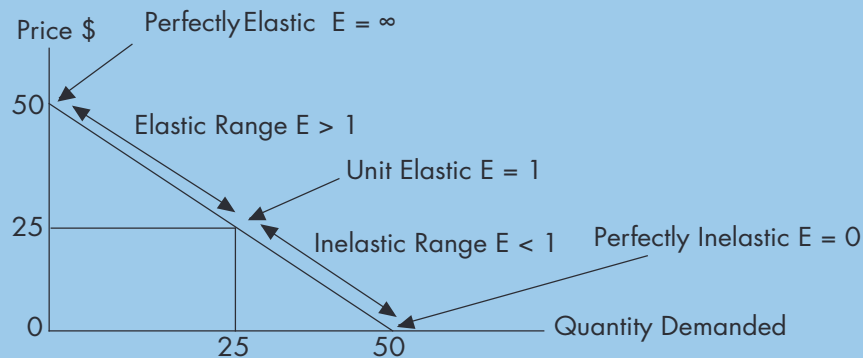
Extreme cases of the price elasticity of demand are where the elasticity co-efficient is constant throughout the demand curve rather than varying as in **Figure 6.5**. These cases are illustrated in panels (a), (b) and (c) of **Figure 6.6**.

Panel (a) represents perfectly inelastic demand for say a drug of addiction (e.g. heroin, cocaine, methamphetamine or 'ice') or dependence (e.g. insulin or tobacco), where the quantity demanded does not vary at all with the price, and the elasticity co-efficient is zero (E = 0).

Panel (b) shows a demand curve which is a rectangular hyperbola, with a constant unit elasticity and an elasticity co-efficient equal to one. An example of a good with near unit elasticity is electricity, where the total revenue remains unchanged after a price change. At price OP, total revenue is OPAQ, and after price falls to OP_1, total revenue is unchanged at OP_1BQ_1 which is equal in area to rectangle OPAQ.

Panel (c) shows the demand for a good whose elasticity is infinite or perfectly elastic, such as the demand for tomatoes. If the price of tomatoes is equal to the price of all other tomatoes for sale in a market, consumers may demand an unlimited quantity of tomatoes. The elasticity co-efficient is therefore infinity (E = ∞).

As a general rule, the flatter the slope of the demand curve the more elastic it is, and the steeper the slope, the less elastic the demand curve is (see **Figure 6.7**). However this statement must be qualified on two counts. Firstly, the price elasticity of demand refers only to the change in the quantity demanded over a certain price range, not the entire length of the demand curve.

Figure 6.6: Price Elasticity of Demand and the Slope of the Demand Curve

(a) Perfect Inelasticity E = 0

Price   D

P

P_1

0   Quantity
    Q

(b) Unit Elasticity E = 1

Price

D

P   A

P_1 B

D

0   Quantity
    Q Q_1

(c) Perfect Elasticity E = ∞

Price

P   D

0   Quantity
    Q Q_1
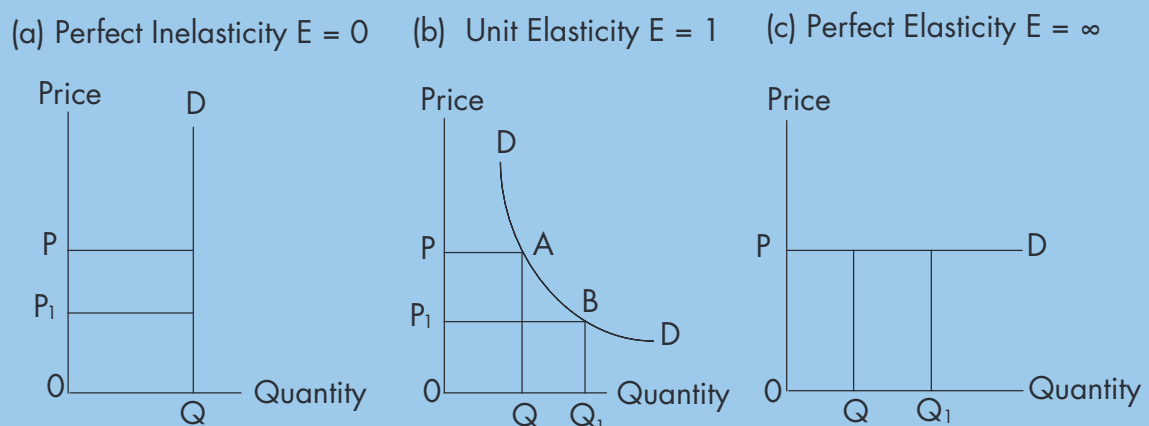
Figure 6.7: The Price Elasticity of Demand and the Slope of the Demand Curve
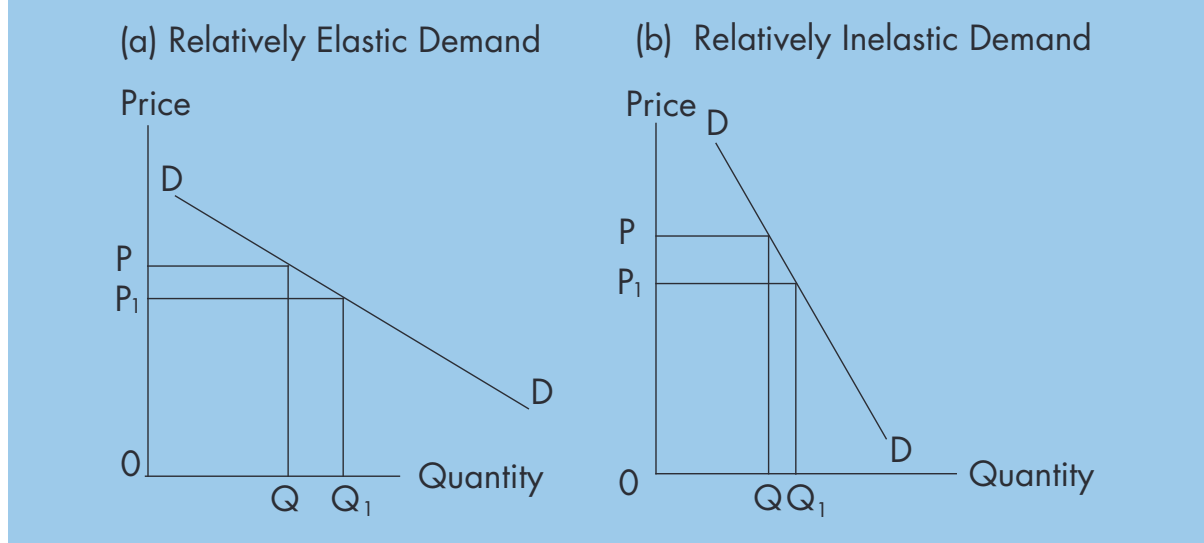
Secondly, the price elasticity of demand must be calculated and not guessed from observing the slope of the demand curve, since different units of measurement on both the price and quantity axes may give a misleading indication of the price elasticity of the demand curve. It is therefore always best to use the general percentage change formula for calculating the price elasticity of demand over a price range.

The Significance of the Price Elasticity of Demand

Knowledge of the price elasticity of demand is important to producers in calculating the effects of price changes on their total revenue and potential profits. If the demand for their product or service is relatively elastic, a rise in price will lead to a fall in total revenue, profits and market share. But a reduction in price could lead to higher total revenue, profits and market share.

On the other hand if the demand for a producer's product or service is relatively inelastic, a rise in price will lead to a rise in total revenue and profits. But a reduction in price could lead to lower total revenue, profits and market share.

Producers, through advertising and product differentiation, will attempt to increase the demand for their product and reduce the price elasticity of demand over time. This may come about through increasing brand loyalty on the part of consumers and the development of customer goodwill.

Governments can also use knowledge of the price elasticity of demand in designing tax policies and setting government prices (such as public transport fares). Taxes raise revenue for the government, but also raise prices for consumers. By imposing taxes such as excise duty, on goods such as tobacco, alcohol, petrol, oil and diesel, the demand for which is relatively inelastic, a rise in price caused by the imposition of a tax will lead to a rise in consumer expenditure and also tax revenue for the government.

If taxes are imposed on luxuries such as new cars, luxury cars, white goods (e.g. washing machines, dishwashers and refrigerators) the demand for which is relatively price elastic, a rise in price caused by the imposition of a tax may lead to a fall in total consumer expenditure and total revenue.

The extent to which the price of luxuries or necessities rise after the imposition of a tax depends on the price elasticity of demand. If demand is relatively price elastic, producers may absorb some of the tax rise and pass on the rest of the tax to consumers in the form of a higher price. In this way the payment of the tax is shared by both producers and consumers of the good. This is illustrated and explained diagrammatically in **Figure 7.8** in Chapter 7 on page 136.

✎ REVIEW QUESTIONS

THE PRICE ELASTICITY OF DEMAND

1. Define the price elasticity of demand. What is the general formula for calculating the price elasticity of demand co-efficient? Explain what is meant by elastic, inelastic and unit elastic demand. What is the size of the elasticity co-efficient in each of these cases?

2. Calculate the price elasticity of demand, when the demand for a good falls from 30 to 25 units in response to a rise in price from $5 to $5.50. Compare the results for the elasticity co-efficient by using the general, total revenue, arc and point methods of calculation.

3. Explain the difference between the income elasticity and cross elasticity of demand. What are the formulae for calculating the elasticity co-efficients for each? Calculate and interpret the income elasticity co-efficient for a consumer whose income rises from $50,000 to $60,000 and their demand for holidays increases from $1,000 to $3,000.

4. Using the cross elasticity formula, how can it be determined if a good is a complement or substitute for another good?

5. Discuss the main factors that influence the price elasticity of demand for goods and services. Refer to Table 6.6 and account for the elasticity co-efficients of various industry and product groupings in the real world.

6. Use the following demand schedule for computer game rentals to calculate the price elasticity of demand over each price range, using the general and total revenue formulae. Interpret your findings in terms of the changes in total revenue, and the elasticity co-efficients by stating whether demand is zero elastic, elastic, unit elastic, inelastic or infinitely elastic over each price range.

P	Qd	P	Qd	P	Qd
$0	60	$3	30	$6	0
$1	50	$4	20		
$2	40	$5	10		

7. Graph the demand schedule in Question 6 as a demand curve, and label the changes in elasticity along its length.

8. How is the slope of the demand curve related to the price elasticity of the demand curve?

9. Draw diagrams to illustrate demand curves with zero elasticity, infinite elasticity and unit elasticity. What are some examples of goods in the real world that may approximate each of these extreme cases of elasticity?

10. Why is knowledge of the price elasticity of demand important to businesses and the government?

11. Define the following terms and add them to a glossary:

arc method	income elasticity of demand	price elasticity of demand
ceteris paribus	luxuries	price inelastic demand
complements	necessities	slope of the demand curve
cross elasticity of demand	perfectly elastic demand	substitutes
durable good	perfectly inelastic demand	total revenue
elasticity co-efficient	point method	total revenue method
general formula	price elastic demand	unit elastic demand

THE THEORY OF SUPPLY

Supply refers to the quantity of a good or service which producers are willing and able to produce at a given price over a given period of time and offer for sale in a market. **Effective supply** means that the firms or producers must be capable of supplying the good or service and not just have the intention of supplying goods or services to a market. Since producers are assumed to be motivated by profit maximisation, they will tend to supply more goods and services at higher prices rather than at lower prices. Supply is influenced by factors such as the costs of production, the state of technology, seasonal influences, producer expectations about the future, and the number of firms in the industry.

The **law of supply** states that the quantity supplied in a market is a direct or positive function of price i.e. as price increases the quantity supplied increases, and as price decreases the quantity supplied decreases. Producers supply more goods and services as price rises in the search for higher profits and profit maximisation, but increased supply also involves higher costs of production, which must be recovered through the charging of higher prices. Conversely less is supplied at lower prices, since the costs of production will be lower, and the potential to maximise profits is also less.

Individual supply refers to the supply of a good or service by an individual firm or producer. **Market supply** refers to the sum of individual supplies for a certain good or service, and constitutes the supply of a whole industry, since firms which produce and supply similar goods or services make up an industry. The supply schedule is a table setting out the quantities supplied by producers over a range of prices. When the individual supply schedules of producers are aggregated, we get the market or industry supply schedule as illustrated in **Table 6.7**, which shows the supply of bananas for Firms A and B, and the aggregation of these individual supply schedules to get the market supply schedule of bananas.

When the market supply schedule in **Table 6.7** is graphed, we get the market supply curve drawn in **Figure 6.8**, which is upward sloping from left to right, and reflects the law of supply since it is positively sloped in relation to price (i.e. more is supplied at higher prices and less is supplied at lower prices). The same assumption of *ceteris paribus* used in analysing demand (a Latin term meaning 'other things being equal'), is used to analyse changes in supply in relation to price changes or other determinants of supply, with all other factors influencing supply being held constant. Unless otherwise stated, supply curves used in microeconomic analysis are usually market supply curves for particular goods or services.

Table 6.7: Individual and Market Supply Schedules for Bananas

Price (per kg)	Quantity Supplied by Firm A (kgs)	Price (per kg)	Quantity Supplied by Firm B (kgs)	Price (per kg)	Quantity Supplied by the Industry (kgs) (Firm A + Firm B)
$1	3	$1	2	$1	5
$2	6	$2	4	$2	10
$3	8	$3	12	$3	20
$4	10	$4	20	$4	30
$5	12	$5	28	$5	40
$6	14	$6	36	$6	50
$7	15	$7	45	$7	60
$8	16	$8	54	$8	70

Figure 6.8: The Market Supply Curve for Bananas
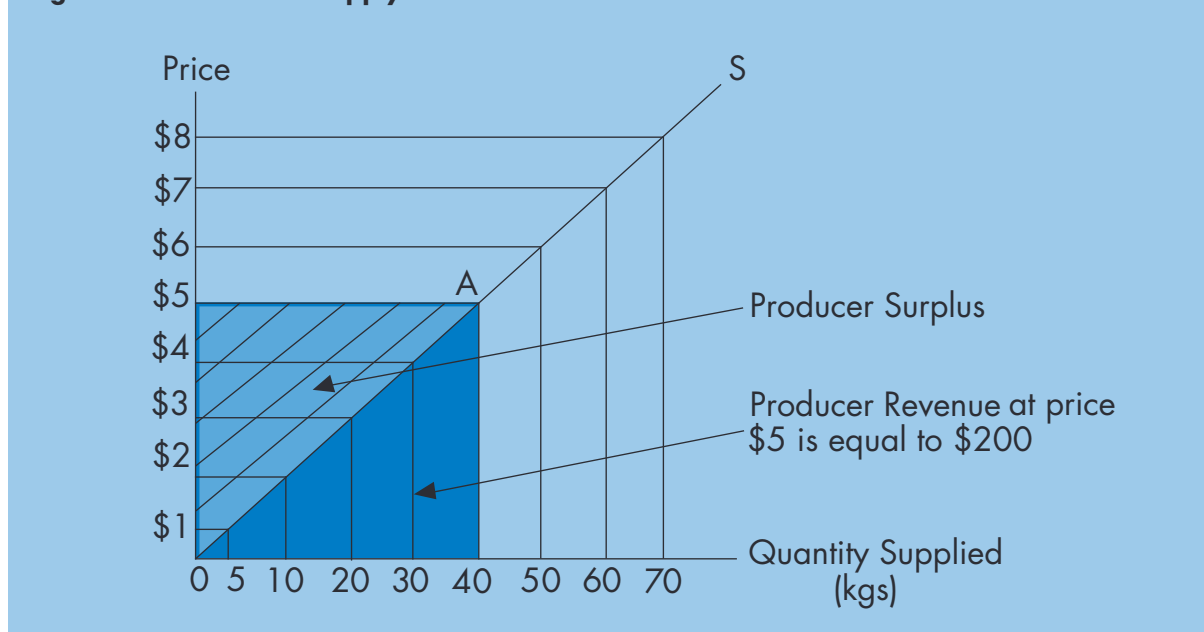
Each point on the supply curve shows a particular price and quantity combination for the supply of a good or service in a market. The supply curve for a normal good slopes upwards from left to right indicating that supply is a positive function of price (i.e. supply falls as price decreases and supply rises as price rises). This reflects the fact that producers will only sell more of a good or service at higher prices, since it will cost more to supply an increased quantity of a good or service to consumers.

The area or rectangle shaded in **Figure 6.8** above and below the supply curve bounded by the origin, the price of $5, point A and the quantity of 40 kgs, represents the total producer revenue of $200 received by firms A and B for selling 40 kgs of bananas at the price of $5. The triangle above the supply curve to the price of $5 represents the amount of producer surplus. The **producer surplus** represents the amount of extra revenue that the producers receive by selling the bananas at a price of $5, eventhough producers were willing to sell or accept as little as $1 per kg from consumers in the market for bananas.

Factors Affecting Supply

The main determinants of individual and market supply include the following related factors:

- **The price of the good or service**: the higher the price and mark up that a producer can get for the product or service in the market, the greater the incentive to supply depending on supply costs. But there will also be an incentive to supply relatively cheaper goods and services, if there is a high volume of sales and total revenue, despite a low mark up or profit margin for the good or service.

- **The prices of other goods and services**: if the prices of alternative goods and services are higher than others, producers may switch to supplying the alternative goods and services if prices and profits are potentially higher in the market.

- **The prices of the factors of production or resources**: lower production costs will enable producers to increase supply over a range of prices, whereas higher production costs will force producers to reduce their supply. The quantity and quality of resources will also impact on supply and overall production costs.

- **The state of technological progress**: technological advances may lead to lower production costs, less lead time and new products, which enable producers to increase supply. Technology will also lead to changes in the mode or method of supply and the distribution of goods and services in markets.

- **The personal preferences of producers**: suppliers will produce those goods and services which they know how to produce efficiently and competitively, and supply to a market in which they have expertise and knowledge.

- **The expectations of producers**: if producers expect a large demand for a certain product or service in the market, they will take risks and invest in production to capitalise on profitable market opportunities. This is a basic characteristic of entrepreneurship or enterprise in business.

- **The number of firms in the industry**: the more firms in the industry, the lower will be each individual firm's supply, unless the industry or market is growing as a whole, enabling existing firms to maintain or increase their production.

- **Seasonal influences**: changes in climatic conditions will affect agricultural output, and other production activities may be influenced by seasonal variations in demand, which can impact on supply in markets e.g. travel and tourism, entertainment and sporting events.

Movements Along the Supply Curve Due to Price Changes

A movement along the supply curve can be either an extension (or expansion) or a contraction in supply. An extension or contraction in supply is only due to a change in the price of the good or service supplied, and only involves a movement along the existing supply curve. None of the determinants affecting either individual or market supply have changed due to the assumption of *ceteris paribus*.

An **extension in supply** occurs when the price of a good or service rises and producers respond by increasing supply in the expectation of increasing their profits by increasing their sales in the market. In **Figure 6.9** along the supply curve SS, at the initial price of OP, producers supply quantity OQ. If price rises from OP to OP_1, supply extends from OQ to OQ_1. Total revenue from selling the good changes from OPAQ to OP_1BQ_1, and the producer surplus increases from triangle OPA to triangle OP_1B.

A **contraction in supply** occurs when the price of a good or service falls, and producers decrease their supply in the market in order to minimise costs of production. If price falls from OP to OP_2, supply contracts from OQ to OQ_2. Producer revenue from selling the good decreases from rectangle OPAQ to OP_2CQ_2, and the producer surplus decreases from triangle OPA to triangle OP_2C. It should be noted that extensions and contractions in supply are only caused by price changes, and result in a movement along an existing supply curve because none of the factors affecting supply conditions have changed.

Figure 6.9: An Extension and a Contraction in Supply
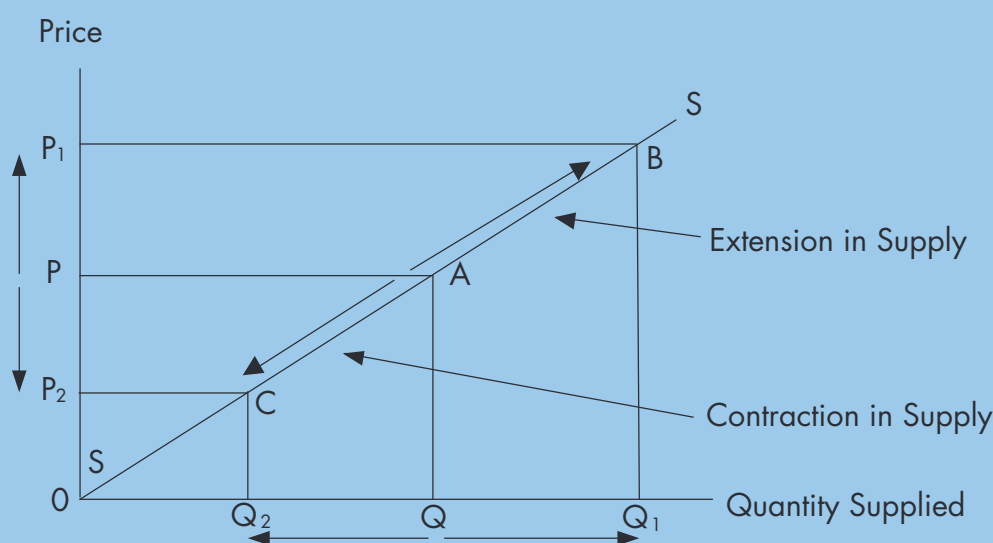
Shifts in the Supply Curve

Shifts in the supply curve occur because of changes in supply conditions or the factors that affect supply. A shift in the supply curve requires a new supply curve to be constructed, since the intensity or strength of supply has changed due to a change in supply conditions. Shifts in the supply curve to the right and left of the original supply curve are illustrated in **Figure 6.10**.

A **shift to the right of the supply curve** leads to an increase in supply. If the original supply curve was SS in **Figure 6.10**, the new supply curve is now S_1S_1. At price OP producers sold quantity OQ when supply was SS. With the increase in supply from SS to S_1S_1, producers are now willing to sell the larger quantity of OQ_1 at price OP.

Also producers would now be willing to sell more of the good or service at every possible price, and be willing to accept a lower price for any given quantity of the good or service. For example, producers would sell quantity OQ at the lower price of OP_2.

An increase in supply is caused by a change in a factor affecting supply conditions, such as a fall in the prices of the factors of production or an improvement in technology which would lower production costs. This means that not only are producers willing to sell more goods or services at the same price, but they are also willing to sell the same quantities as before but at lower prices. A shift to the right in the supply curve may result in greater production and a lower selling price in the market.

A **shift to the left of the supply curve** leads to a decrease in supply. If the original supply curve was SS, the new supply curve is now S_2S_2 in **Figure 6.10**. At the original price of OP, producers sold the quantity of OQ when supply was SS. With the decrease in supply from SS to S_2S_2, producers will only sell the lower quantity of OQ_2 at price OP. Producers would be willing to sell less of the good or service at every possible price and only accept a higher price for any given quantity of the good or service. For example, producers would sell the quantity of OQ at the higher price of OP_1.

A decrease in supply is caused by a factor affecting supply conditions such as a rise in production costs or a poor harvest of agricultural produce or the imposition of a sales tax or GST on the sale of a good in a market. This means that not only are producers willing to sell less goods or services at the same price, but they are also only willing to sell the same quantity as before but at a higher market price. A shift to the left of the supply curve may result in lower supply and a higher selling price in the market.

Figure 6.10: An Increase and a Decrease in Supply
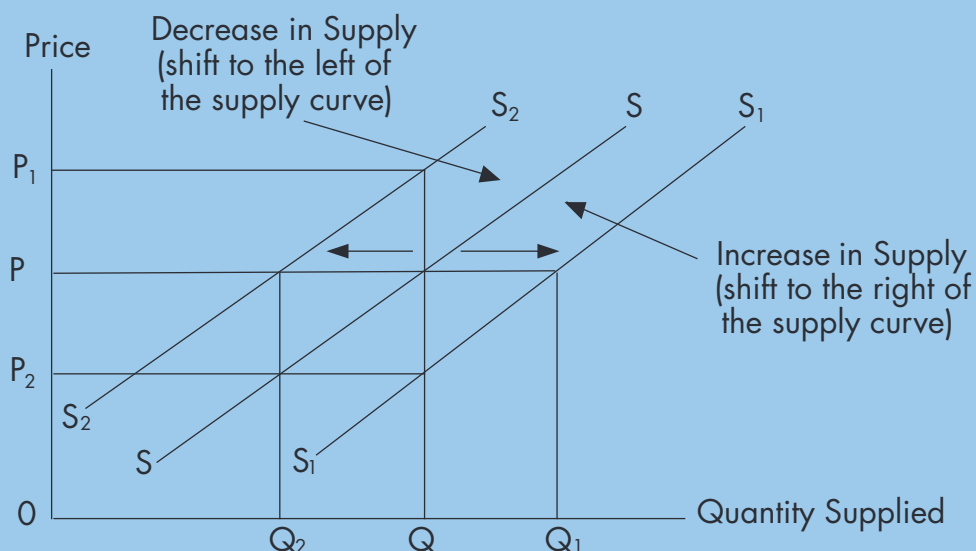
THE FACTORS INFLUENCING SHIFTS IN THE SUPPLY CURVE

Changes in the Prices of other Goods and Services

Changes in the prices of competing or alternative goods and services in the market will affect the relative profitability of producing an existing good or service. If an entrepreneur is producing a good or service whose price falls relative to other goods and services, this may reduce the profitability of producing that good or service, and the entrepreneur may be 'better off' switching resources into the production of the other higher priced goods and services to make higher profits. In this case the supply of the existing good or service may decrease in the market.

On the other hand, if the price of the existing good or service supplied rises relative to other goods and services, other entrepreneurs may switch resources into its production. In this case the entrepreneur and new entrants to the industry may increase the supply of the existing good or service in the market.

Changes in the Prices of the Factors of Production

A rise in the prices of the factors of production (i.e. wages, rent, interest and profit) will raise production costs for the firm or industry and reduce profitability. The firm or industry may respond by cutting back production and reducing supply in the market if they cannot pass on the cost increase as a higher price to consumers. On the other hand if the prices of the factors of production fall, leading to lower production costs for the firm or industry, profitability is increased. The firm or industry may respond by increasing production and supply in the market and this may lead to lower market prices for consumers.

Changes in Technology

Improvements in technology usually lead to increased efficiency and productivity of the factors of production, through improved production techniques, management structures, marketing techniques and a greater range of better quality products. Technological advances tend to reduce production and selling costs, enabling firms to increase supply. But the use of obsolete technology or capital equipment by a producer or business relative to its competitors may lead to lower efficiency and productivity and a reduction in supply in markets. This in turn could lead to higher market prices.

Changes in the Preferences of Producers

Many entrepreneurs and managers may have preferences for a particular type of production or type of good or service to produce because of knowledge, experience, expertise and skills in the industry. In such cases these preferences in production will lead to an increase in supply. Business owners/managers may also not seek to maximise profits, but only produce goods and services to maximise sales or market share or simply to maintain a corporate or family business lifestyle.

Changes in producer preferences away from the production of an existing good or service because of declining profitability or a change in the life cycle of the business (e.g. the retirement of the owner/ manager, or a lack of competitiveness, or a decision to invest in a different business) will lead to a decrease in the supply of an existing product or service in the market.

Changes in Producer Expectations

Producer expectations about the future prices of their goods and services will affect supply. Expectations of higher prices in the future may lead to increased supply in the present, to capture higher profits in the future. On the otherhand expectations of lower prices in the future, may lead producers to decrease supply in the present, to save resources and use them in alternative production in the future.

Changes in the Number of Firms in the Industry

Any change in the number of firms in the industry will lead to changes in market supply. If more firms enter the industry because of potential profit opportunities, total market supply will increase, although it is possible that each firm's supply may decrease unless the industry as a whole is expanding.

A reduction in the number of firms in an industry because of natural attrition (i.e. structural adjustment or structural change) or falling profits, may lead to a decrease in supply, but each existing firm's share of market supply may increase as long as the industry is viable in supporting less firms.

Changes in Seasonal Influences

Changes in seasonal influences are most relevant to the supply of agricultural produce such as wheat, fruit, sugar, vegetables, beef, lamb, chicken, pork, fish, wool, dairy produce and seafood. Favourable seasonal conditions based on average rainfall and temperature and an absence of droughts, floods, cyclones, frosts, fires or insect plagues may lead to a 'bumper harvest or yield' and an increase in supply.

But if seasonal conditions are poor due to drought (such as in Australia in 2019) or some other natural disaster (e.g. floods in Australia in 2022), a poor harvest may result, leading to a decrease in supply. A reduction in supply will lead to higher prices for goods such as bread, meat, fruit and vegetables.

✍ REVIEW QUESTIONS

THE THEORY OF SUPPLY

1. Define the term 'supply' and explain what is meant by effective supply.

2. What is the difference between individual and market supply? Explain what a supply schedule shows. Construct your own supply schedule and graph the supply curve using this schedule.

3. Explain the law of supply. What factors influence individual and market supply?

4. What is the difference between the producer surplus and total producer revenue?

5. Draw a diagram and label it using notation to show an extension and a contraction in supply. Explain the factors that can cause an extension and a contraction in supply.

6. Draw, label and explain a diagram illustrating the difference between an increase (i.e. shift to the right) and a decrease (i.e. shift to the left) in supply.

7. Write an extended response on the factors that can cause shifts in the supply curve: changes in the price of the good or service; changes in the prices of other goods and services; production costs; the level of technology; producer expectations about the future; producer preferences; the number of firms in the industry; and seasonal influences. Use diagrams to illustrate your answer.

8. Define the following terms and add them to a glossary:

contraction in supply	individual supply	profit maximisation
cost minimisation	law of supply	state of technology
decrease in supply	market supply	supply
extension in supply	producer expectations	supply curve
factors of production	producer surplus	supply schedule
increase in supply	production costs	total revenue

THE PRICE ELASTICITY OF SUPPLY

The price elasticity (E) of supply refers to the responsiveness of the quantity supplied due to a small change in the price of a good or service. It is an important concept because it enables economists to measure the responsiveness of the supply of a good or service due to a small change in the price of the good or service. The general formula or method for calculating the price elasticity of supply is:

$$E = \frac{\%\Delta Qs}{\%\Delta P} \qquad \text{e.g.} \quad \frac{8.33}{7.14} = 1.16$$

An example of the calculation of the price elasticity of supply might be if the price of bread produced by a fresh bread shop rose from $1.40 per loaf to $1.50 per loaf, and the supply increased from 600 loaves per day to 650 loaves per day. The co-efficient of the price elasticity of supply is 1.16 meaning that supply has been responsive to the price rise, and is relatively elastic since the co-efficient is greater than one. The price elasticity of supply is important for economists to calculate in analysing the responsiveness of various industries' production or suppliers' output to small changes in price:

- **Supply is price elastic** if the change in the quantity supplied is proportionately greater than the initial change in price e.g. if the price of new cars rose by 10% and the supply of new cars increased by 15%, the supply of new cars is relatively price elastic;

- **Supply is price inelastic** if the change in the quantity supplied is proportionately less than the initial change in price e.g. if the price of cigarettes rose by 5% and the supply of cigarettes rose by 1%, the supply of cigarettes is relatively price inelastic; and

- **Supply is unit elastic** if the change in the quantity supplied is proportionately the same as the initial change in price e.g. if the price of tomatoes rose by 10% and the supply of tomatoes rose by 10%, supply is unit elastic.

Table 6.8 summarises the three main types of supply elasticity, their elasticity co-efficients and their interpretation. There are a number of different methods that can be used to measure the price elasticity of supply including the general method, the arc method and the point method.

Table 6.8: Interpreting the Price Elasticity of Supply		
Elasticity	*Elasticity Co-efficient*	*Interpretation of the Elasticity Co-efficient*
Price elastic	$E > 1$	The percentage change in quantity supplied is greater than the percentage change in the price of the good or service
Price inelastic	$E < 1$	The percentage change in quantity supplied is less than the percentage change in the price of the good or service
Price unit elastic	$E = 1$	The percentage change in quantity supplied is equal to the percentage change in the price of the good or service

The Arc Method

The arc method for calculating the price elasticity of supply is a very accurate measure of elasticity since it averages the change in the quantities supplied, over the average of the price changes, and is calculated by using the following formula, and applies the same example used in the general formula above:

$$E = \frac{\dfrac{Q_1 - Q_2}{Q_1 + Q_2}}{\dfrac{P_1 - P_2}{P_1 + P_2}} = \frac{\dfrac{600 - 650}{600 + 650}}{\dfrac{140 - 150}{140 + 150}} = 1.16$$

where Q_1 = Original quantity supplied
Q_2 = New quantity supplied
P_1 = Original price
P_2 = New Price

Using the example of the quantity supplied rising from 600 to 650 loaves of bread per day over the price range of $1.40 to $1.50, the arc formula can be used to calculate the elasticity co-efficient of 1.16. Since the co-efficient is greater than one, supply is price elastic over this price range, which confirms the same result found by using the general formula.

The Point Method

The point method for calculating the elasticity of supply co-efficient is used for small changes in price and may be inaccurate when calculating the elasticity of supply for larger changes in price. The point formula is as follows:

$$E = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\frac{50}{600}}{\frac{10}{140}} = 1.16$$

where
ΔQ = Change in quantity supplied
Q = Original quantity supplied
ΔP = Change in the price
P = Original price

Use of the point formula leads to an elasticity co-efficient of 1.16. Since the co-efficient is greater than one, supply is price elastic over this price range, which confirms the same results found when using the general and arc formulae for calculating the price elasticity of supply in our example.

Elasticity and the Slope of the Supply Curve

The supply curve is of varying elasticity throughout its length (refer to **Figure 6.11**) but in general terms, the steeper the slope of the supply curve the less elastic it is (e.g. **Panel a**), with small changes in price leading to a lesser proportionate change in the quantity supplied (i.e. $E < 1$). The flatter the slope of the supply curve, the more elastic it is (e.g. **Panel b**), with small changes in price leading to a greater proportionate change in the quantity supplied (i.e. $E > 1$). Exceptional cases include perfectly inelastic supply (e.g. **Panel c**), where supply does not respond to any change in price (i.e. $E = 0$), and perfectly elastic supply (e.g. **Panel d**), where supply responds perfectly to any change in price (i.e. $E = \infty$). Unit elasticity of supply (e.g. **Panel e**), is where the supply curve passes through the origin (i.e. $E = 1$).

Figure 6.11: Elasticity and the Slope of the Supply Curve
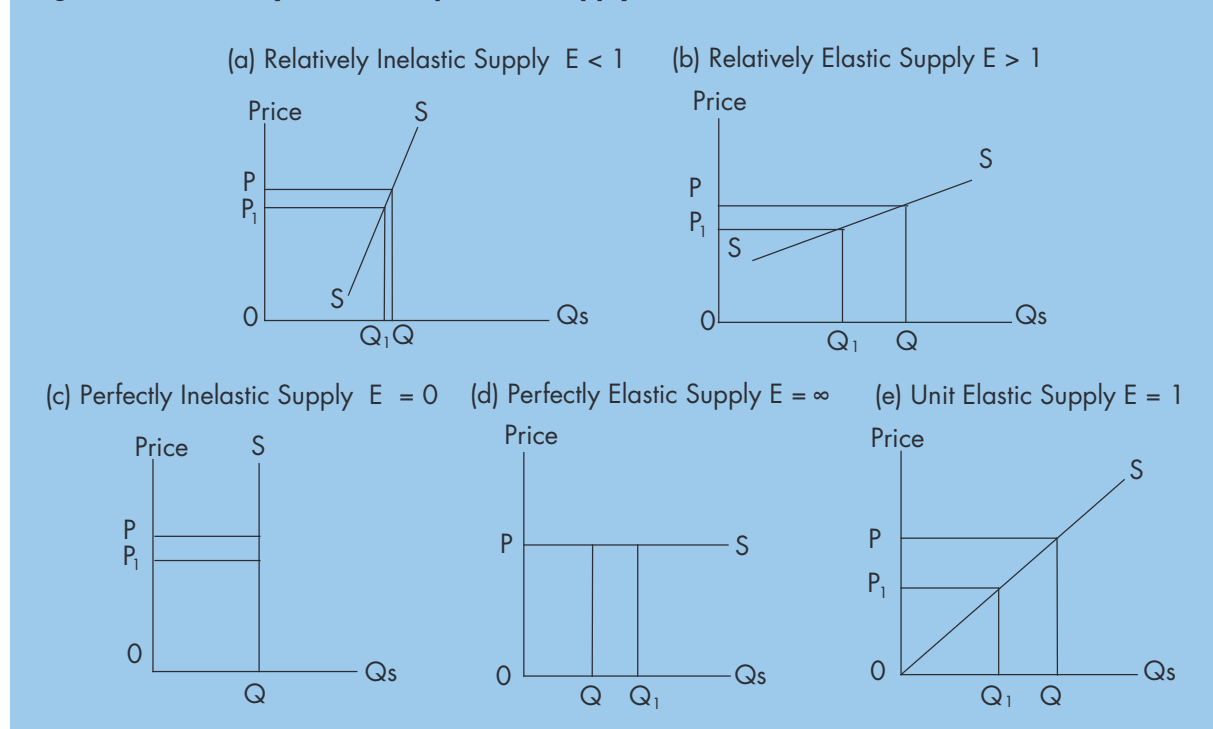
Factors Affecting the Elasticity of Supply

The price elasticity of supply depends on how quickly producers can respond to small changes in price by adjusting their supply in the market. The three **production time periods** in microeconomics are the market period, short run and the long run.

Production Time Periods: Market Period, Short Run and Long Run

In the **market period** supply cannot be adjusted due to changes in price, as the quantity supplied to the market is fixed, since inventories or stocks of unsold goods are finite e.g. the supply of apples at a fruit market on any given day is fixed relative to the demand for apples. The supply of apples is perfectly inelastic in this case and producers must accept the price determined by the demand for apples, relative to the available or fixed supply of apples in the market.

In the **short run** producers have both fixed and variable factors, but can adjust supply due to small changes in price, by using their existing plant size (the fixed factor) more or less intensively. If a producer was using only 80% of their plant capacity they could increase this to 90% or more to increase their supply in response to a rise in the price of their product in the market.

Producers can also alter their variable factors such as labour and raw materials to adjust supply in response to small changes in price. Supply is more elastic in the short run than in the market period e.g. a farmer could pick more apples in the short run to increase the supply of apples in the market.

In the **long run** producers can vary their plant size and adjust output levels in response to small changes in price. Supply is highly elastic in the long run e.g. an apple farmer could plant more apple trees to increase the potential supply of apples in the market in the future. Alternatively a manufacturer could build a bigger factory complex to increase the supply of the firm's products in the market.

Inventories or the Ability to Hold Stocks

If producers are able to hold stocks of unsold goods or **inventories**, their supply will be more elastic than if they are not able to hold stocks which can supplement current levels of output or supply. If the prices of goods rise in the market, producers can respond by adding accumulated stocks to the available supply. This would result in a rundown or decrease in inventories to increase supply to the market.

If the prices of goods fall in the market, producers may react by reducing current output and supply, and accumulating stocks for sale, if and when prices rise in the future.

The ability to hold stocks depends on the nature of the good (i.e. whether or not it is perishable), the extent of storage capacity, and the nature of distribution in the industry. The greater the ability to hold stocks or inventories, the more elastic the supply in a market.

The Extent of Excess Capacity

Excess capacity refers to the difference between the actual and potential output of a firm with a given level of plant capacity. If a firm has excess capacity, it may be able to respond quickly to rises in price by increasing its production, by using its existing plant more intensively. Its supply will be therefore be more elastic than a firm operating at full or maximum capacity.

Firms which are operating at full capacity cannot increase output in the market period or short run. They will have to build extra capacity in the long run to increase production. Their supply will be less elastic relative to firms with some excess capacity in the market period or the short run. The capacity utilisation of firms can be measured in the economy as a whole to determine overall growth in output.

✍ REVIEW QUESTIONS

THE PRICE ELASTICITY OF SUPPLY

1. Define the price elasticity of supply.

2. What is the general formula for calculating the price elasticity of supply co-efficient?

3. Explain what is meant by elastic, inelastic and unit elastic supply. What is the size of the elasticity co-efficient in each of these cases?

4. Calculate the price elasticity of supply when the supply of a good rises from 100 to 105 units in response to a rise in price from $25 to $35. Compare the results for the elasticity co-efficient by using the general, arc and point methods of calculation.

5. Discuss the main factors that influence the price elasticity of supply for goods and services. Refer to the table below and comment on the supply elasticity co-efficients of various industry groupings in the real world.

Estimates of Real World Price Elasticity Supply Co-efficients

Elastic Supply by Industry	Elasticity Co-efficient	Inelastic Supply by Industry	Elasticity Co-efficient
Household appliances	18.23	Gas	0.99
Fruit and vegetables	15.10	Electricity	0.90
Motor vehicles and parts	17.00	Wheat	0.79
Electrical equipment	11.39	Ferrous metal ores	0.62
Residential building	6.23	Oil, gas and brown coals	0.16
Beer and malt	1.85		

Unit Elastic Supply by Industry	Elasticity Co-efficient
Milk, cattle and pigs	1.00

Source: McTaggart, D. and C. Findlay, M. Parkin (1992), *Economics*, Addison-Wesley Publishers Ltd, Sydney, p108.

6. How is the slope of the supply curve related to the elasticity of the supply curve?

7. Draw diagrams to illustrate supply curves which are inelastic and elastic, and supply curves with zero elasticity, infinite elasticity and unit elasticity.

8. Define the following terms and add them to a glossary:

arc method	market period	price inelastic supply
excess capacity	perfectly elastic supply	short run
full capacity	perfectly inelastic supply	slope of the supply curve
industry	point method	supply elasticity co-efficient
inventories	price elastic supply	technology
long run	price elasticity of supply	unit elastic supply

CHAPTER 6: SHORT ANSWER QUESTIONS

Refer to the table of a market demand schedule for mangoes and answer the questions below.

Price ($)	Quantity Demanded ('000s)
1	500
2	400
3	300
4	100
5	50

Marks

1. How many mangoes are demanded at price $4?   (1)

2. Why does the quantity demanded of mangoes decrease as the price of mangoes increases?   (1)

3. Using the total outlay method, state whether demand is price elastic, inelastic or
    unit elastic over the price range $3 to $4.   (1)

4. Calculate the price elasticity of demand co-efficient over the price range of $1 to $2.   (1)

5. Explain ONE factor which could cause the supply of mangoes to increase.   (1)

6. Explain TWO factors which could cause the demand for mangoes to increase.   (2)

7. How could improvements in the technology of storage of mangoes affect the elasticity of   (3)
    supply of mangoes?

☯ CHAPTER FOCUS ON DEMAND AND SUPPLY

With reference to the diagram explain how equilibrium is determined in the market for mangoes. How could changes in the demand and supply conditions for mangoes alter market equilibrium?

Market equilibrium

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 6: EXTENDED RESPONSE QUESTIONS

1. Distinguish between an extension and a contraction and an increase and a decrease in demand. What factors may cause such changes in demand? Use diagrams to illustrate your answer.

2. Distinguish between an extension and a contraction and an increase and a decrease in supply. What factors may cause such changes in supply? Use diagrams to illustrate your answer.

3. What is meant by the price elasticity of demand? How is the price elasticity of demand measured? Why may knowledge of the price elasticity of demand be important to businesses and governments?

4. Explain using examples how the price elasticity of demand can be measured. Discuss the factors that may influence the price elasticity of demand.

5. Explain using examples how the price elasticity of supply can be measured. Discuss the factors that may influence the price elasticity of supply.

✌ CHAPTER SUMMARY

DEMAND

1. A market is a situation in which buyers and sellers are in contact with each other for the purpose of exchange. Product markets are where final goods and services are sold. Factor markets are where the factors of production such as land, labour, capital and enterprise are bought and sold.

2. The main allocative mechanism in a market economy is the price mechanism. The price mechanism refers to the interaction of demand and supply in determining equilibrium prices and quantities in markets. Prices reflect the scarcity of goods, services and resources, and help in the allocation of resources and final output. If there is disequilibrium in a market, changes in prices help to correct this disequilibrium (e.g. surpluses or shortages) and return the market to an equilibrium position.

3. Demand is the quantity of a good or service demanded at a particular price and at a specified period of time. Individual demand is the demand of one person, whereas market demand refers to the sum of individual demands in a market. The law of demand states that the quantity demanded varies inversely with the price of a good or service. This means that as price rises demand decreases, and as price falls, demand increases. A demand curve can be constructed from a demand schedule, which shows various quantities of a good demanded over a range of prices.

4. Factors affecting individual demand include the price of the good or service; the prices of other goods and services; the level of individual income; and the personal preferences and tastes of individual consumers. The main factors influencing market demand include the size of the population, its age composition, and the distribution of people according to their sex, marital status and socio-economic grouping; the distribution of consumer and household incomes; consumer expectations about the future; and the level of technological progress.

5. There are two main types of movements in demand: movements along the existing demand curve due to price changes; and shifts in the demand curve due to changes in demand conditions. Shifts in the demand curve can be caused by changes in any of the factors affecting market demand.

6. The price elasticity of demand refers to the responsiveness of the quantity demanded due to a small change in the price of a good or service. Demand is price elastic if the change in the quantity demanded is proportionately greater than the initial change in price. Demand is price inelastic if the change in the quantity demanded is proportionately less than the initial change in price. Demand is unit elastic if the change in the quantity demanded is proportionately the same as the initial change in price.

7. The price elasticity of demand can be measured by using the total revenue or outlay method; the percentage change method; the arc method; or the point method. The main factors affecting the price elasticity of demand include whether goods or services are considered to be luxuries or necessities; the existence of close substitutes; whether the good is complementary in use to another good; the proportion of consumer income spent on the good; and the length of time since there has been a price change for the good or service.

8. The slope of a demand curve does not necessarily indicate the degree of the price elasticity of demand. A normal downward sloping demand curve is of varying elasticity throughout. Perfect price elasticity of demand is indicated by a horizontal demand curve, whilst perfect price inelasticity of demand is indicated by a vertical demand curve. Unit price elasticity of demand is indicated by a rectangular hyperbola.

9. Knowledge of the price elasticity of demand is important to producers in being able to predict how changes in prices will affect their total revenue and profitability. For governments, knowledge of the price elasticity of demand is important in predicting the impact of indirect taxes on prices, demand, resource allocation and taxation revenue.

✌ CHAPTER SUMMARY

SUPPLY

10. Supply is the quantity of a good or service which producers are willing and able to produce at a given price over a given period of time and offer for sale in a market. Individual supply refers to the supply of a good or service by an individual firm or producer. Market supply refers to the sum of individual supplies for a certain good or service and constitutes the supply of a whole industry.

11. Supply is influenced by factors such as the costs of production; the state of technology; seasonal influences; producer expectations about the future; and the number of firms in the industry.

12. The law of supply states that the quantity supplied is a direct or positive function of price. This means that as price increases, the quantity supplied increases, and as price decreases, the quantity supplied decreases. A supply curve can be constructed from a supply schedule, which shows various quantities of a good or service supplied by firms over a range of prices.

13. Factors affecting individual and market supply include the price of the good or service; the prices of other goods and services; the prices of the factors of production or resources; the state of technological progress; the personal preferences of producers; the expectations of producers about future prices; the number of firms in the industry; and seasonal influences on production.

14. There are two main types of movements in supply:

    • Movements along the existing supply curve (extensions and contractions) due to price changes.

    • Shifts in the supply curve (increases and decreases) due to changes in supply conditions. Shifts in the supply curve can be caused by changes in the factors affecting market supply.

15. A rise in the price of a good or service will lead to an extension in supply as producers will be willing to supply more output at higher prices in order to increase revenue. A fall in the price of a good or service will lead to a contraction in supply, as producers will be less willing to supply output at lower prices, as they will earn less revenue from the sale of a given quantity of output.

16. An increase in supply leads to a shift to the right of the existing supply curve. An increase in supply could be caused by a reduction in production costs or an improvement in the state of technological progress. A decrease in supply leads to a shift to the left of the existing supply curve. A decrease in supply could be caused by a rise in production costs or expectations of producers of lower prices in the future for their good or service in the market.

17. The price elasticity of supply refers to the responsiveness of the quantity supplied due to a small change in the price of the good or service. Supply is price elastic if the change in the quantity supplied is proportionately greater than the initial change in price. Supply is price inelastic if the change in the quantity supplied is proportionately less than the initial change in price. Supply is unit elastic if the change in the quantity supplied is proportionately the same as the initial change in price.

18. The price elasticity of supply can be measured by using the percentage change method; the arc method; or the point method. The main factors affecting the price elasticity of supply include production time periods (e.g. the market period, the short run and the long run); the extent of inventories or ability to hold stocks; and the extent of excess capacity in the firm or the industry.

19. The slope of a supply curve does not necessarily indicate the degree of price elasticity of supply. A normal upward sloping supply curve is of varying elasticity throughout. Perfect price elasticity of supply is indicated by a horizontal supply curve, whilst perfect price inelasticity of supply is indicated by a vertical supply curve. Unit price elasticity of supply is indicated by a supply curve at 45° to the origin.

20. Knowledge of the price elasticity of supply is important to producers in being able to respond to small changes in price by altering their levels of output. Consumers will also be affected by the price elasticity of supply, since firms or industries that have relatively inelastic supply will not be able to alter supply in the short run due to small changes in price.

Chapter 7

Market Equilibrium and Government Intervention

MARKET EQUILIBRIUM

Market equilibrium is a situation where price and output are determined through the interaction of demand and supply. When the quantity demanded of a good or service is equal to the quantity supplied of that good or service, market equilibrium price and quantity are established. Market equilibrium is also a situation in which there is no tendency for change in either the price or quantity of a good or service. The tendency for markets to equilibrate is caused by the forces of demand and supply responding to any imbalance between them, through an adjustment process according to price movements. The **price mechanism** refers to the interplay of the market forces of demand and supply in determining equilibrium prices and quantities of final goods and services and the factors of production, in allocating resources to their most productive uses in consumption and production. The price mechanism therefore operates in both product and factor markets in market economies like Australia and the USA.

Market equilibrium may be represented diagrammatically as in **Figure 7.1**. Where the demand curve (DD) intersects the supply curve (SS) at point E, the equilibrium price of OP_e, and the equilibrium quantity of OQ_e are established. This means that the quantity demanded by consumers of OQ_e is equal to the quantity supplied by firms of OQ_e at the price OP_e. The point of market equilibrium (E) means that there is no tendency for change in either the equilibrium price or quantity, since there is no shortage or surplus of goods or services in the market and the market is cleared at the price of OP_e.

Market equilibrium is a natural tendency since any mismatch between demand and supply will be equilibrated by a change in the price and the quantity demanded or supplied. If a **surplus** of goods or services exists (such as AB in **Figure 7.1**) at price OP_1 (which is above market equilibrium) where the quantity supplied (OQ_2) exceeds the quantity demanded (OQ_1), there will be a tendency for firms to cut prices to sell the surplus output (and reduce inventories) in the market. In this way prices adjust downwards to clear the market of the surplus output and re-establish equilibrium at a lower price (OP_e).

Figure 7.1: The Dynamics of Market Equilibrium
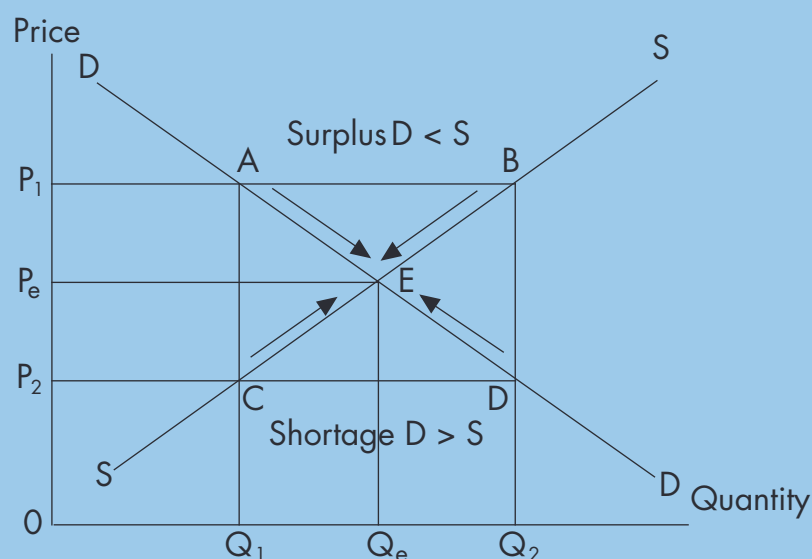
Figure 7.2: The Effect of an Increase in Demand on Market Equilibrium
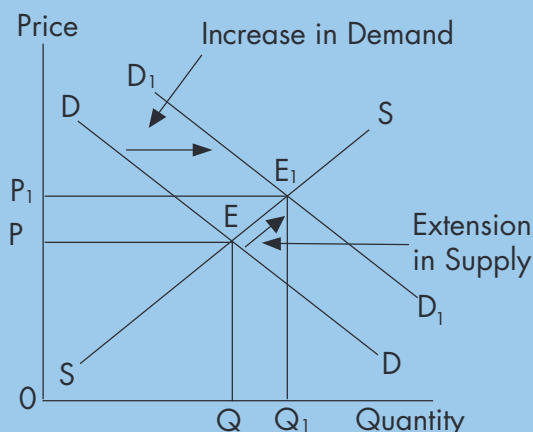
Figure 7.3: The Effect of a Decrease in Demand on Market Equilibrium
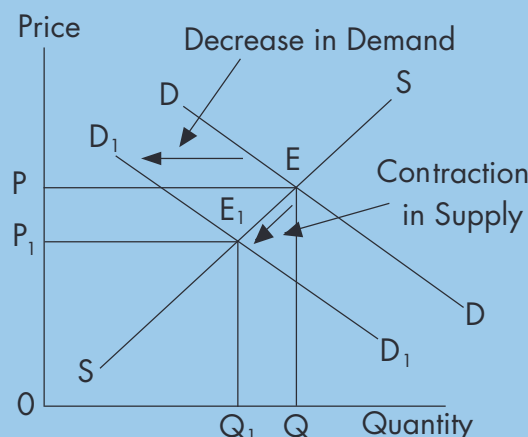
This process will continue as long as the surplus exists. Price will fall from OP_1 to OP_e, supply will contract from OQ_2 to OQ_e, and consumers will extend their demand from OQ_1 to OQ_e. Equilibrium will be re-established at the lower price of OP_e and the lower equilibrium quantity of OQ_e.

If a **shortage** of goods or services exists (such as CD in **Figure 7.1**) at price OP_2 (which is below market equilibrium), where the quantity supplied (OQ_1) is less than the quantity demanded (OQ_2), there will be a tendency for consumers to bid up prices in competing for the available quantity supplied of the good or service. Producers will respond by extending their supply, and this process will continue as long as the shortage exists. Price will rise from OP_2 to OP_e, and supply will extend from OQ_1 to OQ_e, and consumers will contract their demand from OQ_2 to OQ_e. Equilibrium will be re-established at the higher price of OP_e and the equilibrium quantity of OQ_e and the shortage will be eliminated.

Surpluses and shortages represent situations of market disequilibrium, yet they may only be temporary situations, since changes in prices will lead to an equilibration or clearing of the market and the re-establishment of a market equilibrium position in terms of price and quantity. This is how the market forces of demand and supply (through the price mechanism) interact to determine equilibrium in the allocation of goods, services and productive resources in product and factor markets. This process is also known as **market clearing** and is an adjustment process which makes markets dynamic by responding to changes in market conditions such as changes in demand and supply conditions over time.

Changes to Market Equilibrium

Changes to market equilibrium occur through shifts in the demand or supply curves or both curves simultaneously. These shifts are caused by changes in the factors or conditions affecting demand and supply in markets. Changes in demand and supply will lead to changes in equilibrium prices and quantities in markets which are summarised in **Table 7.1**.

An **increase in demand** (or a shift to the right of the demand curve) leads to a shift to the right of the original demand curve and results in more goods or services being demanded at the same price and over a range of prices. An increase in demand from DD to D_1D_1 in **Figure 7.2** leads to a higher equilibrium price of OP_1 and a rise in the quantity demanded from OQ to OQ_1. The new equilibrium position is now E_1 since this is the point at which the new demand curve (D_1D_1) intersects the supply curve SS.

The increase in demand which leads to a higher equilibrium price also causes suppliers to extend their supply (from OQ to OQ_1) in the hope of making higher profits. An increase in demand could be caused by a rise in consumer incomes, a successful advertising campaign or a rise in population. Other factors which could cause an increase in demand include a shift in tastes or preferences towards the good or service, or a fall in interest rates or taxation rates which would increase household disposable income.

Figure 7.4: The Effect of an Increase in Supply on Market Equilibrium
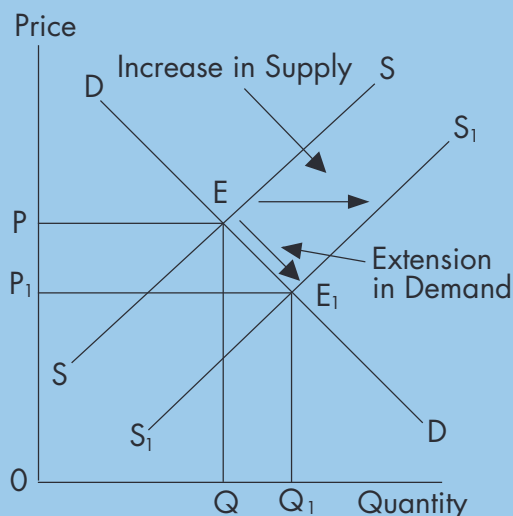
Figure 7.5: The Effect of a Decrease in Supply on Market Equilibrium
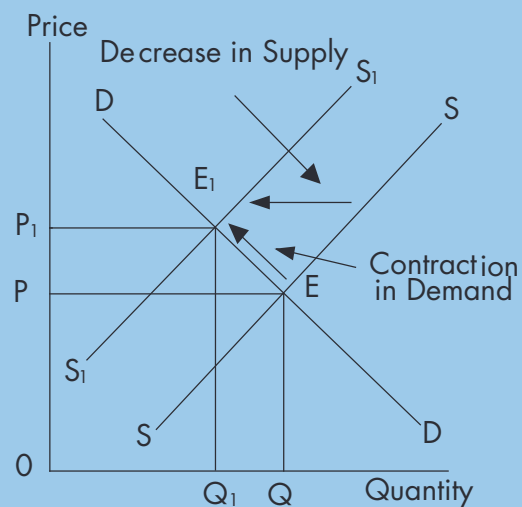
A **decrease in demand** occurs when there is a shift to the left of the original demand curve, leading to less goods or services being demanded at the same price and over a range of prices. A decrease in demand from DD to D_1D_1 in **Figure 7.3** leads to a lower equilibrium price of OP_1, and a fall in the quantity demanded from OQ to OQ_1. The new equilibrium position is now E_1, since this is the point at which the new demand curve (D_1D_1) intersects the supply curve SS. The decrease in demand which leads to a lower equilibrium price also causes suppliers to contract their supply (from OQ to OQ_1) as lower profits will be made at the lower equilibrium price. A decrease in demand could be caused by a fall in consumer incomes, a fall in the price of a substitute good or a decrease in population size. Other factors causing a decrease in demand could be higher interest rates and taxation rates.

An **increase in supply** occurs when there is a shift to the right of the original supply curve, leading to more goods or services being supplied at the same price and over a range of prices. An increase in supply from SS to S_1S_1 in **Figure 7.4** leads to a lower equilibrium price of OP_1 and a rise in the quantity supplied from OQ to OQ_1. The new equilibrium position is now E_1 since this is the point at which the new supply curve (S_1S_1) intersects the demand curve DD. Consumers respond to the lower equilibrium price by extending their demand from OQ to OQ_1. An increase in supply could be caused by a fall in production costs such as fuel or raw materials, rent on premises, or wages paid to labour, an improvement in technology, or more positive producer expectations about the future.

A **decrease in supply** occurs when there is a shift to the left of the original supply curve, resulting in less goods or services being supplied at the same price and over a range of prices. A decrease in supply from SS to S_1S_1 in **Figure 7.5** leads to a higher equilibrium price of OP_1 and a fall in the quantity supplied from OQ to OQ_1. The new equilibrium position is now E_1 since this is the point at which the new supply curve (S_1S_1) intersects the demand curve DD. Consumers respond to the higher equilibrium price by contracting their demand from OQ to OQ_1. A decrease in supply could be caused by a rise in production costs, a rise in the price of other goods and services, or poor seasonal conditions.

Table 7.1: The Effect of Changes in Demand and Supply on Market Equilibrium

Increase in Demand	Decrease in Demand	Increase in Supply	Decrease in Supply
• Rise in price	• Fall in price	• Fall in price	• Rise in price
• Rise in quantity	• Fall in quantity	• Rise in quantity	• Fall in quantity

✍ REVIEW QUESTIONS

MARKET EQUILIBRIUM

1. What is meant by market equilibrium? Why do markets tend towards equilibrium?

2. Draw a diagram to show market equilibrium.

3. Draw and label a diagram showing how a shortage and a surplus of goods or services in a market will be cleared by the price mechanism.

4. Using four separate diagrams for each of the following cases, explain the changes that occur to market equilibrium when there is an increase in demand; a decrease in demand; an increase in supply; and a decrease in supply. Discuss the possible causes of such changes in market equilibrium.

GOVERNMENT INTERVENTION IN MARKETS

Price Control Schemes

Governments may intervene in the market system to fix prices above or below equilibrium if they believe that it is in the public interest to do so. A **price ceiling** is where a maximum price for a good or service is established below market equilibrium. An example might be price controls used during war time for basic food, petrol or rent, to prevent their prices from escalating due to scarcity. A price ceiling is illustrated in **Figure 7.6**. A price ceiling (of OP_1) below market equilibrium will cause disequilibrium in the market since the quantity demanded (OQ_1) exceeds the quantity supplied (OQ) at this price, resulting in a shortage of goods (equivalent to AB) in the market. Additional controls have to be introduced to ration the available goods, such as the issue of ration cards or tickets or a system of queuing for consumers (e.g. on a 'first come, first served' basis) so that the available supply is allocated on a fair basis or quota system, and each consumer receives an equal allocation of the good or service.

Another relevant example of price control is the use of rationing during a petrol strike when petrol supplies are limited. The NSW government has used a system of 'odd' and 'even' number plates to allocate petrol amongst car owners on designated days as well as fixing the price and quantity of petrol that can be purchased. Price control schemes can be open to corruption and black markets (illegal

Figure 7.6: A Price Ceiling Scheme
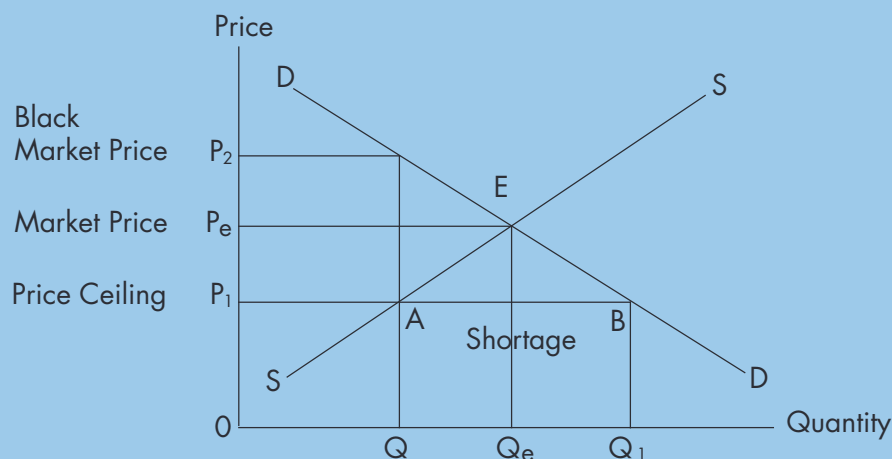
markets) since some consumers may be willing and able to pay the market price (i.e. the price OP_2 in **Figure 7.6**) for the available quantity supplied (OQ). An example of a black market is when scalpers buy concert or theatre tickets at fixed prices and sell them illegally to consumers at market prices.

Price Support Schemes

A **price floor** or minimum price is one that a government may establish above the equilibrium price (OP_e) in a market as a minimum price that is paid for the good (refer to **Figure 7.7**). An example of a price floor was the Australian wool price floor (reserve price) scheme which operated to guarantee a minimum price for wool to wool growers in order to protect their incomes from fluctuations in the market price for wool. A price floor (OP_1) in **Figure 7.7** will result in excess supply or a surplus of wool (AB) since the quantity supplied (OQ_2) will exceed the quantity demanded (OQ_1).

The government or regulatory authority must remove this surplus from the market by stockpiling wool for sale at a later date. The former Australian Wool Corporation (AWC) stockpiled wool in the hope of selling more wool exports. A production quota was also imposed on wool producers to limit the size of the wool surplus and all wool had to be sold to the AWC. However this scheme collapsed in 1991 as the AWC tried to raise the floor price, but was unable to reduce the stockpile of surplus wool, and had to impose a levy on farmers to meet the cost of the scheme, which had debts of over $2b, mainly due to the costs of stockpiling surplus wool. The NSW egg industry was also regulated by a similar price stabilisation or support scheme, but it too became unworkable and was eventually deregulated in 1991.

Figure 7.7: A Price Floor Scheme
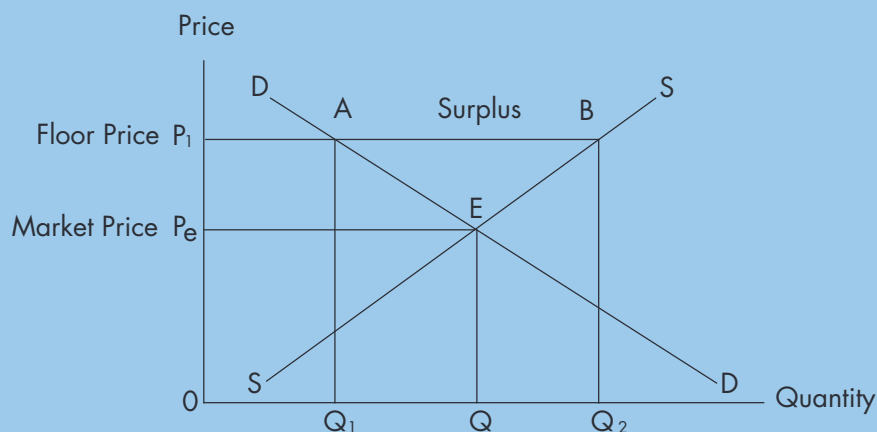
The Imposition of Indirect Taxes

The government also intervenes in the price mechanism to impose indirect taxes on certain goods and services to raise revenue (e.g. import or customs duty and the GST on luxury goods like imported new cars); to encourage responsible consumption of scarce resources (e.g. excise duty on petrol); or to control the consumption of harmful and habit forming goods (e.g. excise duty on tobacco and alcohol). These taxes raise the costs of production and therefore lead to a decrease in the supply of the good taxed.

These taxes are called **indirect taxes** since the tax is usually not paid by the person upon whom they are levied (**the impact of the tax**) but is passed on to the consumer in the form a of a higher price (**the incidence of the tax**). For example, the impact of excise duty is on a manufacturer (e.g. companies that make petrol, alcohol and cigarettes) who pass the tax on to the consumer in the form of a higher price. Sales taxes on new cars and electrical goods were imposed on retailers who passed the tax on to

Figure 7.8: The Effect of an Indirect Tax on Price and Output
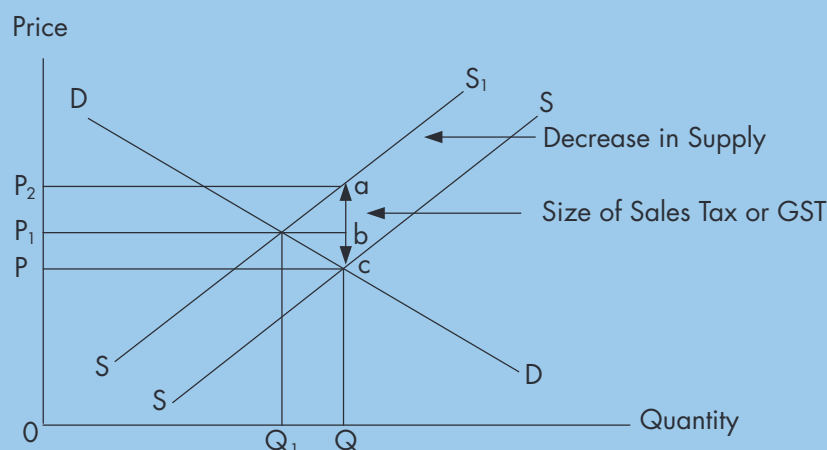
consumers in the form of a higher price. For example, import or customs duties impact on importers who in turn pass the tax on to consumers. The extent to which the consumer pays some or all of the indirect tax (i.e. customs duties, excise duties and sales taxes or the 10% GST) depends on the price elasticity of demand. In **Figure 7.8** a sales tax or GST is imposed on a hypothetical good leading to a decrease in supply from SS to S_1S_1. Equilibrium price rises from OP to OP_1 and equilibrium quantity falls from OQ to OQ_1. The size of the sales tax or GST is represented by the vertical distance between supply curve SS and supply curve S_1S_1 (distance PP_2 or **ac**). Since the elasticity of demand for the good is price elastic, some of the tax is paid for by consumers in the form of a higher price (PP_1 or distance **bc**) and the rest of the tax is borne by the producer or retailer (P_1P_2 or distance **ab**). In this way the tax burden (the percentage of income paid in tax) is shared by consumers and producers in the market.

The Provision of Merit and Public Goods and the Control of Externalities

Governments may also intervene in the market system if they believe that markets fail to achieve allocative efficiency in the provision of some goods or services. **Market failure** can arise when the allocation of some goods and services is less than optimal in terms of welfare. Three cases of market failure include the adequate provision of merit goods and public goods, and the correct pricing of goods which cause negative externalities or unintended negative consequences for society in their production.

Merit goods are goods or services that the government believes are beneficial to society, but they may not be produced in adequate quantities because the market is too small, and there is little or no incentive for private production. Merit goods and services are those which individuals undervalue and the government's preference for these goods and services, results in the subsidisation of their production or production through government agencies. Examples include government provision of opera, orchestral music, libraries, art galleries, theatres, museums, botanic gardens, films and cultural productions for the community by government funded or subsidised organisations. Public education is another example of a merit good since governments generally believe that the benefits of universal access to education will be facilitated through subsidisation which improves equality of opportunity. Reducing inequality in the distribution of income is also achieved through the provision of government funded scholarships, grants and bursaries to talented individuals from low income families or deprived backgrounds (such as Indigenous youth) to access educational opportunities for their personal advancement in the community.

Privately traded goods are said to be **excludable** and **rival**. Excludability arises because consumers who are unwilling or unable to pay for the good (e.g. the price of a can of soft drink) are excluded from consuming it. Rivalry arises because if the good is consumed by one person, it is taken out of the market and may not be consumed by another person (e.g. a can of soft drink). **Public goods** such as a public beach or road are said to be non excludable and non rival. They are **non excludable** since no one can

be excluded from their consumption. They are **non rival** as one person's consumption of the good does not reduce the amount available for someone else to consume e.g. national defence. Examples of public goods are environmental goods such as beaches, national parks, oceans or rivers which may exhibit the qualities of being non rival and non excludable. In other words, non paying users may not be excluded from consumption if no market price is payable, or there is an absence of well defined property rights. The problem of 'free riding' may arise if non paying users cause congestion or exploitation of such public goods. Since public goods are non excludable and non rival, entrepreneurs may lack the incentive to provide them since free riding cannot be prevented. Governments may intervene in the provision, regulation, maintenance and management of public goods to maximise the benefits to the community from their use, and to prevent over exploitation, vandalism or congestion of the resource.

Another justification for government intervention in markets is the problem of **negative externalities** or spillover effects on third parties as a result of private activities. For example, since access to environmental goods such as clean air and water or national parks is often unrestricted and often has a zero user cost, excessive exploitation may lead to pollution, exhaustion and/or degradation of these resources. Such private actions or activities like the burning of fossil fuels or traffic noise and pollution impose a cost on the community as a whole. For example, the private costs of purchasing and maintaining motor vehicles does not reflect the social costs of the air and noise pollution borne by the community.

Negative externalities arise because most environmental resources are not priced in the market and so producers do not pay for the resource and can pass on the cost of using the resource to an unwilling third party which may be the community at large. The existence of negative externalities may also be caused by a lack of well defined property rights and the absence of 'user pays' prices which can lead to a misallocation of resources and a loss of welfare and efficiency. Free riding may also become a problem since any attempt to force private agents to pay for the use of environmental amenities may not succeed, or be so costly to implement, that it is an inefficient mechanism for improving resource allocation.

Governments attempt to control negative externalities through a variety of measures such as taxing polluters (e.g. a carbon tax), issuing licences, quotas or permits to pollute or use environmental resources, or impose fines for contravening clean air and water legislation. Governments also use a variety of laws and regulations to enforce environmental standards and have started to use economic instruments such as 'user pays' prices for environmental goods, and subsidies to encourage the use of recycling, clean technologies and alternative sources of energy (e.g. solar, tidal, thermal and wind power) to burning fossil fuels like coal and oil which increase greenhouse gas emissions and contribute to climate change.

✍ REVIEW QUESTIONS

GOVERNMENT INTERVENTION IN MARKETS

1. How and why would a government establish a price control scheme? Draw, label and describe a diagram illustrating such a scheme. Briefly explain some problems that may emerge with such price control schemes.

2. How and why would a government establish a price support scheme? Draw, label and describe a diagram illustrating such a scheme. What are some examples of such schemes? What problems may emerge with price support schemes?

3. How does the imposition of an indirect tax on the supply of a good affect its equilibrium price and quantity in a market? What is the difference between the impact and incidence of an indirect tax? Draw and label a diagram to explain the effect of a sales tax or GST on new cars.

4. What is market failure? Why and how do governments intervene in markets to provide merit and public goods and to control negative externalities? Discuss examples of such intervention in Australia.

MARKET STRUCTURES: THE EFFECTS OF CHANGING LEVELS OF COMPETITION AND MARKET POWER ON PRICE AND OUTPUT

Market structure refers to the number and size of firms, the nature of the product sold and the ease of entry of new firms into a particular industry or market. Different industries have different market structures which are influenced by the degree of product differentiation, government intervention and the nature of the production process itself. Market structures can be analysed in terms of:

- **Structure**: the number and relative size of firms, barriers to entry and the nature of the product;

- **Conduct**: the pricing and output policies of firms in the industry; and

- **Performance**: the economic efficiency of firms in the industry and the extent of consumer welfare.

Using this method of market structure classification, five major market structures can be identified in most economies including the Australian economy. These market structures are perfect competition, monopolistic competition, oligopoly, duopoly and monopoly. They represent a spectrum or continuum of market structures from perfect competition (with numerous small sellers of a homogeneous product and no barriers to entry into the market), to monopoly which is characterised by a single large dominant seller of an often unique product or service, accompanied by substantial if not prohibitive barriers to entry into the market. It is important to note that particular market structures have arisen because of some combination of factors such as historical evolution; government intervention and regulation; the nature of the product; or technological innovation. **Table 7.2** summarises the essential elements of the five main market structures, using Australian examples to illustrate each type of market structure.

Perfect Competition

Perfect, pure or atomistic competition is a market structure characterised by a large number of sellers of a homogeneous (identical) product who have little to no influence over price or output and there is free or unrestricted entry into the industry. Perfect competition is rare in the real world and is best regarded as a microeconomic model, although close real world examples include the markets for agricultural products such as wheat, fruit and vegetables. The main features of a perfectly competitive market are:

- **A large number of buyers and sellers** in the industry, each with a small market share, with no single buyer or seller having the market power to influence industry price or output. Perfect competitors accept the going market price and contribute a small amount of output to total industry supply.

Table 7.2: Characteristics and Examples of Market Structures

Market Structure	Number and Size of Firms	Nature of Product	Entry Conditions	Australian example
Perfect Competition	Large number of small firms	Homogeneous product	No barriers to entry	Agricultural markets such as wheat
Monopolistic Competition	Large number of small firms	Slightly differentiated	Low barriers to entry	Convenience retail stores
Oligopoly	Few relatively large firms	Differentiated product	High barriers to entry	Banking industry Oil industry
Duopoly	Two relatively large firms	Differentiated product	High barriers to entry	Aviation industry: Qantas and Virgin
Monopoly	One large dominant firm	Unique product Few substitutes	High barriers to entry	Steel industry Postal services

- **Each seller or firm produces an identical or homogeneous product** i.e. products are perfect substitutes for each other in the market. Examples include small scale fruit or vegetable farms.
- **There are no barriers to entry** or exit into or from the market for producers.
- **There is perfect mobility** of the factors of production (or resources) within the market.
- **The existence of perfect knowledge** of prices and output on the part of buyers and sellers.

Price in a perfectly competitive industry is determined by the interaction of industry demand and supply. Market price then becomes the individual firm's demand curve and is perfectly elastic since perfect substitutes exist, and the firm accounts for a tiny share of the industry's output. The perfectly competitive firm is a **price taker** and accepts the market price or industry price as their selling price. Perfect competitors tend to earn a **normal profit** in the long run, sufficient to stay in the industry.

Monopolistic Competition

Monopolistic competition is a market structure characterised by the following features:

- **A relatively large number of firms**, usually small in scale and having a small influence over price because of their small market share. There is little chance of collusive activity and an absence of mutual interdependence between firms in the industry such as small retail shops.

- **Entry into the market and exit out of the market is relatively easy.** Small scale firms with low capital requirements mean that barriers to entering the industry are minimal. However, there are some costs of entry such as advertising, fixed and working capital.

- **Firms produce and market a slightly differentiated product** from their rivals. Products may be physically similar but differentiated by brand names, packaging, after sales service or locational convenience. Examples include small retail shops in shopping centres or malls.

Consumers perceive differences (either real or imagined) in the products of rivals. Therefore, producers have some degree of control over price, and it is through product differentiation that monopolistic competitors have some 'monopoly power' over price or output. Price competition exists, but firms may also engage in non price or **product competition** because of the ability to differentiate their products. In Australia, monopolistically competitive industries include much of the retailing sector, characterised by small independent or franchised chain stores selling meat, bread, pastries and cakes, takeaway food, delicatessen products, newspapers and stationery, jewellery, toys, shoes and hardware products. Monopolistic competitors tend to be **price takers** like perfect competitors as they accept the market price for their goods or services since they have a relatively low level of market power. Monopolistic competitors tend to earn a **normal profit** in the long run, sufficient to stay in the industry.

Oligopoly

Oligopoly is a market structure characterised by a few large firms, usually between three and eight, who dominate the market in terms of their output, market share and employment. Firms sell a slightly differentiated product, and there are usually large restrictions on entry into the market such as the level of capital required to set up and carry out production. Oligopolists may compete on a price or non price basis, depending upon the level of **interdependence between firms** and the nature of the industry. Oligopolists have some control over price or output because of their market share and market power.

Governments may intervene to regulate the conduct of oligopolists if they believe that collusive activities are taking place which may restrict competition, innovation and consumer choice in terms of product availability and prices. Examples of oligopolistic industries in the Australian economy include the supermarket, brewing, tobacco, petroleum, chemical and banking industries. Some of the major reasons for the existence of oligopolies in Australia include the small size of the domestic market; the high level of foreign ownership; advantages accrued through research and development; economies of large scale production; the presence of common costs; and the erection of large barriers to entry to new firms wishing to enter the market. There are six distinguishing characteristics of oligopolistic industries:

- **A few relatively large scale firms** dominate the market in terms of sales, output and employment. A single firm may emerge as a price or product leader in the industry such as Apple and Microsoft.

- **Product differentiation** exists where firms create real or imagined differences between each others' products or services and this may form the basis of competitive behaviour e.g. new car models.

- **Barriers to entry and exit from the market are substantial**. These barriers may be a high level of capitalisation, technological know how or licensing requirements (e.g. banks need to be licensed) needed by firms to operate in the market.

- **Oligopolistic firms tend to be interdependent** as the actions of one firm will have significant effects upon rival firms in the market and so they tend to 'imitate' or react to each others' behaviour.

- **Uncertainty is an important feature** of oligopolistic market structures. Oligopolists prefer to avoid direct price competition since this may reduce total revenue. Price reductions will be imitated by rival firms in order to maintain market share. Price rises, if not matched by rivals, would lead to a fall in total revenue. Hence there is often a degree of **price rigidity** in oligopolistic markets.

- **Non-price competition is prevalent** in oligopolies in the form of product differentiation. This may involve differences in models or product ranges, packaging, advertising, after sales service, guarantees, warranties, giveaways or competition prizes and consumer loyalty programmes.

Interdependence, uncertainty and product differentiation help to reduce the incidence of price competition in oligopolistic market structures. But most firms compete on both a price and product basis. Oligopolists are said to be **price makers** as they have considerable market power to set prices and they tend to earn **supernormal profits** in the long run, which are over what is needed to stay in business.

Monopoly

Monopoly is a market situation in which there is only one seller or producer of a good or service. Although substitutes may exist for the monopolist's product, they are not close substitutes and so the monopoly firm represents industry supply for that product. An example of monopoly in Australia is the supply of postal services by Australia Post. Pure monopoly occurs when a firm is the sole seller of a good or service for which there are no close substitutes. An example is water supply by Sydney Water or the provision of electricity by a public utility in a region such as Energy Australia in NSW.

Public utilities (e.g. electricity, gas, water, sewerage and postage) may become **natural monopolies** if they are able to supply the entire market demand with an efficient scale of plant, because their unit costs of production decrease as output increases, therefore making it difficult, if not impossible for new firms to enter the market. The pricing and output policy of a profit maximising monopolist is determined by the demand and supply conditions facing the firm, and the desire of the monopolist to maximise profits where there is the greatest positive difference between total revenue and total cost.

The demand curve faced by the monopolist is downward sloping and represents industry demand as well as market demand. Consumers are willing to buy less output at higher prices and more output at lower prices. The level of profit is known as **monopoly or pure profit** because it is in excess of what the monopolist needs to earn to stay in business. **Normal profit** is earnt when total cost is equal to total revenue, because normal profit is regarded as a cost of production, since it is the return to the entrepreneur for risk taking. Monopoly profit is **supernormal profit** as total revenue exceeds total cost and is in addition to a normal profit, which is the return to the entrepreneur for risk taking behaviour.

Monopolists are said to be **price makers** since they have large market power and are able to set prices or output but not both. The monopolist may wish to raise prices and is free to do so, but consumers will reduce their demand accordingly. Similarly, a monopolist who restricts output would find that consumers would be willing to pay a higher price to gain the limited amount of output available. The monopolist's pricing and output behaviour may be less than socially optimal because consumers may pay a higher price and receive a lower output than they would under conditions of perfect competition.

Also, the receipt of monopoly or supernormal profits is a result of a redistribution of income away from consumers of the monopolist's product to the monopoly firm.

Although in theory, the monopolist's profit maximising behaviour is not socially optimal, in practice the entry of new firms or government regulatory policies may reduce the incidence of monopoly power in markets, and impose a discipline on the monopolist's freedom to administer price or output.

Furthermore, large monopoly firms can be pressured into achieving a high level of technical, allocative and dynamic efficiency by the creation of a potential threat of entry into the market of a competitor. This is known as the **theory of contestability**. For example, in the case of Australian telecommunications, the Australian government actively encouraged the entry of Optus and other firms to compete with Telstra, thereby ending Telstra's monopoly on STD calls and in the mobile phone market.

Large monopoly firms also have the funds to achieve dynamic efficiency by investing in research and development and reaping economies of large scale production. However market pressure may be needed to force them to pass on the benefits to consumers such as lower prices, better quality products and services. The Australian government uses legislation such as the *Competition and Consumer Act 2010* and the national competition policy enforced by the Australian Competition and Consumer Commission (ACCC) to influence the behaviour of monopolies (especially pricing) in protecting consumer sovereignty and welfare (e.g. national product safety) in markets where monopoly firms operate.

✍ REVIEW QUESTIONS

MARKET STRUCTURES

1. Distinguish between the terms 'structure, conduct and performance' in classifying various market structures.

2. Discuss the main characteristics and the price and output policy of firms operating under conditions of perfect competition.

3. Discuss the main characteristics and the price and output policy of firms operating under conditions of monopolistic competition.

4. Discuss the main characteristics and the price and output policy of firms in oligopolistic markets.

5. Discuss the main characteristics and the price and output policy of a monopoly firm.

6. Distinguish between the price and output policies of firms which are described as 'price takers' and those which are described as 'price makers'.

☯ CHAPTER 7: EXTENDED RESPONSE QUESTIONS

1. How are market equilibrium price and quantity determined? How and why can changes in demand and supply conditions alter market equilibrium? Use diagrams to illustrate your answer.

2. Why do governments intervene in markets? How can the imposition of price control and price support schemes affect market equilibrium? What problems may arise with such schemes?

3. What is meant by the term 'market structure'? Briefly describe the price and output policies of firms in perfect and monopolistic competition, compared to oligopoly and monopoly. How does increasing market power influence price and output and consumer welfare?

CHAPTER 7: SHORT ANSWER QUESTIONS

Price	Quantity Demanded	Quantity Supplied
$1	140	20
$2	120	40
$3	100	60
$4	80	80
$5	60	90
$6	40	100
$7	20	120

Refer to the table above of the market demand and market supply schedules for cakes and answer the questions below.

Marks

1. Construct and label a diagram in the space below of the market demand and market supply curves for cakes from the demand and supply schedules in the table above. (4)

2. What is the market equilibrium price and quantity of cakes? (2)

_____

_____

3. If the demand for cakes increased by 30 over the whole range of prices, what would be the new equilibrium price and quantity in the market? (2)

_____

_____

4. Draw and label the new demand curve from Question 3 on your diagram and discuss ONE factor which could have caused the increase in the demand for cakes. (2)

_____

_____

_____

☯ CHAPTER FOCUS ON MARKET EQUILIBRIUM AND GOVERNMENT INTERVENTION

The diagram shows the imposition of an indirect tax by the government on producers of a good in a free market.
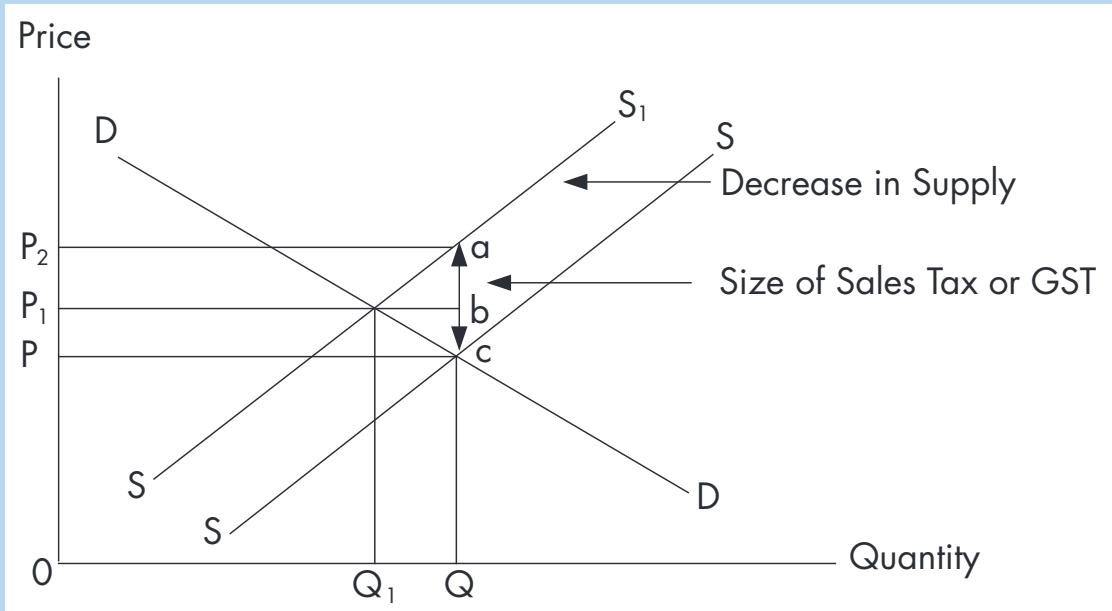
Distinguish between the impact and the incidence of the tax on the price and output of the good in the market after the imposition of the indirect tax by the government.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

✌ CHAPTER SUMMARY

MARKET EQUILIBRIUM AND GOVERNMENT INTERVENTION

1. Market equilibrium is a situation where price and output are determined through the interaction of demand and supply. When the quantity demanded of a good or service is equal to the quantity supplied of that good or service, market equilibrium price and quantity are established.

2. Market equilibrium is a natural tendency since any mismatch between demand and supply will be equilibrated by changes in prices and the quantity demanded and supplied of the good or service in a market:

   • An increase in demand will shift the demand curve to the right and lead to a higher equilibrium price and more goods or services being demanded. A decrease in demand will shift the demand curve to the left and lead to a lower equilibrium price and less goods or services being demanded.

   • An increase in supply will shift the supply curve to the right and lead to a lower equilibrium price and more goods or services being supplied. A decrease in supply will shift the supply curve to the left and lead to a higher equilibrium price and less goods or services being supplied.

3. Governments may intervene in markets to establish prices above or below the market equilibrium price if they believe that this intervention is in the public interest:

   • A price ceiling is where a maximum price for a good or service is established below the market equilibrium price to ration the available supply of an essential good to consumers such as petrol.

   • A price floor is where a minimum price for a good or service is established above the market equilibrium price to guarantee a minimum income to the producers of a particular product such as wool.

   • Indirect taxes can be imposed on the sale of a good or service, which will raise production costs, reduce supply, and lead to a higher equilibrium price in the market.

4. Governments also intervene in markets if they believe that markets fail to achieve allocative efficiency in the provision of some goods and services:

   • Governments may provide merit goods and services to the community.

   • Governments may provide, maintain and regulate some public goods in the community.

   • Governments may intervene to protect environmental resources and quality, and to prevent or reduce the incidence of negative externalities in private production such as pollution.

5. Market structure refers to the number and size of firms in an industry; the nature of the product sold; and the ease of entry of new firms into a market. Market structures can be analysed in terms of their structure; the conduct of firms in the industry; and the performance of firms in the industry.

6. There are four main market structures found in the Australian economy:

   • Perfect competition is where there are large numbers of buyers and sellers in the market. Examples include agricultural markets such as wheat.

   • Monopolistic competition is where there is a large number of small firms in the market. Examples include small retail convenience stores.

   • Oligopoly is where there are a few relatively large firms which dominate the market. Examples include the supermarket, petroleum, brewing and banking industries.

   • Monopoly is where there is only one firm which is the industry, and dominates the market. Examples include the steel industry (Bluescope Steel) and Australia Post.

LABOUR MARKETS

TOPIC FOCUS

This topic focuses on the operation of the labour market in terms of the microeconomic and macroeconomic factors which affect the demand for labour and the supply of labour. The characteristics of the Australian workforce are discussed and wage and non wage outcomes explored. Labour market trends in unemployment, part time and casual work, outsourcing, individual work contracts and sub contracting are discussed, as is the role of various labour market institutions such as trade unions, employer associations and industrial relations tribunals.

Students should achieve the following knowledge and skills outcomes in Topic 4 of the Preliminary Course:

ECONOMIC ISSUES

- Analyse the factors that create differences in income from work;

- Compare and contrast wage and non-wage outcomes for individuals in different occupational groups;

- Examine the relationship between work and the quality of life;

- Analyse the arguments for and against a more equitable distribution of income from work;

- Assess the impact of labour market trends on individuals;

- Investigate the reasons for gender differences in labour market outcomes;

- Investigate recent trends in unemployment in Australia;

- Compare and contrast unemployment levels in different parts of Australia; and

- Predict impacts on society and the economy of changes to the nature of work and the workforce.

ECONOMIC SKILLS

- Compare and contrast the labour market with product markets;

- Research an outcome of the contemporary Australian labour market; and

- Work in groups to investigate the efficiency and equity of labour market outcomes.

The labour market is a factor market where labour resources are bought and sold. Various microeconomic and macroeconomic factors affect both the demand and supply of labour in particular industries and in the economy as a whole.

In a competitive labour market the demand and supply of labour determine the equilibrium wage rate and the quantity of labour employed. The Australian labourforce consists of persons employed on a part time, full time and casual basis, as well as those unemployed but available for employment and actively seeking work. It also includes the underemployed who are employed but want more hours of work such as those working part time or casually but want full time work or those workers switched from full time hours to part time hours.

There are wage and non wage outcomes in the labour market, including differences in wage and employment levels according to employees' gender, occupation, age, income group and cultural background. The Australian labourforce has become more casualised and deregulated in recent times with increasing part time and casual work, and the use of subcontracting, outsourcing and individual common law employment contracts. The main institutions in the labour market are trade unions, employer associations, industrial tribunals, government authorities, state and federal governments.

CHAPTER 8

The Demand and Supply of Labour

Labour is the human element in the production process. The intellectual and physical effort of people in production constitute labour inputs, with labour receiving wages as a factor income return. The labour market is a factor market where the demand and supply of labour interact to determine the wage rate and the allocation of labour resources between firms and industries in the economy. Factor markets are where the factors of production (i.e. land, labour, capital and enterprise) are bought and sold.

Wages are the **income of employees, the price of labour** relative to other inputs, and **the cost to employers of using labour** in the production process. The outcomes of the labour market in terms of wages growth and employment, are important considerations in the achievement of the government's macroeconomic objectives of price stability and full employment. Wages growth will affect aggregate demand and demand inflation. Wages as the price of labour will affect the relative cost of labour to capital and influence cost inflation. Wages as the cost of labour will also impact on employer hiring intentions and the level of employment (full time, part time and casual) and the rate of unemployment.

The Derived Demand for Labour

The demand for labour is derived from the demand for the final goods and services that labour is used to produce. The **demand for labour** is influenced by the level of economic activity, the productivity of labour and the relative cost of labour compared to capital. The **supply of labour** refers to the proportion of the working age population (15 to 64 years) making itself available for work. The supply of labour makes up the total potential Australian workforce, which consists of both employed (casual, part time and full time employees) and unemployed people actively seeking work. The supply of labour is influenced by the size of the working age population, the participation rate and attitudes to work. In a competitive labour market, the interaction of the demand and supply for labour will determine wage rates and the allocation of labour resources between various industries and occupations. However governments intervene in the free operation of labour markets in Australia for a number of reasons.

Governments may intervene in labour markets to establish minimum wage levels, to resolve industrial disputes, to set minimum conditions of work including workplace health and safety standards, annual leave provisions and compulsory superannuation payments. The major aims of macroeconomic policy are to achieve full employment and price stability. This involves reducing unemployment levels and ensuring that wage increases reflect productivity improvements, so that wage inflation does not impact on the general rate of inflation in the economy and reduce the international competitiveness of firms.

Governments also intervene in labour markets through the use of microeconomic policies to make the labour market more efficient by removing unnecessary regulations and restrictions on the allocation of labour resources and labour productivity. The Australian government has intervened heavily to reform the labour market since 1986 by introducing the principle of **enterprise bargaining** as a wage setting principle designed to increase the flexibility of the labour market. **Enterprise agreements** (such as collective Single Enterprise, Multi Enterprise and Greenfields Agreements under the *Fair Work Act 2009*) between employees and employers link wage increases to improvements in productivity in the workplace. Such agreements have improved labour market outcomes and helped to reduce the levels of wage inflation and industrial disputation. The federal government has also pursued a policy of achieving a higher rate of sustainable economic growth to promote job creation, and to reduce the unemployment rate in the Australian economy which rose from 5.2% in June 2019 to 7.4% of the workforce in June 2020 due to the **COVID-19 pandemic** and lockdown of the Australian economy.

THE DEMAND FOR LABOUR

The demand and supply of labour are influenced by both macroeconomic and microeconomic factors. Microeconomic factors include specific industry and firm conditions that influence the demand and supply of labour for particular occupations, labour skills and industries in the economy. Macroeconomic factors refer to conditions in the economy as a whole, which can affect the general labour market.

Microeconomic Factors Influencing the Demand for Labour

At the microeconomic level of activity, the demand for labour is influenced by factors that are industry or firm specific (which reflect enterprise conditions) such as the following:

- **The nature and size of the industry**: Large labour intensive industries such as retailing, wholesaling, finance and banking in the service sector are likely to be large employers of labour. Smaller, more capital intensive industries such as agriculture, mining and manufacturing tend to demand less labour. The nature of a firm's output or industry's output will also influence labour demand, in terms of the type and quality of labour demanded such as professional, skilled, semi-skilled and unskilled labour. The COVID-19 pandemic in 2020 reduced the overall demand for labour.

- **The pattern of consumer demand and output** will influence the demand for various industries' products and services. Since the demand for labour is derived from the demand for final goods and services, a change in the pattern or intensity of consumer demand in an industry will affect the demand for labour. A decline in the demand for steel for example may lead to less steel workers being employed. In industries such as mining where demand grew because of global resources booms between 2003 and 2012, more labour was required and the level of employment rose.

- **The wage rate and conditions of employment offered** in different industries will affect the demand for labour and the elasticity of the demand for labour, since labour demand will be responsive to movements in wage rates. More profitable industries with higher prospects for growth are more able to attract labour by offering higher wage rates and fringe benefits to employees (e.g. bonuses). Less profitable industries facing stagnant or declining market demand may only offer minimum award wage rates and minimal benefits and therefore attract less labour. Industry wage differentials will affect the mobility and occupational distribution of labour, with labour moving from low wage to high wage industries and occupations in response to higher wages and other employee benefits.

- **The productivity of labour** refers to the output per unit of labour employed over time, and will influence the decisions by employers to hire workers. Rising levels of productivity will lead to an increase in the demand for labour, as employers tend to hire more productive workers to increase output at a reduced cost. This will lead to higher profits for firms and a rise in employment. If labour productivity is low relative to capital productivity, firms may hire less workers, and substitute capital for labour in production to reduce their costs of production and maximise profits.

- **The rate of capital/labour substitution** in various industries will influence the demand for labour. The relative cost of labour to capital can influence the labour/capital mix in production and the demand for labour and capital resources. Primary and secondary industries have reduced the size of their workforces as increased mechanisation, automation, computerisation and the use of robotics have eliminated much of the work previously done by labour. The tertiary sector has created most of the growth in employment in the 1990s and 2000s in Australia since it is more labour intensive than primary and secondary industries, and the demand for services has risen over time.

- **The rate of structural change and entrepreneurial expectations** in an industry will impact on employment growth. Industries affected by tariff cuts (e.g. TCF, steel and motor vehicles) have reduced their workforces, whereas strong employment growth has occurred in the services sector and the mining industry because of increased demand for services and resources. If entrepreneurs expect consumer demand to increase in the future, leading to larger market sales for their product or service, they may increase their demand for labour leading to rising levels of employment.

For example, the growth in employment in the telecommunications and IT industry in Australia in the 1990s and 2000s was due to government deregulation of the industry and strong demand for telecommunications and IT products and services by consumers, firms and governments.

Macroeconomic Factors Influencing the Demand for Labour

The demand for labour at a macroeconomic level is derived from the demand for final goods and services at an aggregate level. Changes in aggregate demand (C + I + G + X - M), which is the total demand for goods and services in the economy by households, firms, governments and the tradable goods sector (i.e. export and import competing industries), will influence labour demand in the following ways:

- **Changes in the total level of economic activity** or aggregate demand: if the rate of economic growth is high, there will be an increased demand for labour as spending and output will rise, increasing the demand for productive inputs including labour. The rate of unemployment will tend to fall over time as those previously unable to find work may find employment. Labour shortages commonly occur during such boom conditions, causing wage levels to rise, which attracts new workers to enter the labourforce, leading to a rise in the participation rate (i.e. the percentage of the working age population in the workforce). This may include new entrants to the labourforce (such as married women, students and school leavers) as well as persons who may have been previously unemployed.

  If economic activity is declining such as in the **COVID-19 recession** in 2020, spending and production will fall, as will the demand for labour leading to higher unemployment and more labour resources becoming idle. This is known as cyclical unemployment due to a cyclical downturn in economic activity.

- **The productivity of labour** will influence the decisions by employers to hire new workers. Rising levels of productivity in the economy as a whole, will lead to increased demand for labour by employers, as they will be willing to hire more workers if they are able to increase output at a reduced cost. This will lead to higher profits for firms and a rise in the aggregate level of employment.

  If the productivity of labour is generally falling, employers are less likely to hire additional workers, as the extra potential output is more costly, and less likely to add to profits. Firms may substitute capital for labour, if capital is more productive and cheaper than employing more labour.

- **The general wage rate** or level of wages will affect the relative cost of labour to capital. If wage rates are lower than the cost of capital, employers will substitute labour for capital in production by hiring more workers and employment levels will tend to rise. If wages are rising relative to the cost of capital, employers are more likely to substitute capital for labour in production, which could lead to some structural unemployment in the labour market. Other costs of hiring labour such as superannuation payments, workers' compensation premiums, taxation (e.g. income tax and payroll tax), sick leave and annual leave entitlements, and clothing allowances, which are called labour 'on costs', also add to the cost of employing labour and may influence employers' hiring decisions.

- **Government industrial relations policies** may affect the demand for labour in the economy if policies are used to create employment opportunities (e.g. the Australian government's *Youth Employment Package* in the 2016 budget and the *JobMaker Plan* in the 2020 budget). Governments also attempt to reduce wages and other costs of hiring labour (e.g. by reducing labour 'on costs' such as workers' compensation), by pursuing policies to decentralise and deregulate the labour market. For example, the policy of enterprise or workplace bargaining links wage increases to productivity gains at the firm or industry level, helping to increase employers' demand for labour.

- **The level of industrial disputation** (e.g. strikes and lockouts) caused by a failure of trade unions and employers to negotiate mutually acceptable wage and non wage outcomes may affect the demand for labour. If the level of industrial disputation is high, employers may be less willing to hire additional workers even if economic growth is rising. They may postpone their hiring decisions until negotiations are finalised and their expectations are more positive. On the other hand if the level of industrial disputation is low, this will improve employer expectations about the future and lead to positive labour hiring intentions by employers if economic growth is rising.

THE SUPPLY OF LABOUR

Microeconomic Factors Influencing the Supply of Labour

At the microeconomic level of activity, the supply of labour to individual firms and industries depends on the wage rate, conditions of employment, the education, training, qualifications, skills and experience required by employers of employees, the mobility of labour and various institutional factors:

- **The wage rate and other incentives for labour** in certain industries will influence the supply of labour. The higher the wage rate offered by employers, the more likely workers will be to work for that employer, relative to firms or industries that offer lower wage rates. Payments for labour services (i.e. remuneration) may include wages, salaries, overtime payments, penalty rates, leave loading, bonuses, tips, commissions, fringe benefits, staff discounts, discounted shares, salary packaging and sacrificing, company cars, expense accounts and other incentives, which will influence the attractiveness of one job relative to another. The supply of labour is a positive function of the wage rate, with more labour supplied as the wage rate rises, and less labour supplied as the wage rate falls.

- **Attractive or pleasant conditions of work** including fringe benefits and prospects for career paths, will also attract labour to a particular firm or industry relative to another. If a firm offers a clean, healthy, safe, attractive and stimulating workplace relative to another firm in the same industry it is more likely to attract and retain labour. Other employment conditions which may influence labour supply include flexible hours of work, child care facilities, 'family friendly' policies, superannuation, sick leave and annual leave, recreational facilities (e.g. gyms) and social activities for employees.

- **Education and training qualifications** required by a firm or an industry will affect the supply of labour. More qualified positions which require higher levels of education, training, qualifications, experience and skills will attract a lower supply of labour than vacancies for semi-skilled and unskilled positions. Some employment positions will require formal qualifications such as university degrees, professional registration or trades certificates, which will limit the supply of eligible applicants for the jobs available. In contrast, the supply of semi skilled and unskilled labour to a firm or an industry will be larger as the qualifications and skill levels required by employers will be lower.

- **Labour's geographic and occupational mobility** will also influence the supply of labour:

  The **geographic mobility** of labour refers to the ability of workers to move from one job location to another, to take advantage of employment and wage opportunities. For example, workers are attracted to isolated locations for employment in the mining industry through the payment of higher wages and favourable employment conditions such as low cost housing and transport e.g. 'fly in/fly out' and 'drive in/drive out' arrangements for workers are common in the mining industry.

  The **occupational mobility** of labour refers to the ease with which workers can move from one occupation or job to another, to take advantage of higher wages and better conditions of employment. For example, an unskilled worker may undertake training to become a trades person through an apprenticeship scheme. Higher rates of labour mobility will increase the elasticity of the supply of labour, whereas lower rates of labour mobility will reduce the elasticity of supply of labour. Government and employer assistance with training, retraining, apprenticeships, job search and relocation, can improve the rates of geographic and occupational mobility of labour.

- **Labour market institutions** such as trade unions, employer associations and governments may influence the supply of labour. Trade unions may restrict the supply of labour into certain industries by requiring compulsory union membership. This is called a 'closed shop' and is now illegal.

  Employer associations may require a minimum level of qualifications and experience for admission to a profession (e.g. lawyers, doctors and accountants). The government may restrict the supply of certain types of labour through licensing requirements (e.g. electricians, builders, plumbers, doctors and dentists) to ensure public health and safety, and the maintenance of professional standards of service provision to the community by the various professions and trades in the labourforce.

Macroeconomic Factors Influencing the Supply of Labour

The supply of labour at the macroeconomic level is determined by the size of the workforce, which includes all those people employed (both part time and full time) plus those unemployed but available for work and actively seeking work. The size of the workforce is influenced by the following factors:

- **The size of the population**, and in particular the size of the working age population will affect the size of the potential workforce. Countries with larger populations will have larger potential workforces than those with smaller populations. The rate of growth of a country's population will depend on the rate of natural increase (i.e. live births minus deaths) and the rate of net migration (i.e. immigration minus emigration, as a percentage of the total population):

Rate of Population Growth (%) = Rate of Natural Increase (%) + Rate of Net Migration (%)

- **The age distribution of the population** will affect the size of the workforce and its participation rate. Countries with age distributions concentrated in the working age group (i.e. 15-64 years) will have a larger potential workforce, than those with a predominance of people in young age groups (i.e. 0-15 years) or older age groups (i.e. 65+ years) and less in the working age group.

    Australia has an ageing population with an increasing proportion of the population in older age groups (i.e. 65+ years) which reduces the supply of available workers. Higher educational retention rates have also delayed the entry of younger age groups into the Australian workforce. Both the ageing of the population and higher educational retention rates will tend to slow the growth in Australia's workforce in the future. Government policies such as the former Baby Bonus, a higher skilled migrant intake, superannuation tax benefits to retain older workers and a Paid Parental Leave Scheme to retain female workers have been used to increase Australia's population growth and labourforce participation rates and reduce the incidence of labour shortages in the future.

- **The participation rate** refers to the proportion of the working age population (i.e. 15 to 64 years) actually in the workforce as employed persons, or as unemployed persons looking for work i.e.

$$\text{Participation Rate} = \frac{\text{Workforce}}{\text{Working Age Population}} \times \frac{100}{1}$$

    A high participation rate (e.g. in Australia it was 66.8% of the labourforce in 2021-22) increases the supply of labour. Lower participation rates reduce the size of the available supply of labour (e.g. it fell to 64% in 2019-20 due to the **COVID-19 pandemic**). The participation rate varies with the level of economic activity, secondary and tertiary retention rates, the retirement age and the number of women in the workforce. The participation rate rises when economic growth increases, as job vacancies increase, and more people enter the workforce. The participation rate falls as economic growth falls, and the unemployment rate rises, with less people entering the workforce because there are fewer job vacancies such as in 2020 when the economy entered a recession.

- **The average number of hours** worked affects the supply of labour. Increased hours of work may boost the availability of both full time and part time work. More flexible work arrangements in Australia have led to significant growth in part time and casual 'white collar' employment e.g. restrictions on shopping hours have been lifted in most states, increasing the hours worked by the retailing industry, and this has led to high growth in the number of part time and casual jobs.

    The number of hours worked also depends on workers' attitudes towards work and leisure and the burden of personal taxation. With microeconomic reforms lifting labour productivity to over 2% per annum in the late 1990s and early 2000s, many employees are now working longer hours (including unpaid overtime) in return for higher wages. Also many industries have increased the flexibility of working hours, by introducing more shifts to lengthen the working day, as well as on weekends to allow production and sales to increase. This has increased employment opportunities.

    The system of personal taxation may also reduce the incentive to work overtime because of high marginal taxation rates (MTRs). In such cases workers may trade off less work for more leisure. In response, the government cut MTRs in federal budgets between 2000 and 2010 and raised the tax free threshold to $18,200 in 2012 to increase work incentives for low and middle income earners.

Figure 8.1: The Competitive Labour Market
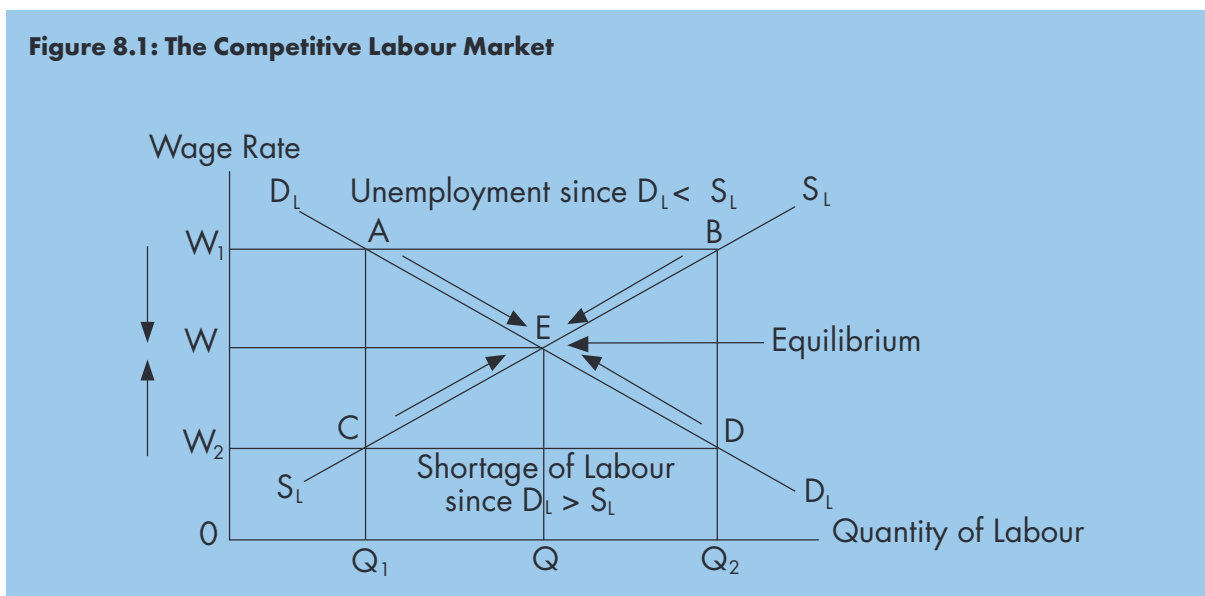
Equilibrium in the Labour Market

A competitive labour market can be illustrated and analysed by using a simple microeconomic model. If we assume that there is no interference to the demand and supply for labour from trade unions, governments or employers, the labour market for a certain industry or occupation will function competitively in determining the wage rate and the allocation of labour as shown in **Figure 8.1**.

The **demand curve for labour** (D_L) is a negative function of the wage rate or the cost of hiring additional units of labour. Employers will demand less labour if the wage rate rises because of the additional labour costs of employing more workers. However if the wage rate falls, employers will be more willing to hire additional workers as labour costs have fallen. Another factor influencing the demand for labour is the **marginal revenue product** (MRP) of labour, since the extra output produced by an extra worker will add to the firm's total revenue and profits when this output is sold in the market.

The **supply curve of labour** (S_L) is a positive function of the wage rate as more people will be willing to work when the wage rate rises. If the wage rate falls, less people will want to participate in the workforce as the income return is lower. Another factor influencing the supply of labour is the tradeoff between the income from work in the form of wages and the utility derived from extra leisure time. This is why many businesses pay penalty rates to attract labour to work on weekends and do overtime or shift work.

The **equilibrium wage rate and quantity of labour employed** in an industry, firm or occupation are determined where the demand for labour and the supply of labour curves intersect at point E in **Figure 8.1**. At the wage rate of OW, the D_L curve intersects the S_L curve at point E. At point E, the equilibrium wage is OW and OQ quantity of labour is demanded and supplied. The labour market is cleared and there is full employment of labour in this industry, firm or occupation as the total number of people (OQ) looking for work at the wage rate of OW are hired by employers and have jobs.

At the higher wage rate of OW_1, the demand for labour (OQ_1) will be less than the supply of labour (OQ_2), resulting in unemployment of some workers equivalent to Q_1Q_2 or AB. The labour market will be equilibrated by a contraction in the supply of labour and an expansion in the demand for labour, in response to a fall in the wage rate from OW_1 to the equilibrium wage rate of OW.

At the lower wage rate of OW_2, the demand for labour (OQ_2) is greater than the supply of labour (OQ_1), resulting in unfilled job vacancies or a shortage of labour, equivalent to Q_1Q_2 or CD of workers. The labour market will be equilibrated by a contraction in the demand for labour and an expansion or extension in the supply of labour. This could occur through a rise in the wage rate from OW_2 to OW offered by employers to attract and retain new workers, thereby eliminating the shortage of labour.

✍ REVIEW QUESTIONS

THE DEMAND AND SUPPLY OF LABOUR

1. Define the term 'labour'. Why is the labour market regarded as a factor market?

2. Explain how wages can be analysed in terms of the income for labour, the price of labour and the cost of labour. Why is the Australian government concerned about wage and employment outcomes in the labour market in terms of achieving its macroeconomic objectives of price stability and full employment?

3. Explain what is meant by the derived demand for labour. Briefly discuss the main microeconomic factors that influence the demand for labour in specific industries.

4. Discuss the main macroeconomic factors that determine the demand for labour.

5. Discuss the main microeconomic factors that determine the supply of labour.

6. Discuss the main macroeconomic factors that determine the supply of labour.

7. Draw a microeconomic diagram to show how the equilibrium wage rate and quantity of employment are determined in a freely functioning labour market in a particular industry.

8. How are the situations of surplus labour (or unemployment) and a shortage of labour (labour shortage) cleared in a competitive labour market by changes in the wage rate?

9. How can trade unions, employer associations and the government affect the supply of labour?

Changes to Equilibrium in the Labour Market

Any shift in either the demand or supply curves for labour will alter the equilibrium wage rate and level of employment in a particular labour market. For example, an **increase in the demand for labour** leads to a shift to the right of the demand curve for labour in **Figure 8.2** from D_L to D_{L1}. The equilibrium wage rate rises from OW to OW_1, and the level of employment rises from OQ_L to OQ_{L1}. The increase in the demand for labour could be caused by a microeconomic factor such as greater consumer demand for the firm's product, or a macroeconomic factor such as a general rise in labour productivity in the economy as a whole, or because of a higher rate of economic growth which increases job vacancies.

A **decrease in the demand for labour** leads to a shift to the left of the demand curve for labour in **Figure 8.2** from D_L to D_{L2}. The equilibrium wage rate falls from OW to OW_2 and the level of employment falls from OQ_L to OQ_{L2}. The decrease in the demand for labour could be caused by a microeconomic factor such as cheaper capital being available in an industry, or a macroeconomic factor, such as a general fall in the level of economic activity as the economy enters a recession such as that caused by the **COVID-19 pandemic** in 2020.

An **increase in the supply of labour** leads to a shift to the right of the supply curve for labour as shown in **Figure 8.3** from S_L to S_{L1}. The equilibrium wage rate falls from OW to OW_1 and the level of employment increases from OQ_L to OQ_{L1}.

Figure 8.2: The Effects of Changes in the Demand for Labour
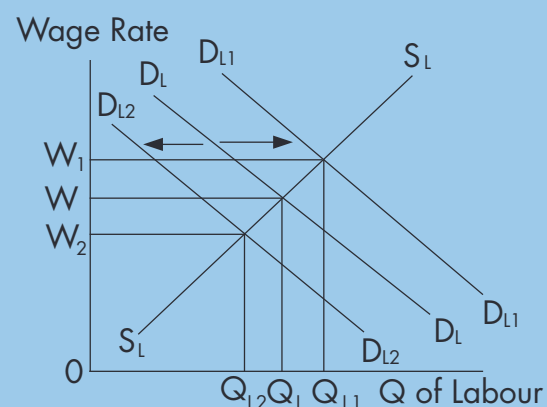
An increase in the supply of labour could be caused by a microeconomic factor such as an improvement in the conditions of employment for workers in an industry, or a macroeconomic factor such as a general rise in the labourforce participation rate.

A **decrease in the supply of labour** leads to a shift to the left of the supply curve for labour as shown in **Figure 8.3** from S_L to S_{L2}. The equilibrium wage rate rises from OW to OW_2, and the level of employment falls from OQ_L to OQ_{L2}. The decrease in the supply of labour could be caused by a microeconomic factor such as higher skills or qualifications required by employers in an industry, or a macroeconomic factor such as a fall in the labourforce participation rate of the population of working age because of less job vacancies.

Figure 8.3: The Effects of Changes in the Supply of Labour
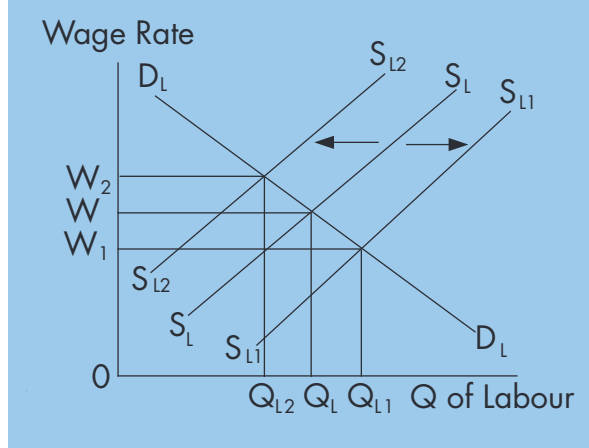
THE AUSTRALIAN LABOURFORCE

The **size of the labour market** refers to the size of the labourforce or workforce, which includes those people employed (both part time and full time) plus those people actively looking for work but unable to find work (i.e. the unemployed). The labourforce can be expressed by using the following formula:

Labourforce = Employed Persons (full time plus part time) + Unemployed Persons

The Australian Bureau of Statistics (ABS) collects data each month through the Labour Force Survey on the number of persons employed and unemployed in Australia. The ABS uses the following definitions to determine those persons who are counted as part of the Australian labourforce or workforce:

- Persons who are 15 years and over and are currently employed and worked for at least one hour per week for pay, profit, commission or payment in kind in a job, business or on a farm. This definition also includes people on paid leave and unpaid leave; on strike or locked out; on workers' compensation; own account workers (i.e. self employed); or persons working shift arrangements.

- Self employed persons (own account workers) working in a family business or their own business.

- Unemployed persons over 15 years of age who were available for work and actively seeking work, or waiting to start a new job. They should be registered with an accredited job agency in the **Workforce Australia** (from June 2022) network and be available for work, making job applications and be willing to attend interviews for suitable job vacancies.

Employment

Full time workers are employed persons who usually work 35 hours or more a week or did so in the reference week of the ABS Labour Force Survey. Part time workers are employed persons working more than one hour but less than 35 hours per week in the reference week of the ABS Labour Force Survey.

Table 8.1 shows the composition of the Australian labourforce between 2013-14 and 2021-22. In 2021-22 the total Australian civilian population aged 15 years and over was 21,163,300. The total labourforce in 2021-22 was 14,090,300 persons, leading to a participation rate of 66.6%. The size of the labourforce declined between 2018-19 and 2019-20 as some people left the workforce and more people became unemployed because of the **COVID-19 induced recession**. The unemployment rate in September 2022 was 3.5% or 499,400 persons out of a total labour force of 14,090,300 persons. This was nearly half the unemployment rate of 6.9% in 2020 at the height of the COVID-19 pandemic

Table 8.1: The Labourforce Status of the Civilian Population 2013-2022 (000s)

Year	Employed Males (M)	Employed Females (F)	Unemployed (M and F)	Total Labourforce
2013-14	6,264.3	5,318.0	756.7	12,339.0
2014-15	6,371.1	5,426.1	772.3	12,569.5
2015-16	6,410.4	5,544.7	724.1	12,679.2
2016-17	6,553.4	5,727.8	716.6	12,997.8
2017-18	6,721.1	5,919.7	688.5	13,329.3
2018-19	6,840.8	6,102.0	718.0	13,660.8
2019-20	6,616.8	5,955.1	937.4	13,509.3
2020-21	6,795.7	6,088.9	626.0	13,510.6
2021-22	7,113.5	6,477.4	499.4	14,090.3

Source: ABS (2022), *Labour Force, Australia*, Catalogue No. 6202.0, September, Table 1. NB Seasonally adjusted data

when the Australian government used JobKeeper payments to keep people employed. During the **Global Financial Crisis** (GFC) the unemployment rate rose from 4.2% in 2007-08 to 5.8% in 2008-09 as the demand for labour fell. The unemployment rate fell from 5.8% to 5.1% between 2009 and 2011 with an economic recovery. As the economy re-balanced its sources of growth after the peak in the mining investment boom in 2013-14, the unemployment rate fell from 6.1% in 2014-15 to 5.2% in 2018-19, before rising to 6.9% in 2019-20 due to the **COVID-19 induced recession**.

Table 8.2 shows the composition of the labourforce in terms of full time and part time employment and unemployment between 2013-14 and 2021-22. Full time and part time employment grew steadily between 2013-14 and 2018-19, but both full time and part time employment fell dramatically in 2019-20 as the **COVID-19 pandemic** led to employers reducing hours of work and retrenching workers. Total employment fell from 12,942,800 persons in 2018-19 to 12,571,900, persons in 2019-20. The number of persons unemployed increased from 718,000 in 2018-19 to 937,400 persons in 2019-20.

Table 8.2: Full Time and Part Time Employment and Unemployment 2013-14 to -2021-22

Year	Full Time (000s)	Part Time (000s)	Total (000s)	Unemployed (000s)	Labourforce (000s)
2013-14	8,076.2	3,506.1	11,582.3	756.7	12,339.0
2014-15	8,164.5	3,632.7	11,797.2	772.3	12,569.5
2015-16	8,167.1	3,788.0	11,955.1	724.1	12,679.2
2016-17	8,403.1	3,878.1	12,281.2	716.6	12,997.8
2017-18	8,645.8	3,995.0	12,640.8	688.5	13,329.3
2018-19	8,840.2	4,102.6	12,942.8	718.0	13,660.8
2019-20	8,540.3	4,031.6	12,571.9	937.4	13,509.3
2020-21	8,983.2	3,901.4	12,884.6	626.0	13,510.6
2021-22	9,478.4	4,112.5	13,590.9	499.4	14,090.3

Source: ABS (2022), *Labour Force, Australia*, Catalogue No. 6202.0, September, Table 1. NB Seasonally adjusted data

Table 8.3: Employment by Industry 2019-20, 2020-21 and 2021-22 (000s)

	2019-20	2020-21	2021-22
Agriculture, Forestry and Fishing	363.1	313.7	287.3
Mining*	247.3	267.8	270.5
Manufacturing	862.2	1,001.7	867.8
Electricity, Gas, Water and Waste Services*	151.0	143.7	155.0
Construction*	1,160.2	1,125.2	1,262.2
Wholesale Trade*	394.9	348.6	373.6
Retail Trade*	1,243.9	1,258.1	1,363.0
Accommodation and Food Services*	773.4	817.5	923.2
Transport, Postal and Warehousing*	610.0	632.7	692.0
Information Media and Telecommunications*	194.4	186.5	201.8
Financial and Insurance Services*	488.6	522.5	537.7
Rental Hiring and Real Estate Services*	227.8	240.6	241.8
Professional, Scientific and Technical Services*	1,114.0	1,200.2	1,306.2
Administrative and Support Services*	394.9	405.6	435.3
Public Administration and Safety	884.3	907.8	859.8
Education and Training *	1,084.8	1,097.5	1,109.9
Health Care and Social Assistance*	1,765.0	1,875.3	2,025.4
Arts and Recreation Services*	212.0	205.9	229.5
Other Services	439.2	538.8	531.2
Total Employment	12,611.0	13,089.7	13,673.2

Source: ABS (2022), *Labour Force Australia*, Catalogue 6291.0.55.003, Aug. Table 4 NB *Recoveries in employment in 2021-22

The overall deterioration in labour market conditions in 2019-20 was the worst since the Global Financial Crisis (GFC) in 2008-09. Full time employment grew between 2009 and 2013 as economic growth recovered after the GFC. In 2013-14 the Australian economy re-balanced the sources of GDP growth from mining led investment to non mining sources of growth. Stronger economic growth between 2015-16 and 2017-18 led to employment growth in the services sector and a fall in the unemployment rate to 5.2% of the workforce. However service sector employment fell dramatically in 2019-20 as retailing, hospitality, travel and tourism were impacted by the **COVID-19 induced recession**. However the labour market recovered in 2021-22 with strong growth in employment and lower unemployment.

Table 8.3 shows the distribution of employed persons (full time and part time) according to the industry in which they worked between 2019-20 and 2021-22. The ANZIC industrial classification used by the ABS is shown in **Table 8.3.** Employment in many service industries contracted in 2019-20 and 2020-21 because of the lockdown of the Australian economy by the federal and state governments to contain the spread of the coronavirus. The industries most affected by losses in employment included retailing, accommodation and food services, transport, postal and warehousing, information, media and communications, administrative and support services and arts and recreation services.

Total employment fell by 356,500 from 12,967,500 in 2018-19 to 12,611,000 in 2019-20 as the Australian economy entered a recession after 28 years of positive economic growth. The economy contracted by around -7% in the June quarter 2020 and consumer spending by -13% as consumers reduced their spending on non essential goods and services and raised their level of saving to 10% of household disposable income. The fall in employment was countered by government stimulus payments to households including JobSeeker and JobKeeper before a strong employment recovery in 2021-22.

Human Capital

The quality of the labour market refers to the general health, motivation, skills, experience, and levels of education and training possessed by people in the labourforce. Australia has a high quality labourforce since most workers are either semi-skilled, skilled or professional, according to their educational and training qualifications, with over 60% of workers having post secondary educational qualifications.

The attributes of knowledge, skills, experience, health, education and training of labour resources are referred to as human capital, since investment in these qualities increases the productive potential of the labourforce. Labour skills need to be constantly updated in adapting to the changing demands of employers in the production of goods and services, particularly in the face of changing technology, electronic commerce and global competition for export markets. Human capital may depreciate like physical capital and lead to lower productivity, especially if unemployed for extended periods of time.

The Participation Rate

The participation rate represents the percentage of the working age population (15-64 years) in the workforce in employment, or actively looking for work but unable to find work (i.e. the unemployed).

Table 8.4: Australian Labourforce Participation Rates 2013-14 to 2021-22 (%)

Year	Persons %	Males %	Females %	Civilian Population (000s) (aged over 15 years)
2013-14	64.7	71.0	58.6	19,069.2
2014-15	64.9	71.1	59.0	19,364.5
2015-16	64.8	70.5	59.4	19,564.9
2016-17	65.4	70.8	59.9	19,852.2
2017-18	65.8	70.8	60.7	20,237.1
2018-19	66.1	71.2	61.2	20,657.2
2019-20	64.7	69.6	60.1	20,861.6
2020-21	64.5	69.3	60.0	20,933.6
2021-22	66.6	71.0	62.3	21,163.3

Source: ABS, (2022), *Labour Force*, Catalogue 6202.0, September. Table 1   Figures are for September in each year

The participation rate in 2021-22 was 66.6% and is calculated according to the following formula:

$$\text{Participation Rate in 2021-22} = \frac{\text{Work Force}}{\text{Working Age Population}} \times \frac{100}{1} = \frac{14,090,300}{21,163,300} = 66.6\%$$

Participation rates may be influenced by a variety of factors including the general level of economic activity and employment prospects; the percentage of students completing high school and going on to tertiary or vocational education; the age of retirement; and the number of job opportunities for women and young people. **Table 8.4** shows the participation rates for males, females and all persons between 2013-14 and 2021-22, calculated as percentages of the civilian population aged over 15 years.

The participation rate for males declined from 71% to 69.3% between 2013-14 and 2020-21 largely reflecting the decline in manufacturing employment. The participation rate for females rose from 58.6% in 2013-14 to 62.3% in 2021-22 reflecting the rising participation of married and young women in the labourforce, especially in the services sector of the economy. The participation rate for males fell to 69.3% and 60% for females in 2020-21 as less people looked for work because of the decline in job vacancies and the increase in the unemployment rate due to the **COVID-19 pandemic and recession.**

Table 8.5: Australian Unemployment Rates 2013-14 to 2021-22

Year	Males (%)	Females (%)	Persons (%)	Unemployed (000s)	Unemployment Rate (%)
2013-14	5.9	7.2	6.1	756.7	6.1
2014-15	6.1	6.2	6.1	772.3	6.1
2015-16	5.6	5.9	5.7	724.1	5.7
2016-17	5.5	5.5	5.5	716.6	5.5
2017-18	5.0	5.3	5.2	688.5	5.2
2018-19	5.3	5.2	5.2	718.0	5.2
2019-20	7.1	6.7	6.9	937.4	6.9
2020-21	4.4	4.9	4.6	626.0	4.6
2021-22	3.5	3.6	3.5	499.4	3.5

Source: ABS (2022), *Labour Force*, Catalogue 6202.0, September. Table 1 Figures are for September in each year

Unemployment

Individuals in the labourforce who are not employed, but who are actively looking for work and are available to start work if a suitable job was available, are defined by the ABS as unemployed. 'Actively looking for work' includes writing, emailing, telephoning or applying in person (e.g. through a job interview) to an employer about a job, or registering with an accredited Workforce Australia agency or registering with Centrelink as a job seeker. The unemployment rate is the percentage of the labourforce that is unemployed, and is calculated by the ABS according to the following formula:

$$\text{Unemployment Rate} = \frac{\text{Number of Persons Unemployed}}{\text{Labourforce (Employed \& Unemployed)}} \times \frac{100}{1}$$

e.g. in September 2022: $= \frac{499,400}{14,090,600} \times \frac{100}{1} = 3.5\%$ unemployment rate

Table 8.5 shows unemployment rates in Australia for males, females, persons (males plus females) and the labourforce between 2013-14 and 2021-22. Unemployment rises in recessions such as in 2020 when the demand for labour as measured by job vacancies is low. Unemployment tends to fall during periods of higher economic growth, when the demand for labour increases as job vacancies increase such as in 2020-21 and 2021-22 with a general economic recovery after the COVID-19 pandemic.

The unemployment rate has fallen steadily from the 11% that was recorded in 1992-93 after the recession of 1990-91. It reached an historic low in 2007-08, falling to 4.2% of the labourforce. This reflected the trend of labour market recovery which began in 1994-95. Employment growth was 2% per annum between 1994-95 and 2007-08 in both part time and full time jobs. The unemployment rate of 4.2% in 2007-08 was at its lowest level since the early 1970s, and reflected strong growth in most sectors of the economy, with jobs created in mining, resources, services and some areas of manufacturing.

The global resources boom between 2003 and 2008, coupled with strong domestic demand, increased employment growth and helped to reduce the unemployment rate between 2003 and 2008. However in 2008-09 the Global Financial Crisis led to negative employment growth and a rise in the unemployment rate from 4.2% in 2007-08 to 5.8% in 2008-09. However the unemployment rate fell to 4.9% in 2010-11 with a strong economic recovery. Employment growth slowed between 2011-12 and 2014-15 as the economy transitioned to non mining sources of growth after the mining investment boom. Slower economic growth and structural change between 2012-13 and 2014-15 led to the unemployment rate rising to 6.1%, before falling to 5.2% in 2018-19 as economic and employment growth strengthened.

Labour demand was very strong between 2003 and 2008, reflecting the robust nature of the domestic economy sourced from strong consumer spending, high levels of investment spending by firms, and strong growth in mining exports. The mining and construction industries in particular increased their demand for labour. However in 2008-09 the impact of the Global Financial Crisis led to employers reducing their demand for labour, cutting hours of work and shifting many full time employees to part time work. However the economic recovery between 2009 and 2011 led to increased labour demand, and modest growth in full time and part time employment as employers hired additional labour.

Changes in the business cycle, social attitudes and the rates of technological and structural change, have impacted on the Australian labour market in the 1980s, 1990s and 2000s. These changes have led to a large increase in the participation rate of young people and married women in part time jobs in the service sector of the economy. The Australian government and many major employers have increased child care services and the flexibility of work arrangements to encourage greater labourforce participation by women with children. There have also been more apprenticeships offered to young and mature aged workers to overcome the skills shortage in the labour market between 2005 and 2008.

Another important recent trend in the labour market has been the emergence of increased rates of **underemployment** which is a measure of the percentage of persons in the labour force who want to work more hours. The underemployment rate rose from 8.3% of the labour force in September 2019 to 14.7% of the labour force in April 2020 reflecting the reduction in working hours by employers during the lockdown of the economy in 2020 due to the **COVID-19 pandemic**. However the underemployment rate had fallen to 6.1% by August 2022 with a strong economic recovery and increased hours of work.

THE TYPES OF UNEMPLOYMENT

There are a number of different types of unemployment experienced by people in the labour market. These types of unemployment include frictional, seasonal, structural, cyclical, long term, hard core, regional and hidden unemployment. These various types of unemployment are discussed below.

Frictional unemployment is caused by people moving between jobs or experiencing changing economic circumstances. Examples of frictional unemployment include school leavers looking for their first job; people searching for better paid career jobs; people leaving and re-entering the workforce after rearing young pre-school aged children; or people leaving a business which may have failed, to join a new business. Frictional unemployment is a result of normal labour market turnover and the imperfect flow of information about job vacancies between job seekers and employers in the labour market.

Seasonal unemployment occurs in specific industries or occupations that are characterised by the seasonal nature of work which may lead to temporary unemployment. Examples might include workers who are only employed during farm harvest times, or workers in Summer jobs such as Christmas retailing or Winter jobs in the snowfields or those working in domestic and international tourism.

Structural unemployment results from a mismatch of labour skills with the job vacancies offered. Structural change in manufacturing for example, may lead to the introduction of new technology making some jobs obsolete, whilst new jobs may be created in expanding industries such as mining and health services. It takes time for workers to acquire new skills before they can fill the vacancies offered by employers. Another factor leading to the rise in structural unemployment in Australia has been the impact of microeconomic reforms in industry such as tariff cuts in the manufacturing sector (especially in the steel, car, textiles, clothing and footwear industries) and the increasing use of global outsourcing.

Cyclical unemployment is due to a contraction in economic activity or aggregate demand. A fall in aggregate demand reduces the derived demand for labour. Cyclical unemployment is also known as involuntary unemployment as workers are laid off as a result of a fall in the demand for labour. Cyclical unemployment rises in a recession as spending and GDP growth fall, causing employers to lay off some existing workers, and to stop hiring new workers. Cyclical unemployment rose in Australia in 2008-09 as result of the Global Financial Crisis. It also rose in 2019-20 as a result of the COVID-19 pandemic with 219,400 more unemployed persons, taking the unemployment rate to 6.9% or 937,400 persons.

Long term unemployment refers to persons who are unemployed for over 12 months. This may be due to a lack of skills, training, educational qualifications or the motivation to find and secure suitable employment opportunities in the labour market. The long term unemployed usually require additional labour market assistance from Workforce Australia to increase their levels of literacy, numeracy and job search skills (including computer skills) such as writing job applications and attending job interviews. The long term unemployment rate was estimated by the ABS to have risen to 31.4% in 2020-21 due to the COVID-19 pandemic, with many unemployed finding it difficult to secure paid employment.

Hard core unemployment is a term used to refer to people in the labourforce who experience regular or permanent periods of unemployment or long term unemployment. These types of workers may face particular difficulties (e.g. physical, mental or emotional problems; a criminal record; health problems such as drug or alcohol abuse; or attitude problems based on a poor motivation to search for work or a poor physical appearance) in finding and holding suitable jobs.

Regional unemployment occurs when one or two major industries (e.g. the steel and car industries) in a particular geographic region reduce their demand for labour, causing widespread unemployment. This is particularly the case in manufacturing or industrial regions undergoing large scale structural change such as the Port Kembla, Wollongong, Newcastle, Whyalla, Elizabeth and Geelong industrial regions.

Hidden or disguised unemployment refers to people who may not be counted as part of the official unemployment statistics because they have given up looking for work ('**discouraged workers**') or receive income support from a spouse or partner and are not eligible for JobSeeker payments, and are not included in ABS unemployment statistics. The hidden unemployed include persons such as married women with children who would work if suitable jobs and affordable child care facilities could be found.

Closely allied to the hidden unemployed are **discouraged workers** who are persons who have given up looking for work, although they would work if there was a suitable job vacancy. Such persons are not classified as unemployed because they have not actively sought work in the previous four weeks of being surveyed by the ABS in its Labour Force Survey. This is known as the '**discouraged worker effect**'.

Underemployment refers to persons who are working in a part time or casual job, but would prefer to have a full time job, or those working full time, who would like to work a second job or overtime to gain extra income. These people are employed and not unemployed, but are willing to work longer hours and are therefore referred to as underemployed because they are not working to their full potential.

THE CAUSES OF UNEMPLOYMENT

The labour market is very dynamic with frictional factors influencing the flow of information between job seekers and potential employers. A lack of efficiency in the labour market in matching people's labour skills with the jobs available will influence the level of frictional unemployment. This is why the Australian government has placed a large emphasis on skills formation through education and training programmes such as the *Jobs and Training Compact* (2009-10), the *Building Australia's Future Workforce* package (2011-12), the *Youth Employment Package* (2016-17) and the *JobMaker Plan* (2020-21).

Rigidities in the labour market like government or industrial relations regulations (e.g. superannuation, high marginal taxation rates, workers' compensation premiums, unfair dismissals legislation and Modern Award conditions) can also reduce the hiring intentions of employers (through higher 'on costs' of labour), causing unemployment. Also if workers do not have access to education and training they will be less skilled and in lower demand by employers for the jobs available. Unemployment can therefore be caused by high 'on costs' of labour and a lack of skills, education and training of labour.

A major cause of unemployment is a **deficiency in aggregate demand** or the total level of spending in the economy. Cyclical changes in domestic and international economic activity may lead to changes in the demand for labour. Since the demand for labour is derived from the demand for final output, any decline in aggregate demand may lead to a rise in unemployment. For example, the Global Financial Crisis in 2008-09 led to a contraction in economic activity and a higher unemployment rate.

In response to the Global Financial Crisis in 2008-09 the Rudd government used a combination of cash payments to households (the *Economic Security Strategy*) and increased spending on infrastructure (the *Nation Building and Jobs Plan)* to support economic activity, including employment creation. Similarly the Australian government used the *JobKeeper Payment* and the *JobMaker Plan* in the 2020 budget to support employment during the **COVID-19 induced recession** in 2020.

Structural changes in consumption and production can cause the level of structural unemployment to rise. For example, the introduction of new labour saving technology in secondary industry has led to a fall in employment in manufacturing. Uncompetitive industries such as textiles, clothing and footwear (TCF), steel and passenger motor vehicles have been forced to reduce their workforces because of tariff and quota cuts introduced by the government, and by 2017 major car makers had closed their plants.

Although some industries have contracted in manufacturing, new industries have been established and others have expanded, creating new employment opportunities in the services sector, which employed 89.5% of the Australian labourforce in 2021-22. In the 1990s there was also widespread reform of Public Trading Enterprises through the policies of deregulation and privatisation, which led to an increase in workforce downsizing and the widespread retrenchment of labour in affected industries.

Another important factor that may cause unemployment is the **role of wage expectations** in pushing up the price of labour relative to capital. Rapid rises in real wage costs will reduce the demand for labour and provide employers with the incentive to substitute capital for labour, causing a rise in what is known as **voluntary unemployment**. When trade unions have large bargaining power and seek and win large wage increases which may be inconsistent with an industry's or firm's capacity to pay, or productivity levels, businesses may cut costs by reducing their wages bill through making some labour redundant. This can result in an increase in the level and rate of voluntary or '**wage induced unemployment**'.

The Geographic Distribution of Unemployment

The distribution of unemployment between Australian states changed between 2006 and 2008 as the labour market reached full employment. Most states recorded falls in their unemployment rates in 2008. The lowest unemployment rates were in the resource rich states of Western Australia (3%) and Queensland (3.8%) which experienced strong labour demand due to the global resources boom. This led to an expansion in mining employment and related or allied industries such as engineering.

All states had strong employment growth in 2008, with the national average of 2.3% in the year to September 2008, and the national unemployment rate fell to 4.3%. The global resources boom and large rise in the terms of trade led to a reallocation of the economy's resources (including labour and capital), away from non resource rich states such as NSW and Victoria to the resource rich states of Western Australia and Queensland with large mining sectors. They recorded higher employment growth and lower rates of unemployment than the non resource rich states between 2003 and 2008.

Table 8.6: Unemployment Rates by State 2014 to 2022

	NSW	VIC	QLD	SA	WA	TAS	Australia
July 2014	5.8%	6.6%	6.5%	7.1%	5.0%	7.5%	6.1%
July 2015	5.8%	6.2%	6.3%	7.9%	6.0%	6.7%	6.1%
July 2016	5.2%	5.7%	6.5%	6.9%	5.5%	6.5%	5.7%
June 2017	4.8%	6.0%	6.3%	7.0%	5.6%	5.8%	5.6%
June 2018	4.8%	5.3%	6.1%	5.6%	6.2%	6.0%	5.4%
June 2019	4.5%	4.7%	6.3%	5.9%	5.9%	6.7%	5.2%
Sept. 2020	7.2%	6.7%	7.7%	7.1%	6.7%	7.6%	6.9%
Sept. 2021	4.6%	4.8%	4.9%	5.1%	4.1%	4.8%	4.6%
Sept. 2022	3.3%	3.5%	3.7%	4.3%	3.4%	4.3%	3.5%

Source: ABS (2022), *Labour Force, Australia*, Catalogue 6202.0, September.

However the impact of the Global Financial Crisis and recession in the second half of 2008 led to negative employment growth and rising unemployment rates in all states in 2009. Employment growth fell by -0.4% in Australia in the year to July 2009 and the unemployment rate increased from 4.3% in 2008 to 5.8% in 2009. Large rises in unemployment in Western Australia and Queensland reflected a contraction in mining output, whilst rising unemployment in the larger states of NSW and Victoria was caused by a fall in employment in manufacturing and the financial sector. However state unemployment rates generally fell in 2010-11 due to a national economic recovery, but uneven growth and retrenchments in manufacturing led to higher unemployment rates in 2012 and 2013 in most states. This trend continued in 2014-15 as economic growth slowed to below 3%, and unemployment rates remained higher in the mining states of Western Australia and Queensland than in the non mining states of NSW and Victoria as shown in **Table 8.6**. The **COVID-19 pandemic** and lockdown of the Australian economy in 2020 led to all states recording large rises in their unemployment rates. However all state unemployment rates had fallen by September 2021 and 2022 with a strong economic recovery.

The Labour Skills Shortage

The labour skills shortage in Australia reflects shortages of labour supply in certain occupations (such as trades and the professions) and industries (such as mining, building and construction) in relation to the demand for these labour skills. The skills shortage arose in 2006 because of a mismatch between the skills demanded by employers in job vacancies and the skills possessed by job seekers. Therefore Australia was not producing enough skilled workers to meet the demand for many skilled jobs with the ABS reporting in 2005 that 149,500 jobs could not be filled nationwide.

A large proportion of these jobs were in the mining boom states of Western Australia and Queensland. There is a geographic imbalance between job availability and the supply of labour, as well as a net shortage of much needed labour skills. The Australian government increased skilled migration between 2001 and 2009 and used short term 457 visas to attract foreign labour with appropriate skills. The Australian government has used two main policies to address the skills shortage:

1. Increasing labourforce participation by retaining older workers with specific skills, and encouraging younger workers and females to acquire higher levels of education and training.
2. Increasing the supply of skilled labour through an intake of skilled migrants in specific occupations.

The Jobs and Training Compact and Building Australia's Future Workforce

The Australian government allocated $1.5b in the 2009-10 budget to assist workers whose job prospects were adversely affected by the Global Financial Crisis (GFC). The government's *Jobs and Training Compact* was designed to support young Australians, retrenched workers and local communities to secure future employment, add to their skills, or learn new skills required to obtain new jobs as the labour market recovered. In the 2011-12 and 2012-13 budgets the *Building Australia's Future Workforce* package included $3b of Australian government funding for new skills measures such as apprenticeships, reform of the VET system, and measures to increase the workforce participation of disadvantaged groups in the community. In the 2015 budget the $5.5b *Jobs and Small Business Package* included spending on wage subsidies to employers to hire unemployed job seekers including young people.

COVID-19 Economic Recovery Plan

In the 2020-21 budget the Australian government introduced a COVID-19 Economic Recovery Plan. This included an extension of the *JobKeeper Payment* to March 2021 to support around 3.5m workers and over 900,000 businesses in keeping people in employment. By October 2020 around $60b had been spent on the *JobKeeper* payments. A further scheme announced in the 2020-21 budget was a $4b *JobMaker Hiring Credit* to help young people to access job opportunities and assist workers to improve their skills and reconnect with employment. The Australian government also brought forward Stage 2 of the *Personal Income Tax Plan* from 2022-23 to 2020-21, by delivering tax cuts to support aggregate demand as well as tax incentives for businesses to increase their spending on investment and jobs.

✍ REVIEW QUESTIONS

THE AUSTRALIAN LABOURFORCE

1. What factors could cause an increase or a decrease in the demand for labour? Draw and label a diagram illustrating the change in the equilibrium wage rate and level of employment as a result of these changes in the demand for labour in a particular industry.

2. What factors could cause an increase or a decrease in the supply of labour? Draw and label a diagram illustrating the change in the equilibrium wage rate and level of employment as a result of these changes in the supply of labour in a particular industry.

3. How is the size of the Australian labourforce measured? How does the ABS define employed (full time and part time) and unemployed persons?

4. Refer to Tables 8.1, 8.2 and 8.3 and describe and account for trends in employment (part time, full time and by industry) and unemployment between 2018-19 and 2021-22.

5. Explain how the participation rate and the unemployment rate are calculated.

6. Refer to Tables 8.4 and 8.5 and describe and account for trends in the participation rate and unemployment rate for males, females and persons between 2013-14 and 2021-22.

7. Discuss the main types of unemployment experienced in the Australian labour market.

8. Explain the main causes of unemployment in the Australian labour market.

9. Discuss the reasons for changes in the geographic or state distribution of unemployment in Australia.

10. Discuss Australian government policies to support employment during the GFC in 2009 and the COVID-19 pandemic and ensuing recession in the Australian economy in 2020.

11. Define the following terms and add them to a glossary:

cyclical unemployment	human capital	participation rate
demand for labour	labour	part time employment
derived demand	labourforce	structural unemployment
frictional unemployment	labour market	underemployment
full time employment	labour shortage	unemployment rate
hidden unemployment	labour supply	working age population

☯ CHAPTER 8: EXTENDED RESPONSE QUESTIONS

1. What is meant by the derived demand for labour? Why is the labour market regarded as a factor market? Discuss the main microeconomic and macroeconomic factors that can influence the demand and supply of labour in the Australian labour market.

2. How are wages and the level of employment determined in a competitive labour market? What factors may cause changes in the demand and supply of labour in a particular industry? Use diagrams to illustrate your answer.

3. Explain what is meant by the size and quality of the Australian labourforce. Discuss the main trends in employment, unemployment and the participation rate in Australia between 2013-14 and 2021-22.

4. Discuss the main types of unemployment in the Australian labour market. Explain the main causes of unemployment in the Australian labour market.

CHAPTER 8: SHORT ANSWER QUESTIONS

The Labourforce Status of the Civilian Population 2013-14 to 2021-22 (000s)

Year	Unemployed (000s)	Total Labourforce	Civilian Population (000s) > 15 years	Total Employed (000s)
2013-14	756.7	12,339.0	19,069.2	11,582.3
2014-15	772.3	12,569.5	19,364.5	11,797.2
2015-16	724.1	12,679.2	19,564.9	11,955.1
2016-17	716.6	12,997.8	19,852.2	12,281.2
2017-18	688.5	13,329.3	20,237.1	12,640.8
2018-19	718.0	13,660.8	20,657.2	12,942.8
2019-20	937.4	13,509.3	20,861.6	12,571.9
2020-21	626.0	13,510.6	20,933.6	12,884.6
2021-22	499.4		21,163.3	13,590.9

Source: ABS (2022), *Labour Force, Australia*, Catalogue 6202.0, September. Table 1

Refer to the table above of data on the Australian labourforce between 2013-14 and 2021-22.
and answer the questions below.   Marks

1.   State the formula for calculating the size of the labourforce.   (1)

_____

2.   Calculate and state the size of the Australian labourforce in 2021-22.   (1)

_____

3.   Calculate and state the participation rate in 2021-22.   (2)

_____

_____

4.   Calculate and state the unemployment rate in 2021-22.   (2)

_____

_____

5.   Describe and account for the trend in the unemployment rate and the participation   (4)
     rate between 2018-19 and 2021-22.

_____

_____

_____

_____

_____

CHAPTER FOCUS ON THE DEMAND AND SUPPLY OF LABOUR

Unemployment Rate

"The unemployment rate declined to 4 per cent in March - as low as in 2008 and, prior to that, the mid-1970s - amid strong labour demand. This demand has been met by firms increasing both labour and hours of existing staff, which has seen other measures of spare capacity (such as heads - and hours - based underutilisation rates) also decline to levels not seen for many years. Labour underutilisation has declined across most industries and has been particularly notable in industries where employment has grown strongly (such as professional services) and those reporting labour supply shortages (such as hospitality). There are also signs that wages growth is picking up in response to this tightening in labour market conditions.

Overall, the supply of labour has been responsive to the strong demand for labour; the participation rate increased to a record high of 66.4 per cent in March, and the employment to working age population ratio also increased to a historically high level."

Source: Reserve Bank of Australia (2022), *Statement on Monetary Policy*, May

Describe and account for the trends in the unemployment rate between 2019 and 2022.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

✌ CHAPTER SUMMARY

THE DEMAND AND SUPPLY OF LABOUR

1. Labour refers to the human effort (physical, intellectual and emotional) put into the production of goods and services. The income return for labour's contribution to production is wages.

2. The demand for labour is a derived demand. It is derived from the demand for the final goods and services which labour is used to produce. Since labour is a factor of production, labour services are bought and sold in the factor market known as the labour market.

3. Both microeconomic and macroeconomic factors influence the demand for labour. Microeconomic factors include the nature and size of the industry; the pattern of consumer demand and output; the wage rate and conditions of employment; rates of labour productivity; the rate of capital/labour substitution; the rate of structural change; and entrepreneurial expectations in the industry.

    Macroeconomic factors influencing the demand for labour include changes in the total level of economic activity; the productivity of labour in the economy; the general wage rate; government industrial relations policies; and the level of industrial disputation.

4. Microeconomic factors influencing the supply of labour include the wage rate and other incentives offered to labour; conditions of work; education and training qualifications required by employers; the occupational and geographic mobility of labour; and the influence of labour market institutions such as trade unions, employer associations, government authorities and industrial tribunals.

5. Macroeconomic factors influencing the supply of labour include the size of the population; the age distribution of the population; the participation rate; and the average number of hours worked.

6. A microeconomic model can be used to show how equilibrium is established in a competitive labour market for a particular industry or occupation. Where the demand for labour and the supply of labour curves intersect, an equilibrium wage rate is established, along with an equilibrium quantity of employment at the equilibrium wage rate in a particular industry or occupation.

7. Changes in labour market equilibrium can occur due to shifts in either the demand for labour or the supply of labour curves. An increase in the demand for labour will lead to a shift to the right in the demand for labour curve and result in a higher equilibrium wage rate and an increased quantity of labour employed. A decrease in the demand for labour will lead to a shift to the left in the demand for labour curve and result in a lower equilibrium wage rate and a decreased quantity of labour employed. An increase in the supply of labour will lead to a shift to the right in the supply of labour curve and result in a lower equilibrium wage rate and an increased quantity of labour employed. A decrease in the supply of labour will lead to a shift to the left in the supply of labour curve and result in a higher equilibrium wage rate and a decreased quantity of labour employed.

8. The Australian labourforce includes those people employed on a casual, part time and full time basis, plus those people who are actively looking for work, but are unable to find suitable work, and who are classified by the ABS as unemployed.

9. In 2021-22 about 89.5% of the Australian labourforce was employed in tertiary industry, 6.4% in secondary or manufacturing industry and 4.1% in primary industry.

10. The quality of the labourforce refers to the health, motivation, skills, experience, training and education of persons in the labourforce. This refers to the human capital of the labourforce.

11. The rate of unemployment tended to fall in Australia between 2000 and 2008 because of strong economic growth, leading to an increased demand for labour. Reforms in the labour market such as enterprise or workplace bargaining and collective enterprise agreements have also led to a more flexible labour market, helping to strengthen the incentive for employers to hire more labour. The Global Financial Crisis in 2008-09 led to reduced demand for labour and a higher unemployment rate of 5.8%. Similarly in 2020 the COVID-19 pandemic and lockdown of the economy led to a higher unemployment rate of 6.9%, reduced working hours and a lower participation rate. A strong recovery in the labour market occurred between 2021 and 2022.

CHAPTER 9

Labour Market Outcomes and Institutions

Labour market outcomes refer to the performance of the labour market in terms of wage and employment levels and how efficiently labour is allocated in the economy. **Wage outcomes** refer to the rate of wages growth; the distribution of wages and salaries and other forms of labour income such as fringe benefits, loadings and bonuses; and the relativities between these wage levels according to occupation, gender, age, industry, income groups and cultural background. **Non wage outcomes** refer to the nature of employment created by the labour market in terms of the composition of work: full time, part time, casual and shift work; and the overall levels and rates of employment and unemployment; and underemployment and underutilisation in the labourforce and economy.

Labour market outcomes are an important area of economic analysis since governments and economists need to understand the forces at work in the labour market which affect wage levels, wages growth, employment levels and the rate of unemployment. Trends in these outcomes will impact on the economy's performance in terms of the rate of economic growth and living standards, inflation, productivity, the distribution of income from work, the level of employment and the rate of unemployment.

DIFFERENCES IN INCOMES FROM WORK

Wages are the main form of income received by employees from working. Other paid benefits are bonuses, tips and commissions (supplements) and unpaid benefits include payments in kind such as company cars, expense accounts, shares, allowances and incentives such as holidays, gifts and staff discounts. **Income** is a concept which includes not only wages and salaries, but other forms of unearned income such as rent, interest, dividends, profit (gross operating surplus) and social security payments. Compensation of employees (i.e. wages, salaries and supplements of $1,040,464m) represented 47% of gross disposable national income in Australia in 2021-22 as illustrated in the dissection of Australia's national income between 2019-20 and 2021-22 in **Table 9.1**. This was -1.1% less than the 48.1% they accounted for in 2020-21 mainly due to very slow annual wages growth of around 2.5%.

Wage outcomes are best measured by reference to ABS calculations of average weekly earnings (AWE). Average weekly ordinary time earnings (AWOTE) for full time adults, measures the gross rate of pay received by full time adult workers, not including any payments for overtime worked. The ABS collects information from approximately 5,000 employers every quarter to determine the estimates of AWE.

Table 9.1: National Income Account 2019-20 to 2021-22 ($m)

	2019-20	2020-21	2021-22
Compensation of Employees	$945,552m	$982,580m	$1,040,464m
Gross Operating Surplus and Mixed Income	$887,632m	$959,414m	$1,058,081m
Taxes Less Subsidies on Production and Imports	$143,855m	$120,623m	$200,121m
Net Primary Income from Non Residents	-$39,416m	-$18,360m	-$81,867m
Net Secondary Income from Non Residents	-$1,461m	$812m	-$2,942m
Gross Disposable National Income	$1,936,162m	$2,045,069m	$2,213,857m

Source: ABS (2022), *Australian National Accounts*, Catalogue No. 5206.0, June, Table 11. NB Data is seasonally adjusted

Employers are asked to provide details of the total gross (before tax) weekly earnings paid to employees (including overtime earnings) and the number of employees involved (e.g. full time/part time; males/females; and juniors/adults). The most obvious change in AWE occurs when wages have increased or decreased as a result of adjustments to the National Minimum Wage by the Fair Work Commission (FWC); new enterprise agreements (including wage adjustments) are reached between employers and employees; or because of changes in Modern Award conditions. Changes in AWE are not necessarily a reflection of changes in wages but may be due to changes in the composition of the wage and salary earner segment of the labourforce. Changes in the type of employment (e.g. part time and full time), the age of the labourforce, the occupational make up of the labourforce and the amount of overtime worked all affect AWE. If AWE increase and the level of employment and composition of the wages and salary segment of the labourforce remains the same, expenditure on wages rises. If increased expenditure on wages is not met by an increase in production, labour costs per unit of output produced will rise.

Wage differentials occur because workers are not homogeneous since there are differences in the qualifications, education, skills, training and experience between workers within the same job or occupation or industry, and between jobs, occupations and industries. Wages also vary according to the relative bargaining power of individual workers and trade unions with their employers in wage negotiations. As a basic safety net of minimum wages, the system of **Modern Awards** establishes minimum rates of pay and conditions for various occupations and jobs. Modern Awards are legally enforceable and administered by the Fair Work Commission under the *Fair Work Act 2009* and State Industrial Commissions or Tribunals, depending on whether workers are under federal or state awards.

Wage Outcomes According to Gender

Wage outcomes measured by average weekly ordinary time earnings (AWOTE) which exclude overtime earnings between 2013-14 and 2021-22 for full time adult males and females appear in **Table 9.2**. Also included in **Table 9.2** is a measure of average weekly total earnings (AWTE) for adult males and females, which includes overtime earnings. From **Table 9.2** it is clear that adult male ordinary and total earnings were greater than those for adult females in the period between 2013-14 and 2021-22. For example, adult males in 2021-22 had AWOTE of $1,872.90 compared to $1,609.00 for adult females.

Table 9.2: Average Weekly Earnings (AWOTE) of Full Time Adult Employees 2013-2022
(Annual Average $ per week)

Year	Ordinary Time Earnings for Adult Males	Ordinary Time Earnings for Adult Females	Total Earnings for Adult Males	Total Earnings for Adult Females
2013-14	$1,560.50	$1,274.40	$1,648.20	$1,292.10
2014-15	$1,591.60	$1,307.40	$1,674.80	$1,325.50
2015-16	$1,613.60	$1,352.50	$1,696.60	$1,370.10
2016-17	$1,638.30	$1,387.10	$1,729.40	$1,406.30
2017-18	$1,678.00	$1,433.40	$1,770.30	$1,453.30
2018-19	$1,726.30	$1,484.80	$1,811.90	$1,506.60
2019-20	$1,812.00	$1,558.40	$1,892.60	$1,577.70
2020-21	$1,837.00	$1,575.50	$1,921.10	$1,597.80
2021-22	$1,872.90	$1,609.00	$1,961.30	$1,638.10

Source: ABS (2022), *Average Weekly Earnings, Australia*, Catalogue No. 6302.0, May, Table 2. Seasonally adjusted

This can be explained by the following reasons: women have not traditionally had as high a participation rate in the paid labourforce as men; women tend to accept more part time or casual work than men; women's education and training qualifications have been lower than men's; women's employment history is interspersed with child bearing and rearing; and negative social attitudes have traditionally discouraged women from taking paid work, but this social attitude has changed with more women now in paid work, with their participation rate increasing from 55% in 2000 to 62.3% in 2021-22.

In 1969 the Australian Conciliation and Arbitration Commission conducted a hearing on the Equal Pay Case, and went on to adopt the principle of '**equal pay for equal work**' in 1972. Since then, women's wages have risen relative to men's, but are still on average about 82% to 86% of men's wages resulting in a significant '**gender pay gap**'. This also occurs at managerial and professional levels of employment, where female executives often face a '**glass ceiling**' in achieving access to executive employment, and equality with male executives' wages and salaries.

Wage Outcomes According to Occupation and Age

Table 9.3 lists a survey of average weekly total earnings compiled by the ABS in 2022 for the eight occupational groups according to the Australia New Zealand Standard Classification of Occupations (ANZSCO). Workers fall into 'non competing' categories since their education and skills are distinct from each other, although the ease or difficulty of occupational mobility will also influence the relative scarcity of different types of labour and the wage relativities (differences in wages) between occupations.

Clearly the higher the level of qualifications, training, education and responsibility, the higher the average earnings e.g. managers and professionals earnt between $2,596 and $1,892 per week in 2022, compared to labourers and sales workers who earnt between $906 and $760 per week. In terms of age groups, the data in **Table 9.3** shows that younger workers (18-24 years) earnt less in 2022 than older workers (25-64 years) because they have less qualifications and experience and may also be in training.

For adults, the older they are, the greater likelihood of higher earnings because of more experience, qualifications and training than younger persons. But this is not always true, as skills in short supply (such as machinery operators, drivers, technicians, trades and sports stars) will command higher earnings.

Table 9.3: Average Weekly Total Cash Earnings by Occupation and Age in 2022

Occupational Group	Adult Persons	AWTE by Age Group	
	(Males and Females)	Age Group	Weekly Earnings
1. Managers	$2,596	18-20 years	$566
2. Professionals	$1,892	21-24 years	$877
3. Technicians and trades workers	$1,482	25-34 years	$1,319
4. Community and personal service workers	$907	35-44 years	$1,622
5. Clerical and administrative workers	$1,167	45-54+ years	$1,703
6. Sales workers	$760	55-64 years	$1,524
7. Machinery operators and drivers	$1,457	all ages	$1,394
8. Labourers	$906		
All occupations	$1,394		

Source: ABS (2022), *Employee Earnings and Hours*, Catalogue 6306.0, May.

NB: Average weekly total cash earnings include amounts salary sacrificed.
The ANZSCO classification of occupations is used in this table.

Table 9.4: Principal Source of Gross Household Income 2015-16 to 2019-20 ($ p.w.)

(Households may have two or more income earners)	*2015-16*	*2017-18*	*2019-20*
Weekly employee income (wages and salaries)	$2,818	$2,784	$2,951
Weekly own business income (profits)	$2,197	$2,257	$2,683
Weekly investment income	$2,901	$3,866	$2,920
Weekly superannuation income	$1,607	$1,609	$1,595
Weekly government pensions and allowances	$735	$736	$804

Source: ABS (2022), *Household Income and Wealth, Australia, 2019-20,* Catalogue 6523.0, May.

Wage Outcomes According to Income Groups

Wages and salaries account for an average 50% of total national income, and constitute the majority of income for most income units or households (i.e. related people living together and sharing command over income). However other types of income such as business and investment income, superannuation income and government pensions and allowances are received by some households as their main source of income as shown in **Table 9.4** for the period between 2015-16 and 2019-20.

The distribution of household income in Australia is relatively unequal. The distribution of personal income is measured by dividing income units or households into quintiles or equal groupings of 20% of the population, starting with the lowest 20%, and moving to the highest 20% as shown in **Table 9.5**.

The poorest 20% of income units received 7.4% of total equivalised disposable household income in 2019-20, the middle class of 60% of income units received 52.8% of total equivalised disposable household income, and the highest 20% quintile received 39.8% of total equivalised disposable household income. The shares of the lowest and highest quintiles fell between 2017-18 and 2019-20, whilst the shares of the second and third income quintiles rose and the fourth quintile's share fell.

Table 9.5: Income Share of Equivalised Disposable Household Income by Quintile

Income quintile	*2015-16*	*2017-18*	*2019-20*	*Income pw 19-20*
Lowest 20%	7.7%	7.5%	7.4%	$415
Second 20%	12.5%	12.5%	12.6%	$710
Third 20%	17.0%	17.0%	17.2%	$966
Fourth 20%	23.0%	22.7%	23.0%	$1,294
Highest 20%	39.8%	40.4%	39.8%	$2,234
Gini co-efficient	0.323	0.328	0.324	

Source: ABS (2022), *Household Income and Wealth, Australia, 2019-20,* Catalogue 6523.0, May.
NB: Inequality as measured by the Gini co-efficient fell by -1.2% between 2017-18 and 2019-20.

Wage Outcomes According to Cultural Background

Wage and income outcomes can also be correlated with ethnic and cultural backgrounds and the period of residence of migrants in Australia. **Table 9.6** shows the distribution of income for people born in Australia compared to recent and long standing migrants. Generally it is true that migrants earn higher incomes than persons who are Australian born. However it is also true that both recent and long standing migrants from English speaking countries such as Britain, the USA, New Zealand,

Table 9.6: Birthplace of Individuals and Recency of Arrival by Individual Income in 2001

	Negative/nil	$1-$159	$160-$399	$400-$699	$700-$1,499	$1,500+
Australian born	6.3%	12.6%	32.2%	24.2%	20.6%	4.1%
Recent Migrants						
- mainly English speaking	12.6%	7.9%	15.9%	25.3%	26.7%	11.5%
- non English speaking	25.9%	15.6%	27.3%	18.7%	9.9%	2.6%
Long standing Migrants						
- mainly English speaking	4.5%	9.6%	34.2%	22.8%	22.9%	6.0%
- non English speaking	6.7%	13.5%	37.0%	22.1%	17.3%	3.5%

Source: ABS (2004), *Australia's Most Recent Immigrants*, Catalogue 2053.0.

Canada, Ireland and South Africa earn higher incomes than both recent and long standing migrants from non English speaking countries such as Italy, Greece, China, Malaysia, Indonesia, the Philippines, Vietnam and Thailand. Recent migrants from non English speaking countries, tend to earn lower average incomes than Australian born workers and recent migrants from English speaking countries.

Aborigines and Torres Strait Islanders receive amongst the lowest incomes in Australia. Indigenous Australians do not achieve the average Australian income from participation in paid work. ABS data shows that around 60% of male Aborigines are concentrated in the bottom three deciles of male earnings. In many cases indigenous Australians rely on government welfare payments for income support.

Trends in the Distribution of Income from Work

The distribution of income is measured by the ABS from data in the *Survey of Income and Housing*. The ABS divides the Australian population into quintiles or equal 20% groupings of the population. The ABS calculates the share of total equivalised disposable household income received by each quintile. **Equivalised disposable household income** adjusts disposable income for the different needs of households such as varying numbers of people and the proportion of adults and children in households.

In **Table 9.7** income shares for the five quintiles of the Australian population between 2013-14 and 2019-20 are shown. They indicate that there is a high degree of income inequality in Australia as in most market economies in the OECD. For example, the lowest quintile of households received 7.4% of

Table 9.7: Percentage Income Shares for Income Quintiles, Australia 2013 to 2020

(NB: Figures are rounded and may not total)	2013-14	2015-16	2017-18	2019-20
Equiv. Disposable Income Quintile				
Lowest	7.5%	7.7%	7.5%	7.4%
Second	12.3%	12.5%	12.5%	12.6%
Third	16.9%	17.0%	17.0%	17.2%
Fourth	22.4%	23.0%	22.7%	23.0%
Highest	40.8%	39.8%	40.4%	39.8%
All Income Units	100.0%	100.0%	100.0%	100.0%
Gini Co-efficient	0.333	0.323	0.328	0.324

Source: ABS (2022), *Household Income and Wealth, Australia, 2019-20*, Catalogue 6523.0, May. NB Figures are rounded

total equivalised disposable household income in 2019-20, whereas the highest quintile received 39.8% of total equivalised disposable household income in 2019-20. The middle three quintiles (60% of the population) received 52.8% of total equivalised disposable household income in 2019-20. However the ABS survey of the distribution of equivalised disposable household income in **Table 9.7** shows that there were minor changes in income shares for the five quintile groups between 2013-14 and 2019-20.

The lowest quintile's share fell from 7.5% to 7.4%; the second quintile's share rose from 12.3% to 12.6%; the third quintile's share rose from 16.9% to 17.2%; the fourth quintile's share rose from 22.4% to 23%; and the highest quintile's share fell by 1% from 40.8% to 39.8%. The Gini co-efficient fell from 0.333 in 2013-14 to 0.324 in 2019-20. Income inequality fell by about -2.7% between 2013-14 and 2019-20 due to the more efficient targeting of social security spending to low income households. The Australian government provided some tax relief in the 2019-20 and 2020-21 budgets to low and middle income earners by increasing the low and middle income tax offset and providing tax cuts.

Non Wage Outcomes for Different Occupations

Non wage outcomes for different occupations include **fringe benefits** such as company cars, shares, travel, discount purchases of goods and services, bonus payments, medical insurance, employer contributed superannuation, private school fees, telephone and other expenses. These non wage outcomes tend to be paid in both cash and in kind, and are often part of a **salary packaging** or **salary sacrificing arrangement** for professionals and managerial employees. Fringe benefits and salary packaging and sacrificing allow executives for example to reduce their tax liabilities, and provide an incentive offered by industries and firms, with the capacity to pay these benefits, to attract the most productive labour to industries and firms where there is a demand for scarce labour skills.

Non managerial occupations may receive clothing, meal and travel allowances and extra payments for dangerous, dirty, isolated or shift work. The incidence of skills shortages arose in 2005-08, 2010-11 and 2021-22 in the Australian economy and surveys of the labourforce indicated the increased use of non wage benefits by employers to attract and retain skilled labour during periods of skills shortages. These non wage allowances included subsidised housing, travel and meal allowances.

Arguments For and Against a More Equitable Distribution of Income

The Australian government implements policies to promote a more equitable distribution of income through the use of the progressive system of personal taxation, government expenditure on welfare and tax transfers, public health, housing, transport and education (the social wage) and intervention in the labour market to maintain the Modern Awards system as a safety net for low income workers. Arguments for greater government intervention to redistribute income are based on the economic costs of inequality, including lower consumption and utility levels for low income earners compared to high and middle income earners. Government redistributive policies can help to support aggregate demand as well as alleviate income poverty in society. Increased inequality may lead to social divisiveness and the marginalisation of some groups, such as the unemployed, migrants and Indigenous Australians. This can lead to a rise in social tension which can be mitigated by a strong government social safety net.

The major social and economic cost of inequality is the incidence of **relative poverty** among various groups in Australian society. Government cash transfers are therefore targeted at the poor and low income families, with strict eligibility criteria applied to welfare beneficiaries. Payments of social welfare benefits are means and assets tested by the government, and reduce in value as market income rises.

Research by Robert Gregory (1993) suggested there is some evidence of a '**working poor**' section of the labourforce in Australia unable to earn high market incomes because of low skills and education and the reliance on annual increases in Modern Awards and the National Minimum Wage to maintain their living standards. There is also growing evidence of an emerging **underclass** in Australia of young and middle aged workers (men and women) marginalised in the labour market because of a reliance on part time or casual work and changes to the industrial relations system and welfare assistance.

The rate of increase in Modern Award wages however has tended to be less than the average wage increase for workers covered by union negotiated enterprise agreements. The former Rudd government strengthened the safety net of the award system under the *Fair Work Act 2009* by legislating ten National Employment Standards and annual adjustments to minimum wages by the Fair Work Commission.

Arguments against creating a more equitable distribution of income in Australia include a potential reduction in allocative efficiency and macroeconomic performance. Higher incomes may boost national saving and investment and encourage higher economic growth and employment creation. Differences in income distribution also have an **incentive effect** on workers and entrepreneurs. Employees will work harder to achieve higher wages and benefits if these can be attained through higher levels of education, training and skill acquisition. Relative wage flexibility in the labour market also assists in allocating labour more efficiently, leading to higher labour productivity and mobility in the economy.

Higher spending on social welfare payments by the Australian government can also lead to a higher tax burden on existing taxpayers and a deterioration in the federal government's fiscal position. Many commentators argue that higher spending on social security increases the size of the public sector in the economy leaving fewer resources available for use by the private sector. In the October 2022-23 budget, $228.7b was allocated to social security and welfare by the federal government, representing 35.5% of total budgetary spending. If social welfare benefits are too generous, welfare abuse may be encouraged and **poverty traps** may emerge, where welfare recipients are discouraged from seeking paid work.

A person's motivation to seek paid work may be influenced by the rate at which income support is withdrawn once paid work is found, and the marginal taxation rate (MTR) on gross income. This interaction between the social security and tax systems can create high **effective marginal taxation rates** (EMTRs) for low income earners. The government responded to this problem by cutting taxes for low income earners in *The New Tax System* in 2000 and strengthening incentives to work in the *Building Australia's Future Workforce* package in the 2011 budget, by encouraging people to participate in education, training or apprenticeship schemes in return for government income support. In the 2012-13 federal budget the Australian government increased the tax free threshold to $18,200 to encourage more people on welfare support to seek paid work and reduce their reliance on welfare payments.

✎ REVIEW QUESTIONS

DIFFERENCES IN INCOMES FROM WORK

1. What is meant by labour market outcomes? Why are they important in relation to the Australian government's conduct of economic policy and national economic performance?

2. Refer to Table 9.1 and discuss the importance of compensation of employees (wages, salaries and supplements) as part of national income between 2019-20 and 2021-22.

3. Why do wage differentials occur between occupations and industries? Refer to Table 9.2 and discuss the variations in wages between adult males and females in 2021-22. Refer to Table 9.3 and discuss the variations in wages between occupations and age groups in 2022.

4. How do wage outcomes vary between income units? How may incomes vary between persons from different cultural backgrounds?

5. Discuss trends in the distribution of personal income in Australia. What evidence suggests that there was considerable income inequality in Australia between 2013-14 and 2019-20?

6. Discuss the main arguments for and against making the distribution of income more equitable in Australia. How can the Australian government redistribute income through its annual budget?

LABOUR MARKET TRENDS

The Australian labour market is very dynamic, responding to technological, economic, demographic and social changes which affect the demand and supply of labour at both macroeconomic and microeconomic levels. For example, the service sector increased its share of total employment from around 48% in 1970 to 89.5% in 2021-22. In the same period, manufacturing's share of employment declined from 25% to 6.4%, reflecting increasing capital intensity and a broad restructuring of industry. The primary sector's (agriculture and mining) employment share was 4.1% of the labourforce in 2021-22.

Unemployment

The most notable feature in the labour market since the 1960s was the rise in the unemployment rate to over 8% of the labourforce between 1974 and 1983. After 1983 the unemployment rate fluctuated with changes in GDP but remained at an average of around 8%. The unemployment rate peaked at 11% of the labourforce in 1992-93 after the recession of 1990-91. Since 1994-95 the unemployment rate has fallen because of sustained economic growth, and major reforms in the labour market to make its operation more flexible. **Figure 9.1** shows the decline in the unemployment rate in 2007-08 when it reached an historic low of 4.2%. However the unemployment rate rose to 5.8% in 2008-09 because of the impact of the Global Financial Crisis on Australia, before falling back to 5.1% in 2009-10 and 4.9% in 2010-11 as economic recovery increased labour demand.

Figure 9.1: Australia's Unemployment Rate 2007-08 to 2021-22 (% of the labourforce)

Source: ABS (2022), *Labour Force*, Catalogue No. 6202.0, June.
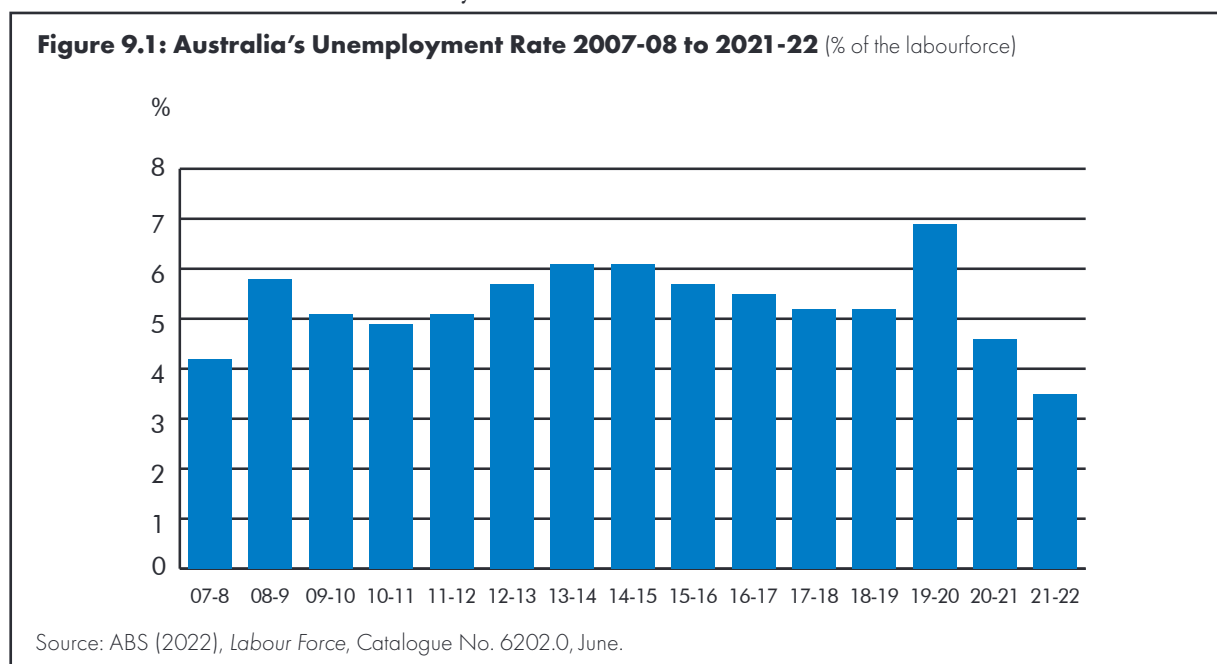
In 2011-12 an uneven pattern of growth emerged in Australia with some industries expanding (such as mining) whilst others contracted or experienced no growth. This was partly due to the impact of the high value of the Australian dollar reducing the competitiveness of industries like manufacturing and tourism. Changes in consumer spending patterns also impacted on retailing, and the result of these structural changes was a rise in the unemployment rate from 4.9% in 2010-11 to 6.1% in 2013-14. The unemployment rate remained at 6.1% in 2014-15 as the economy recorded below trend growth of less than 3% and transitioned to non mining sources of growth such as consumption and housing.

However growth increased to nearly 3% between 2015-16 and 2017-18 resulting in the unemployment rate declining to 5.2% of the workforce in September 2019. However in 2020 the **COVID-19 pandemic** led to a lockdown of the economy, reduced working hours and a rise in the unemployment rate to 6.9% of the workforce by September 2020 as shown in **Figure 9.2**. The number of persons unemployed rose from 718,000 in September 2019 to 937,400 in September 2020. However a strong economic recovery in 2021 and 2022 resulted in job creation and the unemployment rate falling to 3.5% in June 2022.

Figure 9.2: Labour Underutilisation Rates 1966 to 2022

Per cent of labour force

*   Sum of the unemployment and underemployment rates.
**   Employed persons who would like and are available to work additional hours.
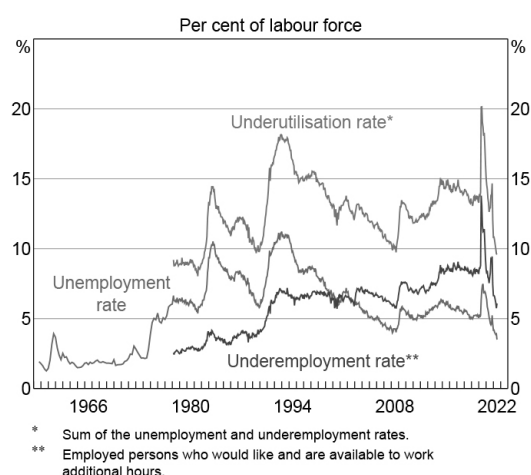
Source: Reserve Bank of Australia (2022), *Statement on Monetary Policy*, August.

Underemployment

Underemployment has become a major trend in the Australian economy because of the increasing casualisation of the labourforce through the growth in part time, casual and shift work. Underemployment refers to persons who work part time but would prefer to work more hours or switch to full time employment, and also to persons previously employed full time who have been switched to part time hours. The ABS calculated the **underemployment rate** (i.e. the number of underemployed workers as a percentage of the labourforce) in 2021-22 as 6% (refer to **Figure 9.2**) and the **labour underutilisation rate** (the unemployment rate of 3.5% plus the underemployment rate of 6%) at 9.5% in 2021-22.

Part Time Work

An increase in part time employment occurred in Australia in the 1990s and 2000s at the expense of full time employment. This reflected the greater flexibility for both workers and employers offered by part time work arrangements. About 10% of workers were in part time employment in the 1970s, but in 2021-22 part time employment accounted for 30.2% of total employment, and full time employment for 69.7% of total employment. Both full time and part time employment declined in 2019-20 due to the **COVID-19 pandemic** as shown in **Table 9.8**. However full time and total employment increased in 2020-21 and 2021-22 with an economic recovery. The incidence of part time employment is highest for married women re-entering the workforce after having children and young people still at school or university securing their first paid job. Mature age people (55-65) also participate in part time work. In 2021-22 both full time and par time employment increased due to a strong economic recovery.

Table 9.8: Trends in Full Time and Part Time Employment 2016-17 to 2021-22

	Full Time Employment	% of Total Employment	Part Time Employment	% of Total Employment	Total Employment
2016-17	8,403,100	68.42%	3,878,100	31.58%	12,281,200
2017-18	8,645,800	68.40%	3,995,000	31.60%	12,640,800
2018-19	8,840,200	68.30%	4,102,600	31.70%	12,942,800
2019-20	8,540,300	67.93%	4,031,600	32.07%	12,571,900
2020-21	8,983,200	69.72%	3,901,400	30.28%	12,884,600
2021-22	9,478,400	69.74%	4,112,500	30.26%	13,590,900

Source: ABS (2022), *Labour Force*, Catalogue No. 6202.0, September.

One of the major problems associated with the general rise in part time employment in Australia is that part time workers who want to work full time do not receive the same benefits and entitlements as full time workers. These include lower incomes or wages, leave entitlements and superannuation contributions. In 2008-09 there was a noticeable fall in the percentage of full time employment (71.5% in 2007-08 compared to 70.7% in 2008-09) and a rise in part time employment (28.5% in 2007-08 compared to 29.3% in 2008-09) as employers cut working hours and shifted some full time workers to part time or casual employment due to the impact of the **Global Financial Crisis** on Australian economic activity. With a general economic recovery between 2009 and 2011, full time employment grew to 70.5% of total employment and part time employment fell back to 29.5% of total employment. However this trend reversed between 2012-13 and 2015-16 as economic growth slowed to below trend of 3% and there was faster growth in part time employment compared to full time employment.

The long term rise in the number of part time jobs has generally been met by an expansion in the supply of people willing to work part time (i.e. a rise in part time participation rates) including married women, young people and mature age workers over 55. However part time employment including casual employment fell substantially especially for young men and women in industries such as retailing, cafes, restaurants, hotels, catering and hospitality which were affected by the **COVID-19 lockdowns** in 2020.

Casualisation of Work

Changes in the labour market in terms of increased employer demands for flexibility and the growth of part time employment have led to the increased casualisation of work arrangements through outsourcing, the use of consultants, agency workers, contractors and sub contractors (see **Table 9.10**). Casualisation rates have more than doubled in most industries (see **Table 9.9**) with the industry average according to data from RMIT University approaching 27.6% in 2003. These changes were driven on the employer side by a desire to reduce the 'on costs' of hiring labour and greater demands for flexibility in the rostering and timing of work. A result of greater casualisation has been more flexibility in the allocation of labour by employers. However some of the costs of the increased casualisation of work have been incidences of underpayment of wages ('wage theft') and non payment of superannuation.

Table 9.9: Increase in Casualisation Rates by Sector 1985-2003

Industry	1985 (%)	2003 (%)
Mining	2.0	14.6
Manufacturing	8.0	17.1
Construction	18.0	30.4
Transport/Storage	10.0	22.4
All Industries	16.0	27.6

Source: Centre for Applied Social Research (2004), RMIT University.

Outsourcing and Offshoring

Restructuring in industry, especially in manufacturing has led to falling workplace size and retrenchments. Many large corporations and small to medium sized businesses have outsourced particular functions of their operations (such as information technology and finance) to contractors and sub contractors. **Table 9.10** shows that around 35% of workplaces outsourced work in 1995 and this was correlated with a decline in workplace size. Many large firms use labour hire companies to employ contract labour, avoiding the 'on costs' of hiring permanent labour. There has also been growth in self employment in the 2000s as a greater percentage of workers commenced their own businesses or became self employed contractors either working from home or working under contract from other firms by selling their services. Another growing trend in the 2000s was the 'offshoring' of work such as manufacturing and service jobs to cheap labour countries such as China and India where Australian firms have operations.

Table 9.10: Trends in Workplace Restructuring

Form of Restructuring	1990 (%)	1995 (%)
1. Workplaces Using		
- Casuals	64	70
- Agency Workers	14	21
2. Workplaces Reporting Retrenchments		
- 200 to 499	39	44
- 500+	39	60
3. Unpaid Overtime		
- Employees whose hours increased but pay did not	-	23
4. Falling Workplace Size		
- % of workplaces outsourcing since 1990	-	35
- % of employees in 100 + workplaces	46	4

Source: ACIRRT (1998), The University of Sydney.

Contractors and Sub Contracting

Another important trend in the Australian labour market in recent years is the increasing use of contractors by employers for work tasks. Independent contractors have a high level of control over how their work is done, are engaged in a specific task, and bear the risk of profit or loss on each task. Such contractors are common in the building and construction and information technology industries. They are covered under the *Independent Contractors Act 2006* and have some general protections under the *Fair Work Act 2009*. Independent contractors negotiate their own remuneration with their employer, have an ABN and invoice the employer for the work done. They are also responsible for making their own superannuation contributions and paying taxation liabilities to the Australian Taxation Office.

Sub contracting is a method of labour contracting common in certain industries such as building and construction. Sub contractors are often private companies working for large contractors, charging their own wage rates and providing for the 'on costs' of employment such as taxation, superannuation, workers' compensation and insurance. Sub contracting is a popular type of labour hire contract because of its flexibility, efficiency and suitability to completing specific work projects in various industries. Labour hire companies often co-ordinate the employment of sub contractors with employers. **Table 9.11** lists the main types of wage fixing arrangements and wage increases in Australia in 2021. Collective enterprise agreements (35.1%) and individual common law contracts (37.8%) were the most common methods of determining pay and conditions for workers with an annual average wage rise of 2%-2.5%.

Table 9.11: Types of Employment Contracts in the Australian Workforce in 2021

Type of Wage Fixing Arrangement	Percentage of Employees Covered (estimates only)	Average Wage Increase % pa in 2021
Collective Agreements	35.1%	2.0%-2.5%
Individual Common Law Contracts	37.8%	2.0%-2.5%
Modern Awards or Pay Scales	23.0%	2.0%-2.5%
Working Business Proprietors	4.1%	2.0%-2.5%

Source: ABS (2021), *Employee Earnings and Hours*, Catalogue 6306.0, January.

✏ REVIEW QUESTIONS

LABOUR MARKET TRENDS

1. Explain some of the factors that may cause the labour market to undergo changes over time.

2. Describe and account for the main trends in the rate of unemployment between 2007-08 and 2021-22 from Figure 9.1.

3. Describe and account for the trends in the unemployment rate and underemployment rate between 2019-20 and 2021-22. Refer to the trends in Figure 9.2 in your answer.

4. Why has the proportion of total employment accounted for by part time employment generally risen relative to full time employment in Australia in the 2000s?

5. Discuss the advantages and disadvantages to employers and employees of the trend towards casual employment, outsourcing and offshoring.

6. Discuss the advantages and disadvantages of contractors and the system of subcontracting in employment. Refer to Table 9.11 and discuss the main types of employment contracts in Australia in 2021.

LABOUR MARKET INSTITUTIONS

The Australian labour market is not perfectly competitive as wages and employment levels in various industries and occupations do not respond perfectly to changes in the demand and supply of labour. Labour market institutions such as trade unions, employer associations, state and federal industrial tribunals (e.g. the Fair Work Commission, the Fair Work Ombudsman and NSW Industrial Relations), and state and federal governments intervene in the labour market and create various imperfections.

Trade Unions

Trade unions refer to employee organisations which represent groups of workers on a collective basis. Trade unions bargain collectively on behalf of their members, thereby increasing the bargaining power of individual workers in wage negotiations. Important industrial trade unions are the Australian Workers' Union (AWU), the Transport Workers' Union (TWU), the Construction, Forestry, Mining and Energy Union (CFMEU) and the Community and Public Sector Union (CPSU). Trade unions try to raise their members' real wages and working conditions through bargaining and negotiations, and sometimes industrial action (such as strikes) to support claims for improved wages and conditions from employers.

Trade unions are organised along general, industrial and craft lines, but increasingly 'super-unions' have been formed along industry and even single enterprise lines, with increasing coverage and bargaining power in wage negotiations. **Occupational or craft unions** (e.g. the Communication, Electrical, and Plumbing Union) draw their membership from people of the same occupation. **Industrial unions** such as the Transport Workers' Union (TWU) enjoy coverage of workers in the same industry. **General unions** such as the Australian Workers' Union (AWU) draw their membership across industries and occupations. The most important trade union in Australia is the **Australian Council of Trade Unions** (ACTU). It is the peak union body to which most Australian trade unions are affiliated. The ACTU represents the trade union movement through submissions to the Fair Work Commission at the annual review of the National Minimum Wage and Modern Awards; plays a key negotiating role in major industrial disputes; and is the voice of the trade union movement on key industrial relations issues such as enterprise bargaining, parental leave, slow wages growth, 'wage theft' and the impact of the *Fair Work Act 2009* on workers and their families. **Extract 9.1** summarises some of the main goals of the ACTU.

Figure 9.3: Trade Union Restriction of Labour Supply
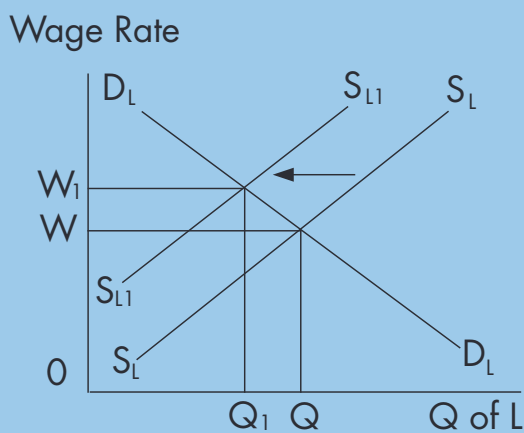
Figure 9.4: Trade Union Influence on the Wage Rate
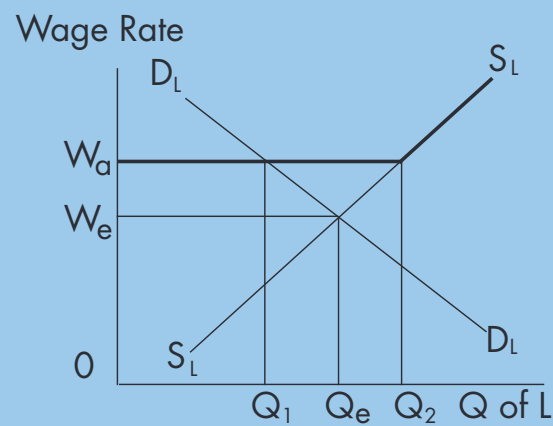
Trade union membership has declined steadily from an average of 40% in 1992 to only 14% (1.4m workers) of the workforce in 2020. Some 12.7% of men and 15.9% of women were union members in 2020. Of full time employees, 15.3% were trade union members, and 12.3% of part time employees were trade union members in 2020. Education and training (31%) and public administration and safety (28%) were the most unionised industries in 2020. In the public sector 36.8% of employees were trade union members in 2020 compared to 10% of employees in the private sector. Unionisation levels have declined with the increasing casualisation of the labourforce (i.e. rising part time and casual employment) in the services sector where union presence is low; the decline in manufacturing employment, a traditional stronghold of unionism; the decentralisation of wage determination and industrial relations; and a general fall in confidence in the union movement's ability to deal with industrial issues. The ACTU actively promotes its goals in attempting to raise the level of trade union membership (see **Extract 9.1**).

Trade unions can influence labour market outcomes in two main ways. Firstly, if trade unions can restrict the supply of labour to only unionised workers (e.g. the 'closed shop' formerly operated by the Waterside Workers' Federation or the Builders' Labourers' Federation), this will cause a shift in the supply curve (SL to SL_1) of labour to the left, as illustrated in **Figure 9.3**, forcing up the wage rate (OW to OW_1), and reducing the quantity of labour employed to only union members (i.e. OQ to OQ_1).

Secondly, a trade union or the trade union movement in general may attempt to raise wage levels above market equilibrium as in **Figure 9.4**. If the Modern Award wage for an occupation is raised from OW_e to OW_a, the supply curve of labour may change from SL to W_aS_L creating a **wage floor**. At the wage rate of OW_a, the supply of labour (OQ_2) exceeds the demand for labour (OQ_1) leading to unemployment of Q_1Q_2 workers. Critics of this type of trade union intervention in the labour market argue that it creates unemployment, particularly for low skilled and young workers, because of higher minimum wage rates.

Extract 9.1: The Goals of the ACTU

Some of the goals of the ACTU and trade unions affiliated to it are the following:

- Improve the wages and working conditions of employees
- Promoting industry wide or pattern bargaining at the jobs and Skills Summit in 2022
- Develop policies to assist the unemployed and low wage or income earners
- Develop effective trade unions in Australia that work with the International Labour Organisation (ILO)
- Support equal opportunity in the workplace
- Support for competency based training of workers
- Support for the abolition of child labour and the exploitation of outworkers
- Support for safe working conditions and 'family friendly' employment policies

Employer Associations

Employer organisations represent business groups in similar industries, or with similar aims in industrial relations matters. Examples include the Australian Chamber of Commerce and Industry (ACCI), the Australian Industry Group (AIG), the various employers' federations such as the Metal Trades Industries' Association (MTIA), the National Farmers' Federation (NFF) and the Business Council of Australia (BCA). Employer organisations seek to have a collective voice on industrial relations matters to protect the interests of their members in negotiations with trade unions. The ACCI and the AIG play a key role in making employer submissions at the annual review of the National Minimum Wage and Modern Awards by the Fair Work Commission, and over industrial relations issues such as enterprise bargaining and the abolition of penalty rates. Employer groups supported the Howard government's *WorkChoices* legislation in 2006 which deregulated the labour market, but were critical of the *Fair Work Act 2009* which increased the bargaining power of trade unions and access to workplaces to organise workers.

Employer organisations usually seek wage moderation to maintain the profitability and competitiveness of members' businesses or industries. There is a natural conflict between trade unions and employers' organisations in negotiations over wages and conditions, since trade unions view wages as incomes, and employers view wages as a cost of production, and the price of labour inputs compared to other inputs in production like capital and land. Employers supported the spread of **enterprise bargaining** and a more decentralised system of wage determination in the 1990s and 2000s for a number of reasons:

- Decentralisation of wage determination allows employers to link wage increases to improvements in the productivity of labour in the workplace, and to introduce more individual work contracts;

- Simplification of the award safety net system, and less reliance on the award system, allows employers more flexibility in containing wage costs by moving more employees onto individual contracts;

- Enterprise bargaining gives employers more flexibility in deploying labour resources and introducing capital and technological improvements in the workplace to raise labour productivity;

- Enterprise bargaining leads to less involvement by industrial tribunals in wage negotiations, which makes the labour market more decentralised, competitive and flexible; and

- Containment of wage costs and inflation through a less centralised and regulated industrial relations system helps to raise the profitability and competitiveness of individual employers and industries.

After the introduction of the *Workplace Relations Act 1996*, the *Workplace Relations Amendment Act 2006* and the spread of enterprise agreements including Australian Workplace Agreements (AWAs), employers increased their demand for labour because of higher productivity and economic growth. This is illustrated in **Figure 9.5** where the demand for labour increases from D_L to D_{L1}, resulting in a rise in the wage rate from OW to OW_1 and an increase in employment from OQ to OQ_1.

Figure 9.5: The Effect of an Increase in Employer Demand for Labour
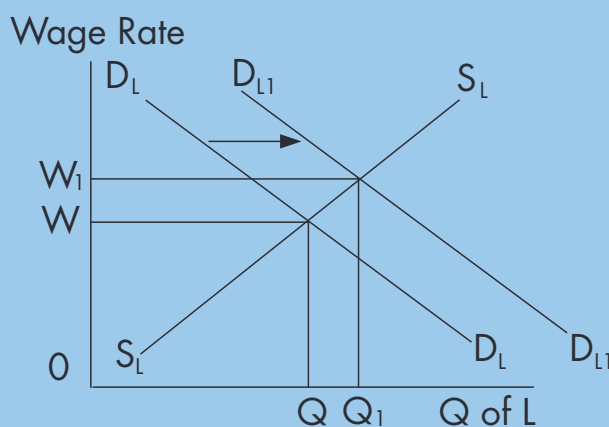
THE FEDERAL GOVERNMENT AND THE CURRENT INDUSTRIAL RELATIONS FRAMEWORK

Industrial relations (or workplace relations) refers to the system used to determine wages and working conditions between employers and employees. Historically Australia has used a centralised system of federal and state industrial commissions or tribunals to determine award wages and conditions of employment for employees in workplaces. Modern Awards set out the legal minimum wages and conditions of employment for employees according to their occupation or the nature of work they perform. There are federal and state awards, with the Fair Work Commission administering federal awards and state industrial commissions such as NSW Industrial Relations administering state awards.

The Australian government has an important role in determining the legislation that underpins the national industrial relations system. A major change in Australian industrial relations occurred in 1991 with the adoption of the **principle of enterprise bargaining** in the making of enterprise agreements between groups of employees usually represented by a trade union and their employer. The spread of enterprise bargaining agreements has led to less reliance on adjustments to Modern Awards for wage increases and improvements in working conditions for employees. About 35.1% of Australian employees were covered by enterprise bargaining arrangements in their employment in 2021.

The National Industrial Relations System

From January 1st 2010 under the *Fair Work Act 2009* passed by the former Rudd government, the industrial relations powers of state governments in NSW, Queensland, South Australia and Tasmania were ceded to the Commonwealth government to create a national workplace relations system. Prior to January 1st 2010 the governments of Victoria, the Northern Territory and the Australian Capital Territory were already under the national workplace relations system created by the *Workplace Relations Amendment Act 2006* (WorkChoices) passed by the former Howard government. Both the Howard and Rudd governments used the Commonwealth's power under the Australian constitution to regulate business corporations or 'constitutional corporations' (that are covered by a federal award), for the purposes of setting wages and conditions of employment. Employers and employees in the national system now have the same workplace rights and obligations regardless of the state they work in:

- A set of eleven National Employment Standards (NES);
- Modern Awards that apply nationally to specific industries and occupations;
- A National Minimum Wage administered and adjusted annually by the Fair Work Commission;
- Enterprise bargaining arrangements (between groups of employees and an employer); and
- Protection from unfair dismissal in the workplace.

The State Industrial Relations System

The state industrial relations system consists of state industrial commissions and tribunals that administer state awards. These state awards apply to employees who are not in the national industrial relations system since their wages and working conditions are determined by state industrial commissions or tribunals such as NSW Industrial Relations. The employees not covered by the national industrial relations system are mainly state government and local government employees:

- In Western Australia, employees in state public sector and local government employment and employees in non constitutional corporations in the private sector (e.g. sole traders and partnerships).
- In NSW, Queensland and South Australia, employees in state public sector and local government employment.
- In Tasmania, employees in state public sector employment.

Examples of employees in the state industrial relations system include public sector teachers, nurses, public servants, the police force, fire brigade, ambulance service and local council workers. However national entitlements to matters such as unpaid parental leave, notice of termination and unlawful termination of employment extend to employees who remain covered by a state industrial relations system. In NSW from January 1st 2010 private sector employers and employees previously covered by the NSW award system (mainly sole traders and partnerships) moved into the national workplace relations system administered by the federal government.

NSW Industrial Relations is the main industrial relations body in NSW. The NSW government passed the *Industrial Relations Act 1996* which underpins the legal framework for industrial relations matters in NSW, and specifically includes the administration of state awards and the State Wage Case.

All existing state and federal awards were streamlined to around 122 Modern Awards under the *Fair Work Act 2009*. If employees in the private sector (such as sole traders and partnerships) were covered by a NSW state award these awards were preserved as 'state reference awards' for a transitional period. From January 1st 2011 state reference awards ceased operating and the appropriate Modern Award is now used for employees in the private sector in NSW. Common workplaces where Modern Awards apply include the building industry, cafes, child care centres, farms, manufacturing, medical practices, nursing homes, private hospitals, restaurants, retail shops, the transport industry and warehouses.

THE FAIR WORK ACT 2009

The Australian parliament passed the *Fair Work Act 2009* on the 20th March 2009 which replaced the previous Howard government's WorkChoices legislation (the *Workplace Relations Amendment Act 2006*). The *Fair Work Act 2009* contained five major elements of the former Rudd government's new industrial relations system which came into operation from January 1st 2010:

1.   A legislated safety net of ten National Employment Standards (NES):

    1. Maximum weekly hours of work   6. Community service leave

    2. Request for flexible working arrangements   7. Long service leave

    3. Parental leave and related entitlements   8. Public holidays

    4. Annual leave   9. Notice of termination and redundancy pay

    5. Personal/carer's and compassionate leave   10. Fair work information statement

    *11. Requests for conversion of casual employees after 12 months to part time or full time (2021)

2.   New Modern Awards which contain the NES, but can also include terms that are specific to certain industries or occupations. These terms include minimum wages, types of employment, work arrangements, overtime and penalty rates, allowances, leave entitlements, superannuation, ordinary hours of work and dispute settlement procedures. It was envisaged that Modern Awards would streamline and simplify thousands of awards that existed in the previous federal award system.

3.   Revised enterprise bargaining arrangements including single enterprise, multi-enterprise and greenfields agreements, approved by Fair Work Australia and must pass a Better Off Overall Test.

4.   Streamlined protections dealing with workplace and industrial rights, including protection against discrimination and unfair dismissal in the workplace.

5.   Two new organisations known as Fair Work Australia and the Fair Work Ombudsman replaced previous agencies to regulate the new industrial relations system. Fair Work Australia has powers over the safety net of minimum wages and employment conditions, enterprise bargaining and dispute resolution. The Fair Work Ombudsman ensures compliance with the *Fair Work Act 2009*.

The *Fair Work Amendment Act 2012* took effect on July 1st 2013 and gave new functions to the Fair Work Commission, the new name for Australia's national workplace tribunal. These include the promotion of co-operative and productive workplace relations and preventing industrial disputes.

Figure 9.6: The Current Australian Industrial Relations Framework

Australian Government

- Workplace Relations Act 1996
- Workplace Relations Amendment Act 2006 (WorkChoices)
- Workplace Relations Amendment (A Stronger Safety Net) Act 2007
- Workplace Relations Amendment (Transition to Fairness) Act 2008
- Fair Work Act 2009 (FWA) and Fair Work Amendment Act 2012

Fair Work Commission (FWC)

Responsibilities and functions include:

- The safety net of minimum wages and employment conditions
- Enterprise bargaining
- Rules over industrial action
- Dispute resolution procedures
- Termination of employment
- Other workplace matters

Fair Work Ombudsman (FWO)

Responsibilities and functions include:

- Advice to employees and employers on their rights
- Ensuring compliance with the *Fair Work Act 2009*
- Prosecution of breaches of the *Fair Work Act 2009*
- Auditing workplaces for compliance with the FWA
- Use of Fair Work Inspectors to monitor and investigate complaints in workplaces
- Publication of information and best practice guides on workplace relations and workplace practices

The *Fair Work Act 2009* strengthened the safety net of minimum wages and conditions by creating the National Employment Standards and system of Modern Awards. It represented a return to a more strongly regulated industrial relations framework, with comprehensive and formal powers given to the Fair Work Commission and the Fair Work Ombudsman. In addition there is also provision for employees in low paid industries to receive assistance from the Fair Work Commission to engage in bargaining and making multi-enterprise agreements. This is aimed at achieving greater equity in the bargaining process and reducing the rate of wage dispersion between low wage employees on awards and those on higher wages covered by single, multi-enterprise or greenfields agreements, usually negotiated by trade unions with employers. The current industrial relations framework in Australia is shown in **Figure 9.6** and lists the main responsibilities of the Fair Work Commission and the Fair Work Ombudsman.

The National Employment Standards

Under the *Fair Work Act 2009* the **safety net for employees** not covered by a collective enterprise agreement is made up of three parts:

1. The eleven National Employment Standards (NES);
2. Annual adjustments to the National Minimum Wage by the Fair Work Commission; and
3. The system of Modern Awards administered by the Fair Work Commission.

Under the safety net system, employees are protected by legislated minimum standards for pay and conditions that cannot be 'stripped away' by employers. Previously under the WorkChoices legislation the Australian Fair Pay and Conditions Standard (AFPCS) contained only five minimum conditions, and the 20 allowable matters previously dealt with in awards were reduced to 16. Rules on long service leave, notice of termination, jury service and superannuation were removed from the safety net, but these were reinstated under the *Fair Work Act 2009* to strengthen the minimum safety net. Ten National Employment Standards took effect from January 1st 2010 and are listed in **Table 9.12**. An eleventh standard was added in 2021 dealing with the conversion of casual employees to part time or full time employment after 12 months service with an employer.

Table 9.12: The Eleven National Employment Standards of the Safety Net

1. Maximum weekly hours of work: 38 hours for full time employees plus 'reasonable' additional hours.
2. Request for flexible working arrangements: requests by parents with pre-school aged children but the employer can refuse the request on 'reasonable business grounds'.
3. Offers and requests for conversion of casual employees after 12 months service to part time or full time work.
4. Parental leave and related entitlements: parents are entitled to 12 months unpaid parental leave.
5. Annual leave: 4 weeks annual leave is guaranteed to full time employees.
6. Personal/carer's and compassionate leave: up to 10 days paid personal leave and two days unpaid carer's or compassionate leave for full time employees.
7. Community service leave: unpaid leave including jury duty, community and emergency services.
8. Long service leave: as provided for in the relevant award covering an employee.
9. Public holidays: provides for paid public holidays, with an employer able to make a 'reasonable request' for an employee to work on a public holiday, and the employee may refuse on 'reasonable grounds'.
10. Notice of termination and redundancy pay: employees must be given written notice of termination, and redundancy pay depends on the years of service of an employee.
11. Fair work information statement: this must be given to all new employees.

The National Minimum Wage

Under the *Fair Work Act 2009* the National Minimum Wage replaced the former Federal Minimum Wage administered by the Australian Fair Pay Commission (AFPC) under the WorkChoices legislation. If an employee does not have an award or enterprise agreement they are paid the National Minimum Wage. The National Minimum Wage acts as a safety net for employees in the national workplace relations system by providing minimum rates of pay for employees not covered by an award or a workplace agreement. Adjustments to the National Minimum Wage (NMW) are made by the Minimum Wage Panel of the Fair Work Commission (FWC). Its objective is to establish and maintain a safety net of fair minimum wages but also take into account the state of the economy and productivity.

The first annual wage review by Fair Work Australia on June 17th 2010 led to an increase of $26.12 per week for employees on Modern Award minimum weekly wages. The National Minimum Wage was increased from $543.78 per week (or $14.31 per hour) to $569.90 per week (or $15 per hour). The increase of $26.12 per week was equivalent to a 4.8% increase in Modern Awards. At the second annual wage review by Fair Work Australia in June 2011, the NMW was increased by $19.40 from $569.90 to $589.30 per week. This represented a 3.4% annual wage increase, and raised the minimum hourly rate of pay from $15 to $15.51. In June 2012 Fair Work Australia increased award wages by 2.9% with the NMW rising to $15.96 per hour and from $589.30 to $606.40 per week.

At the June 2013 hearing the Fair Work Commission increased award wages by 2.6% and the NMW by $15.80 per week to $622.20. At the June 2014 hearing the NMW was increased by 3% to $640.90 per week. In June 2015 the FWC granted a 2.5% wage increase with the NMW rising by $16 per week to $656.90. In June 2016 the NMW was increased by $15.80 per week to $672.70, representing a 2.4% wage increase. In June 2017 the Fair Work Commission increased the NMW by 3.3% or $22.20 per week ($18.29 per hour) to $694.90. In June 2018 the Fair Work Commission increased the NMW by 3.5% or $24.30 per week to $719.20. In 2019 the FWC raised the NMW by 3% to $740.80 per week. In June 2020 the FWC increased the NMW by 1.75% or $13 per week to $753.80 per week.

In June 2021 the FWC increased the NMW was by $18.80 per week or 2.5% to $772.60. In June 2022 the NMW was increased by $40 per week or 5.2% to $812.60 because of the impact of high inflation (e.g. 6.1% in the year to June 2022) on low income earners.

Penalty Rates

In February 2017 the Fair Work Commission handed down a decision to reduce weekend penalty rates in the hospitality, fast food, retail and pharmacy industries to be phased in between 2017 and 2020.

This decision was in response to lobbying by business groups such as the BCA and AIG to reduce or abolish penalty rates and leave loadings to promote employment growth and business profitability.

Modern Awards

Industrial awards provide a set of minimum wages and working conditions for employees specific to their industry, job classification, occupation or the type of work they perform. A task force was established by the federal government to rationalise and restructure existing awards in 2006-07. Under the *Transition to Fairness Act 2008* the AIRC was given the task of Awards Modernisation. This led to a reduction in the number of federal awards from the 4,000 that existed in 2006, to about 122 in 2012.

Modern Awards contain around 20 terms, ten of which are also covered in the NES. The main terms contained in Modern Awards are listed in **Table 9.13**. They include minimum wages, types of employment, overtime and penalty rates of pay, leave entitlements, allowances and superannuation. Modern Awards can also contain a flexibility clause which means that employers and employees are able to negotiate changes in workplace arrangements to meet their individual needs.

Table 9.13: The Contents of Modern Awards
1. Minimum wages, minimum award classification rates of pay and casual loadings
2. Types of employment such as full time, part time, casual and shift time
3. Arrangements for when work is performed
4. Overtime rates of pay
5. Penalty rates of pay
6. Annual wage or salary arrangements
7. Allowances and leave related matters such as leave loadings and entitlements
8. Superannuation provisions
9. Procedures for consultation, representation and dispute settlement
10. Outworker terms, certain industry specific redundancy schemes, calculation of ordinary hours, pieceworker provisions and variations of allowances

Enterprise Agreements under the Fair Work Act 2009

Under the *Fair Work Act 2009*, and from July 1st 2009, Fair Work Australia (now the Fair Work Commission) had the role of approving collective agreements which are known as enterprise agreements. These agreements are made between groups of employees and firms or groups of firms. There is no longer any distinction between union and non union collective agreements. Also from January 1st 2010 there is no legislative provision for making individual agreements such as Australian Workplace Agreements (AWAs), with the focus of the *Fair Work Act 2009* on regulating collective bargaining and the making of enterprise agreements. There is also an emphasis on protecting the rights of employees and improving their bargaining power in negotiations through what is termed '**good faith bargaining**'.

An enterprise agreement is made between one or more employers and a group of employees or a trade union representing a group of employees. Enterprise agreements can be made to suit the specific needs of particular enterprises and can offer employees above the minimum rates of pay and employment conditions covered in awards. Enterprise agreements can include a broad range of permitted matters:

- Rates of pay for employees;
- Employment conditions such as hours of work, meal breaks and overtime;
- Consultative mechanisms in terms of how the agreement will operate;
- Dispute resolution procedures; and
- Deductions from wages for any purpose authorised by the employee (such as superannuation).

Enterprise agreements cannot include 'unlawful content' such as discriminatory or objectionable terms. Enterprise agreements must provide a flexibility term that allows for the inclusion of flexibility arrangements so that variations in the provisions of the enterprise agreement can be made. Enterprise agreements can be in operation for a period of up to four years, after which they must be re-negotiated by the parties. The three main types of enterprise agreements under the *Fair Work Act 2009* are:

1. **Single enterprise agreements** are between a group of employees or a trade union and a single employer;

2. **Multi-enterprise agreements** are made by two or more employers with a group of employees or a trade union representing a group of employees; and

3. **Greenfields agreements** involve a new enterprise that one or more employers are establishing and have not yet employed persons for the enterprise. Greenfields agreements can be either single enterprise or multi-enterprise agreements.

Under the *Fair Work Act 2009* parties to an enterprise agreement must **bargain in good faith** by attending meetings for negotiations and responding genuinely to proposals put forward by the other party. Under the *Fair Work Act 2009* enterprise agreements made on or after January 1st 2010 are subject to a '**Better Off Overall Test**' (BOOT) by the Fair Work Commission. This involves a comparison between the agreement and a relevant Modern Award to determine whether the employees would be better off under the agreement. If an enterprise agreement passes the Better Off Overall Test, the Fair Work Commission will register the agreement on behalf of the employees and the employer(s) it covers.

✍ REVIEW QUESTIONS

LABOUR MARKET INSTITUTIONS

1. How do trade unions attempt to influence wage and employment outcomes? Refer to Figures 9.3 and 9.4 in your answer.

2. Why has the level of unionisation in the Australian labourforce declined in recent times?

3. How do employer associations attempt to influence wage and employment outcomes? Why have employers encouraged the spread of the enterprise or workplace bargaining system?

4. List the main features of the national industrial relations system under the *Fair Work Act 2009*.

5. Briefly discuss the main features of the state industrial relations system.

6. Discuss the protections offered to employees by the National Employment Standards (NES).

7. How is the National Minimum Wage determined by the Fair Work Commission? Why did the Fair Work Commission increase the National Minimum Wage by 5.2% in June 2022?

8. Discuss the possible advantages and disadvantages of the Fair Work Commission's decision in 2017 to reduce weekend penalty rates in some industries.

9. What are the main contents of Modern Awards? How have awards been rationalised?

10. List the three main types of enterprise agreements under the *Fair Work Act 2009*.

11. Discuss the advantages of enterprise agreements over Modern Awards.

12. Why do enterprise agreements have to pass the Better Off Overall Test (BOOT) applied by the Fair Work Commission?

13. Discuss what is meant by 'good faith bargaining' in enterprise agreements.

14. Define the following terms and abbreviations and add them to a glossary:

employer association	National Minimum Wage	ACTU
enterprise agreement	part time work	AWE
full time work	trade union	AWOTE
income	underemployment	AWTE
industrial relations	unemployment	BOOT
modern award	wages	FWC

CHAPTER FOCUS ON LABOUR MARKET OUTCOMES AND INSTITUTIONS

Males - May 2022		*% Increase 21-22*
Full time adult average weekly ordinary time earnings	$1,872.90	2.0%
Full time adult average weekly total earnings	$1,961.30	2.2%
Females - May 2022		
Full time adult average weekly ordinary time earnings	$1,609.00	2.1%
Full time adult average weekly total earnings	$1,638.10	2.5%

Source: ABS (2021), *Average Weekly Earnings, Australia, May 2021*, seasonally adjusted, Catalogue 6302.0.

Discuss the possible reasons for the differences in average weekly ordinary time and total earnings between adult males and females in the Australian labour market in May 2022 and the slow growth in earnings in 2021-22.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 9: SHORT ANSWER QUESTIONS

Types of Employment Contracts in the Australian Workforce in 2021

Enterprise Bargaining Agreements 35.1%

Individual Agreements 37.8%

Awards 23%

Working Business Proprietors 4.1%
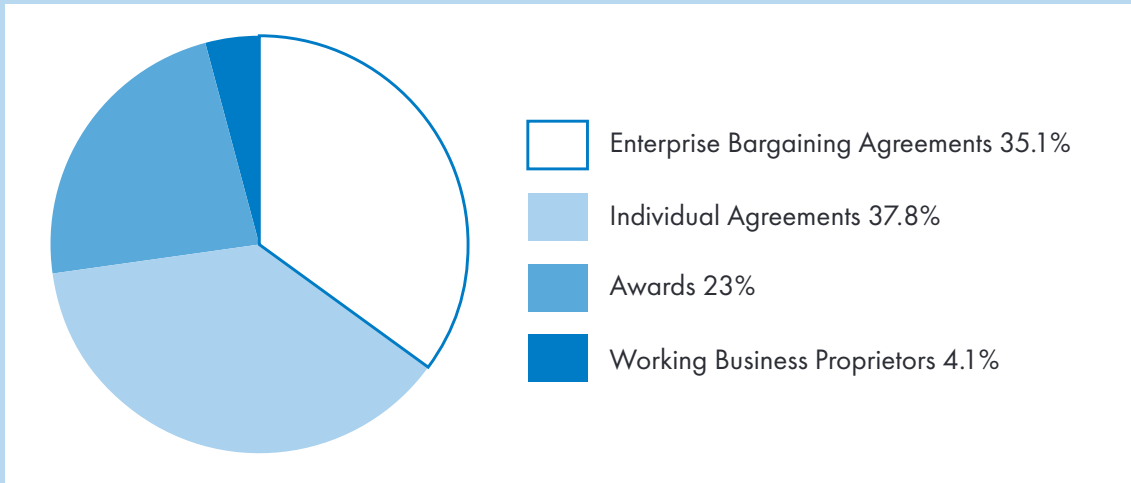
Source: ABS (2021), *Employee Earnings and Hours, May 2021*, Catalogue No. 6306.0, January.

Refer to the graph above of the types of employment contracts in the Australian workforce in 2021.

Marks

1. Explain what is meant by an 'award' and state the percentage of award coverage in 2021. (2)

_____

_____

2. Discuss how award wages and minimum employment conditions are determined. (2)

_____

_____

3. Explain what is meant by an 'enterprise bargaining agreement' and state the percentage of the coverage of enterprise bargaining agreements in 2021. (2)

_____

_____

4. Discuss TWO reasons for enterprise bargaining and individual agreements being the most common types of employment contracts in the Australian workforce in 2021. (4)

_____

_____

_____

_____

_____

_____

_____

CHAPTER 9: EXTENDED RESPONSE QUESTIONS

1. What is the role of wage relativities in the labour market? How do wages vary according to occupation, age, gender and cultural background? How do wage relativities affect the distribution of income in Australia?

2. Describe Australia's distribution of income. Discuss the arguments for and against creating a more equal distribution of income in Australia.

3. Explain the role of trade unions, employer associations, the federal government, the Fair Work Commission and the Fair Work Ombudsman in the Australian industrial relations system.

4. Discuss the main changes to the Australian industrial relations framework brought about by the *Fair Work Act 2009*. Evaluate the potential advantages and disadvantages of the reforms under the *Fair Work Act 2009* on the Australian labour market.

CHAPTER 9: RESEARCH QUESTIONS

1. Investigate how the centralised system of industrial relations evolved in Australia.

2. Select a trade union or an employer association and research its aims, organisation and recent activities in pursuing its aims.

3. Gather evidence on the extent of unionisation in various industries. Discuss possible reasons for the significant decline in union membership in Australia in the 1990s and 2000s.

4. Research the history, structure and activities of the ACTU as Australia's peak union body. How has it responded to the issues of declining union membership, the increasing casualisation and uncertainty of work, 'wage theft' and historically low wages growth?

5. Find out the main changes made to the industrial relations system with the passing of the *Workplace Relations Act 1996*. What were the implications of these changes for trade unions and employers?

6. Contrast the approaches to industrial relations policy by the former Howard Liberal-National Party government with the former Rudd and Gillard Labor governments.

7. Research the main elements of the former Howard government's WorkChoices legislation. How did it increase the deregulation of the Australian labour market?

8. Collect and discuss evidence of the impact of WorkChoices on the wages and employment conditions of workers under AWAs and other types of agreements. Why did the former Howard government pass the *Workplace Relations Amendment (A Stronger Safety Net) Act 2007*?

9. Research the main elements of the *Workplace Relations Amendment (Transition to Fairness) Act 2008*. Why and how did the Rudd Labor government strengthen the safety net in the *Fair Work Act 2009*?

10. Research the evidence presented to the *Royal Commission into Trade Union Governance and Corruption* (the Cole Commission) in 2014-15.

11. Research the findings of the Productivity Commission's *Workplace Relations Framework Inquiry* in 2015.

12. Research the outcomes of the Jobs and Skills Summit in 2022 and the implications for future industrial relations legislation.

✌ CHAPTER SUMMARY

LABOUR MARKET OUTCOMES AND INSTITUTIONS

1. Labour market outcomes refer to the performance of the labour market in terms of wage and non wage outcomes. Wage outcomes refer to the rate of wages growth and the differences in wages according to gender, occupation and age. Non wage outcomes refer to changes in the levels and rates of employment (full time, part time and casual) and the level and rate of unemployment and underemployment.

2. Wages are the main form of remuneration received by employees or labour for their contribution to production. Wage outcomes can be measured by reference to average weekly earnings (AWE). Differences occur in the AWE of employees due to differences in gender, age, occupation, cultural background and the industry in which they are employed.

3. Adults tend to earn higher wages than younger people, and males generally earn more than females. Wages also vary according to occupational groups, since the qualifications and skills required by managers and professionals are greater than those for tradespersons and labourers.

4. Wages and salaries accounted for around 47% of total national income in 2021-22 and constitute the major source of income for most households. Other types of income such as rent, interest, profits and social security payments are also received by some households as sources of income.

5. The distribution of household income in Australia is considered to be unequal, with the degree of inequality increasing over time due to changes in the labour market and government economic and social policies. Wage inequality is more pronounced due to labour market reforms which have encouraged employees to negotiate enterprise agreements with their employers over wages and conditions. Workers with lower levels of bargaining power still rely on adjustments to award wages for wage increases and have not experienced the extent of wage increases negotiated by workers with greater bargaining power, particularly those in trade unions in the public and private sectors.

6. One of the main arguments for reducing the extent of income and wage inequality in Australia is to reduce the extent of relative poverty amongst low income households and families. Another dimension to inequality is the extent of the 'working poor' segment of the labourforce which consists of workers earning low wages and experiencing a relatively low standard of living.

7. The Australian labour market is very dynamic as it responds to changes in economic and social conditions, economic policies, technological and structural changes. Some of the major recent trends in the labour market include the increasing casualisation of the labourforce, including the rise in part time and casual employment at the expense of full time employment; a rising rate of unemployment due to the Global Financial Crisis in 2008-09 and the COVID-19 pandemic in 2020; and the increased use of outsourcing, offshoring, contractors, sub contracting and individual common law contracts by employers.

8. The Australian labour market is heavily influenced by institutions such as trade unions; employer associations; the Fair Work Commission; the Fair Work Ombudsman; state industrial tribunals; and federal and state governments:

    •   Trade unions represent employees on a collective basis and attempt to improve wages and working conditions in the negotiation of enterprise bargaining agreements with employers.

    •   Employer associations represent their members in wage negotiations and matters affecting their industry such as enterprise agreements, changes to award wages and penalty rates.

    •   The Fair Work Commission adjusts the National Minimum Wage and Modern Award rates of pay, sets the eleven National Employment Standards, and administers Modern Awards and single, multi and greenfields enterprise agreements.

    •   The former Howard government enacted the *Workplace Relations Amendment Act 2006* (WorkChoices) which set out the legal framework for three formal streams of wage increases through industrial awards, Union and Non Union Collective Agreements, and Australian Workplace Agreements. The Rudd Labor government enacted the *Fair Work Act 2009* to strengthen the safety net of the award system by introducing the NES and Modern Awards; prohibiting new AWAs; and encouraging the spread of collective enterprise agreements.

FINANCIAL MARKETS

TOPIC FOCUS

This topic focuses on the operation of financial markets in the Australian economy. These can be broken into debt and equity markets, as well as primary, secondary and derivatives markets. The regulatory institutions (i.e. the RBA, APRA, ASIC and Treasury) regulating these markets are discussed. The role of the Reserve Bank of Australia is examined in terms of financial system stability, its influence over interest rates and the monitoring of financial aggregates. Special detail is also devoted to the role, function and impact of the share market (Australian Securities Exchange or ASX) on the Australian economy.

Students should achieve the following knowledge and skills outcomes in Topic 5 of the Preliminary Course:

ECONOMIC ISSUES

- Examine the contribution of financial markets to the economic welfare of individuals and firms;
- Investigate the extent of competition in financial markets; and
- Discuss the need for the regulation of financial markets.

ECONOMIC SKILLS

- Compare and contrast financial markets with product markets;
- Explain the role of institutions in the operation of financial markets;
- Analyse the impact of financial innovations on individuals and the economy;
- Work in groups to investigate the economic role of the superannuation industry;
- Analyse the factors that influence the level of interest rates; and
- Predict trends in interest rates in hypothetical situations.

Financial markets perform the function of channelling savings for investment purposes. The main types of financial markets are primary, secondary and derivatives markets. In terms of financial instruments traded, a distinction can be made between debt and equity securities. The main lenders and borrowers in financial markets are individuals, firms and governments.

The Australian Securities Exchange (ASX) is an example of an equity market which assists public companies in raising capital through the issue of shares, and for investors to earn returns on their shareholdings in the form of dividends and capital gains. The Reserve Bank of Australia (RBA) regulates the Australian financial system by guaranteeing financial system stability, along with the Australian Prudential Regulation Authority (APRA), the Australian Securities and Investments Commission (ASIC) and the Treasury. Together these four institutions form the Council of Financial Regulators which regulates the Australian financial system.

Interest rates represent the annual percentage cost of borrowing funds, and are largely determined through the interaction of the demand and supply of loanable funds. The term structure of interest rates can also be influenced by the Reserve Bank's use of the interest rate corridor in the cash market, where it can intervene to change the cash rate. Changes in the stance of the Reserve Bank's monetary policy can affect interest rates, aggregate demand, economic growth, inflation and unemployment.

CHAPTER 10

Financial Markets in Australia

Financial markets perform the essential economic function of channelling funds from those economic units with a surplus of funds (i.e. savers) to lend, to those economic units which have a shortage of funds (i.e. borrowers and investors) and wish to borrow. The multitude of instruments traded in financial markets serve the purpose of bringing savers and investors together, and improving the efficiency of the economy, by facilitating the distribution of funds from surplus units who have savings (S) to deficit units wishing to undertake investment (I). Efficiency in the overall economy is improved as a result, because people who save do not always have access to the most profitable and productive investment opportunities with which to employ their surplus funds and receive the highest financial returns.

TYPES AND ROLE OF FINANCIAL MARKETS

Direct and Indirect Finance

The flow of funds in the economy can follow either a **direct finance** approach (i.e. directly between lenders and borrowers), or an **indirect finance** approach, through financial institutions which act as financial intermediaries (e.g. banks, building societies, life insurance companies and superannuation funds) as shown in **Figure 10.1.** Indirect finance occurs when a financial intermediary, such as a bank, acquires funds by issuing a financial liability such as a savings deposit or term deposit, and uses these funds to acquire a financial asset by lending money (loans) directly to a borrower such as a corporation, or by buying a financial asset in a financial market such as a government bond or an equity share.

The rationale for financial intermediaries is given by the presence of substantial information and transactions costs in the economy. For lenders, identifying the credit risk attributes of potential borrowers is a costly process, which is best served by a financial institution that possesses the necessary expertise. Transactions costs of purchasing securities directly in financial markets are also higher for small savers, because transactions costs (primarily brokerage commissions) for each security bought, usually decline with the amount purchased. Therefore financial intermediaries are able to reap economies of scale in conducting financial transactions, helping to increase the efficiency of the operation of the financial system in **mobilising savings for investment purposes**. The investment of funds leads to the creation of capital goods by firms which can increase production and the overall rate of economic growth.

Figure 10.1: The Flow of Funds in the Australian Financial System
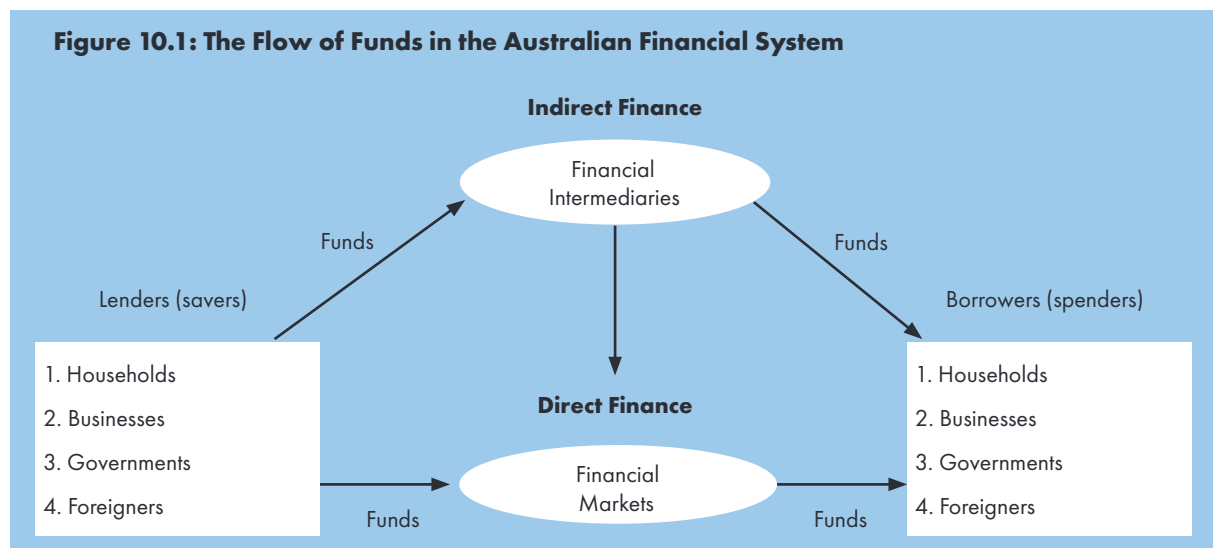
Primary, Secondary and Derivatives Markets

Financial markets operate to transfer funds from surplus units to deficit units. Savings and investment are matched through equilibrating asset prices in financial markets. For all major segments of the financial market, it is necessary to distinguish between primary and secondary markets. The primary market is a market for initial capital raisings (through the 'first time' issue of either debt or equity securities) by corporations (private and government). The secondary market is a market for trading in existing financial securities. Financial markets (both debt and equity) can be divided into primary, secondary and derivatives markets for financial instruments and financial assets (refer to **Figure 10.2**):

- The **primary market** is where financial securities such as debt, shares, bonds and options are issued for the first time for capital raising purposes. The primary market allows companies and governments to issue bonds or debentures in the fixed interest market, and shares and options in the equities market. The Australian Securities Exchange (ASX) is an example of a primary market.

- The **secondary market** is where financial securities are bought and sold according to investment transfers for investors and institutions managing a portfolio of shareholdings. Once financial securities are issued, they can be exchanged on the secondary market. The Australian Securities Exchange (ASX) is an example of a secondary market. Secondary markets make financial instruments initially sold on the primary market more attractive by increasing their liquidity (i.e. the ability to 'on sell' or buy existing securities), and they determine the market price of the securities traded through the interaction of demand and supply e.g. security prices include share and bond prices.

- The **derivatives market** is where financial products, which are derived from the financial securities traded in primary and secondary markets, such as swaps, futures and options, are traded through futures contracts. The Sydney Futures Exchange is a derivatives market and is part of the ASX.

An example of a transaction in financial markets might be if BHP Group Ltd wished to raise capital to expand its mining interests by issuing new shares. The shares would be issued in the primary market, and if fully subscribed through the issue of a prospectus, listed on the Australian Securities Exchange.

The second stage involves the trading of second hand shares on the Australian Securities Exchange (i.e. the secondary market), which in turn would lead to the third stage of deriving new products in the futures or derivatives market (e.g. the Sydney Futures Exchange Corporation Limited or SFE) for BHP Group Ltd shares. These markets are liquid and the transactions costs (i.e. the costs of 'doing business') are lower in the derivatives market, leading to an increasing amount of turnover in this market to support trading in primary and secondary markets. These markets were linked by a merger between the ASX and SFE in 2006 which increased market depth (liquidity) and trading of financial securities.

Debt and Equity Markets

There are two ways in which an individual, firm or government can obtain funds in a financial market. The most common way is to issue a debt instrument, such as a bill, debenture or a bond, or alternatively an equity issue could be undertaken. The **debt market** is where debt instruments such as mortgages, personal loans, debentures, bonds, notes and bills are issued at a fixed or variable rate of interest.

Table 10.1 lists the main sub markets for debt and equity instruments traded in the Australian financial system. The **equity market** consists of the issue of shares, options, warrants and rights for sale at a par value, in return for a share of the company's future stream of profits in the form of dividends.

Common methods for issuing shares in the share market are by way of either an **initial public offering** (IPO) or float or an institutional private placement. In the case of an IPO, the *Australian Corporations Act* requires the issue to be accompanied by a **prospectus**. The *Act* also applies to the issue of 'securities' by a company incorporated under the *Act*, and includes the issue of shares, debentures and bonds. The main equity market in Australia is the Australian Securities Exchange (ASX) which is a market for trading in marketable parcels of shares, options, warrants and rights between individuals and institutions.

Figure 10.2: The Structure of Australia's Financial Markets

Interest Rate or Debt Market	Share or Equity Market
Primary Market	**Primary Market**
Governments and corporations issue securities to finance borrowings. They may be:	Issue of new shares through an IPO by public companies for capital raising purposes:

Short Term Securities	Long Term Securities	Equity Securities

e.g. - Bank Bills
   - Non Callable
     Deposits (NCDs)
	- Commonwealth
	   Government Bonds
	- Semi Govt. Bonds
	- Corporate Bonds
		e.g. - Ordinary Shares - Rights
		   - Preference Shares - Options
		   - Convertible Notes - Warrants

Secondary Market

Short term and long term securities are actively traded between financial intermediaries (i.e. banks and investors, funds managers and traders)

Secondary Market

Shares are actively traded on the Australian Securities Exchange (ASX) by financial intermediaries, investors and speculative traders

Derivatives Market

Derivative products are introduced and based on underlying financial securities to enable participants to manage their investment risks:

Derivatives Market

Derivative products are introduced based on the underlying shares and share market index to enable participants to manage their investment risks:

Short term interest rate derivatives	Long term interest rate derivatives	Equity derivatives

e.g. - Forward Rate
     Agreements (FRAs)
   - Bank Bill Futures
   - Swaps
	- 10 year bonds
	- Futures and Options
	- 3 year Bonds
	- Futures and Options
	- Swaps
		e.g. - Share Futures
		   - All Ordinaries
		     Share Price Index
		   - Futures and Options
		   - Share Options

Source: Sydney Futures Exchange Limited (1995), *Demystifying Derivatives*.

Table 10.1: Markets Within the Australian Financial Market

Consumer Credit Market:	The market for consumer credit cards, personal and goods mortgage loans which are forms of short term debt finance for households.
Housing Loan Market:	The market for mortgage loans, which are secured by real property and repayable over the long term at fixed or variable rates of interest.
Business Loan Market:	This is a market for short and long term debt to finance business cash flow and investment spending e.g. overdraft and business term loans.
Short Term Money Market:	This is a market for cash involving banks and the Reserve Bank of Australia where securities of one year or less to maturity are traded.
Bond Market:	This is a market for the sale and redemption of government short and long term debt instruments e.g. Treasury notes, bills & Commonwealth bonds.
Share Market:	This is a market for the buying and selling of shares, options and rights in publicly listed companies on the Australian Securities Exchange (ASX).
Futures Market:	This is a market for trade and speculation in instruments derived from primary market financial instruments e.g. share and bill futures and swaps.
Foreign Exchange Market:	This is a market for trading and speculation in foreign exchange.
Financial Services Market:	This is a market for services such as brokerage, investment and financial planning, hedging, superannuation and foreign exchange dealing.

The Superannuation Industry

Superannuation is the compulsory payment by employers of 10.5% of the gross income of employees into a nominated superannuation fund to build retirement savings for employees. The Australian Prudential Regulation Authority (APRA) regulates most superannuation funds and total superannuation assets were valued at $3,312.5b as at 30th June 2022. Of this total, $2,241b were held in APRA regulated superannuation funds and $868.7b were held in self managed superannuation funds (SMSFs) regulated by the Australian Taxation Office. The remaining $202.8b of superannuation funds comprised exempt public sector superannuation schemes ($153.8b) and life office statutory funds ($49b).

Superannuation fund categories are small, industry, retail and corporate. Total superannuation assets declined by $37.4b in the year to 30th June 2020, reflecting withdrawals made by individuals under the **Early Release Scheme** (up to $10,000 from their superannuation accounts in 2019-20 and 2020-21) due to the impact of the **COVID-19 pandemic** on households. In the year to June 2022 superannuation assets declined because of increased financial market volatility sourced from the war in Ukraine, higher global inflation and interest rates (Source: APRA, *Quarterly Superannuation Performance,* June 2022).

Domestic and Global Financial Markets

Australia's financial markets and financial system are linked with global financial markets through the offshore borrowings of all financial intermediaries (AFIs) which amounted to $393.7b in August 2022. These offshore borrowings accounted for 14.1% of broad money ($2,784.6b) in the Australian economy and are an important source of funding for banks and non bank financial intermediaries. In June 2022 banks and registered financial corporations (RFCs) held $1,016.5b in financial assets offshore in the form of loans to foreigners and had international claims of US$988.7b in liabilities owed to foreigners.

Australian banks, RFCs and large public companies issue debt, equity and bond instruments in international credit markets to raise additional funds for lending and also have strong linkages with international investors including hedge funds in equity and foreign exchange markets. The Australian government also issues bonds offshore to help fund its budget deficit and the Future Fund invests some of its portfolio in international financial assets to diversify risk and earn a rate of return on its funds.

✎ REVIEW QUESTIONS

TYPES AND ROLE OF FINANCIAL MARKETS

1. Explain the role of financial markets in Australia. What is the difference between a financial market and a financial intermediary?

2. Refer to Figure 10.1 and the text and using examples explain the difference between direct and indirect financing.

3. Explain the roles of primary, secondary and derivatives financial markets. Refer to Figure 10.2 and give some examples of the securities traded in each type of market.

4. Explain the distinction between debt and equity finance. Refer to Table 10.1 and identify examples of markets for the main types of debt and equity finance in Australia.

5. Discuss the economic role of the superannuation industry in Australia. How did the COVID-19 pandemic in 2020 affect the superannuation industry? Why did superannuation assets decline in value in 2022?

6. Explain the links between Australian domestic and global financial markets.

THE ROLE AND FUNCTION OF THE SHARE MARKET

The Australian Securities Exchange Limited (ASX) is a company which oversees the operation of the share market. ASX Group was formed in 2006 after a merger between the Australian Stock Exchange (ASX) and the Sydney Futures Exchange (SFE). The share market in Australia serves two main functions:

1. It provides a link between listed public companies needing equity funds or equity capital to expand their operations, and people with funds to invest who are seeking capital gains and dividend income.

2. It provides a market place for the trading of shares (i.e. buying and selling) and other listed securities at the current market price determined by the forces of demand and supply in the share market.

The ASX was originally formed in 1987 through the amalgamation of six independent stock exchanges that formerly operated in Sydney, Melbourne, Brisbane, Adelaide, Hobart and Perth. Relative to share markets overseas, the ASX is regarded as a mature market. Medium to long term price movements as measured by the All Ordinaries Index, tend to reflect movements on major overseas stock exchanges such as New York, London, Tokyo, Frankfurt, Singapore and Hong Kong. The ASX is ranked as one of the world's top ten listed stock exchanges and the second largest in the Asia Pacific region. In 2022, the value of shares (or market capitalisation) listed on the ASX was $2.29 trillion. The average daily turnover of equities on the ASX in 2022 was $4.68b, with 2,307 companies listed on the ASX. Share markets experienced volatility in 2022 due to the war in Ukraine, and higher inflation and interest rates.

The Operation of ITS

All trades in ASX listed securities take place on computers. The ASX introduced the Integrated Trading System (ITS) in July 2006. ITS is a computerised trading system based on a modern Windows product, that allows brokers to view prices and the volumes of equities and other securities traded. Members of the public do not have direct access to ITS, but can place an order on ITS by telephoning their broker or placing an order on-line. Brokers enter these orders into ITS, or they may be entered into ITS automatically through Automated Order Processing. ITS matches buy and sell orders, and then trades them automatically. 'Best priced' orders have priority. If there is more than one order at the same price, the order that was placed first takes precedence. Large orders do not have priority over small orders.

Stockbrokers can use their own system for entering orders or they may use the ASX supplied ITS Workstation which gives current market price and order depth information:

- Best buy (bid) and best sell (offer) order prices;
- Opening prices for the current trading day;
- High and low trade prices for the day; and
- The last trade prices and volumes traded.

Supervision of the Share Market - ASX Compliance

On July 1st 2006 the ASX placed its operational supervisory functions into a separate subsidiary called ASX Markets Supervision. It was created to provide greater transparency and accountability of the ASX's supervisory operations and strengthen market integrity. ASX Markets Supervision oversees compliance with the ASX's Operating Rules such as Listing Rules, Market Rules, Clearing Rules and Settlement Rules. These functions are carried out by subsidiaries of ASX Limited including ASX Clearing Corporation Ltd, ASX Settlement Corporation Ltd and ASX Compliance Pty Ltd through:

- Supervising listed entities;
- Supervising trading activity in the market;
- Supervising market participants such as stockbrokers and clearing and settlement operators;
- Meeting the regulatory obligations of the ASX under the *Corporations Act*; and
- Co-operating with regulatory bodies in the financial system such as the RBA, ASIC and the ACCC.

In 2009 the federal government announced that the ASX's responsibility for regulating brokers would be handed over to ASIC in 2010 because of a perceived conflict of interest between the ASX's regulatory and commercial functions. The key types of shares traded on the ASX are the following:

- Ordinary shares which are units of ownership in listed public companies;
- Preference shares which carry a fixed dividend rate;
- Contributing shares which are partly paid up;
- Bonus share issues which are free issues of shares;
- Rights issues which may be taken up or sold in the market; and
- Derivatives which are financial instruments that derive their value from the price of another more basic equity or debt instrument. An example of a derivative is an interest rate option or a swap.

The Role of Stockbrokers and Securities Firms

Individual investors may seek investment advice or purchase and/or sell shares in a number of ways:

- By using a stockbroking firm (such as the CBA's subsidiary CommSec) or trading on-line;
- By using a financial planner or an accountant;
- By using a banking investment advisory service; or
- By purchasing shares through a public float or Initial Public Offering (IPO) and using the prospectus to gather investment information about the company.

Stockbroking firms are members of the ASX, and are bound by its code of ethics, regulations and conventions. On-line stock broking (an important financial innovation) accounts for most ASX trades. Stockbrokers offer a range of services to investors and companies such as:

- Advice on investments such as shares, debentures, government bonds and listed property trusts;
- Investment advice on a wide range of non listed investment options (e.g. cash management trusts, property trusts, equity trusts and self managed superannuation funds);
- Investment plans tailored to meet individual investment and financial needs;
- Retirement planning in terms of an investment portfolio that produces a regular income stream;

- Planning, implementation and monitoring of investment portfolios;
- Research on national and international trends in equities to help individuals to maximise their returns and minimise their risks on investments; and
- The underwriting of new share issues (IPOs) for publicly listed companies.

ASX Merger with the Sydney Futures Exchange in 2006

On July 25th 2006 the Sydney Futures Exchange Corporation Limited (SFE Corp) merged with the Australian Stock Exchange Limited, making the combined entity the ninth largest listed exchange in the world. The new entity became the Australian Securities Exchange or ASX Group. It offers an integrated range of products and services covering equity, cash and derivatives markets. The shareholders of SFE Corp approved a Scheme of Arrangement, and received shares in the ASX, in exchange for their shares in SFE Corp. All shares in SFE Corp were transferred to the ASX.

SFE Corp's former subsidiary companies (the Sydney Futures Exchange Limited, SFE Clearing Corporation Pty Ltd and Austraclear) operate as the ASX Clearing Corporation and provide exchange traded and 'over the counter' financial services to institutions in the Asia Pacific region and globally. The SFE is known as ASX 24 and operates electronically with a 24 hour capability. ASX 24 offers the financial market community trading products (such as futures, swaps and options) for investment and risk management, and provides clearing, settlement and depository services for both derivative and cash products. The ASX 24's operations are regulated by ASIC.

The CHESS and DCS Systems for Settlement of Trades

The ASX operates two systems for the electronic settlement and transfer of trades. The system used for settling equities trades is known as the Clearing House Electronic Sub-Register System (CHESS), and is operated by a subsidiary of the ASX on behalf of listed public companies. The settlement system used for derivatives is known as the Derivatives Clearing System (DCS). CHESS and DCS are computerised systems, providing electronic securities transfer, and electronic delivery versus payment settlement, with monetary obligations between participants being met directly between participants and the funds transfer systems of banks. It takes three business days after a trade is made to settle the trade.

CHESS is an electronic sub-register that forms part of each Australian listed entity's principal register of securities. Each entity admitted to the official ASX list is required to participate in CHESS. The CHESS register is automatically updated when a transfer takes place. If a person's shareholdings are recorded on the CHESS sub-register, they are allocated a HIN number (Holder Identification Number) or an issuer sponsored Security Holder Reference Number (SRN). This number is used by a stockbroking firm to transfer shares to and from the person's holding. Shareholders receive a statement either monthly or quarterly that details the number and types of shares that person owns. **The CHESS system will be replaced with Distributed Ledger Technology (DLT) in the future**. Electronic trading of shares is very prominent in Australia and provides the advantages of lower transaction costs; greater transparency of prevailing prices in the share market; and further minimisation of risk, since the processing of transactions is faster and cheaper for both buyers and sellers. In Australia there were 6.6m share owners in 2021 which was 35% of the Australian population, and 2,307 ASX listed companies.

The Impact of the ASX on the Economy

In 1998 the ASX moved from being a mutual organisation of stockbrokers to a publicly listed company. This occurred in October 1998 after a far reaching business planning and restructuring process. The achievement of maximum competitiveness was a key goal of the ASX's management in attempting to lift the ASX's share of the world stock market index from 1.45% in June 1998. Growth in physical market activity was 20% per annum between 1998 and 2001 (see **Table 10.2**) with average daily turnover in both the physical and derivatives markets of around $2b in this period. By June 2011 it had reached over $5b in each market. The ASX performs a number of important roles in the Australian economy:

Table 10.2: Australian Equity Market Turnover 1998-2001

	Average Daily Turnover ($b)	Growth over 1998-2001 (% per annum)
Physical market	$1.7b	20% pa
Derivatives market	$2.0b	12% pa
Total Turnover	$3.7b	16% pa

- Equity markets in Australia provide access to new capital raisings for public companies in the primary market, and the opportunity for shareholders to buy and sell securities in the secondary market to gain returns from their investments in terms of capital gains and dividend income.

- Movements in share market capitalisation, turnover and equity prices tend to reflect general economic conditions and levels of confidence in the Australian economy. Rising share prices as measured by the All Ordinaries Index, ASX 200 and other share price indexes, are usually indicative of high business confidence and rising profits of listed companies, whereas falling share prices are indicative of lower business confidence and falling profits of listed companies.

- The share market is a mechanism for the allocation of capital and investment funds between various public companies in the four major sectors of the economy which are banks, industrials, resources and technology. The first three of these sectors has its own share price index on the ASX.

The ASX has about 1.5% of total global share market capitalisation and has performed reasonably well in recent years (although there have been periods of high volatility) due to a number of factors:

- The 'safe haven' effect of capital moving to Australia from countries affected by the Asian Crisis in 1997 and the NASDAQ crash in 2000, due to the ASX's perceived stability. Although the Australian market suffered some effect from the financial crisis in Asia in 1997 and the NASDAQ crash in 2000, its liquidity and relative lack of volatility resulted in a steady recovery in 2001.

- The aggressive expansion by the ASX into the derivatives market with a daily turnover valued at $2b in 2000-01 exceeded the turnover in the physical market of $1.7b (refer to **Table 10.2**). This expansion into the derivatives market culminated in the merger between the Sydney Futures Exchange Corporation Limited and the Australian Stock Exchange Limited in July 2006.

- The unprecedented increase in business generated by the large number of public floats of former public trading enterprises (such as the CBA, Telstra, the TAB, Qantas and Medibank Private) and the demutualisation of the AMP Society and NRMA led to growth in equity market turnover.

- The global resources boom between 2005 and 2007 helped to increase Australian share prices by 17.2% in average annual terms between 2002 and 2007. The rise in share prices was particularly pronounced for resources and mining companies, whose share prices rose by an average 26% in annual terms over 2005-07, reflecting large increases in commodity prices.

- In 2020 the COVID-19 pandemic and recession caused an upsurge in ASX volatility, as did global supply chain constraints, the war in Ukraine, and higher global inflation and interest rates in 2022.

The superior performance of the ASX between 2002 and 2007 was largely due to the composition of ASX industry sectors, with large weightings in the financial, resources, industrial, telecommunications and health care sectors, and a small weighting in the information technology sector, the one most affected by falls in overseas share prices after the NASDAQ crash in 2000. Between 2003 and 2007 the resources sector, which includes major mining, oil and gas companies experienced a 175% average rise in share prices, supported by rising commodity prices, the terms of trade and company profits. A major source of liquidity which supported the growth in ASX trading in resources in the 2000s was the large inflow of portfolio investment funds from foreign investors who purchased Australian stocks (especially mining and resources stocks) in search of dividends and capital gains on their investments.

However the '**bull market**' between 2003 and 2007 peaked in November 2007 as the sub prime mortgage crisis in the USA developed into a global credit crisis by early 2008 and spread to global financial markets and the ASX as world growth slowed and commodity prices fell. ASX equities fell by 27% between November 2007 and August 2008 as a result of a '**bear market**', the largest fall since 1987 and one of the biggest downward corrections since the Great Depression of the 1930s. The equity market experienced high volatility in late 2008 with daily movements averaging 1.2%, twice the size of fluctuations in the previous 20 years. The decline in equity prices was evident in financial and resource stocks with a higher global cost of credit, and lower commodity prices, profit forecasts and confidence.

Table 10.3 shows trends in share market indices for Australia (ASX 200 S & P), the United States (S & P 500), the United Kingdom (FTSE 100), Japan (TOPIX) and Hong Kong (Hang Seng) between 2017 and September 2022. Share prices collapsed on world financial markets in 2008 with the impact of the **Global Financial Crisis**. The ASX 200 fell from a high of 495.4 in 2007 to 290.8 in 2008, a reduction of 41.3%. Falls in the US, Japan and UK were between 30% and 40% in 2008, and the Hang Seng Index in Hong Kong fell by nearly 50%. However financial markets stabilised after a trough was reached in March 2009, with most global equity markets making steady gains between 2010 and 2019.

Table 10.3: Comparison of Share Market Indices 2017-2022 (31.12.90 = 100)

Share Price Index	2017	2018	2019	2020	2021	2022
ASX 200 S & P	443.9	485.0	522.6	454.4	572.9	505.9
US S & P 500	762.9	882.4	901.4	1,018.4	1,304.4	1,085.8
UK FTSE 100	344.0	350.4	345.6	273.7	330.6	321.6
Japan TOPIX	96.6	104.8	91.6	93.8	117.1	105.9
Hong Kong Hang Seng	911.0	918.8	862.7	775.6	812.5	569.4

Source: Reserve Bank of Australia (2022), *Statistics*, www.rba.gov.au Table F.18. NB: Figures are for September each year

However these gains were reversed in 2020 because of the uncertainty created by the **global COVID-19 pandemic** and the US presidential election. There was heightened volatility in global equity markets in March 2020 when the global pandemic reached crisis point and countries introduced lockdowns and social distancing measures. Corporate earnings were forecast to fall in the USA and Europe but there was some recovery in equity prices between March and September 2020, driven by technology stocks and corporates with a large online shopping presence during the pandemic.. Global equity markets (USA, Japan and Euro Area) recovered strongly in 2021 as shown in **Figure 10.3** with continuing government policy stimulus. However in 2022 extreme volatility was experienced because of global supply constraints, the war in Ukraine and higher global inflation and official interest rates.

Figure 10.3: Global Equity Prices 2020 to 2022
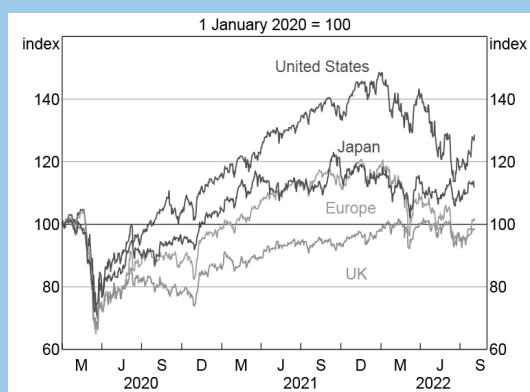
Source: Reserve Bank of Australia (2022), *Statement on Monetary Policy*, August.

Figure 10.4: Australian Share Prices in 2021 (%)
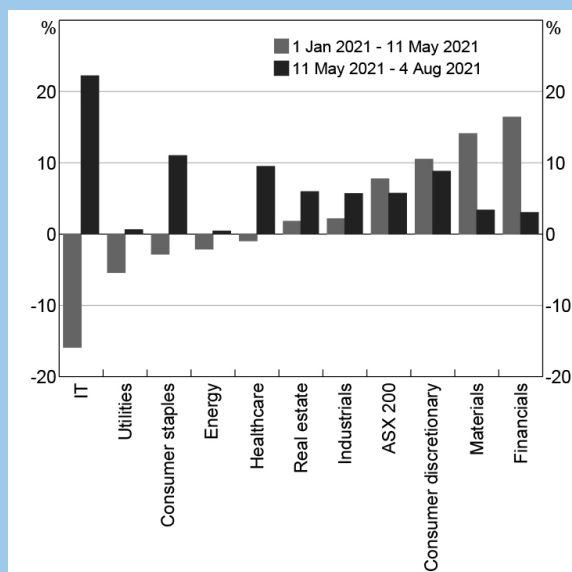
Source: Reserve Bank of Australia (2021), *Statement on Monetary Policy*, August, page 54.

In 2011 and 2012 Australian share price indices were flat, reflecting lower global growth because of the Sovereign Debt Crisis in Europe and 'US Fiscal Cliff' and their impact on commodity prices and growth in China. Prices of resource stocks fell between 2011 and 2015 due to falling commodity prices, as China recorded slower economic growth. Share market volatility increased in 2015 because of a financial crisis in Greece; a collapse in the Shanghai Index; and falls in commodity prices and Australia's terms of trade. Resource stocks collapsed in 2015 before a steady recovery between 2016 and 2019. Factors which weighed on share prices in 2016 were the 'Brexit' decision for Britain to leave the EU and the US presidential election. In 2017-18 global equity markets recovered, but then collapsed on a global basis in October 2018 because of higher US interest rates and the proliferation of the trade war between the USA and China precipitated by the US Trump Administration. In March 2020 Australian share prices fell sharply due to the impact of the **COVID-19 pandemic** but recovered in 2021, especially financials, materials and consumer discretionary spending as shown in **Figure 10.4**.

Equity Raisings on the ASX

Net equity raisings on the ASX were $21.5b in the June quarter 2009 and nearly $8b in the September quarter 2009. Resource companies accounted for half of the new capital raisings, with the remainder raised by real estate companies and other non resource companies. Companies used the funds to reduce the leverage on their balance sheets and to fund investment projects. Equity raisings in 2009 helped listed companies to reduce their debt levels by 10% since the end of 2008 to around $370b. This meant that the average **corporate gearing ratio** (i.e. debt to equity ratio) had declined from around 85% to about 70%. In 2012 and 2013 equity raising activity fell to its lowest level since 2003-04 because of lower equity prices and weak merger and acquisition activity. However equity raisings rose to $9b in the June quarter 2014 (mainly for real estate and infrastructure) with IPOs increasing to $4.5b.

Net equity raisings by listed financial corporations increased in the June quarter 2015 driven by a large $5.5b capital raising by the National Australia Bank as shown in **Figure 10.5**. This was the strongest quarter for equity raisings by banks since 2009 with major banks seeking to increase their capital reserves and equity ratios in anticipation of regulatory changes recommended by the *Murray Inquiry* (2014). Equity capital raised by listed companies rose to $29b between April and June 2020 with sectors affected by the **COVID-19 pandemic** raising most of the equity capital including airlines (Qantas), travel services (Flight Centre) and commercial real estate. The information technology sector (e.g. Afterpay) also raised equity capital for strategic growth opportunities during the COVID-19 pandemic. In the first half of 2021 there were 69 IPOs with $3.6b in equity capital raised by listed companies.

Figure 10.5: Net Equity Raisings on the ASX by Listed Corporations 2001-2021
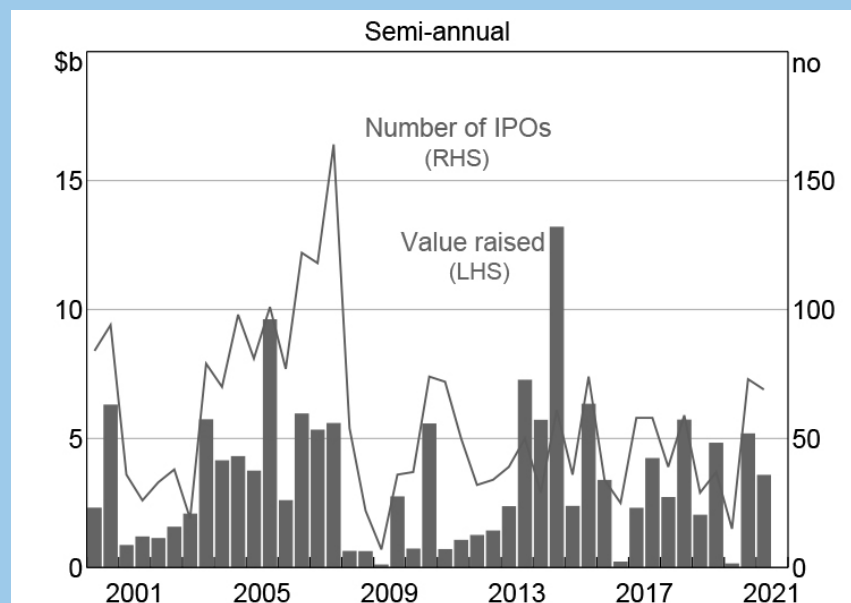
Source: Reserve Bank of Australia (2021), *Statement on Monetary Policy*, August, page 55.

Changes in the Australian Share Market

Since the late 1990s, the Australian share market has grown significantly and become more sophisticated and global in outlook. There have been four main changes in the operation and structure of the ASX:

- Firstly, the market capitalisation of Australian companies listed on the stock exchange grew from over $200b in 1992-93, to peak at $2.5 trillion in September 2021 and be $2.29 trillion in 2022.

- Secondly, there has been an even greater growth in the volume of equities traded and the liquidity of the market. The liquidity of the Australian share market increased from 35% in 1992-93 to over 70% by 2001-02. This means that there is more depth in the market and costs can be reduced. In September 2022 the daily turnover in equities on the ASX was valued at $4.6b.

- Thirdly, the structure of the market has become more diverse, with increasing numbers of manufacturing (industrial companies), financial (mainly banks), media, telecommunications and technology companies listed on the ASX, in addition to mining and resource companies.

- Fourthly, there is a growing trend towards globalised financial markets, with the ASX utilising technology to establish strategic alliances that allow Australian shareholders to access international markets, and facilitate overseas investors to access Australian companies. ASX World Link facilitates trading, settlement and holdings by Australian investors of a selection of securities traded in overseas markets, and also offers the same services to overseas investors in the Australian share market with links to the American Stock Exchange (NYSE), the NASDAQ, the Singapore Exchange and others.

In October 2010 the Singapore Exchange and the ASX held talks about a possible $8.4b merger of the two bourses. The Singapore Exchange would pay $8.4b to buy the ASX and the new merged business would be chaired and run by the Singapore Exchange which is 25% owned by the Singapore government. The merged business would be the world's fifth largest stock exchange valued at $14b. However there was widespread opposition to the proposal by some politicians and the Stockbrokers' Association of Australia which argued that Australia would lose control of its capital markets and the ASX would no longer be a regional financial centre based in Australia. The proposed merger required the approval of the Treasurer based on the advice of the Foreign Investment Review Board (FIRB) which evaluates national interest considerations of proposed mergers or takeovers. The Reserve Bank and the Australian Securities and Investments Commission also provided advice to the Treasurer. The proposal was rejected on the grounds that it was not in the strategic, national and public interest of Australia.

✑ REVIEW QUESTIONS

THE SHARE MARKET

1. Explain the two main functions of the Australian Securities Exchange (ASX).

2. Discuss the size and importance of the ASX.

3. Explain how the ITS system operates in the processing of share transactions.

4. Explain how the share market is supervised by the ASX's subsidiary, ASX Compliance.

5. What is the role of stockbroking firms in providing services to clients wishing to invest in equities?

6. Discuss the benefits of the merger of the ASX with the Sydney Futures Exchange in 2006.

7. Explain how the CHESS and DCS systems operate to provide settlement of equities and derivatives trades. Research the Distributed Ledger Technology system to be used in the future.

8. Outline the roles of the ASX in the Australian economy.

9. Refer to Figure 10.3 and the text, and describe and account for the trends in global equity prices between 2020 and 2022.

10. Discuss the impact of the ASX on the economy. Compare the ASX's performance with other major world stock exchanges between 2017 and 2022 by referring to the data in Table 10.3.

11. Explain how the global resources boom between 2003 and 2007 and the global credit and financial crises in 2008-09 affected global share prices and the ASX 200.

12. Discuss the reasons for the trends in Australian share price indices in 2021 as illustrated in Figure 10.4.

13. Refer to Figure 10.5 and the text and discuss trends in equity raisings by listed companies on the ASX between 2001 and 2021.

14. Using examples explain why there was an increase in equity capital raised by certain listed companies between April and June 2020.

15. Discuss changes in the Australian share market in terms of market capitalisation, the volume of equities traded, the types of companies listed, and links with overseas financial markets.

16. Discuss the advantages and disadvantages of the proposed merger between the Singapore Exchange and the ASX in 2010. Why was this merger proposal rejected by the Treasurer?

17. Define the following terms and abbreviations and add them to a glossary:

all ordinaries index	merger	ASX
bear market	primary market	CHESS
bull market	public companies	DCS
capital gains	secondary market	FIRB
derivatives market	share market	HIN
dividends	share prices	IPO
equity raisings	share price index	ITS
market capitalisation	stockbrokers	SFE

THE REGULATION OF THE AUSTRALIAN FINANCIAL SYSTEM

As a result of the recommendations of the *Financial System Inquiry* in 1997 (the Wallis Committee Report) the federal government made changes to the regulatory structure of Australia's financial system. These changes became effective on July 1st 1998 (refer to **Figure 10.6**) and involved the four institutions of the Reserve Bank of Australia, the Australian Prudential Regulation Authority, the Australian Securities and Investments Commission, and the Australian Treasury. Together these institutions form the **Council of Financial Regulators** which oversees the stability of the Australian financial system:

- The **Reserve Bank of Australia** (RBA), Australia's central bank, has responsibility for the conduct of monetary policy and the maintenance of financial system stability, including stability of the payments system. It relinquished its role as the prudential supervisor of banks to the Australian Prudential Regulation Authority (APRA) in 1998 after the *Wallis Report's* recommendations.

  The Reserve Bank has strong regulatory powers in the payments system, which is exercised by the Payments System Board within the Reserve Bank. The RBA remains the only agency which is able to provide emergency liquidity support to financial intermediaries in the event of any threats to the stability of the financial system. The Payments System Board has the tasks of controlling risk, and promoting efficiency and competition in the Australian payments system.

- A single prudential supervisor known as the **Australian Prudential Regulation Authority** (APRA) was established in 1998 to take over responsibility from the RBA for the supervision of all deposit taking institutions (DTIs) such as banks and non bank financial intermediaries (NBFIs) including life and general insurance companies and superannuation funds. Supervision of building societies, credit unions and friendly societies was transferred from the states, with APRA adopting the prudential standards of capital adequacy and liquidity formerly applied to banks by the RBA.

  APRA's prudential supervision involves a system of regulation designed to protect depositors' savings and to maintain stability and confidence in the Australian financial system. APRA's prudential standards include liquidity management, capital adequacy standards, and accurate information systems to establish reporting and disclosure standards for banks and NBFIs. APRA tightened the capital adequacy standards of banks in 2015 based on the *Murray Inquiry's* recommendations.

Figure 10.6: The Structure of the Australian Financial System

The Council of Financial Regulators

- The Reserve Bank of Australia (RBA)
- The Australian Prudential Regulation Authority (APRA)
- The Australian Securities and Investments Commission (ASIC)
- The Australian Treasury

Financial Intermediaries

- Banks
- Non Bank Financial Intermediaries (NBFIs)

- Permanent Building Societies	- Money Market Corporations
- Credit Unions	- General Financiers
- Finance Companies	- Cash Management Trusts
- Insurance Companies	- Managed Funds
- Life Offices	- Superannuation Funds
- Pastoral Finance Companies	- Securitisation Vehicles

Financial Agencies/Markets

- Australian Securities Exchange
- Sydney Futures Exchange
- The Foreign Exchange Market
- Money Market/Cash Market

- The **Australian Securities and Investments Commission** (ASIC) has responsibility for market integrity, consumer protection and dispute resolution across the entire financial system including investment, futures, insurance and superannuation products. ASIC is a statutory body which issues Australian company numbers (ACNs) and certificates of incorporation; processes annual company returns; and enforces the Corporations Law dealing with corporate activities including finance, accounting, takeovers and prospectuses. ASIC regulates companies and financial markets.

- The **Australian Treasury** has responsibility for advising the Australian government on financial stability issues and the legislation and regulatory framework that underpins the financial system. It provides advice to the Australian government on policy processes, and reforms designed to promote a secure financial system and sound corporate practices; remove impediments to competition in product and services markets; and safeguard the public interest in terms of consumer protection.

- The four institutions of the RBA, APRA, ASIC and the Treasury form the **Council of Financial Regulators**, which meets regularly to discuss and co-ordinate policies for the prudential supervision of the Australian financial system. The Council also has a role in advising the Australian government on the adequacy of Australia's financial system architecture in light of ongoing developments such as the Global Financial Crisis in 2008. The Council comprises two members from each of the four member agencies, with the governor of the Reserve Bank being the chairman of the Council. The Council began to implement the **Basel III Accords** of the Bank for International Settlements (BIS) in 2015 to tighten prudential standards on banks after the Global Financial Crisis (GFC) in 2008.

Financial System Stability

There are several ways in which the Reserve Bank of Australia attempts to reduce the likelihood of financial instability in the Australian financial system:

- Creating an environment of low and stable inflation and sustainable economic growth. This is done through the conduct of monetary policy and meeting the inflation target of 2% to 3% consumer price inflation over the economic cycle, which is the operational objective of monetary policy.

- Monitoring the health of the financial system through the assessment of financial and economic data such as credit growth, changes in inflation, household debt and asset prices (e.g. house prices).

- Ensuring that the payments system is safe and robust through the regulatory powers of the Payments System Board of the Reserve Bank.

- The Reserve Bank can use (in extreme cases) its own balance sheet to provide emergency liquidity support to a financial institution whose lack of liquidity may threaten financial system stability.

- Participating in the Financial Stability Board of the Bank for International Settlements (BIS) to develop new procedures for preventing global financial instability like that during the GFC.

The enormous dislocation in global financial markets in late 2008 and early 2009 resulted in a disruption to the flow of credit in wholesale financial markets and a general rise in the cost of credit due to a re-pricing of risk by banks and other major credit providers. Another impact of the **Global Financial Crisis** was extreme volatility and instability in global financial markets and asset prices such as equities.

The Reserve Bank's annual *Financial Stability Reviews* in 2020 and 2021 discussed the risks to financial stability caused by the **COVID-19 pandemic**, including financial stress for some households and businesses, rising house prices and household debt. It noted in previous *Financial Stability Reviews* the reforms recommended by the Hayne *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry* including strengthening governance and the regulatory oversight of APRA and ASIC and the Council of Financial Regulators. The *Financial Stability Review* in 2022 noted increased uncertainty due to rising global inflation and interest rates and household 'mortgage stress'.

At the global level, meetings of the G20, the Financial Stability Board of the BIS and the Basel Committee on Banking Supervision, have reviewed the regulatory structure of the global financial system to minimise the risk of another Global Financial Crisis. Measures being implemented under the Basel III Accords include a strengthening of bank capital and liquidity requirements and improvements in accounting standards. These measures are designed to reduce systemic risk in global financial markets.

BORROWERS IN THE DEBT MARKET

The main borrowers in the debt market include individuals, firms and governments. Debt finance includes all funds borrowed in financial markets usually at a fixed interest rate. The interest cost of borrowed funds is an allowable business expense for taxation purposes. The interest rate paid on debt borrowings depends on factors such as the risk of default (credit risk), the term of the loan, whether the interest rate is fixed or variable, the amount of funds being borrowed, and the security of the loan.

Debt instruments are contractual agreements by borrowers to pay the holders of the debt instruments fixed dollar amounts at regular intervals (i.e. interest or coupon payments) until a specified date (i.e. the maturity date) when the final payment (i.e. face value plus interest) is made. The debt market is often categorised by reference to the maturity profile of the instruments traded. Short term debt instruments refer to debt maturities ranging from 'at call' to twelve months, and long term debt instruments refer to debt maturities that are greater than twelve months, varying from two, three, five to ten or more years.

Individual Debt Instruments

The main forms of borrowing by individuals in the debt market include mortgage loans for housing, redraw facilities on equity in homes and real estate, personal loans to buy motor vehicles and consumer durables or to finance a holiday, loans for home additions and renovations, overdrafts and credit cards.

Business Debt Instruments

- **Overdraft loans** are used by small and large businesses, which allow them to withdraw funds from a cheque account, which can exceed the balance kept in the account i.e. an overdraft facility.

- **Small and large business loans** are usually secured by a business's assets or the owner's personal assets. Small business loans are usually secured by a mortgage on real assets such as a house or unit.

- **Debentures and notes** are major debt instruments of larger companies which are issued in financial markets, guaranteeing a fixed rate of interest. Debentures are secured by a company's assets, but notes are unsecured by assets, and riskier, and therefore earn a higher interest rate than debentures.

- **Commercial bills and promissory notes** are short term financial instruments which are issued by companies to raise finance. Commercial bills are usually bought by banks (i.e. bank accepted bills) at a discounted price, enabling the borrower to receive the funds sought, but the bank makes a profit when the bill matures and the total funds have to be repaid. Promissory notes are issued by the borrower directly in the market but are not underwritten by banks. The interest rate on a promissory note is higher because of the higher risk, as they are not underwritten by banks.

- **Leasing loans** are another form of debt finance where a business will enter into a lease agreement in purchasing a new item of capital or transport equipment. Common items which are financed through leases include cars/utes, trucks, machinery, computers, photocopiers and office, factory, shop or farm equipment. Under a lease, the lessee does not own the equipment until all the lease payments over the term of the lease have been paid, and a final or 'balloon payment' is made to cover the residual amount owing on the principal to the lender which is usually a bank or a finance company.

- A **bill of exchange** is where one party called the drawer (borrower), draws a bill on another party called the drawee (the lender). If issued by corporations they are called commercial bills, and if guaranteed for a fee by a bank which stamps the bill as 'accepted', they are called 'bank accepted' or bank bills. Bank bills attract a lower interest rate than a commercial bill or promissory note, due to the lower risk involved because they are guaranteed by a bank for payment.

- **Certificates of deposit** are debt instruments sold by banks to depositors. The bank pays interest on the deposit, and at maturity, pays back the original purchase price of the certificate plus the interest earnt. They are a source of funds for banks and corporations, in addition to savings/term deposits.

- **Corporate bonds**: the Australian corporate bond market began to develop in the late 1980s, and these 'Kangaroo Bonds' are mainly sold offshore by a few large industrial companies (such as BHP Group Ltd, Westfields, Wesfarmers and Qantas), finance companies and banks. Corporate bond issues (1 to 5 years maturity) trade at a discount (i.e. a higher yield) similar to semi-government securities, reflecting their lower credit backing, and the less liquid market in which they are traded.

- **Convertible bonds**: some corporate bond issues may be made as convertible bond issues. These are 'hybrid' securities which are issued as debt, but contain an option that allows them to be converted to equity (i.e. shares in a public company) at some stage in the future.

Government Debt Instruments

- **Treasury bonds, indexed bonds and notes** are short term discount securities with maturities of 5 weeks, 13 weeks and 26 weeks. They are the main short term debt instruments of the Australian government used for liquidity management by the Reserve Bank of Australia in the cash market.

- **Australian government and semi government bonds** (3, 5 and 10 years maturity): Australian government securities (AGS) dominate the Australian fixed interest market. The deregulation of financial markets in the 1980s resulted in state governments and Public Trading Enterprises (PTEs) being allowed to issue bonds in their own name, spurring activity in this sector of the fixed interest market. Australian government bonds represent around 45% of total securities on issue, semi government bonds around 43%, and corporate bonds about 12%.

- **Australian and state government bonds** are the major deficit funding instruments for these levels of government. Australian government bonds are the benchmark for yields in the bond market, given their superior credit standing relative to state government and privately issued bonds. The bond market has increased in size and turnover because governments have recorded budget deficits since the Global Financial Crisis in 2008-09 and need to borrow funds. Total Australian Government Securities (AGS) on issue in 2022-23 were estimated at $977b.

- **Semi government bonds** are issued in substantial amounts in addition to Australian government bonds. A semi-government authority is a statutory body, established under an Act of either the Commonwealth or State parliaments of Australia. Their borrowings are guaranteed under the Act by the relevant Parliament. State governments have set up instrumentalities (such as the NSW Treasury Corporation) to rationalise the borrowings of state and statutory authorities.

BORROWERS IN THE EQUITY MARKET

Aside from debt securities, the second way of raising funds in financial markets is by issuing equity financial securities, such as shares or common stocks. Shares are financial securities which are claims by the holder to a share of the net income (i.e. income after expenses and taxes) and assets of a business firm. The equity holder is said to be a 'residual claimant' on the value of a firm's assets. The value of a firm's equity is equal to the difference between the value of the firm (which may be obtained by applying a discounted cash flow analysis to the firm's expected cash flows) less the value of a firm's debt or the monies it owes to creditors. Due to its residual claimancy on a firm's value, equity finance is riskier than debt, and tends to be priced to offer a higher expected rate of return than debt. Because of the added risk associated with equity finance, it is more costly for firms to raise equity finance than debt finance.

It is mainly publicly listed companies and privatised public trading enterprises (PTEs) which seek to raise equity capital on the Australian Securities Exchange. The range of equities traded is outlined in **Table 10.4** and includes ordinary, preference and contributing shares and rights. Individual investors buy and sell equities in the hope of making a capital gain on their shareholding and to receive income from the payment of dividends from the profits made by publicly listed companies. Companies, superannuation, managed and hedge funds, unit trusts and cash management trusts, buy and sell equities in managing portfolios of financial assets for their clients. They do this to spread financial risk and to maximise returns for their clients, many of which are large institutional investors in Australia and overseas.

Table 10.4: Types and Features of Shares or Equities

Ordinary Shares	• Most common form of share ownership
	• Shareholders receive the benefit of a dividend distribution by the company
	• If the company is wound up, they rank last in priority for payment
	• They receive the potential benefits from capital growth or capital gains
	• Voting rights for shareholders at meetings
Preference Shares	• Fixed dividend rate expressed as a percentage of the nominal value of the shares held by the investor
	• Preference dividends are paid up before ordinary dividends are announced
	• Preference shares rank before ordinary shares in any distribution of assets
Contributing Shares	• Partly paid up
	• Require certain future payments at certain future dates
	• Shareholders are obliged to pay outstanding capital when due, unless the company is a non-liability company, in which case, shares can be forfeited
Bonus Issue	• A free issue of new shares to a company's shareholders made on a ratio basis
	• Reflect the improved value of a company's assets
Rights Issue	• An issue of new shares to a company's shareholders to raise additional capital
	• Made on a ratio basis
	• Rights may be taken up or, in some cases, sold in the share market

Futures and Derivative Products

Derivative products allow financial market participants to shift or eliminate risk emanating from their underlying economic or financial exposure. As the name suggests, derivative products are 'derived' from underlying physical, financial or commodity assets, and their prices are tied to the prices of these underlying assets. Common forms of derivative products include financial and commodity futures, interest rate and share options, financial (interest rate) and foreign exchange swaps:

• **Futures Contracts**: A futures contract is an agreement to buy or sell a certain commodity or interest rate at some date in the future, for a predetermined price. An example best illustrates how this product can be used to hedge the risk of an underlying financial exposure or risk:

 A commodity producer has to sell wheat in 3 months time, with the current price of wheat being $100 per tonne. The farmer has two choices. He could 'lock in' the current price of wheat by selling wheat futures at $100 per tonne or he could do nothing (i.e. wait) and leave his exposure unhedged. If the price of wheat in 3 months is $90 he will lose $10 per tonne from the sale of the wheat. But with the futures strategy, he will be assured of $100 per tonne for the sale of the wheat.

• **Options**: An option is the right, but not obligation to buy or sell a commodity, share, or debt security at some future date (called the 'expiration date') at a particular price (called the 'strike price'). The cost of an option is called the option premium or price. An option affording the right to buy an asset is called a 'call' option. Conversely, a 'put' option is an option to sell an asset at a particular price.

• **Interest Rate Swaps**: An interest rate swap allows one party to exchange a stream of floating rate payments for fixed rate payments or vice versa. For example, a floating rate borrower can convert this to a fixed rate by entering into a 'receive floating-pay fixed swap'.

 Swaps are usually arranged by a financial intermediary such as a bank which takes a margin for its services. However, the basic principle is that there are two parties who wish to swap loan repayments, from fixed to floating, or from floating to fixed as a risk management strategy.

FACTORS AFFECTING THE DEMAND AND SUPPLY OF FUNDS

According to the great British economist, John Maynard Keynes (1883-1946), in the *General Theory of Employment, Interest and Money* (1936), the demand for money was driven by three major motives:

- The **transactionary motive** for holding money or demanding funds, was a result of individual demands for buying goods and services, and is known as the transactionary demand for money;

- The **precautionary motive** or demand for holding money, comes from individual desires to have some funds set aside for unforeseen events, such as an accident, illness or loss of income (e.g. due to unemployment) or saving for an expensive purchase in the future, such as a house or car; and

- The **speculative motive** for holding money balances is for individuals to exploit investment opportunities which may yield real returns on funds such as buying shares, bonds and real estate.

The demand for funds is influenced by many factors such as the rate of economic growth, changes in real incomes, investment expectations, asset prices and the rate of interest (r). An increase in the rate of economic growth may raise real incomes and increase the demand for funds. The demand for funds is also interest elastic, with a fall in interest rates usually being accompanied by a larger proportionate increase in the demand for funds. Financial innovations such as the variety of financial products accessed by electronic banking and the derivatives market will also influence the demand for funds.

The supply of funds depends on factors such as the household savings ratio (i.e. savings as a proportion of household disposable income), the growth of the money supply, corporate profitability, government fiscal balances, and access to funds in world financial markets. **Figure 10.7** shows the determination of the equilibrium rate of interest (r) through the interaction of the demand and supply of loanable funds.

Figure 10.7: The Demand and Supply for Loanable Funds
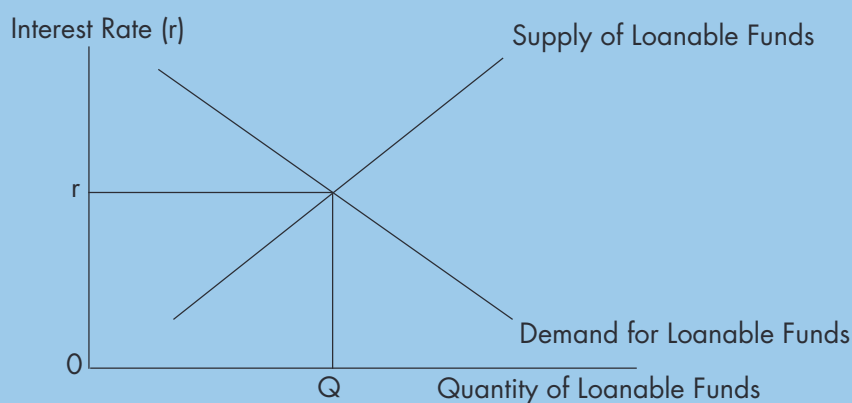
Financial Innovations

The Australian financial system was deregulated in 1983, with Reserve Bank controls over bank lending and interest rates abolished; the exchange rate was floated; and 16 foreign banks were granted licences to compete in the domestic financial market. Greater competition and the use of improved technology has led to a number of important financial innovations in Australia including the rapid growth of Automatic Teller Machines (ATMs) and Electronic Funds Transfer Point of Sale terminals (EFTPOS). Other areas of expansion include credit card usage, and the diversification of banks into superannuation, insurance and brokerage services and products. Price competition in the housing market has also intensified with the entry of mortgage originators such as Aussie Home Loans, RAMS, Mortgage Choice and others into the home mortgage market. Banks have encouraged customers to use telephone, internet, mobile phone (smart phone) and 'tap and go' banking services, and rationalised the branch banking system and ATMs to reduce costs. The major recent financial innovation has been the global spread of electronic banking and commerce with improvements in information and telecommunications technology.

LENDERS IN THE AUSTRALIAN FINANCIAL SYSTEM

The main lenders in the Australian financial system are banks and non bank financial intermediaries or NBFIs (such as building societies, credit unions, finance companies, insurance companies, life offices, pastoral finance companies, money market corporations, general financiers, cash management trusts, managed funds, superannuation funds and securitisation vehicles).

Individuals, businesses and governments in Australia contribute deposit funds to all financial intermediaries or AFIs (i.e. banks and NBFIs) in the form of current deposits (e.g. cheque and savings accounts) and fixed deposits (e.g. certificates of deposit, term deposits and savings-investment accounts). Total deposits received by AFIs in the year to August 2022 were $4,447,400m consisting of current deposits, certificates of deposit, term deposits and other deposits. Borrowings by all financial intermediaries (AFIs) from non residents (i.e. from overseas capital markets) totalled $393,700m in August 2022. These figures illustrate the increase in domestic saving during the **COVID-19 pandemic** as a source of funds in the Australian financial system. During the Global Financial Crisis in 2008 overseas funds became more difficult and costly to borrow and since 2008 financial institutions have tried to source more funds from domestic saving with the household saving ratio rising to over 10% during the COVID-19 pandemic as more households increased their precautionary saving.

Table 10.5 illustrates the composition of loans and advances made by banks, non bank financial intermediaries and all financial intermediaries for the year to August 2021 and the year to August 2022. The composition of loans and advances (excluding credit) made by AFIs according to the types of borrowers in the year to August 2022 were as follows:

- Lending to individuals totalled $2,259,700m ($1,420,700m for owner occupied housing and $839,000m for personal loans and investor housing).
- Lending to businesses totalled $1,181,800m ($7,100m in bank bills and $1,174,700m in loans).
- Lending to governments totalled $325,800m.

Loans and advances by AFIs grew by 9.6% between August 2021 and August 2022 with low interest rates leading to increased demand for housing and owner occupiers borrowing mortgage loans to buy real estate. Credit growth was 9.5% in this period and amounted to $3,431,200m in August 2022.

Table 10.5: Australian Lending and Credit Aggregates* August 2021 and August 2022

	August 2021	*August 2022*	%△
Loans and Advances by Banks	$2,883,100m	$3,156,100m	9.5%
Loans and Advances by NBFIs	$240,500m	$268,000m	11.4%
Loans and Advances by AFIs	$3,123,600m	$3,424,100m	9.6%
Bank Bills on Issue	$10,100m	$7,100m	-29.7%
Credit (sa*)	$3,133,800m	$3,431,200m	9.5%
Housing - Owner Occupied (sa*)	$1,314,700m	$1,420,700m	8.1%
Personal Loans and Investor Housing (sa*)	$796,700m	$839,000m	5.3%
Other Business Loans (sa*)	$1,030,100m	$1,174,700m	14.0%
Lending to the Government Sector by AFIs	$335,800m	$325,800m	-2.9%

Source: Reserve Bank of Australia (2022), *Statistics,* www.rba.gov.au Table D.2. * sa: seasonally adjusted
NB: Business lending growth slowed after the GFC in 2008-09 as businesses reduced their gearing ratios. There was strong growth in lending to the government sector to fund budget deficits in 2020-21 because of the COVID-19 pandemic. In 2021-22 there was strong growth in housing finance due to strong demand and low interest rates which led to rising household debt.

✎ REVIEW QUESTIONS

THE AUSTRALIAN FINANCIAL SYSTEM

1.   Describe the structure of the Australian financial system shown in Figure 10.6.

2.   Explain how the Australian financial system is regulated by the following institutions:

     - The Reserve Bank of Australia (RBA)

     - The Australian Prudential Regulation Authority (APRA)

     - The Australian Securities and Investments Commission (ASIC)

     - The Australian Treasury

     - The Council of Financial Regulators

3.   Why were ASIC and APRA criticised by the Hayne Royal Commission in 2018?

4.   Identify the main borrowing and lending groups in the Australian financial system. Discuss the main forms of debt borrowing by individuals, businesses and governments.

5.   Why and how do businesses borrow in the equity market? What types of instruments are traded in equity markets?

6.   What are the main instruments traded in the derivatives market? Why might individuals and businesses use financial futures?

7.   What factors influence the demand and supply of loanable funds?

8.   Explain how interest rates are determined by the demand and supply of loanable funds in Figure 10.7.

9.   Discuss the role of financial innovation in Australia since financial deregulation in 1983.

10.   Refer to Table 10.5 and the text and discuss the relative importance of the main lenders and types of lending in the Australian economy in August 2022.

11.   How did the global credit and financial crisis affect the growth in lending in Australia in 2009?

12.   Discuss the impact of rising government budget deficits on lending to the government sector between 2009 and 2019 and in 2020 as the COVID-19 pandemic impacted on the economy.

13.   Why did lending for housing increase between 2020 and 2022? What effect did this have on the housing market? How did the Council of Financial Regulators contain lending growth?

14.   Define the following terms and abbreviations and add them to a glossary:

bank bills	financial intermediaries	AFIs
credit	financial regulation	APRA
debt market	financial system	ASIC
derivatives market	financial system stability	BIS
equity market	futures contracts	EFTPOS
financial deregulation	government bonds	NBFIs
financial innovation	loans	RBA

CHAPTER 10: SHORT ANSWER QUESTIONS

Points of Access to the Australian Payments System (Source: Reserve Bank of Australia)

	2015	2016	2017	2018
ATMs	31,829	32,156	32,095	30,940
EFTPOS Terminals	891,412	934,001	931,771	961,247
Bank Branches	5,480	5,357	5,353	5,200

Refer to the table above of data from the Reserve Bank of Australia on points of access to the Australian payments system and answer the questions below.   Marks

1. According to the table, what was the increase in EFTPOS terminals between   (1)
    2015 and 2018?

    _____

    _____

2. What do the abbreviations ATM and EFTPOS stand for?   (2)

    _____

    _____

    _____

3. According to the table, describe the trends in the total number of ATMs, EFTPOS   (2)
    terminals and bank branches between 2015 and 2018.

    _____

    _____

    _____

4. Explain ONE benefit and ONE cost to bank customers of using ATM and EFTPOS   (2)
    technology to conduct financial transactions.

    _____

    _____

    _____

5. Discuss THREE reasons for the decline in the of use of ATMs and bank branches to   (3)
    conduct financial transactions.

    _____

    _____

    _____

    _____

    _____

CHAPTER FOCUS ON FINANCIAL MARKETS IN AUSTRALIA

Contribution to Total Credit Growth*
Six-month-ended annualised

* Seasonally adjusted and break-adjusted.
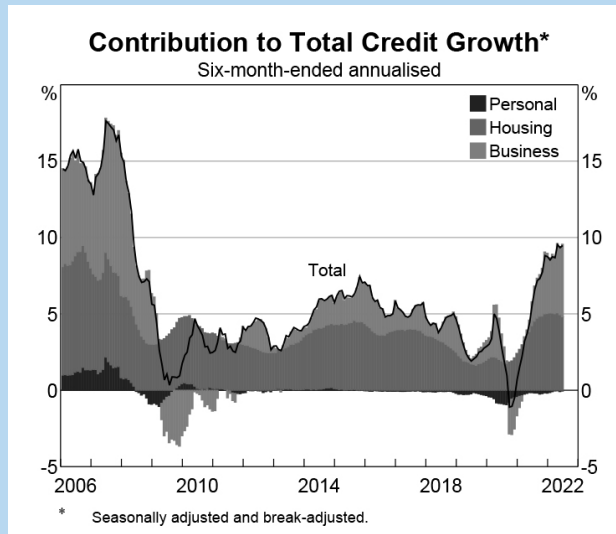
Growth in Credit Remains High

"Growth in total credit has remained high in recent months, at around its fastest pace in more than a decade. Total housing credit growth was little changed over the June quarter, while business credit growth picked up further, supported by robust business conditions, increased business investment and high levels of merger and acquisition activity over the past year. Personal credit continued to decline over the first half of 2022, but at a slower pace than in late 2021. This is consistent with a recovery in consumer spending following the easing of lockdowns at the start of the year.

Demand for housing loans has eased but remains high. Housing credit growth remains around 7.75 per cent on a six month ended annualised basis. Owner occupier credit growth has moderated over recent months, while investor credit growth has remained steady after picking up over 2021."

Source: Reserve Bank of Australia (2022), *Statement on Monetary Policy,* August.

Discuss the role of Australian financial institutions that make credit and other forms of lending available to individuals, households and businesses.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 10: EXTENDED RESPONSE QUESTIONS

1.	What is the difference between direct and indirect financing? Explain the role of financial markets such as primary, secondary and derivatives markets in the Australian financial system.

2.	Discuss the role and functions of the Australian Securities Exchange (ASX). Explain the main types of securities traded on the exchange and the role of stockbrokers and broking firms in this process. How does the Australian Securities Exchange (ASX) help listed public companies to raise new capital?

3.	Evaluate the performance of the Australian Securities Exchange (ASX) in raising and allocating equity capital in the Australian economy.

4.	Discuss the impact of the global resources boom on the profitability and performance of Australian resources companies and the ASX between 2003 and 2007.

5.	Discuss the impact of the global credit and financial crises on equity prices and capital raisings on the ASX in 2009. How did the regulatory authorities of the Reserve Bank, ASIC and the ASX respond to these crises?

6.	Describe the structure of Australia's financial system. Distinguish between banks, non bank financial intermediaries (NBFIs) and financial agencies. How is the Australian financial system regulated by the Reserve Bank of Australia, APRA, ASIC and the Treasury?

7.	Discuss the main categories of lenders and borrowers in the Australian financial system.
	Explain the main types of debt and equity securities that are traded in financial markets in Australia.

8.	Distinguish between debt and equity markets. Discuss examples of the main types of securities traded in each market. What factors influence the demand and supply of loanable funds?

✌ CHAPTER SUMMARY

FINANCIAL MARKETS IN AUSTRALIA

1. Financial markets perform the essential economic function of channelling the surplus funds of savers, to those who have a shortage of funds, and wish to borrow such as borrowers and investors.

2. Direct finance is where funds are lent (by lenders) directly to those who wish to borrow these funds (borrowers). Indirect finance is where the funds made available by lenders are channelled through a financial intermediary (such as a bank or Non Bank Financial Intermediary) to borrowers who wish to borrow and spend the funds.

3. There are three main types of financial markets:

   • The primary market is where financial securities such as debt and equity are issued for the first time to investors;

   • The secondary market is where existing financial securities are bought and sold; and

   • The derivatives market is where financial products derived from the securities traded in primary and secondary markets (such as swaps and options), are traded through futures contracts.

4. The Australian Securities Exchange (ASX) is a company which oversees the operation of the share market in Australia. The ASX and Sydney Futures Exchange merged in 2006 to become one company. The share market enables public companies to raise funds through the issue of shares and other securities and is a market place for the trading of shares and derivatives by investors.

5. The share market is supervised by the ASX and operates by using the Integrated Trading System (ITS) and register systems known as CHESS and DCS. Stockbrokers and securities firms provide services to investors and companies that wish to trade in shares and derivatives on the ASX.

6. The Australian share market is important to the economy as it provides an avenue for capital raising and the participation of Australian and overseas investors in equity and derivatives markets.

7. The Australian financial system consists of financial intermediaries such as banks and non bank financial intermediaries; financial agencies such as the Australian Securities Exchange and Sydney Futures Exchange; and regulatory authorities such as the Reserve Bank of Australia (RBA), the Australian Prudential Regulation Authority (APRA), the Australian Securities and Investments Commission (ASIC) and the Australian Treasury. These institutions form the Council of Financial Regulators. The Reserve Bank of Australia publishes a quarterly *Financial Stability Review* in assessing the stability of the Australian financial system.

8. The two main ways of raising finance are through the issue of debt and equity financial instruments or securities in financial markets:

   • The debt market is where debt instruments (such as mortgages, overdraft loans, debentures, notes, commercial bills, corporate and government bonds) are issued at a fixed or variable rate of interest. The main borrowers in the debt market include individuals, firms and governments.

   • The equity market is where equity instruments (such as shares, rights, options and warrants) are traded, which can earn investors a return through dividends and capital gains. The main borrowers in the equity market are publicly listed companies which seek to raise capital through new share issues (called Initial Public Offerings or IPOs) so they can undertake expansion of their production activities through access to additional capital which they can invest.

9. The main lenders in the Australian financial system are households, individuals, firms and governments. The main borrowers in the Australian financial system are households, individuals, firms and governments.

10. The main factors affecting the demand for loanable funds include the transactionary, precautionary and speculative motives for holding money. The main factors affecting the supply of loanable funds include the rate of interest, the household saving ratio, the profitability of firms, and the fiscal position of the federal and state governments.

CHAPTER 11

Interest Rate Determination

THE FUNCTIONS OF MONEY AND FINANCIAL INNOVATION

Money is generally defined as anything which is accepted in payment of a debt. In Australia bank notes are issued by the Reserve Bank of Australia and coins are issued by the Australian Mint. Both Australian dollar notes and coins are said to be **legal tender** since they must be accepted as a means of payment for debts throughout Australia and its Territories. All bank notes are signed by the Secretary of the Treasury and the Governor of the Reserve Bank and are in $5, $10, $20, $50 and $100 denominations.

Money performs four main functions in a specialised mixed market economy like Australia:

1. Money acts as a **medium of exchange**, by allowing transactions between consumers and businesses to take place, with money accepted in payment of debts for the purchase of goods and services.

2. Money acts as a **store of value** as it can be deposited in financial institutions, allowing consumers and businesses to save or store value over time for purchases of goods and services in the future.

3. Money is said to be a **standard for deferred payments**, which means that it can be used to measure debts incurred, but deferred for payment at a date in the future, such as purchases on credit.

4. Money acts as a **measure of relative value**, since prices are quoted in monetary terms, which allows consumers to compare the relative value of various goods and services through relative prices.

The nature of money has changed over time because of changes in technology and **financial innovation** by banks and non bank financial intermediaries (NBFIs). The reliance on bank notes and coins (cash) as the main form of money has declined because of the spread of electronic banking on a global scale.

Electronic banking has reduced transaction costs for both financial intermediaries and consumers by increasing the speed and convenience of conducting business and for consumers in making payments for their purchases of goods and services. Financial intermediaries are able to reap economies of scale through the use of electronic banking, because they can reduce their average costs of production by increasing their range of products and services to customers and the volume of transactions. Also the change to electronic banking has been rapid in Australia, with over 90% of all banking transactions now completed electronically. The main types of electronic banking include the use of the following services to access money (through the points of access to the payments system) and make payments for debts:

* Internet banking, including electronic funds transfer (EFT);
* Internet based electronic purchasing through payment systems such as eBay and Pay Pal;
* Telephone banking including the use of smart phones and 'electronic wallets';
* Automatic Teller Machines (ATMs);
* Electronic Funds Transfer Point of Sale (EFTPOS) terminals and 'tap and go' debit & credit cards;
* Direct Debit; and
* BPAY and Bank@Post.

With the growth of electronic banking, the way Australians pay for their goods and services and access funds has changed dramatically as is evident by the following trends between 1996 and 2018:

* The number of bank branches fell from 6,508 to 5,200;
* The number of ATMs rose from 7,465 to 30,940 (but are now declining in use); and
* The number of EFTPOS terminals rose from 123,984 to 961,247.

THE ROLE OF THE RESERVE BANK OF AUSTRALIA

The Reserve Bank of Australia (RBA) is the principal monetary authority and central bank in Australia. The Reserve Bank performs different functions to all other commercial banks. It does not accept deposits and make loans to the general public. It is the banker to the Commonwealth government and is also responsible for the conduct of monetary policy, which is the policy instrument used to achieve the economic objectives set out in its Charter which is contained in the *Reserve Bank Act 1959*:

"It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the 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, in the opinion of the Board, will best contribute to the stability of the currency of Australia, the maintenance of full employment in Australia, and the economic welfare and prosperity of the people of Australia."

The six main functions of the Reserve Bank are the following:

1. The control of note issue and the distribution of currency.

2. The banker to the commercial banks through their Exchange Settlement Accounts (ESAs).

3. The banker and adviser to the Commonwealth government.

4. The custodian of Australia's international reserves of gold, foreign exchange and Special Drawing Rights (SDRs) with the International Monetary Fund (IMF).

5. The prudential supervision of the payments system (through the Payments System Board) in guaranteeing the stability and liquidity of the Australian financial system. The Reserve Bank is also the Chair of the Council of Financial Regulators which includes APRA, ASIC and the Treasury.

6. The conduct of monetary policy to achieve the objectives set out in its Charter such as low inflation, full employment, and long term economic growth to improve living standards in Australia. Monetary policy is conducted through the Reserve Bank's control of the **interest rate corridor** in the cash market, and the use of an **inflation target** of 2% to 3% consumer price inflation over the economic cycle.

Monetary Aggregates Measured by the Reserve Bank of Australia

The Reserve Bank collects, researches, analyses and publishes data on a wide range of monetary aggregates in Australia's financial system. They provide a guide to the growth in the main components of the money supply. The Reserve Bank's **definitions of the aggregates** (refer to Table D3 and Notes to Tables in the Reserve Bank's Statistical Tables at www.rba.gov.au) were changed in July 2019 to bring Australia in line with international accounting standards. The definitions used in **Table 11.1** are as follows:

Currency:	Comprises holdings of notes and coins by the private non bank sector
Transaction deposits:	Total transaction deposits at Authorised Deposit Taking Institutions (ADIs) from the private non ADI sector
M1:	Defined as currency plus transaction deposits with ADIs
M3:	Defined as M1 plus all other deposits at ADIs from the private non ADI sector
Broad money:	Defined as M3 plus other borrowings from the private sector by All Financial Intermediaries (AFIs)
Money base:	Defined as holdings of notes and coins by the private sector plus deposits of banks with the Reserve Bank and other Reserve Bank liabilities to the private non-bank sector
Credit:	Includes loans and advances by All Financial Intermediaries (AFIs) plus total bank bills outstanding or on issue

Table 11.1: Selected Monetary and Credit Aggregates - August 2022

Monetary Aggregate	Total $m
Currency (nsa)	$100,400m
Transaction Deposits with ADIs	$1,563,300m
M1 * (less holdings by non residents and government of -$7,800m)	$1,655,900m
- Certificates of Deposit issued by ADIs (CDs)	$200,500m
- Non Transaction Deposits with ADIs (NTDs)	$927,300m
M3 = M1 + CDs + NTDs	$2,783,700m
Plus Other Borrowings from the Private Sector by AFIs	$9,400m
Broad Money	$2,793,100m
Money Base	$565,300m
Offshore Borrowings by AFIs	$393,700m
Credit (nsa)	$3,432,000m

Source: Reserve Bank of Australia (2022), Statistical Tables D2 and D3, www.rba.gov.au
Note: nsa is not seasonally adjusted. ADIs refer to Authorised Deposit Taking Institutions and AFIs refer to All Financial Intermediaries.
* The sum of currency and transaction deposits with ADIs does not exactly equal M1 as some currency is held by non residents and the government. These holdings of currency are not included in the M1.

From the data in **Table 11.1**, currency accounted for about 3.6% of the M3, and transaction deposits with ADIs for 56.2% of the M3 in August 2022.

The M1 is a narrow definition of the money supply since it does not take into account certificates of deposit (CDs) and non transaction deposits (NTDs) with authorised deposit taking institutions (ADIs) which are included in the broader measure of the M3. Broad money includes the M3 plus other borrowings from the private sector by All Financial Intermediaries (AFIs) in **Table 11.1**. The M3 accounted for 99.7% of broad money and other borrowings from the private sector by AFIs for 0.3% of broad money in August 2022.

Credit includes all loans and advances made by financial intermediaries plus bank bills outstanding. It is an important measure of lending growth, and an indicator of how financial deregulation and innovation (financial intermediation) have changed the demand and supply of traditional forms of money such as currency and bank deposits. Credit growth was very strong at 9.2% in 2021-22 with a substantial economic recovery after the impact of the **COVID-19 pandemic** on consumer spending in 2020-21.

The growth in the M3, broad money and credit are a guide to the strength of the demand for money in the economy. The major factor influencing the demand for money in 2009-10 was the **Global Credit and Financial Crisis** with higher borrowing costs in overseas credit markets creating a shortage of liquidity which restricted the growth in monetary aggregates and the demand for money. In response the Reserve Bank reduced the cash rate by 4.25% over 2008-09 to stimulate the demand for money and economic growth. In 2021-22 the growth in monetary aggregates and credit was strong because of low interest rates with the economic recovery after the COVID-19 pandemic and recession in 2020.

THE TERM STRUCTURE OF INTEREST RATES

Different financial assets attract different rates of return or interest rates. The **risk and reward principle** assumes that individuals are risk averse i.e. someone needs to be paid a higher interest rate to accept more risk. In applying this principle to financial markets, investors will demand a higher return on financial assets that are riskier, and accept a lower return for less risk. The key sources of risk emanate from the economic environment in which financial instruments are traded such as inflation, liquidity, maturity and interest rate risks. Inflation adds a **risk premium** to long term financial asset yields, as it erodes the purchasing power of future income streams that flow from the instrument. It is relevant in this case to distinguish between the nominal and the real interest rate by taking inflation into account:

Real Interest Rate = Nominal Interest Rate – Inflationary Expectations

If the nominal interest rate was 8% on a mortgage loan and inflation was 3%, the real interest rate received by the mortgage lender would be 5%. If nominal interest rates do not rise with inflation, the real interest rate will fall. This is why lenders usually raise nominal interest rates during times of higher inflation, to maintain the real rate of interest or their real returns from lending funds. Borrowers would gain if nominal interest rates remained unchanged while inflation increased, because the amount of interest paid back would be worth less in real terms, and reduce the lender's purchasing power.

Shorter term assets (e.g. bank bills) carry a lower rate of return due to lower inflation and maturity risks. Longer term assets such as bonds command higher yields as lenders must be paid more to induce them to forego present consumption for a longer period of time (i.e. maturity risk). In addition, holding a fixed rate financial asset exposes an investor to the possibility that short term interest rates may move higher through the economic cycle if the Reserve Bank raises official cash rates. In this case longer term bond investors factor in expectations of future short term interest rate fluctuations into bond yields. The shape or slope of the **yield curve** shows the link between various interest rates and the time to maturity of different classes of financial instruments. In **Figure 11.1** the vertical axis measures the interest rate or yield on financial securities (e.g. bonds), and the horizontal axis measures the time to maturity of financial securities or assets. **Figure 11.1** illustrates the three possible shapes of the yield curve:

- A **normal yield curve** is upward sloping, owing to lower short term interest rates than long term interest rates. This may be due to low inflation in the present but higher expected inflation in the future. Investors usually demand higher interest rates to entice them to lend money for longer periods. A normal yield curve can also be indicative of an expansionary stance of monetary policy i.e. a low short term interest rate structure (cuts in the cash rate) to boost future economic growth.

Figure 11.1: Types of Yield Curves and the Term Structure of Interest Rates
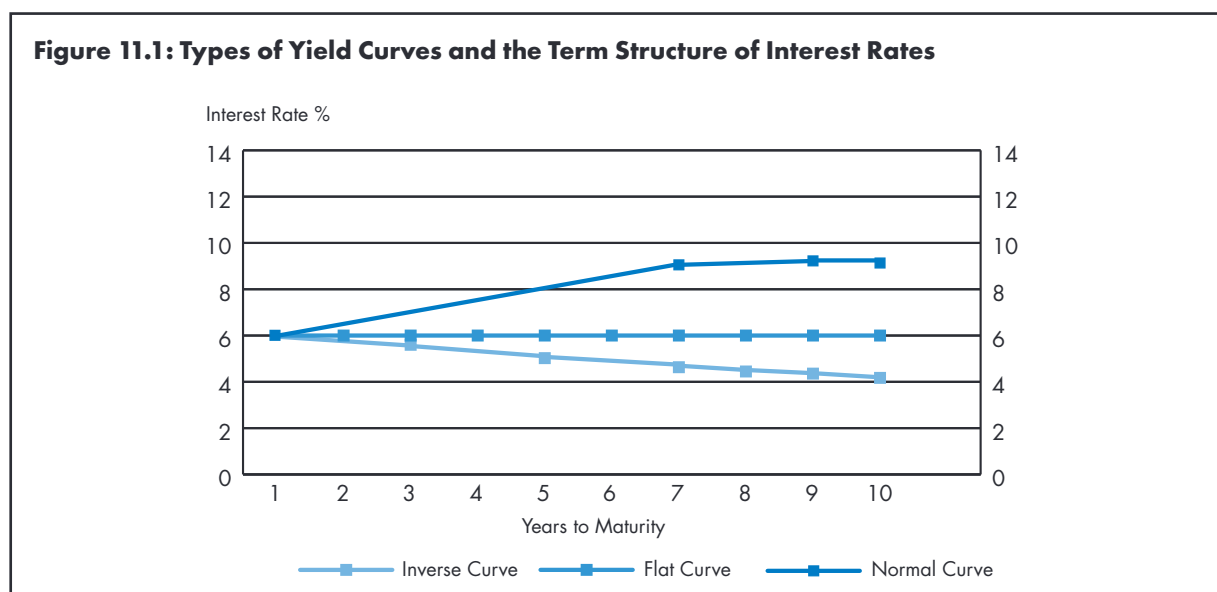
- An **inverse yield curve** (i.e. downward sloping) indicates that short term interest rates are higher than long term interest rates. This may be due to higher inflation in the present compared to lower expected inflation in the future. An inverse yield curve can also be indicative of a contractionary stance of monetary policy i.e. a high short term interest rate structure because of a higher cash rate implemented by the Reserve Bank to contain inflationary pressures in the economy.

- A **flat yield curve** indicates that present and future inflation expectations are similar, and despite longer times to maturity, long term asset holders are willing to accept interest rates equivalent to short term rates, probably because real returns are equal and the risk of future inflation is minimal.

Of importance too is that lending rates usually exceed borrowing rates, since lenders (such as banks) must make a profit by charging a higher interest rate for lending money than they pay for borrowing funds from the public. The difference between borrowing and lending interest rates on financial assets for financial intermediaries including banks and NBFIs is called the **interest rate spread** or margin:

Lending Rate – Borrowing Rate = Interest Rate Spread or Margin

Banks and other financial intermediaries operate as businesses, and are assumed to attempt to maximise profits, by maximising their interest income and minimising their costs of production including the cost of interest they pay on the funds borrowed from the public to 'on lend'. Banks' and other financial intermediaries' profits are determined by the difference between interest (and other income) and costs:

Profit = Interest Income + Other Income – Costs

Table 11.2 shows a selection of short and long term interest rates for various classes of financial assets in November 2022, with differing times to maturity and variations in risk, which helps to explain the link between short and long term interest rates and yields. The range of interest rates in November 2022 reflected a higher cash rate of 2.85% compared to 0.10% in September 2021. The Reserve Bank raised the cash rate by 2.75% between May and November 2022 to reduce inflation and inflationary expectations which had risen globally, due to supply constraints and higher fuel and energy costs.

This had the effect of raising interest rates at both the short and long ends of the yield curve, leading to tighter monetary conditions and higher deposit and lending rates. Treasury note and Commonwealth bond rates rose to 3.83% and the standard variable mortgage rate to 4.45%. The large business overdraft lending rate rose to 3.43%, and term business loans to about 5.80%, to reflect the higher cost to banks of borrowing funds in the cash market and from depositors, to 'on lend' to their customers.

Table 11.2: Selected Interest Rates and Yields of Financial Assets in November 2022
(November 2022, % per annum)

Bank Current Deposit (at call)	0.00%
Cash Rate (overnight)	2.85%
Bank Housing Loan (standard variable mortgage loan)	4.45%
Bank Term Deposit Rate (minimum of $10,000 deposit for one year)	1.50%
Bank Accepted Bill (180 days)	3.62%
Commonwealth Treasury Bond (10 years)	3.83%
Term Business Loan (3 years - residential secured)	5.80%
Large Business Overdraft Rate (3 year variable)	3.43%
Small Business Overdraft Rate (3 year variable)	4.73%

Source: Reserve Bank of Australia (2022), Statistical Tables A2, F1, F2, F4, F5, F6 and F7, www.rba.gov.au

THE CASH MARKET AND THE CASH RATE

The main determinant of money market interest rates is the **official cash rate**. The official cash rate is an overnight interest rate, and is the Reserve Bank of Australia's (RBA's) key instrument for implementing changes in monetary policy. The official cash rate is the interest rate charged to borrow funds in the cash market. The RBA conducts open market operations (through the buying and selling of Australian Government Securities or AGS) to maintain the cash rate at its pre-specified target level. This is called **liquidity management**. All other money market and bond market rates are related to the cash rate after allowing for maturity risk, credit risk and expectations about the future course of interest rates.

The cash market is a market for the deposit and lending of funds overnight. Banks, financial institutions and large companies will deposit any surplus cash in the market in order to earn interest. Conversely, institutions with a deficit in cash, can borrow funds from the cash market. The interest rate charged on these funds (i.e. the cash rate) is determined by the demand and supply for funds in the cash market.

The **demand for cash** is determined by the reserves of cash (Exchange Settlement funds) held by banks in their Exchange Settlement Accounts (ESAs) with the Reserve Bank. These funds are used on a daily basis by the banks in settling transactions or debts between themselves. The Reserve Bank requires that these accounts must not be overdrawn (and pays 2.75% in interest on them), so banks keep surplus balances in their Exchange Settlement Accounts to meet unexpected requirements for cash.

The **supply of cash** in the short term money market or cash market is determined by the Reserve Bank. It has monopoly control over the supply of cash. Settlement of debts between commercial banks does not change the supply of cash, only the balances in each bank's Exchange Settlement Account. The supply of cash will only change when the Reserve Bank makes a payment into a commercial bank's ESA or a commercial bank makes a payment to the Reserve Bank. For example, payments of taxation to the Commonwealth government by banks will lead to a rundown in their ESA balances, and the supply of cash will decrease, unless the Reserve Bank injects more cash into the system to maintain the cash rate at its target level. Similarly, payments of age pensions and other social security benefits to banks by the federal government, will increase the supply of available cash in the banks' ESAs. The Reserve Bank must therefore withdraw the equivalent amount of cash to maintain the cash rate at its target level.

Open Market Operations by the Reserve Bank - Liquidity Management

The Reserve Bank controls the volume of cash through its open market operations. Purchases of existing Australian Government Securities (AGS) by the Reserve Bank will lead to a rise in the supply of cash when payments are made into banks' ESAs. When the Reserve Bank sells AGS, commercial banks will withdraw funds from their ESAs, and make payments to the Reserve Bank, reducing the supply of cash in the market. Through its open market operations, the Reserve Bank is able to exert control over the volume of cash in the cash market and this is known as its **liquidity management** operations.

The Implementation of Monetary Policy - The Policy Interest Rate Corridor

The policy interest rate corridor is defined by the Reserve Bank as a floor and ceiling around the cash rate target in the Australian cash market (refer to **Figure 11.2**). The floor is the Reserve Bank's deposit rate, which is the cash rate less 0.25% on any excess Exchange Settlement balances that banks deposit with the Reserve Bank. The ceiling is the Reserve Bank's lending rate, which is the cash rate plus 0.25% on any Exchange Settlement balances banks borrow if they need to cover shortfalls of cash. Banks which have excess Exchange Settlement balances are always willing to deposit their cash with other banks at a higher rate than the Reserve Bank's deposit rate (i.e. the floor of the corridor) to earn a higher return. Banks that need to borrow funds in the Australian cash market seek a rate that is lower than the Reserve Bank's lending rate (i.e. the ceiling of the corridor). As a result of these two factors, the price of cash market transactions moves towards the cash rate in the middle of the interest rate corridor.

Figure 11.2: Changes in the Policy Interest Rate Corridor
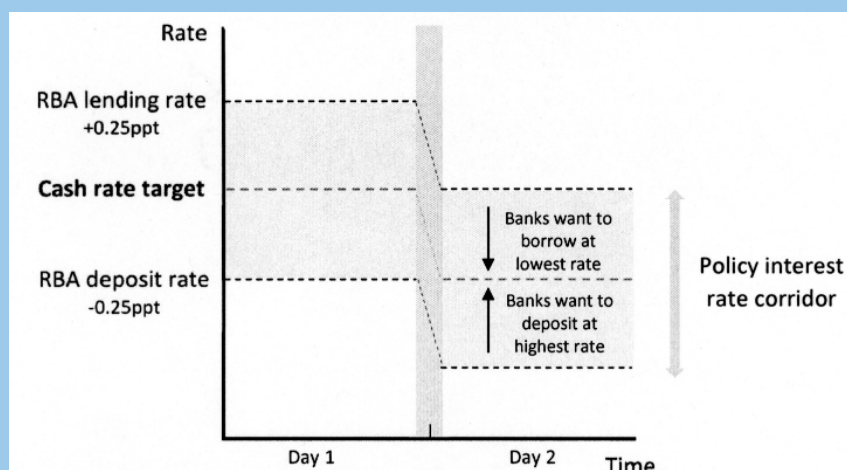
Source: Kellie Bellrose (2018), "Bridging the Textbook Gaps on How the RBA Implements Monetary Policy", Reserve Bank of Australia, December.

After an announcement by the Reserve Bank Board to lower the target cash rate the Reserve Bank's deposit and lending rates are adjusted so that the entire policy interest rate corridor shifts lower as illustrated in **Figure 11.2**. The incentives for banks to trade within the new corridor remain and transactions gravitate towards the middle of the corridor which is the new cash rate target. This is because banks want to borrow at rates lower than the Reserve Bank's lending rate (the ceiling) and make deposits at rates higher than the Reserve Bank's deposit rate (the floor). **Because of this the new cash rate target is achieved without the need for the Reserve Bank to conduct any open market operations**. In practice the cash market moves automatically and immediately to the new cash rate target. This process is reinforced by the Reserve Bank's ability to manage the supply of cash in the market. In summary if the Reserve Bank Board lowers the cash rate to ease the stance of monetary policy (to support growth and lower the unemployment rate) this will lead to a lowering of the policy interest rate corridor as shown in **Figure 11.2**. This would lower the cost of borrowing and put downward pressure on other short term market interest rates. This would represent an expansionary stance of monetary policy as in 2020-21.

If the Reserve Bank Board raised the cash rate to tighten the stance of monetary policy to reduce inflation and inflationary expectations this would lead to a higher policy interest rate corridor. A higher cash rate would raise the cost of borrowing and put upward pressure on other short term market interest rates as occurred in 2022. This would represent a more contractionary stance of monetary policy.

If there is a neutral stance of monetary policy adopted by the Reserve Bank Board, the Reserve Bank would maintain an existing cash rate and policy interest rate corridor. The Reserve Bank uses an **operating target of 2% to 3% consumer price inflation** over the economic cycle to conduct monetary policy, and uses monetary policy to achieve this objective, as well as the objectives of economic growth and full employment. Changes in the stance of monetary policy, the effects on the policy interest rate corridor, liquidity in Exchange Settlement Accounts and the cash rate are summarised in **Table 11.3**.

Table 11.3: The Effect of Changes in Monetary Policy on the Cash Rate

Stance of Monetary Policy	Policy Interest Rate Corridor	ESA Balances	Cash Rate Target
Tightening of Monetary Policy	Higher Interest Rate Corridor	Fall in liquidity	Higher Cash Rate
Easing of Monetary Policy	Lower Interest Rate Corridor	Rise in liquidity	Lower Cash Rate
Neutral Monetary Policy	Policy Interest Rate Corridor Remains Unchanged	No change in liquidity	No change in the target Cash Rate

The Effect of Changes in the Cash Rate on Market Interest Rates

Changes in the official cash rate (refer to **Figure 11.3**) flow on to other interest rates in financial markets such as rates on commercial bills, mortgages, credit cards and government bonds. Interest rates that banks pay to depositors and charge borrowers also move in line with changes in the cash rate. Changes in financial or asset prices in turn influence saving and investment decisions in the economy.

A lowering of the cash rate (refer to **Figure 11.3**) will lead to a cheaper cost of borrowing funds in the cash market. Banks will tend to pass on the lower cost of cash by reducing their borrowing and lending rates to customers. Competition in the entire financial system between intermediaries will lead to a lower term structure of interest rates including those on credit cards, housing loans and business loans.

An increase in the cash rate (**Figure 11.3**) will lead to a higher cost of borrowing funds in the cash market. Banks will attempt to maintain their profit margins by passing on the higher cost of cash by increasing their borrowing and lending rates to customers such as consumers and businesses. Competition in the financial system between intermediaries will lead to a higher term structure of interest rates.

Monetary policy acts with a **time lag** of about six to nine months elapsing between a change in the stance of monetary policy, and the ultimate effects on real variables such as spending, output, employment and prices are experienced. However the changes in interest rates at the short end of the yield curve may take only a few days or weeks. The main aim of monetary policy is for the Reserve Bank to achieve the objectives of price stability, full employment, and economic growth. Changes in the cash rate and the monetary policy stance between September 3rd 2008 and November 2nd 2022 are listed in **Table 11.4**.

Table 11.4: Changes in the Cash Rate - September 2008 to October 2022

Date	Previous Cash Rate	New Cash Rate	MP Stance	%△
September 3rd 2008	7.25%	7.00%	Easing	-0.25%
October 8th 2008	7.00%	6.00%	Easing	-1.00%
November 5th 2008	6.00%	5.25%	Easing	-0.75%
December 3rd 2008	5.25%	4.25%	Easing	-1.00%
February 4th 2009	4.25%	3.25%	Easing	-1.00%
April 8th 2009	3.25%	3.00%	Easing	-0.25%
October 7th 2009	3.00%	3.25%	Tightening	+0.25%
November 4th 2009	3.25%	3.50%	Tightening	+0.25%
December 2nd 2009	3.50%	3.75%	Tightening	+0.25%
March 3rd 2010	3.75%	4.00%	Tightening	+0.25%
April 7th 2010	4.00%	4.25%	Tightening	+0.25%
May 5th 2010	4.25%	4.50%	Tightening	+0.25%
November 2nd 2010	4.50%	4.75%	Tightening	+0.25%
November 2nd 2011	4.75%	4.50%	Easing	-0.25%
December 7th 2011	4.50%	4.25%	Easing	-0.25%
May 2nd 2012	4.25%	3.75%	Easing	-0.50%
June 6th 2012	3.75%	3.50%	Easing	-0.25%
October 3rd 2012	3.50%	3.25%	Easing	-0.25%
December 5th 2012	3.25%	3.00%	Easing	-0.25%
May 8th 2013	3.00%	2.75%	Easing	-0.25%
August 7th 2013	2.75%	2.50%	Easing	-0.25%
February 4th 2015	2.50%	2.25%	Easing	-0.25%
May 6th 2015	2.25%	2.00%	Easing	-0.25%
May 4th 2016	2.00%	1.75%	Easing	-0.25%
August 3rd 2016	1.75%	1.50%	Easing	-0.25%
June 5th 2019	1.50%	1.25%	Easing	-0.25%
July 3rd 2019	1.25%	1.00%	Easing	-0.25%
October 2nd 2019	1.00%	0.75%	Easing	-0.25%
March 4th 2020	0.75%	0.50%	Easing	-0.25%
March 20th 2020	0.50%	0.25%	Easing	-0.25%
November 4th 2020	0.25%	0.10%	Easing	-0.15%
May 4th 2022	0.10%	0.35%	Tightening	+0.25%
June 8th 2022	0.35%	0.85%	Tightening	+0.50%
July 6th 2022	0.85%	1.35%	Tightening	+0.50%
August 3rd 2022	1.35%	1.85%	Tightening	+0.50%
September 7th 2022	1.85%	2.35%	Tightening	+0.50%
October 5th 2022	2.35%	2.60%	Tightening	+0.25%
November 2nd 2022	2.60%	2.85%	Tightening	+0.25%

Source: Reserve Bank of Australia (2022), *Statement on Monetary Policy*, November and Statistical Table A2.

Figure 11.3: Australian Cash Rate Target - 1997 to 2022 (%)
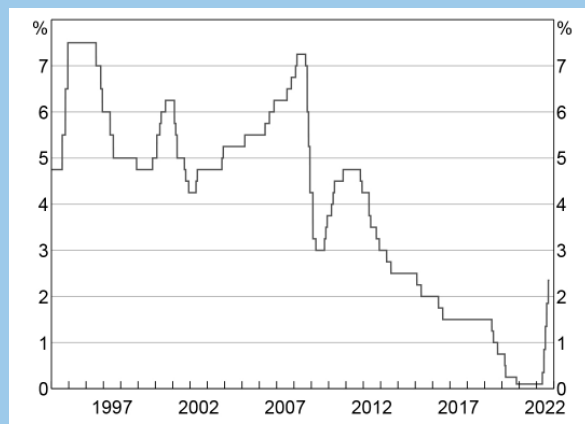
Source: Reserve Bank of Australia (2022), *Chart Pack*, October.

There were five distinct interest rate cycles in the period between September 2008 and November 2022:

1. **Low interest rate or easing cycle (September 2008 to April 2009)**: The global economy deteriorated in the second half of 2008 as the sub prime mortgage crisis in the US housing market led to a Global Financial Crisis (GFC). The Reserve Bank cut the cash rate by -0.25% in September 2008 to support confidence and economic activity as shown in **Table 11.4**. This was followed by very large easings in the stance of monetary policy during the GFC, with cuts to the cash rate of -1% in October and -0.75% in November 2008, and -1% in December 2008 and February 2009. The application of monetary stimulus continued with a cut in the cash rate of -0.25% in April 2009 as the global contraction in output, trade and capital flows continued in early 2009. The Reserve Bank between September 2008 and April 2009 cut the cash rate by -4.25% from 7.25% to 3%.

2. **High interest rate or tightening cycle (October 2009 to November 2010)**: The Reserve Bank tightened monetary policy between October 2009 and November 2010, with seven rises in the cash rate, each of 0.25% (refer to **Table 11.4**). The Reserve Bank increased the cash rate from 3% to 4.75%, to tighten credit conditions to prevent a rise in inflation associated with a strong economic recovery and rising house prices. No more rate rises occurred after November 2010, as debt crises in Europe and the USA led to increased financial market volatility and lower economic growth.

3. **Low interest rate or easing cycle (November 2011 to November 2020)**: The uncertain outlook for the global economy and uneven pace of recovery in the Australian economy led the Reserve Bank to ease monetary policy in November and December 2011 by cutting the cash rate by 0.25% in each month (refer to **Table 11.4**). In May 2012 the Reserve Bank Board lowered the cash rate by 0.5% as the worsening European Sovereign Debt Crisis reduced the prospects for world growth and caused volatility in financial markets. The Australian economy, transitioned to non mining sources of growth in 2012 as the mining investment boom ended and between June 2012 and October 2019 the cash rate was cut a further twelve times to 0.75% to support growth and employment.

4. **Emergency easings in the stance of monetary policy (4th and 20th March, 4th November 2020)**: As shown in **Figure 11.3** the Reserve Bank Board reduced the cash rate from 0.75% to 0.5% on March 4th 2020 to support the Australian economy as the COVID-19 pandemic and government lockdown of the economy led to lower output and rising unemployment. At an emergency meeting of the Reserve Bank Board on March 19th the decision was taken to cut the cash rate to 0.25%. The cash rate was cut to 0.10% on November 4th 2020 as part of a monetary stimulus package.

    Other measures were also announced by the Reserve Bank Board on November 4th 2020, and together with the cut in the cash rate to 0.10% represented a **monetary policy stimulus package**:

*   A reduction in the cash rate target to 0.10%, with a commitment to not increase the cash rate target until progress was being made towards full employment and inflation was within the target zone of 2% to 3% over the economic cycle.

- A target for the yield on three year Australian government bonds of around 0.10% to increase liquidity and reduce borrowing costs in the medium term for businesses.

- A three year Term Funding Facility (TFF) of $90b at a fixed interest rate of 0.10% for banks to borrow, and then lend to small to medium size enterprises (SMEs) to support their cash flow.

- The purchase of $100b of government bonds of maturities of around 5 to 10 years over the next six months, and conduct of one and three month repurchase ('repos') operations by the Reserve Bank in its open market operations.

5. **High interest rate or tightening cycle (May to November 2022):** Due to higher CPI inflation of 5.1% in the March quarter 2022 and 6.1% in the June quarter 2022, the Reserve Bank increased the cash rate from 0.10% to 0.35% in May 2022; by 0.5% in June, July, August and September 2022; and by 025% in October and November 2022. This took the cash rate from 0.10% to 2.85% and led to higher borrowing costs in an attempt to reduce inflation and inflationary expectations mainly sourced from global supply constraints and higher world energy prices.

The Impact of Changes in the Stance of Monetary Policy

The impact of changes in the stance of monetary policy by the Reserve Bank of Australia (which alter monetary conditions) work through major transmission channels in the economy such as the following:

- **The effects on consumption, saving and investment decisions** by individuals, firms and governments: If the cash rate is raised, leading to a higher term structure of interest rates, spending will fall and investment will be discouraged. Higher interest rates will also encourage saving. On the other hand, if the cash rate is lowered, leading to a lower term structure of interest rates, spending (including consumption and investment) will be encouraged but savings may fall.

- **The effects on the cash flows** of individuals, firms and governments: Higher interest rates will reduce cash flows, as higher interest costs raise the cost of credit purchases and loan repayments. Conversely lower interest rates will increase household and business cash flows, as lower interest costs reduce the cost of credit purchases and loan repayments on existing levels of debt.

- **The effects on money and credit flows** between borrowers and lenders: Higher interest rates will increase the stream of interest income to lenders, but raise the cost of borrowing funds including credit purchases for borrowers such as individuals and firms.

  Lower interest rates will reduce the stream of interest income to lenders and reduce the cost of borrowing funds, including credit purchases for borrowers such as individuals and firms.

- **The effects on asset prices and values**: Higher interest rates will slow the growth of asset prices and values as there is a higher cost of borrowing funds to purchase real and financial assets such as real estate (housing) and shares and bonds.

  Lower interest rates will encourage spending and borrowing to acquire real and financial assets, increasing their demand, leading to higher asset prices and values (such as house prices and share prices). Asset prices tend to move up quickly in booms and fall quickly in recessions.

- **The effects on the exchange rate**: Higher interest rates in the Australian economy relative to overseas interest rates tend to encourage the demand for Australian dollars and lead to capital inflow (because of higher returns for lending), which may cause an appreciation of the exchange rate. An appreciating exchange rate will reduce Australia's international competitiveness.

  Lower Australian interest rates relative to overseas interest rates will reduce the demand for Australian dollars and lead to capital outflow (because of lower returns for lending), which may cause a depreciation of the exchange rate, helping to increase international competitiveness.

- **The effects on price expectations**: Higher interest rates encourage lower expectations of inflation in the future. Wage and price setters may therefore limit their wage and price demands in the present.

  Lower interest rates encourage higher expectations of inflation in the future, leading to wage and price setters seeking higher wages and prices in the present.

Monetary Policy and the Global Financial Crisis and Recession in 2008-09

The stance of Australian monetary policy changed in September 2008, with the first cut in the official cash rate of 0.25% since December 2001. This was a response by the Reserve Bank to the deteriorating outlook for the global economy and the prospects for much weaker growth in the Australian economy due to the initial sub prime mortgage crisis in the USA and then the Global Financial Crisis (GFC).

The tightness in global and domestic credit markets, combined with higher fuel costs and falling house prices, to exert a restraint on domestic spending and this led to a softening in business activity. At the October 2008 Reserve Bank Board meeting the decision was taken to lower the cash rate by 1% to 6%, because of deteriorating international economic conditions, with large contractions in output in the USA, the Euro Area countries, Japan and major emerging economies such as China, India and ASEAN. Financial markets were very turbulent as the supply of credit was restricted and the share prices of major companies remained very volatile. Further large easings or cuts in the cash rate of 0.75% in November 2008, and 1% in December 2008, were made by the Reserve Bank because of the following factors:

- Continuing turbulence in world financial markets with extreme volatility in equity prices.
- Significant weakness in global output and trade leading to falling commodity prices.
- Fragile consumer and business confidence because of evidence of weak economic conditions.
- A moderation in domestic demand in Australia despite recent reductions in interest rates, the depreciation of the exchange rate and the government's use of a fiscal stimulus package.
- A weakening labour market with a lower demand for labour and rising levels of unemployment.

Further cuts in the cash rate of 1% in February 2009 and 0.25% in April 2009 led to a lower cash rate of 3% (refer to **Figure 11.4**). The large easing in monetary policy helped to put downward pressure on household mortgage interest rates, and interest rates on business lending (see **Figure 11.5**).

Figure 11.4: Cash Rate Target
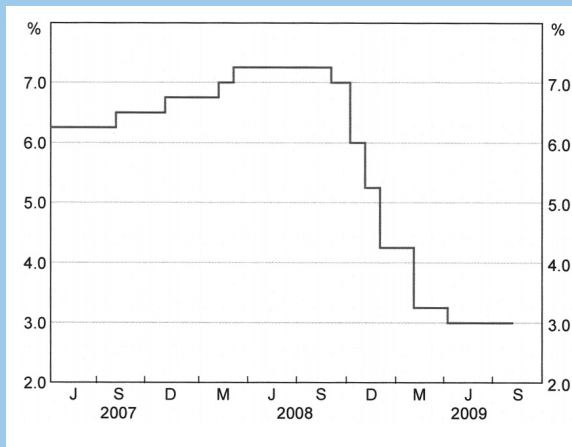
Figure 11.5: Housing and Lending Rates
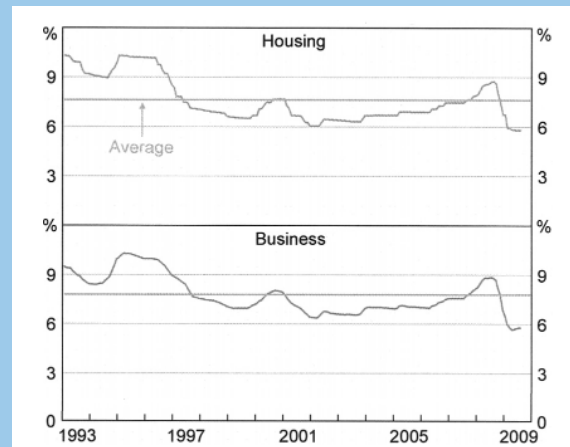
Source: Reserve Bank of Australia (2009), *Statement on Monetary Policy*, August.

Monetary Policy and Higher Inflation between 2009 and 2010

In contrast to the dramatic easing of monetary policy by the Reserve Bank during the Global Financial Crisis in 2008-09, a tightening cycle began in October 2009. The cash rate was raised by 0.25% as inflation pressures rose with economic recovery, and the start of a second resources boom, leading to a higher terms of trade. This added stimulus to national income, and together with stronger final demand during the economic recovery in 2009, headline and underlying inflation pressures started to emerge.

CPI inflation rose to 3.1% in June 2010 and measures of underlying inflation were also higher at 2.7%, near the top of the Reserve Bank's target band for inflation over the cycle. The Reserve Bank increased the cash rate from 3% to 4.75% between October 7th 2009 and November 2nd 2010 to sustain the economic recovery in Australia by containing inflationary pressures.

Monetary Policy, Global Uncertainty and Below Trend Growth - 2011-19

The European Sovereign Debt Crisis worsened in 2011 with countries such as Greece, Spain, Portugal and Ireland receiving IMF and ECB 'bailout packages' to pay their debt obligations in return for implementing fiscal austerity measures. The Euro crisis led to significant uncertainty and volatility in global financial markets and reduced the prospects for global growth to 3.5% in 2011-12. The uncertain global economic outlook reduced consumer confidence in Australia.

The Reserve Bank responded to these developments by easing monetary policy through cuts to the cash rate of 0.25% in November and December 2011. Inflation pressures began to moderate in 2012 and the recession in the Euro Area led to lower growth in China, Australia's major trading partner. In addition, structural change was being induced by changing consumer spending patterns impacting on retailing, and the high Australian dollar impacting on trade exposed industries such as manufacturing, and tourism. In response the Reserve Bank cut the cash rate from 4.25% to 3% in 2012. Below trend growth, rising unemployment and lower inflation led the Reserve Bank to cut the cash rate by 0.25% in May and August 2013, and February and May 2015, to support growth and employment. In 2016 deflation emerged and the Reserve Bank cut the cash rate by 0.25% in May and August to 1.5%. This was followed by further cuts in the cash rate of 0.25% in June, July and October 2019 to 0.75%.

Monetary Policy and the COVID-19 Pandemic in 2020

The impact of the COVID-19 pandemic and government lockdown of the Australian economy in early March 2020 led to a decline in confidence, a contraction in output and higher unemployment. The Reserve Bank Board reduced the cash rate from 0.75% to 0.5% in early March, to 0.25% on March 20th, and to 0.10% on November 4th after emergency meetings. It also set a target for the three year Australian government bond yield of 0.10% and began large scale purchases of Australian government securities (AGS) and semi-government securities ('semis') as shown in **Figure 11.6**. Liquidity operations increased in the cash market and a Term Funding Facility (TFF) of $90b was made available to banks for lending. **Figure 11.7** illustrates the decline in cash market activity in 2020 and the significant increase in Exchange Settlement Balances as banks held more cash in reserve due to their increased risk aversion.

Monetary Policy Tightening in Response to Higher Inflation in 2022

A major change in the stance of monetary policy was the beginning of a tightening cycle in May 2022 when the cash rate was increased by 0.25% to 0.35% after Australia recorded CPI inflation of 5.1% in the year to the March quarter. Further increases of 0.5% occurred in June, July, August and September after 6.1% CPI inflation was recorded in the year to the June quarter 2022. Further rises in the cash rate by 0.25% in October and November 2022 took the cash rate to 2.85%, leading to higher market interest rates on a range of financial instruments, increased costs to borrowers and lower house prices.

Figure 11.6: Monetary Policy Operations   **Figure 11.7: Cash Market Activity**
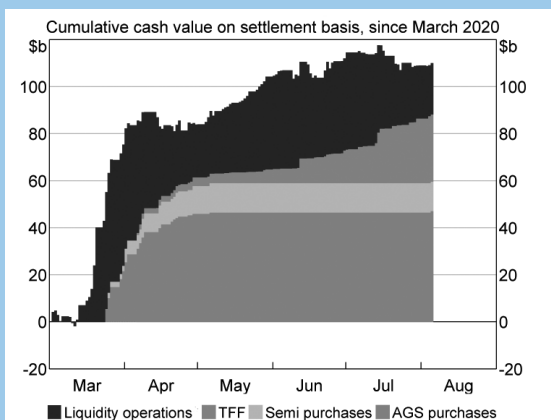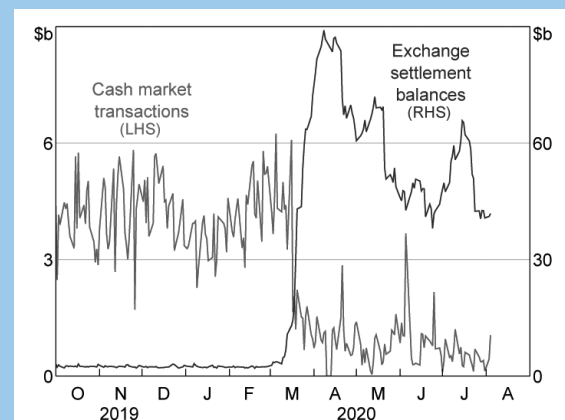
Source: Reserve Bank of Australia (2020), *Statement on Monetary Policy*, August.

The Transparency and Accountability of Monetary Policy

Since 1993, the Reserve Bank has moved to ensure that the conduct of monetary policy is more transparent and accountable. The Reserve Bank Board meets on the first Tuesday of each month (except in January) to discuss Australian and international economic developments, and if any changes to the cash rate and stance of monetary policy are needed because of changing domestic and global economic conditions. Decisions about the future course of monetary policy are made after briefings by the Reserve Bank's research staff to the Reserve Bank Board. Any change in monetary policy and the reasons for the change are clearly announced and explained in a media release the same day (by 2.30pm eastern standard time), through electronic services and are also posted on the Reserve Bank's website.

The Reserve Bank publishes a quarterly report on the economy and policy called the *Statement on Monetary Policy*, containing a detailed analysis of the economy and financial markets, and the policy stance adopted by the Reserve Bank. The governor, Dr Philip Lowe (appointed for a term of six years in 2016), also reports twice a year to the House of Representatives Standing Committee on Economics, Finance and Public Administration to answer questions on the economy and the Reserve Bank's conduct of monetary policy. These initiatives and the decision in 2008 to publish the minutes of Board meetings, have enhanced the accountability of the Reserve Bank's conduct of monetary policy.

The *Reserve Bank Act* empowers the Reserve Bank to determine monetary policy in Australia. The Australian government recognises the **independence of the Reserve Bank** and its responsibility for monetary policy. Any decisions about changes to the cash rate are made separately from the political process but there is close consultation between the Reserve Bank governor and the Treasurer. In the *Statement on the Conduct of Monetary Policy* in 1996 the underlying inflation target was formalised as a key operating objective in the conduct of monetary policy. The *Second Statement on the Conduct of Monetary Policy* in July 2003 reaffirmed the transparency and accountability of monetary policy decision making and the independence of the Reserve Bank. The *Third Statement on the Conduct of Monetary Policy* on September 18th 2006 led to Glenn Stevens appointed as the new governor of the Reserve Bank. The *Fifth Statement on the Conduct of Monetary Policy* on September 30th 2010 included a section on the Reserve Bank's role in financial stability in the aftermath of the Global Financial Crisis in 2008 and 2009. On September 19th 2016 in the *Seventh Statement on the Conduct of Monetary Policy*, Dr Philip Lowe was appointed the new Governor of the Reserve Bank of Australia for six years to 2022.

The Effectiveness of Monetary Policy

In operational terms monetary policy is a more effective instrument of economic management in the present than in the past when Australia had a fixed exchange rate and a regulated financial system. With the floating of the exchange rate, balance of payments outcomes no longer impact on the domestic money supply, allowing the Reserve Bank to have greater control over domestic activity and inflation. Also the use of changes in the **policy interest rate corridor** in a deregulated financial system is a more effective tool for changing interest rates, and allows monetary policy to be used as a 'swing arm' or counter cyclical instrument of macroeconomic policy. The adoption of the inflation target in 1993, has led to the Reserve Bank keeping average inflation lower in Australia by achieving its target over time.

One problem in using monetary policy as a 'swing arm' instrument of economic management is that it acts with a '**long and variable lag**'. Once the official cash rate is changed by the RBA it takes time to flow through to other short and long term interest rates that make up the yield curve. As the interest rate structure changes permanently, it will take between six to nine months for real economic activity (i.e. spending, real GDP and employment) and expectations (i.e. inflation and the exchange rate) to be affected. Therefore monetary policy acts with a long lag. This lagged effect of monetary policy is also variable, as different sectors of the economy will be affected to different degrees, depending on their interest rate sensitivity or interest rate elasticity. Housing and investment which are interest elastic may react more quickly to interest rate changes, whereas consumer spending and import spending may take further time to adjust to a new interest rate structure if there is a change in the stance of monetary policy.

✍ REVIEW QUESTIONS

INTEREST RATE DETERMINATION

1.   Define money and explain the four functions of money.

2.   Discuss how the changes brought about by electronic banking have altered the methods of payment and access to cash in the Australian financial system.

3.   Explain the main functions and role of the Reserve Bank of Australia as Australia's central bank.

4.   What are the main monetary aggregates monitored by the Reserve Bank? How has financial deregulation altered the composition of the money supply?

5.   Distinguish between the nominal and real rate of interest.

6.   Explain what is meant by the term structure of interest rates. What is the yield curve?

7.   Explain the interest rate structure depicted by normal, inverse and flat yield curves in Figure 11.1.

8.   What is the cash market? Describe the factors that determine the demand and supply of cash in the cash market.

9.   How does the Reserve Bank conduct open market operations for liquidity management? How can the Reserve Bank change the stance or monetary policy through the policy interest rate corridor to achieve its objectives? Refer to Figure 11.2 in your answer.

10. Explain how changes in the cash rate can lead to changes in other interest rates.

11. Refer to Table 11.4 and Figure 11.3 and discuss the reasons for the changes in the cash rate between 2008 and 2022.

12. Discuss the various transmission channels of monetary policy. Why does monetary policy act with a long and variable lag?

13. Discuss the reasons for the easing in the stance of monetary policy between 2008 and 2009.

14. Discuss the impact of the easing of monetary policy between 2008 and 2009 on the cash rate, other market interest rates and Australian economic activity. Refer to Figures 11.4 and 11.5 in your answer.

15   Discuss the reasons for the tightening in the stance of monetary policy in 2009-10.

16. Discuss the reasons for the easing of monetary policy between 2011 and 2019.

17. Why did the Reserve Bank implement monetary policy stimulus packages in March and November 2020? What effect did these have on its market operations and the cash market? Refer to Figures 11.6 and 11.7 in your answer.

18. Explain the reasons for the Reserve bank tightening monetary policy between May and November 2022.

19. Discuss the effectiveness of monetary policy as an instrument of economic management.

20. Define the following terms add them to a glossary:

broad money	electronic commerce	money
cash market	interest rate	open market operations
cash rate	interest rate spread	policy interest rate corridor
credit	lending rates	real interest rate
deposit rates	monetary aggregates	Reserve Bank of Australia
electronic banking	monetary policy	yield curve

☯ CHAPTER 11: SHORT ANSWER QUESTIONS

Australian Cash Rate Target 1997 to 2022 - (%)
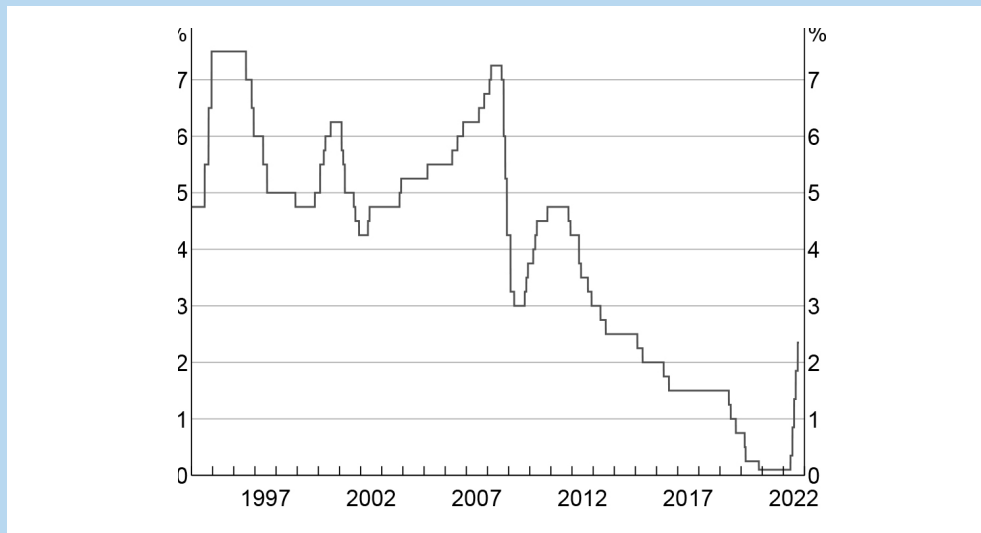
Source: Reserve Bank of Australia (2022), *Chart Pack,* November.

Refer to the graph above of movements in the cash rate and answer the questions below.   Marks

1. Explain what is meant by the 'cash rate'.   (1)

_____

_____

2. Outline how the cash rate is determined in the cash market.   (2)

_____

_____

3. According to the graph describe the reasons for the Reserve Bank reducing in the cash rate between   (2)
    2011 and 2020 and then increasing the cash rate in 2022.

_____

_____

4. Explain how changes in the cash rate can lead to changes in other interest rates.   (2)

_____

_____

5. Explain how the Reserve Bank can alter the cash rate and the stance of monetary policy.   (3)

_____

_____

_____

_____

CHAPTER FOCUS ON INTEREST RATE DETERMINATION

Financial Intermediaries' Lending Rates - September 2022

Housing Loans

Standard variable rate	
- Owner occupier	3.73%
- Investor	4.32%

Personal Loans

- Variable rate	5.95%

Small Business

- Term loans variable rate	5.80%
- Overdraft variable rate	8.32%

Large Business

- Average outstanding rate	3.31%

Source: Reserve Bank of Australia (2022), Statistics, September, www.rba.gov.au

Discuss the factors that can influence the level of interest rates for various financial instruments. Use examples of interest rates in September 2022 from the table above in your answer.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 11: EXTENDED RESPONSE QUESTIONS

1. Discuss the role and functions of the Reserve Bank of Australia. Discuss the main monetary and credit aggregates measured by the Reserve Bank. What are the Reserve Bank's monetary policy objectives?

2. What is meant by an interest rate? What factors determine the term structure of interest rates and the shape of the yield curve? How can changes in the cash rate influence the term structure of interest rates?

3. What is meant by the cash rate? How is the cash rate determined in the cash market? How can the Reserve Bank influence the cash rate to achieve its monetary policy objectives?

4. What is meant by the policy interest rate corridor? How can the Reserve Bank use changes in the policy interest rate corridor to change the stance of monetary policy? How can changes in the cash rate alter the term structure of interest rates in the economy?

5. What is meant by monetary policy? How can the Reserve Bank use changes in the policy interest rate corridor to alter the stance of monetary policy? Discuss the transmission channels of monetary policy in affecting economic activity.

6. Explain how the Reserve Bank conducts monetary policy. Discuss the reasons for the Reserve Bank tightening monetary policy in 2009 and 2010.

7. Explain the causes of the global credit and financial crisis between 2008 and 2009. Discuss the use of monetary policy by the Reserve Bank to support economic growth as the crisis impacted on the Australian economy in 2008-09.

8. How did the Reserve Bank use monetary policy to support economic growth, reduce unemployment and put downward pressure on the exchange rate in the Australian economy between 2011 and 2019?

9. Explain how the Reserve Bank conducts monetary policy. Why did the Reserve Bank use two monetary policy stimulus packages to support the economy in 2020?

10. Discuss how and why the Reserve Bank tightened the stance of monetary policy in 2022. What effects did this have on market interest rates and economic activity?

✌ CHAPTER SUMMARY

INTEREST RATE DETERMINATION

1. The Reserve Bank of Australia is the principal monetary authority and central bank in Australia. Some of its major functions include the conduct of monetary policy; the issue of notes; banker and adviser to the Australian government; and custodian of Australia's holdings of gold and foreign exchange.

2. Money is defined as anything that is accepted in payment of a debt. The four main functions of money are that it acts as a medium of exchange; a store of value; a standard for deferred payments; and a measure of value.

3. The main components of the money supply in Australia include notes and coins, certificates of deposit, transaction and non transaction deposits with financial institutions such as banks and NBFIs. Financial innovation and technological change have led to the increasing use of credit and electronic means of depositing money, making payments for debts and purchasing goods and services. With the decline in the use of cash and cheques, credit aggregates are now a major means of measuring the growth in funds advanced by financial intermediaries to the public.

4. Different financial assets attract different rates of return or interest rates. The difference in interest rates on various financial assets can be explained in terms of the risk and reward principle. This principle implies that financial assets which carry a higher risk, attract a higher return or interest rate than those with a lower risk, which attract a lower interest rate or rate of return.

5. An interest rate refers to the annual percentage cost of borrowing funds or the annual percentage return for lending funds to a borrower. Nominal interest rates include a component for expected inflation in the future. Real interest rates are equal to nominal interest rates minus a component for expected inflation. The real interest rate therefore represents the real cost of borrowing funds.

6. The relationship between short, medium and long term interest rates is known as the term structure of interest rates. The term structure of interest rates is represented by the yield curve, which shows the relationship between interest rates or yields and various types of financial instruments to maturity. The slope of the yield curve is an indication of monetary conditions. The three main types of yield curves are normal or upward sloping; inverse or downward sloping; and flat or horizontal.

7. A major determinant of the level of market interest rates is the cash rate. The cash rate is the interest rate paid by banks for borrowing funds overnight from the cash market. The cash rate is mainly determined by the interaction of the demand and supply of cash in the cash market. However it can also be influenced by the Reserve Bank of Australia if it alters the stance of monetary policy.

8. The Reserve Bank of Australia controls the volume of cash through its open market operations in the cash market. Each bank or financial institution in the cash market maintains an Exchange Settlement Account (ESA) with the Reserve Bank of Australia. These accounts must be kept in surplus and the Reserve Bank ensures that the demand for cash is equal to the supply of cash through its open market operations. This is known as liquidity management and is intended to keep the cash rate at its target level.

9. The Reserve Bank uses an inflation target of 2% to 3% to conduct monetary policy. If the Reserve Bank of Australia wanted to tighten the stance of monetary policy to reduce inflation it would raise the policy interest rate corridor in the cash market. This would lead to a rise in the cash rate. Other market interest rates would also rise, causing less borrowing and spending and lower rates of economic growth and inflation. A tightening of monetary policy occurred in 2022 because of higher inflation and inflationary expectations.

10. If the Reserve Bank of Australia wanted to ease the stance of monetary policy it would lower the policy interest rate corridor in the cash market. This would lead to a fall in the cash rate. Other interest rates would also fall, causing more borrowing and spending and a higher rate of economic growth which would help to reduce the rate of unemployment. An easing of monetary policy took place in 2020 as Australia was impacted by the COVID-19 pandemic and recession, leading to restrictions on economic activity and higher unemployment.

GOVERNMENT AND THE ECONOMY 6

TOPIC FOCUS

This topic focuses on the role of the government in a mixed economy. The justification for government intervention in a market economy is market failure or a lack of allocative efficiency. The main concepts studied are the levels of government, the size of the public sector, the economic functions of government, the federal budget and the constraints on government. Problems and issues that arise from market failure and government intervention in a mixed economy are also studied.

Students should achieve the following knowledge and skills outcomes in Topic 6 of the Preliminary Course:

ECONOMIC ISSUES

- Assess the need for government intervention in a market economy;

- Examine how the operation of the free market without government intervention might affect the distribution of income, quality of life of individuals and the management of the environment;

- Evaluate the impact of different taxes on the distribution of income and wealth, on business, and on the allocation of resources in the economy;

- Evaluate the role of social welfare for an ageing population; and

- Investigate alternative sources of revenue for governments.

ECONOMIC SKILLS

- Determine whether a specific tax is progressive, proportional or regressive;

- Interpret federal budget data;

- Predict the impact of a budget deficit or surplus on economic activity;

- Discuss how monetary and fiscal policies can be used to stabilise economic activity; and

- Analyse the performance of government business enterprises.

Governments intervene in market economies because of the incidence of market failure such as the inadequate provision of some collective, public and merit goods and services. They may also intervene in a market economy to redistribute income, prevent negative environmental externalities such as pollution and climate change, control monopoly power and to stabilise economic activity.

In Australia there are three levels of government (i.e. local, state and territory, and federal) which have legislative or law making powers set out in the Australian constitution. The public sector in Australia accounted for around 28.2% of domestic final demand in 2021-22 and 16.1% of civilian employment in 2020-21. The public sector consists of the general government sector plus public non financial corporations (PNFCs).

The three main economic functions of the Australian government are to reallocate resources, redistribute income and stabilise economic activity. The Australian government raises revenue mainly through direct and indirect taxation. This revenue is used to finance expenditure on social security and welfare, health, education, defence, infrastructure and assistance to state and local governments. The Australian government's planned expenditure and revenue is set out in its annual budget.

Chapter 12: Government Intervention in the Economy 243

Chapter 13: The Role of Government 261

CHAPTER 12

Government Intervention in the Economy

LIMITATIONS IN THE OPERATION OF THE FREE MARKET

The rationale for government intervention in a market economy is based on the argument of market failure. **Market failure** refers to the shortcomings or inadequacies of the market system of economic organisation (or price mechanism) in achieving an efficient allocation of resources and maximising community welfare. Market failure can occur in five areas of economic activity such as the following:

1. The market often fails to provide public goods, which may be socially valuable, but because of a lack of incentive, the private sector fails to provide these goods in sufficient quantity and quality.

2. The market distributes incomes unequally. The distribution of market income is based on the relative marginal productivities of the factors of production (i.e. land, labour, capital and enterprise), and not according to equity or fairness of the distribution amongst all sections of the population.

3. The market often fails to allocate environmental resources efficiently, leading to the problem of negative externalities (or negative spillover effects) such as pollution, climate change and resource depletion, which are unintended negative consequences of private economic activities.

4. The market system may lead to the emergence of monopoly power in markets, where effective competition between firms is weak or absent. The abuse of monopoly power may lead to a reduction in consumer sovereignty through higher prices, restricted output and choice, and a lack of dynamic efficiency. This can reduce consumer welfare through a loss in consumers' real income.

5. Market economies suffer from regular fluctuations in economic activity (i.e. the turning points of the business cycle) which may cause excessive rates of unemployment in recessions, and excessive rates of inflation and external imbalances in booms, leading to lower community living standards.

The Provision of Goods and Services, Public Goods and Merit Goods

Governments may intervene in the market system if markets fail to achieve allocative efficiency in the provision of some goods or services. Market failure can arise when the allocation of goods and services is less than optimal in terms of maximising society's welfare. Three cases of market failure include the inadequate provision of some collective goods and services, public goods and merit goods.

Collective goods and services include those demanded by the community as a whole such as defence, education, health, social security and welfare, electricity, water, gas, telecommunications, public housing, roads, railways, airports, buses, trains, ferries, community parks and recreation facilities, national parks, libraries, museums, art galleries, botanic gardens, cultural centres, recreational and cultural services.

Many of these collective goods and services may be produced by private businesses (e.g. private educational institutions and private hospitals) but in insufficient quantities to meet total market demand at the market price offered. Typically infrastructure or **social overhead capital** is provided by governments to increase the efficiency of the private sector. Governments provide these goods and services because many have public good properties of being **non rival** and **non excludable** in consumption, and would not otherwise be provided. Also their cost may be prohibitive to the private sector, and profitability negligible for the risk involved in their production. Governments historically have also provided public infrastructure to prevent private monopolies from emerging, and to achieve community service obligations (CSOs) by subsidising essential goods and services for low income earners and families.

Government statutory corporations or public trading enterprises (PTEs) operate to provide gas, water, electricity, telecommunications, postal services and transport services to the community. Other reasons for government provision of such infrastructure goods and services are to avoid the wasteful duplication of resources, and to achieve economies of scale in production. Many public utilities or PTEs are **natural monopolies** where the more output supplied in a market, the lower the unit cost of production.

Merit goods are goods or services that the government believes are beneficial to society, but they may not be produced in adequate quantities, because the market is too small and there is little to no incentive for private production. Merit goods and services are those which individuals undervalue and the government's preference for them, leads to the subsidisation of private production, or production by government agencies. Examples include the provision of television, radio, opera, libraries, theatre, film, museums, art galleries, zoos, and cultural productions for the community by government organisations such as the ABC and SBS. Public education is also an example of a merit good, since governments believe that access to education is a community right, which can improve equality of opportunity. Governments also make scholarships, grants and bursaries available to gifted and talented individuals from low income families or from deprived backgrounds so they can access educational opportunities.

Privately traded goods are said to be **excludable** and **rival** in consumption. Excludability arises because consumers who are unwilling or unable to pay for private goods in a market are excluded from consuming the goods and services. Rivalry arises because if a private good is consumed by one person, it is taken out of the market and may not be consumed by another person.

Public goods such as national defence and national parks are said to be **non excludable** and **non rival**. They are non excludable since no one can be excluded from their consumption. They are non rival since one person's consumption of the good does not reduce the amount of the good available for someone else to consume. These conditions must be met in order for the good to be considered a pure public good, making it unmarketable by the private sector. Pure public goods include national defence and lighthouses. In the real world many goods exhibit public good properties but are **quasi public goods** since their provision may be shared by both the government and private sectors. Examples include environmental goods such as beaches, lakes, oceans, harbours and rivers which may exhibit public good qualities of being non rival and non excludable. Non paying users may not be excluded from consumption if no market price is payable (i.e. a zero marginal cost of supply applies), and if there is an absence of well defined property rights. Governments may regulate the usage of these public goods but also allow private management of some resources to increase overall efficiency in their allocation.

The problem of 'free riding' also arises from non paying users congesting or exploiting public goods. Since public goods are non excludable and non rival, entrepreneurs may lack the incentive to provide them since free riding cannot be prevented. Governments may intervene in the provision, regulation, maintenance and management of public goods to maximise the community benefits from their use, and to prevent over exploitation, depletion, vandalism or congestion of the resource. The management of public goods is mainly through government regulation, incentives for private provision or management, and the use of market based instruments (such as prices) to achieve allocative efficiency in resource use.

Inequality in the Distribution of Income

Inequality in the distribution of income in Australia and other market economies is an outcome of the market system distributing factor incomes according to the relative marginal productivities of the factors of production. Australia's relative position can be analysed by comparing its distribution of income with the average for the 16 selected OECD countries in the bottom row of **Table 12.1** from data collected by the World Bank in the *World Development Indicators 2022*. It shows that low income families in Australia tend to fare less well than those in other OECD countries, while high income families fare slightly better. Overall the Australian distribution of income exhibits more inequality than the average for all countries, although the differences are not great.

Table 12.1: Distribution of Income in Selected OECD Countries

| Country | Year | % Income Shares (based on disposable income per equivalent adult) | | | | | | |
		Lowest Decile	Lowest Quintile	Second Quintile	Third Quintile	Fourth Quintile	Top Quintile	Top Decile
1. Australia	2018	2.7	7.3	12.2	16.4	22.4	41.8	26.6
2. Belgium	2019	3.6	9.0	14.2	17.9	22.7	36.5	22.3
3. Canada	2017	2.7	7.1	12.4	17.0	22.9	40.6	25.3
4. Finland	2019	3.8	9.2	13.9	17.4	22.3	37.1	23.0
5. France	2018	3.2	8.0	12.9	16.7	21.6	40.8	26.7
6. Germany	2018	3.1	7.9	12.9	17.0	22.3	39.9	25.1
7. Ireland	2018	3.6	8.7	13.1	16.6	21.9	39.7	25.1
8. Italy	2018	1.9	6.1	12.2	17.0	23.2	41.5	25.9
9. Luxembourg	2019	2.8	7.2	11.9	16.5	23.0	41.4	25.8
10. Netherlands	2019	3.4	8.6	13.7	17.4	22.2	38.0	23.9
11. New Zealand	1997	2.2	6.4	11.4	15.8	22.6	43.8	27.8
12. Norway	2019	3.4	8.8	14.1	17.7	22.6	36.7	22.4
13. Sweden	2019	2.9	8.1	13.8	17.6	23.0	37.5	22.7
14. Switzerland	2018	2.9	7.5	12.4	16.8	22.5	40.8	25.8
15. UK	2017	2.6	6.8	11.8	16.5	22.8	42.1	26.7
16. USA	2019	1.8	5.1	10.2	15.2	22.5	47.0	30.8
Average	-----	2.9	7.6	12.7	16.8	22.5	40.3	25.3

Source: World Bank (2022), *World Development Indicators 2022*, Table 1.3, World Bank, Washington DC.

Australia belongs to a group of countries that fall into the middle of the OECD distributional ranking, with more inequality than in Scandinavian countries, but less than exists in the USA. Market based forms of income are the main source of income in OECD countries and the general widening of inequality in the distribution of earnings in most OECD countries in the 2000s was due to a rise in the earnings of high income earners, relative to low and middle income earners with low wages growth, and the increase in asset prices (such as share and real estate prices) which benefited high income earners.

A major economic and social cost of increasing inequality in Australia is the incidence of absolute and relative poverty amongst certain disadvantaged groups in society. **Absolute poverty** is usually measured by reference to a poverty line, which is a benchmark for minimum income, below which people are considered to be living in absolute poverty. **Relative poverty** lines can also be constructed using some average income as a benchmark to measure the percentage of income units below this line, who may not have the income necessary to access the average standard of living enjoyed by the majority of income units in a society e.g. the poverty standard used by most social policy researchers in Australia is the Henderson poverty line. Groups most prone to poverty in Australia are single people (57%); childless couples (10%) of whom one third were aged, and the remaining two thirds were non aged; sole parents represented about 20%; and the remaining group were low income couples with children, accounting for around 13% of the poor. Other groups in Australian society identified as prone to poverty include young people, women, the unemployed, migrants, Aborigines and Torres Strait Islanders, the elderly, the disabled, the sick, and people in rental accommodation with a low prospect of home ownership.

The reasons for such groups not earning incomes above the poverty line include the incidence and duration of unemployment; the incidence of sole parent families; and the incidence of people reliant on government welfare payments such as the aged, disabled and sick, and low income families with dependent children, where there is only one income earner who possesses low levels of education, training and skills. Inequality in the distribution of income is reduced by the operation of the government's tax-transfer system which redistributes income from high income earners to low income earners through progressive taxation, and social security payments such as JobSeeker, pensions and allowances. Governments also try to reduce the incidence of poverty traps (where welfare dependent individuals and families may lose the motivation to seek paid employment) by reducing effective marginal tax rates.

Externalities and the Environment

Externalities or spillovers are the unintended effects (which can be either benefits or costs) of private actions or activities on the community as a whole which are not fully reflected in market prices. Negative externalities may arise in private production because most environmental resources are not priced in the market, so producers do not pay for some of the resources they use, and are able to pass on the cost of using these resources to an unwilling third party which may be the community at large.

In **Figure 12.1** the marginal private benefit (MPB) of a firm producing paper is equal to the marginal private cost (MPC) of producing paper at point A. The quantity of paper produced is OQ, but the pollution (the Marginal External Cost or MEC) caused by paper production is not captured in market prices. The marginal social cost (MSC) curve measures the total cost of producing paper (MPC + MEC) including pollution of the environment. The production of paper will be optimal if output is reduced to OQ_1 and market equilibrium is at point B, where the MPB curve is equal to the MSC curve. The cost of the externality is the vertical distance between the MPC and MSC curves and is distance BC.

Since access to environmental goods such as clean air and water is often unrestricted and has a zero cost, excessive exploitation may lead to pollution, exhaustion and/or degradation of resources. Such private actions or activities like the burning of fossil fuels or traffic noise and pollution, impose a cost on the community as a whole e.g. the private costs of purchasing and maintaining motor vehicles does not reflect the social costs of pollution and congestion borne by the community. The problem that arises with many environmental goods, especially common property, is the lack of well defined property rights. This is known in economics as '**the problem of the commons**' such as the over exploitation of marine resources (such as whales or fish) in the world's oceans and seas. Unrestricted access to common property may lead to over exploitation and eventual depletion or extinction of some natural resources. The existence of negative externalities can be caused by a lack of well defined property rights and the absence of 'user pays' prices, which can lead to a misallocation of resources and a loss of welfare and

Figure 12.1: Externalities and the Marginal Social Cost of Paper Production
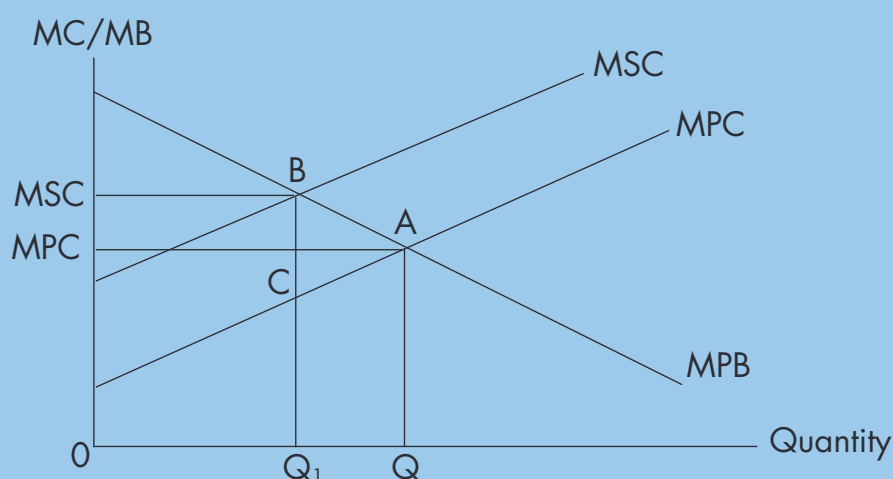
efficiency for the community. There is often a conflict or tradeoff in market economies between economic growth and environmental protection. If society devotes more resources to environmental protection (e.g. by preserving biodiversity, and achieving cleaner air by reducing pollution) in the present, this may reduce economic growth and living standards in the present, but enable higher economic growth in the future, if resources can be used more efficiently and in a long term environmentally sustainable fashion.

Governments attempt to achieve **ecologically sustainable development**, defined by the Brundtland Report (1987) as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This is a rationale for measures to reduce the rate of **climate change** by encouraging advanced, emerging and developing countries to adopt emissions targets for reducing greenhouse gases under the *Kyoto Protocol*. The European Union, Japan and some states in the USA have implemented emissions trading schemes where a carbon price is determined in a market for the purchase and sale of emissions permits to reduce emissions to the target set by the government. The Gillard government introduced a carbon tax of $23 per tonne on large polluting firms in 2012 to reduce carbon pollution but the tax was repealed by the Abbott government in 2014 and replaced by a policy of Direct Action where large polluters are paid by the government to reduce pollution. Under the *Paris Agreement* (2015), the Australian government committed in 2022 to reducing carbon emissions by 43% by 2030 and at the COP 26 conference in 2021 committed to reach net zero emissions by 2050.

Controlling Monopoly Power

Monopoly is a market situation in which there is only one seller or producer of a good or service. Although substitutes may exist for the monopolist's product, they are not close substitutes and so the monopoly firm represents industry supply to a market for that product. An example of monopoly in Australia is the supply of steel by the domestic firm, BlueScope Steel. Pure monopoly occurs when a firm is the sole seller of a good or service for which there are no or few close substitutes. An example is water supplied by Sydney Water or the provision of postal services by Australia Post.

Public utilities or public trading enterprises (PTEs) can become **natural monopolies** if they supply the entire market demand with an efficient scale of plant, because their unit costs decrease as output increases, making it difficult for new firms to enter the market. With an absence of direct competition in many monopoly markets, monopoly firms have the potential to abuse their market power by restricting output or raising prices to consumers. Such actions may reduce effective competition, consumer sovereignty and consumer welfare. Governments monitor and regulate monopoly behaviour through competition policy to regulate prices; encourage competitive behaviour; prevent anti-competitive conduct in markets; and protect consumers from deceptive or misleading conduct by firms in markets.

The Australian government's competition policy is set out in the *Competition and Consumer Act 2010*, which is enforced by the Australian Competition and Consumer Commission (ACCC). The reform of competition policy in the 1990s targeted PTEs to make them more efficient and accountable in their operations. PTEs account for 13% of GDP and provide economic infrastructure such as transport, water, gas, electricity, postal services and telecommunications. Major reforms in the 1990s included:

- **Privatisation** refers to the sale of either part or all of a PTE to the private sector. Privatisation also involves the tendering of service provision rights for public assets to the private sector. Privatisations in NSW included the sale of the Government Insurance Office (GIO) in 1991, the State Bank (1996) and TAB (1998) and various electricity assets in 2015. The federal government sold 100% of the Commonwealth Bank, ANL and Qantas, and 49% of Telstra in the 1990s. The remaining 51% of Telstra was sold in 2006. Governments have also deregulated markets in which PTEs operate (e.g. finance, airlines and telecommunications) before privatising them in order to create more efficient markets. Local and state governments have 'contracted out' the provision of services such as garbage collection, buses, hospital catering and cleaning to the private sector. Governments believe that privatisation will lead to more efficient enterprises because of private ownership, with stronger incentives to achieve a profit by being responsive to consumer demand. This involves greater accountability of managers for the financial and operational performance of PTEs.

- **Corporatisation** refers to structuring PTEs like private sector enterprises (but retaining public ownership) by making PTEs financially independent, engaging in cost recovery and guaranteeing a rate of return on the capital employed. The State Rail Authority (now RailCorp), Sydney Water and Energy Australia in NSW are PTEs that are in public ownership, but have adopted commercial practices, to encourage them to match 'best practice' with similar overseas authorities. Management of these PTEs follows strict guidelines. The NSW corporatisation model involves five basic principles: clear PTE objectives; rewards and sanctions for performance; managerial autonomy; competitive neutrality; and evaluation of PTE performance. Corporatisation aims to create an 'incentive environment' for PTEs to increase productive, allocative and dynamic efficiency.

- **Commercialisation** of some PTEs such as Integral Energy is designed to provide more incentives to improve efficiency through the payment of dividends to government owners. Commercialisation involves PTEs guaranteeing a rate of return on their operations, which can be compared to industry averages and benchmarks for 'world's best practice' of firms or PTEs in similar industries overseas.

- **Principles of competitive neutrality** applied to PTEs include subjecting PTEs to taxes, charges, and interest on loans, to ensure that they operate in an equivalent private sector competitive environment, and do not receive favourable treatment or subsidies from governments.

- **Deregulation** is the removal of restrictions or regulations governing the operation of markets. Deregulation may involve removing regulations affecting entry into an industry, pricing arrangements, or other controls on businesses in order to promote competition, efficiency, technological innovation and lower prices e.g. the financial system was deregulated in 1983, the domestic airline industry in 1991, and telecommunications in 1992. Privatisation, corporatisation and commercialisation have promoted microeconomic reform and greater industry competition. Governments have deregulated markets first before privatising PTEs, as more competition is likely to deliver efficiency and welfare gains, rather than just privatising the ownership of PTEs.

Fluctuations in the Level of Economic Activity

Market economies like Australia are subject to regular fluctuations in the level of economic activity caused by changes in the domestic and/or global business cycle with four distinct phases of activity.

The **peak** (or boom) of the cycle is the upper turning point, where the economy has grown to its full productive capacity (full employment) and inflationary pressures may arise because resources are becoming scarce. A **downswing** is characterised by falling output and employment and the emergence of excess capacity. Spending and profitability fall and the rate of unemployment rises in a downswing.

The **trough** of the business cycle is a recession where aggregate income, output and employment 'bottom out' to their lowest levels and the rate of unemployment is at its highest. The **recovery** or **upswing** is a phase between the trough and peak of the cycle, characterised by an expansion of the economy's productive capacity towards full employment, with increasing levels of spending and employment.

The causes of recessions and booms may be the volatility of private investment spending, changes in technology, seasonal influences on production (e.g. droughts and floods) and international disturbances such as a fall or rise in world economic growth. Problems caused by the turning points of the business cycle are the economic costs of higher rates of unemployment in recessions, and higher rates of inflation in booms. Both of these economic problems can cause living standards to fall in the community.

Table 12.2 shows the phases of the Australian business cycle between 1994 and 2022 with the inflation, unemployment and growth rates of the last year of each cycle. In the boom between 1994 and 1999, inflation remained low but unemployment fell slowly from the peak of 11% reached in the 1991 recession. A mild downswing occurred between 2000 and 2002 with lower growth of 2%. In the global resources boom between 2003 and 2007 the unemployment rate fell to 4.5% but inflation rose to 3%. This boom ended with the Global Financial Crisis in 2008-09 which reduced growth to 1.3% and the unemployment rate rose to 5.8% of the workforce. An upswing occurred in 2010 with higher world growth but a downswing occurred between 2013 and 2019 with below trend growth as the Australian economy transitioned to non mining sources of growth after the mining investment boom.

Table 12.2: Rates of Unemployment and Inflation and Australian Business Cycles

Period	Phase of Business Cycle	Inflation Rate	Unemployment Rate	Growth Rate
1994-99	Boom	2.0%	7.4%	4.4%
2000-02	Downswing	2.0%	6.2%	2.0%
2003-07	Upswing/Boom	3.0%	4.5%	3.7%
2008-09	Downswing	1.5%	5.8%	1.3%
2010-12	Upswing	2.7%	5.1%	2.3%
2013-19	Downswing	1.8%	5.2%	1.9%
2020	Recession	0.7%	6.9%	-6.3%
2021-22	Upswing/Recovery	7.2%	3.5%	3.9%

In 2020 the Australian economy entered a recession because of the **COVID-19 pandemic** which resulted in real GDP contracting by -6.3% and unemployment rising to 6.9% in the June quarter 2020. A recovery or upswing occurred in 2021-22 with strong growth of 3.9%, a lower unemployment rate of 3.5%, but rising inflation of 7.2% due to global supply constraints and higher energy prices.

Governments use the macroeconomic policy instruments of monetary and fiscal policies to minimise the economic and social costs of higher inflation during booms and higher unemployment during recessions. The economic costs of inflation are a reduction in the purchasing power of money incomes; the redistribution of income from labour to capital; the misallocation of resources caused by the distortion in the price level; the loss of international competitiveness for firms; the reduction in real savings and real investment; and higher government budget deficits and debt interest.

The economic costs of unemployment are the opportunity cost of lost output and income of the unemployed; the loss of human capital; the increasing taxation burden on the employed; the erosion of the government's tax base; and a rise in expenditure on social security payments which can increase an existing budget deficit. The social costs of unemployment include rising crime rates; increased drug and alcohol dependency; health problems; suicides; family breakdowns; a loss of self esteem and human dignity of the unemployed; and the development of a social underclass.

✑ REVIEW QUESTIONS

GOVERNMENT INTERVENTION IN THE ECONOMY

1. What is meant by market failure? Discuss the five main types of market failure in a market economy. Why does the government produce and distribute collective goods and services?

2. Distinguish between merit goods and public goods. Why is the government the main provider of these types of goods in the economy?

3. Compare Australia's distribution of income with other OECD market economies by referring to the data in Table 12.1. What is the difference between absolute and relative poverty?
   Which groups in Australian society are more likely to experience relative poverty?

4. Why do negative externalities arise in the allocation of some environmental goods?
   Refer to Figure 12.1 and explain the divergence between MSC and MPC in your answer.

5. What is the 'problem of the commons' in the allocation of environmental resources?
   Why do governments pursue ecologically sustainable development as a policy objective?

6. Why and how does the government attempt to control monopoly power in Australian markets?

7. Briefly explain how governments have used the policies of privatisation, corporatisation, commercialisation and deregulation to increase the efficiency of PTEs in Australia.

8. Discuss the main economic costs associated with an excessive rate of inflation in booms, and high rates of unemployment during recessions in the Australian business cycle.

THE STRUCTURE OF GOVERNMENT IN AUSTRALIA

Australia has a federal system of government, with a central or federal government, six state governments, two territory governments and many local governments. The powers, functions and responsibilities of the federal or Commonwealth government are set out in a document known as the **Australian Constitution**, which came into effect when Australia was established as an independent nation in 1901. This was known as Federation. The structure of government in Australia is set out in **Figure 12.2**

Figure 12.2: The Structure of Government in Australia

The Constitution sets out the powers, functions and responsibilities of government

The High Court

The High Court interprets and makes decisions over matters or disputes arising from the Constitution and is the highest court of appeal in Australia

The Australian Federal or Commonwealth Government

It consists of two houses of parliament: the House of Representatives and the Senate

The State Governments

There are six state governments including NSW, Victoria, Queensland, Western Australia, South Australia and Tasmania

There are also two territory governments: the Australian Capital Territory and the Northern Territory

Local Governments

There are over six hundred local governments in Australia although this will decline with council amalgamations in many states such as NSW
Their powers, functions and responsibilities are delegated by their respective state governments

The Australian Constitution provides for two democratically elected houses of federal parliament, which are the lower house or House of Representatives and the upper house which is known as the Senate. The Governor General is the Queen's representative in Australia and is the Head of State. The political party with a majority of seats in the House of Representatives forms the federal government. The members of the federal government elect a Prime Minister, and ministers are appointed by the Prime Minister to form a Cabinet which formulates and implements government policy through legislation in the federal parliament. **Table 12.3** sets out the main stages in the making of an Act of federal parliament.

Each state derives its powers from the Australian constitution and their own constitutions. Each state has a Governor who is the King's representative in Australia. The Northern Territory was granted self government by the Commonwealth government in 1978, and the Australian Capital Territory was granted self government in 1988. This gave both territories similar powers to the states, in being able to raise revenue and undertake expenditure within their own territorial jurisdictions.

Table 12.3: The Making of an Act of Federal Parliament

The following represents the main stages involved in the making of an Act of federal parliament:

1. A Bill Reflects Government Policy:

An Act of Parliament is proposed by a democratically elected government which wants to implement a specific policy.

2. Draft Bill:

A draft bill is submitted to the Prime Minister and the Cabinet, and if approved, is drafted by the relevant government department and timetabled for introduction into the parliament.

3. The House of Representatives (Lower House):

Most bills are introduced in the House of Representatives.

The first reading takes place when the long title of the bill is read to the House of Representatives.

The second reading of the bill occurs when the Minister responsible for the bill gives a speech outlining its purposes and provisions.

Debate occurs over the bill until a motion is put to move the bill to the next stage.

At the Committee stage the bill is considered clause by clause and amendments may be made.

The third reading of the bill occurs when the bill is agreed to and passed by the House of Representatives through a majority vote.

4. The Senate (Upper House):

A bill must pass both houses of parliament to become a statute or law.

A Minister of the government in the Senate must be responsible for the bill.

First reading: the bill is read to all Senators.

Second reading: debate occurs over the purpose and provisions of the bill.

Consideration by a Standing Committee: bills are often referred to a Senate Standing Committee for detailed examination.

Committee Stage: the bill is considered clause by clause by all Senators.

Amendments may be made arising from debate or recommendations by the Senate Committee.

Third reading: the bill is formally agreed to by a majority vote.

5. Royal Assent and Publication:

Royal Assent: the Governor General signs the bill, which then becomes an Act of Parliament.

Publication: the Royal Assent is notified in the *Commonwealth of Australia Gazette*.

The Act comes into operation on the day of Assent, or within 28 days of Assent, or at a date fixed by proclamation.

Source: Parliamentary Education Office (1993), *Parliamentary Government in Australia*.

FUNCTIONS OF THE THREE LEVELS OF GOVERNMENT

Australia is a mixed market economy since the government intervenes to modify the workings of the free market or price mechanism. The private sector is responsible for most economic decision making, but the Australian government implements policies to redistribute income, control negative externalities, promote competition, provide collective goods and services, and to conduct counter cyclical policies to offset the extremes of the business cycle. Australia has a federal system of government with a national or federal government, six state (NSW, Vic, Qld, SA, WA and Tas.) and two territory governments (the NT and ACT) and hundreds of local governments (i.e. municipal, shire and county councils).

The Division of Constitutional Powers

The powers, functions and responsibilities of the Commonwealth government are set out in the **Australian Constitution** which came into effect in 1901 when Australia was established as a Federation, with three levels of government: the federal or Commonwealth government; state and territory governments; and local governments (refer to **Table 12.4** for their functions). The Australian Constitution also sets out the legislative powers for the federal and state governments. Local governments derive their powers from state government delegation. The legislative powers in the Constitution are three fold:

1. The **exclusive powers** are only exercised by the Australian or federal government, and include the powers to make laws over national matters such as defence, external affairs, immigration, customs and excise, currency and coinage.

2. The **concurrent powers** are shared by the federal and state governments and include trade and commerce, taxation, public borrowing, banking and corporations, and industrial disputes. In some areas, the Commonwealth government plays a major role (e.g. social security and welfare), whereas the states dominate in the provision of other services such as education, health and transport. The power to levy and collect taxation was ceded to the Commonwealth government by the states in 1942 in return for Commonwealth reimbursements in the form of state government grants.

Table 12.4: Functions of the Three Levels of Government in Australia

Level of Government	Expenditure	Revenue
Local Government *(Residual powers delegated by the states to make laws over local responsibilities)*	Local roads and streets Garbage collection Sporting and recreational facilities Regulation and licensing Welfare services	Grants Rates Fines, fees and charges
State Government *(Concurrent and residual powers to make laws affecting the state)*	Education Health Community services Public transport Roads and highways Housing Sporting and recreational facilities Cultural facilities	Grants Taxes including GST revenue Income from PTEs Fines, fees and charges Revenue from the privatisation of public utilities and trading enterprises (PTEs)
Federal government *(Exclusive powers to make laws affecting the nation and concurrent powers shared with the states)*	Defence External affairs Social security Health Education Culture Recreation Economic services	Income taxes (PAYG) Goods and Services Tax (GST) Company tax Excise and customs duties Fringe benefits tax Capital gains tax Other taxes e.g. PRRT Other income

3.   The **residual powers** are those exercised by the state governments and include public order and safety (e.g. police services). Some residual powers are also delegated to local governments.

The federal government consists of two houses (the bicameral system) of parliament (the lower house is the House of Representatives and the upper house is the Senate) which are elected democratically. The political party which usually has a majority of seats in the House of Representatives forms the government, and its leader is the Prime Minister. The Governor General is the Head of State, and the High Court of Australia has jurisdiction to resolve disputes and matters arising from the interpretation of the Australian Constitution. The federal government makes laws affecting the whole of Australia.

The main sources of Commonwealth government revenue include income tax, company tax, excise and customs duties, fringe benefits and capital gains taxes, other taxes, fines, fees and charges and income from Commonwealth government business enterprises including the proceeds from asset sales. With the introduction of the Goods and Services Tax (GST) of 10% on July 1st 2000, all GST revenue goes to the states and other indirect taxes such as sales tax were phased out. The main areas of Commonwealth government spending include defence, education, health, social security, housing, culture and recreation, assistance to the states, infrastructure, economic and administrative services and the environment.

State governments have two democratically elected houses of parliament (except for Qld) and the state Governor acts as the King's representative. Territory governments have a lower house of assembly and a Chief Minister. State and territory governments make laws affecting the residents of their state or territory. Their responsibilities include main roads, highways and bridges, education, health, community services, public transport and housing, and cultural and recreational facilities (e.g. libraries, art galleries, entertainment centres, sports stadiums and museums). State governments derive their income from four main sources: general and specific purpose financial assistance grants from the Commonwealth government; state taxes, charges, fines and fees; income from state government business enterprises; and revenue from asset sales. From July 1st 2000 the state governments received shares of GST revenue (based on their population size) and rely less on direct Commonwealth grants to finance their spending.

Local governments are democratically elected, with the leaders elected called mayors (in municipal and county councils) or presidents (in shire councils). Local governments make laws affecting their constituents in their respective local government areas (LGAs). Local governments derive their revenue from state and federal government grants, and rates levied on the unimproved capital value of land owned by individuals and businesses in their LGAs. This revenue is used for general and specific local government works such as the construction and maintenance of local roads, streets and bridges; waste collection and disposal; compliance with building codes; regulation of health and sanitation; provision and maintenance of sporting, recreational and cultural facilities; provision of welfare and services for the aged; regulation and enforcement of pollution laws, licensing of pets and other activities; and the provision of water, gas and electricity by some councils in their LGAs.

THE SIZE OF THE PUBLIC SECTOR

In the 1999-2000 federal budget, the Commonwealth Treasury adopted an accrual accounting system to replace the system of cash accounting used previously. **Accrual accounting** records the outcome of a government transaction when economic value is exchanged. Under **cash accounting** the transaction is recorded when cash is exchanged. From 2000 onwards, the ABS in compiling Government Finance Statistics (GFS), has used the method of accrual accounting rather than reporting on a cash accounting basis. The size of the public sector includes the Commonwealth, state and local levels of government, as well as public non financial corporations (PNFCs) such as Australia Post and NBN Co:

•   The **general government sector** (government departments and agencies) provides public services (mainly non market in nature) for community use or consumption or involve the transfer or redistribution of income. Entities in this sector include the ACCC, APRA and the Department of Treasury. These services are financed mainly through taxes and other compulsory levies.

Figure 12.3: The Institutional Structure of the Public Sector

Total Public Sector

Public Financial Corporations Sector

(Includes Reserve Bank of Australia and other borrowing authorities)

Total Non-Financial Public Sector

General Government Sector

(Government departments and agencies that provide non market public services, or involve the transfer or redistribution of income, and are funded mainly through taxes e.g. the Treasury)

Public Non-Financial Corporations Sector

(Provide goods and services to consumers on a commercial basis, are funded largely by the sale of these goods and services, and are generally legally distinguishable from the governments that own them e.g. Australia Post)

Source: Commonwealth of Australia (March, 2022), *Budget Strategy and Outlook 2022-23*, Canberra, page 326.

- The **public non financial corporations** sector (PNFC) comprises bodies which provide goods and services that are mainly market, non regulatory and non financial in nature, financed predominantly through the commercial sale of these goods and services to consumers e.g. Australia Post and NBN Co. In general, PNFCs are legally distinguishable from the governments which own them.

- Together, the general government sector and the PNFC sector comprise the **total non financial public sector**. The Commonwealth government and the state/local governments together are referred to as consolidated government.

- **Public financial corporations** include the Reserve Bank and other borrowing authorities.

The structure of the total public sector is illustrated in **Figure 12.3**. In 2020-21 the public sector accounted for 16.1% (2,041,200 persons) of total employment (refer to **Figure 12.4**). State and local governments accounted for 14.2% of total employment, and 88.2% of public sector employment reflecting their role in the service delivery of health, education and infrastructure. The Commonwealth government accounted for 1.9% of total employment, and 11.8% of total public sector employment. The private sector accounted for the majority or 83.9% of total employment in the Australian economy.

Figure 12.4: Contribution of Private & Public Sectors to Total Employment in 2020-21

Commonwealth 1.9%

State/Local 14.2%

Private 83.9%
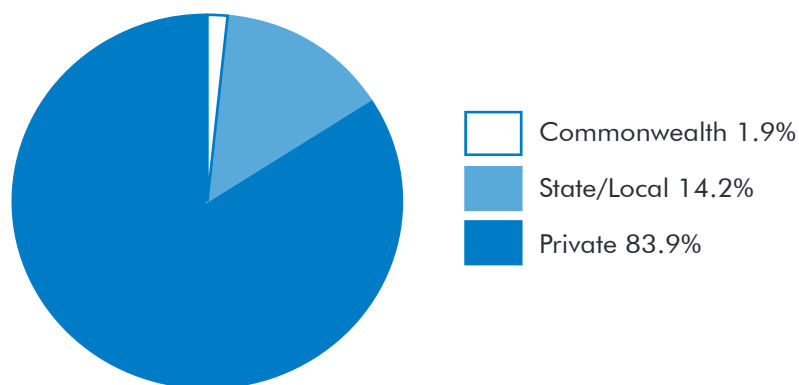
Source: ABS (2021), *Employment and Earnings, Public Sector, Australia*, Catalogue 6248.0.55.002, August.

Figure 12.5: Contribution of Private and Public Sectors to Domestic Demand in 2021-22

☐ Public Final Consumption 22.7%

■ Public Gross Fixed Capital Formation 5.5%

■ Private Demand 71.8%
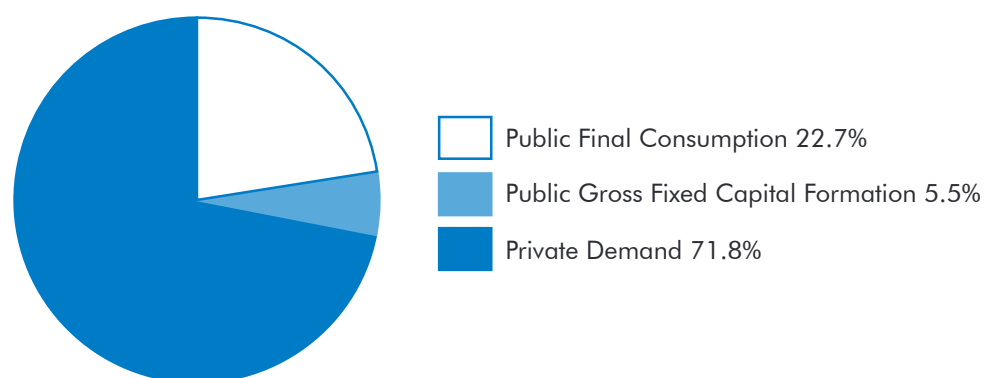
Source: ABS (2022), *Australian National Accounts,* Catalogue 5206.0, Table 2, June.

A further measure of the size of the public sector is its contribution to domestic final demand or total spending in the domestic economy by the private and public sectors. **Domestic final demand** in Australia is made up of two major components:

• **Public final demand** consists of public final consumption expenditure, plus public gross fixed capital formation (public investment in infrastructure); and

• **Private final demand** consists of private final consumption expenditure, plus private gross fixed capital formation (private investment).

The Australian public sector accounted for 28.2% of domestic final demand in 2021-22, with 5.5% on gross fixed capital expenditure and 22.7% on public final consumption expenditure (as shown in **Figure 12.5**). Private demand was the majority or 71.8% of Australian domestic final demand in 2021-22.

Table 12.5 lists the fiscal balances of the general government sector (which accounts for 90% of total public sector outlays and revenues) and the PNFC sector between 2013-14 and the 2022-23 budget forecasts. Adding these two sector's balances gives the non financial public sector (NFPS) balance.

Table 12.5: Consolidated Non Financial Public Sector Balance by Sector 2013-2023 (f)

Year	General Government	PNFCs	Non Financial Public Sector
2013-14	-$48.45b	-$3.20b	-$51.65b
2014-15	-$37.86b	-$3.88b	-$41.74b
2015-16	-$39.60b	-$6.14b	-$45.74b
2016-17	-$33.15b	-$7.13b	-$40.28b
2017-18	-$10.14b	-$8.15b	-$18.29b
2018-19	-$0.69b	-$8.69b	-$9.38b
2019-20	-$85.27b	-$9.41b	-$94.68b
2020-21	-$134.17b	-$5.37b	-$139.54b
2021-22 (f)	-$79.82b	-$6.40b	-$86.22b
2022-23 (f)	-$77.96b	-$6.44	-$84.40b

Source: Commonwealth of Australia (October, 2022), *Budget Strategy and Outlook 2022-23*, p355, Canberra. (f) forecast

In the 1990s the NFPS recorded deficits which peaked at -4.2% of GDP in 1992-93 before moving into a surplus position in 1997-98. In 1999-00 the consolidated NFPS surplus was $12.9b as a result of a large fiscal surplus of $11.9b recorded by the Australian government. The Commonwealth government used a **fiscal consolidation strategy** in moving from a cash deficit of -$4.2b in 1996-97 to an underlying cash surplus of $19.7b in 2007-08. This was achieved by a reduction in expenditure as a share of GDP and a cyclical rise in government revenue. This reflected the federal government's policy of controlling expenditure to improve the overall NFPS fiscal position, making government more efficient, and reducing its need to borrow funds in financial markets to finance any budget deficit.

The Commonwealth government also eliminated the total level of Commonwealth net debt of $96.2b between 1996-97 and 2006-07. In 2007-08 the Commonwealth government was estimated to be a net lender of funds to the value of $12b, with about $16b from the 2005-06 budget surplus deposited in the newly established **Future Fund** to pay for public servants' superannuation liabilities in the future.

State and local general government balances also improved from a deficit of -1% of GDP in 1991-92 to a cash surplus of 0.3% of GDP in 2004-05. All states and territories have used medium term fiscal strategies aimed at improving their fiscal positions, especially with the guarantees of GST revenue from the Commonwealth government under *The New Tax System* arrangements introduced in 2000.

In 2008-09 the general government sector moved into deficit by -$27b largely as a result of falling taxation revenue and increased stimulus spending, caused by the impact of the **Global Financial Crisis**. The PNFC sector also moved into deficit and the NFPS deficit was -$28b. These deficits increased to -$54.5b for the general government sector and -$55.4b for the NFPS in 2009-10. Deficits of these size continued in 2010-11 and 2011-12 with the slow recovery in tax revenue after the GFC. The Australian government adopted a '**Budget Repair Strategy**' in the 2014-15 budget to reduce the size of its deficit. However in the 2020-21 budget the **COVID-19 Economic Recovery Plan** with increased spending and tax cuts led to a large budget deficit of -$134.2b in 2020-21 as shown in **Table 12.5**.

✎ REVIEW QUESTIONS

FUNCTIONS OF GOVERNMENT AND SIZE OF THE PUBLIC SECTOR

1. Discuss the structure of government in Australia in Figure 12.2.

2. Refer to Table 12.3 and explain how an Act of federal parliament is made.

3. Discuss the division of Constitutional powers between the federal, state and local levels of government in Australia.

4. Discuss the main sources of revenue and expenditure for the three levels of government.

5. How is the size of the public sector defined and measured?

6. Describe the institutional structure of the public sector in Figure 12.3.

7. Refer to Figures 12.4 and 12.5 and discuss the contribution of the Australian public sector to total employment in 2020-21 and domestic demand in the Australian economy in 2021-22.

8. Refer to Table 12.5 and the text and discuss trends in the overall NFPS budgetary position by sector between 2013-14 and the forecasts for 2021-22 and 2022-23.

9. Discuss the impact of the Global Financial Crisis on the fiscal position of the General Government sector. Why did the Australian government adopt a Budget Repair Strategy in 2014? What impact was the COVID-19 Economic Recovery Plan forecast to have on the 2020-21 and 2021-22 budget outcomes?

10. Define the following terms and add them to a glossary:

Australian Constitution	federal parliament	monopoly
business cycle	income distribution	privatisation
competition policy	market failure	public goods
corporatisation	merit goods	public sector

☯ CHAPTER FOCUS ON GOVERNMENT INTERVENTION IN THE ECONOMY

"One of the main issues in economics is the extent to which the government should intervene in the economy. Arguments for government intervention include achieving greater income equality, correcting market failure and using macroeconomic stabilisation policies during extremes of the business cycle."

Discuss the arguments that are used to justify government intervention in a market economy such as Australia.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 12: SHORT ANSWER QUESTIONS

Contribution of the Private and Public Sectors to Domestic Demand in 2021-22

Public Final Consumption 22.7%

Public Gross Fixed Capital Formation 5.5%

Private Demand 71.8%
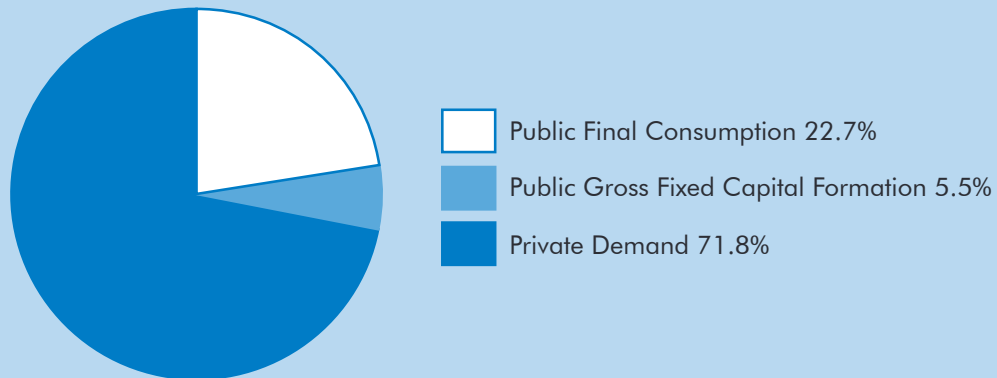
Refer to the graph above of the contribution of the public and private sectors to domestic demand in 2021-22 and answer the questions below.

Marks

1. Explain what is meant by the public sector. (1)

2. What percentage of domestic demand did the public sector account for in 2021-22? (1)

3. Give TWO examples of capital goods produced by the public sector in 2021-22. (2)

4. Explain TWO reasons for the privatisation of many state and federal government trading enterprises in the 1990s and 2000s. (3)

5. Explain why the fiscal position of the federal government deteriorated in 2020-21. (3)

CHAPTER 12: EXTENDED RESPONSE QUESTIONS

1. What is meant by market failure? Discuss the main areas of government intervention in a mixed economy like Australia to overcome market failure. Use examples to illustrate your answer.

2. Outline the division of powers between the federal, state and local governments in the Australian Constitution. Explain the main sources of revenue and areas of expenditure of federal, state and local governments in Australia.

3. Discuss the economic roles of local, state and federal governments in Australia. What are the main sources of revenue and spending for each of these levels of government?

4. What is meant by the public sector? Why has the non financial public sector moved into deficit in recent years? How have governments increased the efficiency of public trading enterprises?

5. Explain the structure of the public sector in Australia and the contribution it makes to employment and domestic demand. How did the Global Financial Crisis impact on the fiscal position of the public sector in Australia between 2008 and 2011?

6. Why did the Australian government introduce a Budget Repair Strategy in 2014-15 budget? Discuss the benefits to the Australian economy of a reduction in the federal government's budget deficit.

7. Why did the Australian government use an Economic Recovery Plan in the 2020-21 budget? What impact was this forecast to have on the budget outcome in 2020-21 and 2021-22?

✌ CHAPTER SUMMARY

GOVERNMENT INTERVENTION IN THE ECONOMY

1. The case for government intervention in a market economy is based on the incidence of market failure. The following are examples of potential market failure:

    •   The market may fail to provide public goods in adequate quantities and qualities.

    •   The market economic system usually leads to an inequitable distribution of income.

    •   The market system often fails to allocate environmental goods efficiently.

    •   The market economic system may lead to the emergence of monopoly power in markets which may reduce consumer sovereignty and welfare through monopoly firms raising prices and restricting output and choice to consumers.

    •   Market economies experience fluctuations in economic activity known as business cycles. These cycles can lead to excessive rates of unemployment in recessions, and excessive rates of inflation in booms, which can reduce living standards and welfare in the community.

2. Australia has a federal system of government based on a federal government, six state governments, two territory governments and hundreds of local councils. All levels of government are directly elected by a majority of eligible voters under a democratic system of preferential voting.

3. The powers, functions and responsibilities of the Commonwealth or federal government are set out in the Australian Constitution. The federal government has exclusive powers over matters such as defence, customs and excise and immigration. The federal government and state governments share concurrent powers over matters such as trade and commerce, education and health. The residual powers in the Australian Constitution are exercised by the state governments and include public order and safety. Some residual powers are also delegated to local governments.

4. The size of the public sector in Australia includes the Commonwealth, state and local levels of government and Public Non Financial Corporations. The general government sector provides collective goods and services to the community. The Public Non Financial Corporations (PNFC) sector provides goods and services which are market in nature and sold to consumers. Together the general government and PNFC sectors comprise the Non Financial Public Sector (NFPS).

5. In 2020-21 the public sector accounted for 16.1% of total employment and 28.2% of domestic final demand in 2021-22. The public sector's share of domestic final demand in 2020-21 included 22.7% on public final consumption expenditure and 5.5% on gross fixed capital formation.

6. The Non Financial Public Sector (NFPS) moved into a surplus budgetary position between 1997 and 2007 reflecting the fiscal consolidation measures introduced by the Commonwealth government under the *Charter of Budget Honesty Act 1998*. However in 2008-09 the impact of the Global Financial Crisis led to falling taxation revenue and caused the NFPS to move into deficit. In the 2014-15 budget the Australian government implemented a 'Budget Repair Strategy'. In the 2020-21 budget the Australian government implemented a COVID-19 Economic Recovery Plan which led to an underlying cash budget deficit of -$134.2b in 2020-21. This was a result of increased government spending and falling taxation revenue.

7. Public Non Financial Sector Corporations have reduced the size of their losses through improved operational efficiency. A number of PNFCs were either completely or partially privatised in the 1990s and 2000s, whilst those in public ownership now pay dividends to their government owners if they are profitable.

8. A major change in Commonwealth-state relations that took place in 2000 was the introduction of *The New Tax System*. Part of this involved the introduction of a GST of 10% on most goods and services. The revenue from the GST is paid to the states, ensuring that they have a secure revenue base to meet their spending commitments and reduced financial reliance on the Commonwealth government in the form of general and specific purpose Commonwealth grants.

CHAPTER 13

The Role of Government

ECONOMIC FUNCTIONS OF THE AUSTRALIAN GOVERNMENT

The broad economic functions of the Australian government are the reallocation of resources and the redistribution of income through taxation and government expenditure; the stabilisation of economic activity through the use of monetary and fiscal policies; the provision of goods and services through public trading enterprises; and the use of other economic policies such as competition and environmental policies to improve allocative efficiency and reduce market failure in specific markets.

The Reallocation of Resources

The expenditure of the federal government is largely financed through the collection of taxation revenue. Taxation is a compulsory payment made by individuals and businesses to the government, for which no good or service is provided directly in return. Taxation revenue represents a call on part of the private sector's resources by the public sector to finance spending on collective goods and services, infrastructure (social overhead capital) and social security and welfare. Changes in the level and composition of government taxation and expenditure can affect resource allocation in the following ways:

- Expenditure on collective goods and services, and social welfare financed by taxation, will shift some resources out of private production to the public sector. Changes to the allocation or composition of government expenditure will also alter the pattern of resource allocation in the economy.

- Taxation of some goods and services and not others will alter relative prices and their demand depending on their price elasticity of demand. This will impact on the allocation of resources in the production of various goods and services by the private sector.

- Governments may use changes in selective assistance or incentives to various industries such as subsidies, tariffs, quotas and tax incentives to encourage or discourage certain types of production and cause a reallocation of resources in the economy.

Taxation Criteria

Taxation systems used by governments can be evaluated in terms of the following criteria developed by the famous Classical economist Adam Smith in his book *The Wealth of Nations* (1776):

- The **equity** of the tax system refers to how the taxation burden (i.e. the percentage of gross income paid in tax) is distributed amongst taxpayers according to the ability of taxpayers to pay tax.

  Vertical equity refers to higher taxation burdens applying to taxpayers on higher incomes than those on lower or middle incomes, since high income earners have a greater ability to pay tax than middle and low income earners and therefore pay higher marginal rates of taxation (MRTs).

  Horizontal equity refers to an equal tax burden for taxpayers earning the same gross income.

- The **efficiency** of the tax system refers to the degree to which the imposition of taxation leaves the allocation of resources unchanged. Taxation should not distort savings, investment, production, consumption or export decisions by firms and individuals and reduce economic efficiency.

- The **simplicity** of the tax system refers to the public's understanding and certainty over future tax liabilities, the ease of tax collection, and the degree of tax compliance through the minimisation of **tax avoidance** (legal tax minimisation) and **tax evasion** (illegal non payment of tax liabilities).

Table 13.1: Taxation Revenue and Government Expenditure in the 2022-23 Budget (October)

Tax Revenue (cash)	Estimate ($m) 2022-23	% of Total Tax R.	Expenditure (cash)	Estimate ($m) 2022-23	% of Total Exp.
1. Income Tax (Direct Tax)			General Public Services	30,280	4.7
Gross PAYG Withholding	260,000	46.2	Defence	38,403	6.0
Gross Other Individuals	61,900	11.0	Public Order and Safety	7,148	1.1
Less Refunds	-41,800	-7.4	Education	46,317	7.2
Total Individuals	280,100	49.8	Health	109,694	17.0
Fringe Benefits Tax	3,490	0.6	Social Security and Welfare	228,791	35.5
Company Tax	127,300	22.6	Housing and Communities	7,826	1.2
Superannuation Funds Taxes	12,610	2.2	Recreation and Culture	4,880	0.8
Petroleum Resource Rent Tax	2,600	0.5	Fuel and Energy	9,134	1.4
Total Income Tax	**426,100**	75.7	Agric., Forestry and Fishing	5,034	0.8
			Mining, Manuf. and Constr.	4,945	0.8
2. Indirect Tax			Transport and Communication	15,351	2.4
GST and Sales Taxes	84,832	15.1	Other Economic Affairs	13,920	2.1
Excise and Customs Duty	42,810	7.6	Other Purposes	122,377	19.0
Other Indirect Taxation	9,116	1.6			
Total Indirect Tax	**136,758**	24.3			
TOTAL TAX REVENUE	**562,858**	100.0			
Non Tax Revenue	44,371				
TOTAL REVENUE (T)	**607,229**		**TOTAL EXPENDITURE** (G)	**644,100**	100.0

* Underlying Cash Balance (T-G) = $607.2b - $644.1 = -$36.9b deficit

Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October.

NB: Figures are cash based, rounded and may not total. *The calculation of the 2022-23 cash balance is set out on page 276. The 2022-23 budget estimates forecast the budget to be in deficit by -$36.9b (-1.5% of GDP) in cash terms.
The 2022-23 budget was handed down by Treasurer Jim Chalmers in October 2022 after Labor's election victory in May 2022

The Tax Base and Tax Rate

The amount of taxation revenue raised by the government depends on two factors: the tax base and the tax rate. The tax base refers to what is being taxed e.g. individual and business income, company profits, consumption spending, capital gains, fringe benefits, superannuation, luxury cars and resources such as petroleum and gas.

The tax rate refers to the percentage of the tax base paid in tax. The total amount of tax revenue raised by the government is therefore equal to the tax base multiplied by the tax rate i.e.

Taxation Revenue   =   Tax Base   x   Tax Rate

Figure 13.1: Commonwealth General Government Revenue 2022-23 (estimates)

- Individual Income Tax 46.1%
- Company Tax 21%
- Other Income Tax 3.1%
- GST and Sales Taxes 14%
- Excise and Customs Duty 7%
- Other Indirect Taxation 1.5%
- Non Taxation Revenue 7.3%
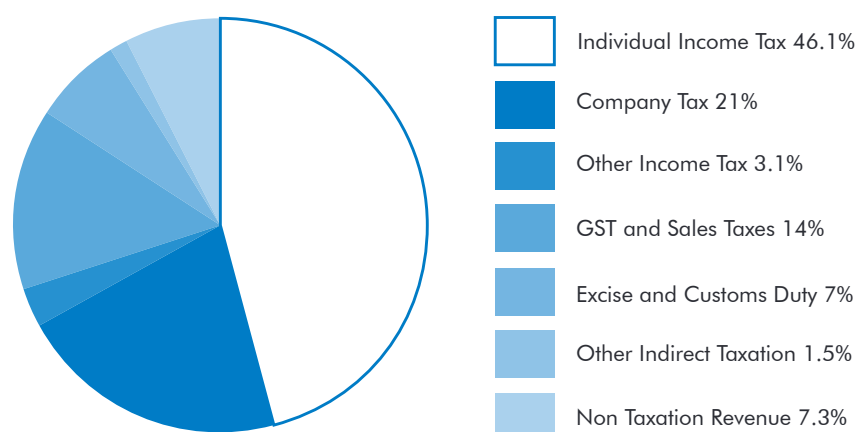
Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October.

Direct and Indirect Taxation

The two broad categories of taxation are direct and indirect taxation. The federal budget estimates for taxation and non taxation revenue and expenditure for 2022-23 are listed in **Table 13.1**. **Direct taxes** such as income tax and company tax, are paid by those individuals and firms upon whom they are levied, and cannot be passed on to others. For example, income tax is imposed on wage and salary earners, who pay the tax on their assessable and declared taxable income. With direct taxes, the impact and incidence of the tax are the same. The government introduced the Pay As You Go (PAYG) withholding tax in *The New Tax System*, which came into effect on July 1st 2000. The major categories of total estimated revenue (tax and non tax revenue) of $607.2b for 2022-23 are shown in **Figure 13.1**.

Indirect taxes (such as sales tax, excise and customs duties and the GST) are imposed on one group (e.g. individuals and firms), but are usually passed on fully or partially to the final consumer of the good or service being taxed e.g. goods and services tax (GST) of 10% is imposed on the retailers of most goods and services but is passed on in full to final consumers. With indirect taxation the impact and incidence of the tax are not the same. The main types of federal taxation listed in **Table 13.1** and illustrated in **Figure 13.1** are explained in **Table 13.2**. A new Major Bank Levy was introduced in the 2017 budget.

Table 13.2: The Main Types of Australian Government Taxation	
Income Tax (PAYG)	Pay As You Go tax on the personal income of employees or income of self employed taxpayers or those in receipt of investment income.
Company Tax	Tax on company income or profits at a rate of 30% from July 1st 2001
Super. Funds Tax	Superannuation funds are taxed at the concessional rate of 15%
Withholding Tax	Tax on interest, dividends and royalties to overseas residents
PRRT	Petroleum Resource Rent Tax is levied at 40% of profits of petroleum projects
Sales Tax	Tax applied to a range of goods such as luxury cars and wine
Excise Duty	Tax on the manufacture of products such as tobacco, alcohol and fuel
Customs Duty	A tax imposed on importers of a range of luxury, capital and intermediate goods
Capital Gains Tax	Tax applied to the real gains from share and real estate sales at PAYG rates
Fringe Benefits Tax	Tax applied to non cash benefits of executives and employees set at 36%
GST	Tax applied at a uniform rate of 10% on taxable supplies to consumers
Major Bank Levy	A tax on banks with liabilities greater than $100b
*NB The carbon tax and Minerals Resource Rent Tax (MRRT) were repealed in the 2014 budget	

The Impact and Incidence of Taxation

The **impact of a tax** refers to the initial point at which a tax is levied or imposed. The **incidence of a tax** refers to the person or group who ultimately pays the tax. For direct taxes, the impact and incidence are the same, whereas for indirect taxes, the impact and incidence of the tax are not usually the same, as the tax is passed on to consumers by those upon whom it is levied such as retailers and manufacturers.

Tax Reform and *The New Tax System*

The Australian government's tax reform package called *The New Tax System* was introduced on July 1st 2000. This involved reducing the rates of tax on personal income and placing more reliance on indirect taxes for the collection of revenue. These changes involved **broadening the tax base** by introducing a Goods and Services Tax (GST) of 10% on taxable supplies to consumers, and changing the **tax mix** by placing more emphasis on indirect tax revenue and less emphasis on income tax revenue as a proportion of total tax revenue. The main measures in *The New Tax System* on July 1st 2000 were the following:

- Income tax cuts worth $12b a year to income earners, with the tax free threshold raised to $6,000 and the majority of taxpayers paying a marginal tax rate of 30% or less. The tax cuts provided compensation to income earners for the 'one off' price effects of the GST on the CPI.
- The introduction of a 10% GST on all items except food, health care, council rates and child care.
- Family benefits were increased by $2.4b annually, and pensions and other welfare allowances were increased by 4% to compensate fixed and low income earners for the price effects of the GST.
- The reform of Commonwealth-state financial relations, with the revenue from the GST paid directly to the states, thereby reducing their reliance on federal government general purpose grants.
- A new Pay As You Go (PAYG) income tax system was introduced.
- Reform of business taxation, including a cut in the company tax rate to 30% (which was phased in over 2000-01) and the introduction of Australian Business Numbers (ABNs) and the Business Activity Statement (BAS) for tax reporting and tax compliance by businesses to the ATO.

Tax reforms in the 2004-05, 2005-06, 2006-07 and 2007-08 budgets included raising income tax thresholds and cutting some MRTs to reduce the tax burden for all taxpayers. More tax changes occurred in the 2009-10 and 2010-11 budgets: the 15% tax threshold from $30,000 to $35,000, rose to $37,000 from July 1st 2010; the 30% tax threshold increased from $30,000 to $35,001 and rose to $37,001 in 2010; and the 40% tax rate was cut to 38% in 2009 and lowered to 37% from July 1st 2010.

In the 2012-13 budget the government introduced tax cuts from July 1st 2012 for all taxpayers with incomes up to $80,000, to assist with the cost of living impact of the carbon price. The tax free threshold was increased from $6,000 to $18,200 as shown in **Table 13.3** but the MRTs for the second and third tax thresholds were raised from 15% to 19% and from 30% to 32.5% to offset the large increase in the tax free threshold. In the 2016 budget the third and fourth tax thresholds were raised to $87,000 and then to $90,000 in the 2018 budget. In the 2018-19 budget the government announced a new *Personal Income Tax Plan* and *Enterprise Tax Plan* to increase tax thresholds in 2022 and 2024 as well as cutting the company tax rate to 25% by 2026-27. The tax cuts planned for 2022 were brought forward in the 2020-21 budget to support households during the COVID-19 pandemic and recession. These measures included increasing the low income tax offset (LITO) from $445 to $700; increasing the top threshold of the 19% tax bracket from $37,000 to $45,000; and increasing the top threshold of the 32.5% tax bracket from $90,000 to $120,000 as shown in **Table 13.3**.

The Henry Tax Review in 2010 and the Tax White Paper in 2015

The government announced major reform of the tax system in 2010 based on the recommendations of the *Henry Review* to make the tax system simpler, fairer and more efficient. By 2013-14 it was envisaged that the number of marginal tax rates would be reduced from four to three; the 37% marginal tax rate

Table 13.3: Changes to Income Tax Thresholds in the 2012, 2016, 2018 and 2020 Budgets

New Tax Thresholds (from (July 1st 2012, 2016 and 2018) Income Range	Tax Rate (%) MRT	New Tax Thresholds (from July 1st 2020)	Tax Rate (%)
0 – **$18,200**	0%	0 – **$18,200**	0%
$18,201 – $37,000	**19%**	$18,201 – **$45,000**	19%
$37,001 – **$90,000**	**32.5%**	$45,001 – **$120,000**	**32.5%**
$90,001 – $180,000	37%	**$120,001** – $180,000	37%
$180,001 +	45%	$180,001 +	45%

Sources: Commonwealth of Australia (2012-20), *Budget Strategy and Outlook 2012-13, Budget Strategy and Outlook 2016-17, Budget Strategy and Outlook 2018-19, and Budget Strategy and Outlook 2020-21.*

would be reduced to 30% and the 45% marginal tax rate reduced to 40%. The *Henry Review's* report was completed in May 2010 and made over 100 recommendations but only a few were implemented:

- A tax on the super normal profits of large mining companies (the Minerals Resource Rent Tax of 30% or MRRT) from 2012-13 (this tax was repealed in 2014 by the Abbott government);
- An increase in the rate of excise duty on tobacco by 25% in the 2010-11 budget;
- A planned cut in the company tax rate from 30% to 28% which was postponed in the 2012-13 budget because of a lack of political support.

A Tax Reform Road Map was presented with the 2012-13 budget with plans for future tax reform such as increasing the Superannuation Guarantee Levy from 9% to 12% and giving small businesses a tax write off for assets costing less than $6,500. The Abbott Coalition government announced a **White Paper on the Reform of Australia's Tax System** and a **White Paper on the Reform of the Federation** in the 2014-15 budget. The Tax White Paper Taskforce received wide ranging submissions in 2015 with calls to reform the tax treatment of superannuation and a possible increase in the rate and tax base of the GST. Tax reforms by the Turnbull government in the 2016 and 2017 budgets included some reform of superannuation concessions; the *Ten Year Enterprise Tax Plan* to reduce the company tax rate to 25% by 2026-27; and the introduction of a Major Bank Levy to raise revenue and assist with 'Budget Repair'. In the 2018-19 budget the third and fourth tax thresholds were raised to $90,000 and in 2020 and 2021 further tax cuts were introduced by the former Morrison government as shown in **Table 13.3**.

The Personal Income Tax Plan and Enterprise Tax Plan in 2018

In the 2018-19 budget the Turnbull government announced future plans to simplify and flatten the personal income tax system and to cap the tax to GDP ratio at 23.9%. This was to be achieved by July 1st 2022 and July 1st 2024 by reducing the number of tax brackets from five to four (refer to **Table 13.4**). The third threshold of the 32.5% tax bracket would rise to $200,000 by 2024 and the MTR cut from 32.5% to 30%. The 37% tax bracket would be removed. The Morrison government was committed to these measures in the 2020-21 budget, arguing they would reduce bracket creep.

Table 13.4: Proposed Changes to Income Tax Thresholds and MTRs in 2024

New Tax Thresholds (from July 1st 2020) Income Range	Tax Rate (%)	Proposed Tax Thresholds (from July 1st 2024) Income Range	Tax Rate (%)
0 – $18,200	0%	0 – $18,201	0%
$18,201 – **$45,000**	19%	$18,201 – $45,000	19%
$45,001 – **$120,000**	32.5%	$45,001 – **$200,000**	**30%**
$120,001 – $180,000	37%	*removal of the 37% tax bracket	-
$180,001+	45%	**$200,001**+	45%

Sources: Commonwealth of Australia (2020), *Budget Strategy and Outlook 2020–21.*

Australian Government Expenditure

Table 13.1 on page 262 and **Figure 13.2** show the estimates for major outlays or items of expenditure (total of $644.1b) of the Australian government in the October 2022-23 budget. In terms of total government expenditure, the largest outlays were on social security and welfare (35.5%), assistance to the states (19%), health (17%), education (7.2%), defence (6%) and general public services (4.7%). They accounted for 89.4% of estimated total government expenditure in 2022-23. The largest expenditure item was on social security and welfare (35.5%), mainly representing outlays on transfer payments. This was followed by assistance to state and territory governments (including payments of GST revenue), health, education, defence and treasury outlays in running the public service.

Government expenditure on 'other purposes' represented 18.6% of total expenses in 2020-21 and included 'one off' spending on the Australian government's **COVID-19 Economic Support Package** including the JobKeeper Payment and Boosting Cash Flow for Employers. Total Australian government expenses in the 2021-22 budget were forecast to be 27.6% of GDP in providing stimulus to the economy.

Figure 13.2: Commonwealth General Government Expenses by Function 2022-23 (estimates)

- Social Security and Welfare 35.5%
- Assistance to the States 19%
- Health 17%
- Education 7.2%
- Defence 6%
- General Public Services 4.7%
- Infrastructure, Transport and Energy 3.2%
- Other 7.4%

Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October.
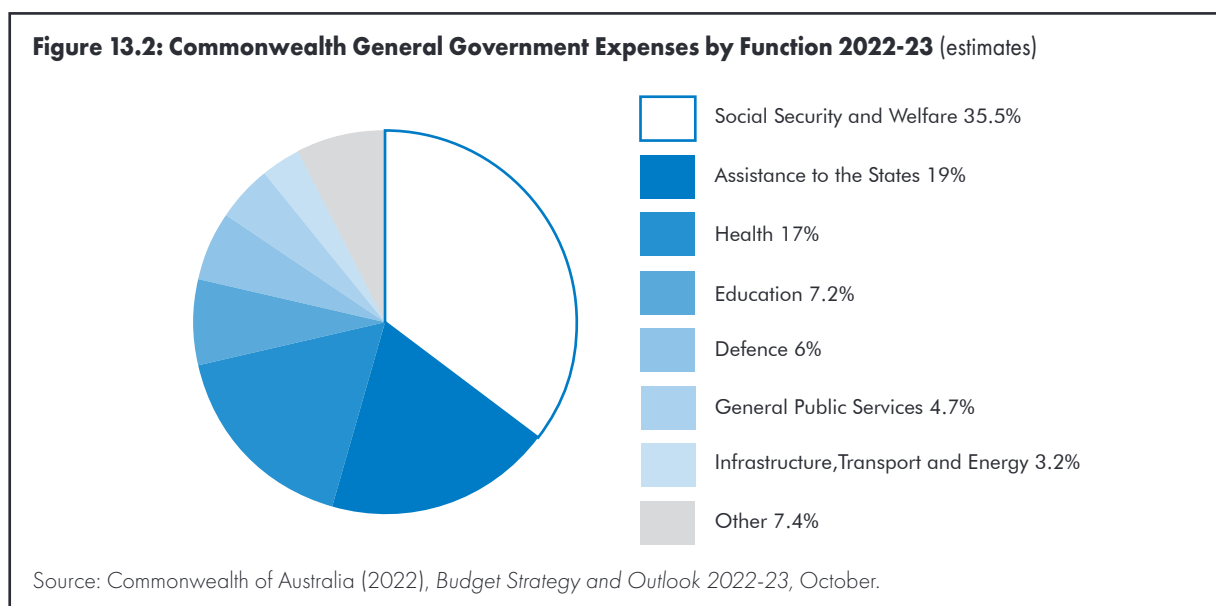
The Redistribution of Income

Tax policy can be used by the Australian government to correct inequalities in the distribution of income and wealth in the economy. For example, higher rates of taxation on high income earners can lead to taxation revenue being redistributed from high to low income earners as transfer payments, and may assist in reducing the incidence of poverty. Income taxes are levied on a progressive scale so that higher rates and levels of tax are paid as income increases to achieve **vertical equity**. All income earners receive the benefit of a tax free threshold, which means that no tax is paid on the first $18,200 of income earnt. Income tax systems can be either progressive, regressive or proportional. In determining the type of tax system analysed, the **average rate of taxation** (ART) and the **marginal rate of taxation** (MRT) are calculated. This is done in **Table 13.4** where the ART and MRT for each hypothetical level of income are calculated for the three tax schemes of A, B and C. The ART refers to the amount of tax payable to the government divided by the total taxable income of a taxpayer, and is expressed as a percentage i.e.

$$\text{Average Rate of Taxation (ART)} = \frac{\text{Tax Payable}}{\text{Taxable Income}} \times \frac{100}{1}$$

$$\text{e.g. The ART on \$4,000 in Tax Scheme B} = \frac{\$200}{\$4,000} \times \frac{100}{1} = 5\%$$

Table 13.5: Hypothetical Tax Schemes of A, B and C

Total Taxable Income	Tax A	ART	MRT	Tax B	ART	MRT	Tax C	ART	MRT
$2,000	$160	8%	------	$100	5%	-------	$400	20%	-------
$4,000	$400	10%	12%	$200	5%	5%	$600	15%	10%
$6,000	$720	12%	16%	$300	5%	5%	$750	12.5%	7.5%
$8,000	$1,120	14%	20%	$400	5%	5%	$800	10%	2.5%
$10,000	$1,660	16.6%	27%	$500	5%	5%	$840	8.4%	2.0%

The MRT is the change in tax payable as one more dollar of taxable income is earnt i.e. $\Delta T/\Delta Y$

$$\text{Marginal Rate of Taxation (MRT)} = \frac{\text{Change in Tax Payable}}{\text{Change in Taxable Income}} \times \frac{100}{1}$$

The MRT in Tax Scheme A for a total taxable income between $4,000 and $6,000 is:

$$\text{Marginal Rate of Taxation (MRT)} = \frac{\$320}{\$2,000} \times \frac{100}{1} = 16\%$$

Progressive, Proportional and Regressive Taxation

In a progressive income tax system the ART and MRT both rise as taxable income increases, and the MRT exceeds the ART as taxable income increases. For example, tax scheme A in **Table 13.4** is progressive because the ART and MRT both rise as income increases and the MRT is greater than the ART. In a proportional income tax system the ART and MRT are equal and do not change as taxable income changes e.g. tax scheme B in **Table 13.5** is proportional. In a regressive income tax system the ART and MRT both fall as taxable income increases, and the MRT is less than the ART e.g. tax scheme C in **Table 13.5** is regressive.

These three types of tax systems are represented in **Figure 13.3**. The notions of progressive, proportional and regressive taxation can also be applied to taxes other than income tax. A progressive tax is one where high income earners pay a greater percentage of their income in tax than do low income earners e.g. income tax, fringe benefits tax and capital gains tax are progressive taxes. A proportional tax is one where all income earners would pay the same percentage of their income in tax irrespective of their income level. A regressive tax is one where high income earners pay a lower percentage of their income in tax than do low income earners e.g. sales tax, customs and excise duties and the GST are regressive.

Figure 13.3: Progressive, Proportional and Regressive Tax Systems
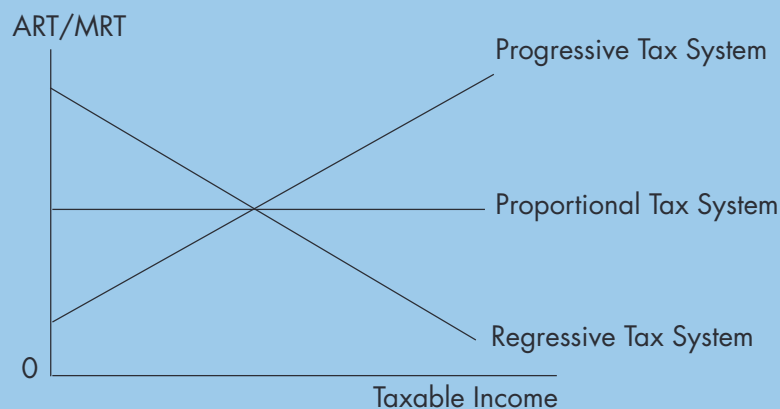
Social Security and Welfare

The majority of social security assistance (see **Table 13.6** for the 2022-23 budget estimates) is paid as direct benefits to recipients and families who satisfy certain eligibility criteria. These payments are indexed to the CPI to maintain their real value but some of these indexation arrangements were paused in the 2014-15 budget. The former Howard government changed the delivery of welfare benefits by co-ordinating them through the Commonwealth Service Delivery Agency of Centrelink, which provides services for the aged, people with disabilities, the unemployed, veterans, low income families, Aborigines and Torres Strait Islanders. Other assistance is provided indirectly through the tax-transfer system including concessional tax rebates for pensioners, dependent spouses, family tax assistance and sole parents. Changes in social policy since 1996 have been aimed at controlling spending on welfare, through greater targeting of beneficiaries by means testing (e.g. low income families); increased incentives for those on welfare to get paid work and utilising their personal assets (e.g. the Retirement Incomes Policy); rationalisation of income support through the Youth Allowance and Parenting Payment; reductions in social security fraud; and support for sole parents, the unemployed and disabled to gain more paid work. In the 2022-23 budget there was an increase in most forms of welfare spending, but government income support during the **COVID-19 pandemic** was substantially withdrawn.

Table 13.6: Expenditure on Social Security and Welfare in the 2022-23 Budget*

Type of Assistance	2021-22	2022-23 Budget (f)	%△
Assistance to the Aged	$76,283m	$85,888m	12.6
Assistance to Veterans and Dependants	$7,480m	$8,232m	10.0
*Assistance to People with Disabilities	$61,040m	$69,257m	13.5
Assistance to Families with Children	$37,375m	$40,656m	8.8
**Assistance to the Unemployed and Sick	$15,866m	$14,006m	-11.7
***Other Welfare Programmes	$16,175m	$2,623m	-83.8
Aboriginal Advancement Programmes	$2,492m	$2,958m	18.7
General Administration	$4,716m	$5,170m	9.6
Total Social Security and Welfare	$221,427m	$228,790m	3.3

NB: Most welfare payments are indexed to inflation with pensions set at 27.7% of Male Total Average Weekly Earnings in the 2010-11 budget. * The projected growth in assistance to people with disabilities between 2021-22 and 2022-23 reflects the continuing introduction of the National Disability Insurance Scheme (NDIS).**In 2022-23 there was a projected decrease in spending on the unemployed because of a falling unemployment rate. *** Other welfare relates to support during COVID-19
Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October.

Stabilisation of Economic Activity

Macroeconomic stabilisation policy refers to the use of government monetary and fiscal policies to achieve the goals of sustainable economic growth, full employment, price stability and external balance in the economy. The government can use monetary and fiscal policies to counter the effects of severe fluctuations in the business cycle such as an inflationary boom or a recession and higher unemployment.

In an inflationary boom the government could use contractionary macroeconomic policies by tightening the stance of monetary policy through the Reserve Bank (RBA). A rise in the cash rate would lead to a rise in the term structure of interest rates, which would discourage spending and slow down the rate of economic growth. This would have a dampening effect on inflation and inflationary expectations. The government could also use fiscal policy by budgeting for a surplus (i.e. G < T) where government

spending (G) is less than taxation revenue (T), causing lower levels of public spending, and a contraction in economic activity to reduce the rate of increase in the price level and inflationary expectations.

In a recession, characterised by unacceptably high rates of unemployment, the government could use expansionary monetary and fiscal policies to stimulate spending and economic growth to reduce the rate of unemployment. The stance of monetary policy could be eased, with the RBA reducing the cash rate to lower the term structure of interest rates. Lower interest rates may stimulate spending, and economic and employment growth. The government could also use fiscal policy to increase its own spending by budgeting for a deficit (i.e. G > T), where government spending (G) exceeds taxation revenue (T). This would stimulate economic activity and help to reduce the level and rate of unemployment.

Public Trading Enterprises

The public trading enterprise (PTE) sector is an important provider of social and economic infrastructure in Australia and contributes revenue to general government in the form of dividend payments from its operations if profits are generated by PTEs. Whilst the general government sector is dominated by the Australian government, state and local governments are more significant in the PTE sector.

During the 1980s the PTE sector engaged in high levels of capital borrowings with associated high levels of debt and interest payments, which added to public sector deficits. Since the late 1980s, with the introduction of the policies of corporatisation, commercialisation and privatisation, the PTE sector has recorded small cash surpluses. There has been a greater emphasis on PTEs operating efficiently and profitably by being more market oriented. This includes providing commercial returns from their operating activities in the form of dividend payments to their federal or state government owners.

PTE privatisations in the 1990s and 2000s have occurred in two main sectors: electricity and gas (e.g. the sale of Victoria's and NSW's electricity assets) and transport and communications (e.g. the sale of Qantas and Telstra). The proceeds from these asset sales were used to reduce public debt and public debt interest. The 1995 *Competition Principles Agreement* between the Australian government and the states provided a framework for an access regime to essential infrastructure facilities to allow more competition in natural monopoly industries dominated by PTEs. Industries exposed to more competition included air transport, telecommunications, gas and electricity. Other measures included the reform of public sector monopolies and the application of competitive neutrality principles to PTEs.

Competition and Environmental Policies

The Australian government uses competition policy set out in the *Competition and Consumer Act 2010* which is enforced by the Australian Competition and Consumer Commission (ACCC), to achieve effective competition in markets. The *Competition and Consumer Act 2010* has provisions which deal with consumer protection, the anti-competitive conduct of firms, access to essential facilities, and mergers and takeovers likely to lessen competition in markets. In 1995 the *Competition Policy Reform Act* was passed by the Australian government, with the implementation of a national competition policy applicable to all government and private sector businesses in Australia. The national competition policy has strengthened the extent of competitive pressure in markets and helped to contain price inflation.

The Australian and state governments control negative environmental externalities through measures such as taxing polluters; issuing licences, quotas or permits to pollute or use environmental resources; and imposing fines on polluters for contravening clean air and water legislation. Governments also use laws and regulations to enforce environmental standards, and economic instruments such as 'user pays' prices for environmental goods. Subsidies are also paid to firms to encourage recycling, and the use of clean technologies and alternative sources of energy in production. In 2007 the Rudd Labor government ratified the *Kyoto Protocol* and committed Australia to reducing its greenhouse gas emissions. Based on the *Garnaut Climate Change Review* the Gillard government introduced a carbon tax of $23 per tonne on July 1st 2012. This tax was repealed by the Abbott government in 2014, which instead adopted a policy of Direct Action to reduce carbon emissions by paying polluters to reduce their emissions. In 2022 the Albanese government committed to reducing emissions by 43% below 2005 levels by 2030.

✎ REVIEW QUESTIONS

ECONOMIC FUNCTIONS OF THE AUSTRALIAN GOVERNMENT

1. What are the economic functions of the Australian government?

2. How can the Australian government reallocate resources in the economy?

3. What are the main criteria used for evaluating a tax system?

4. Distinguish between the tax rate, tax base, direct and indirect taxes and the impact and incidence of taxation.

5. Refer to Tables 13.1 and 13.2 and discuss the main categories of federal government taxation in the October 2022-23 federal budget.

6. Refer to Table 13.1 and Figure 13.2 and discuss the main categories of federal government expenditure in the October 2022-23 federal budget.

7. How does the government redistribute income through the taxation and social security systems?

8. Distinguish between progressive, regressive and proportional taxation.

9. How and why did the government reform the tax system in 2000, 2012, 2016 and 2020?

10. How can the federal government stabilise economic activity by using monetary and fiscal policies? What policies were used to support the Australian economy in 2020 during the COVID-19 recession?

11. What role do PTEs play in the economy? How have governments made PTEs more efficient?

12. What role do competition and environmental policies play in government economic management?

THE FEDERAL BUDGET

The federal budget (such as the October 2022-23 budget in **Table 13.1 on** page 262) is an estimate of Commonwealth revenue (T) and expenditure (G) for the forthcoming fiscal year and is handed down by the Treasurer in federal parliament each year. The budget is an estimate only, and is based on forward projections. The actual budget outcome may vary from the budget projections, because of changes in the level of economic activity and government policy. The use of the federal budget by the government to achieve its economic objectives such as resource reallocation, the redistribution of income and economic stabilisation is known as **fiscal policy**. There are two main components of fiscal policy: the structural or discretionary component and the cyclical or non discretionary component.

The **structural component** of the budget refers to explicit changes in government spending or taxation policies, whilst the **cyclical component** of the budget refers to changes in government spending and/or revenue which are caused by changes in the level of economic activity according to the business cycle.

The stance of fiscal policy can be either expansionary, contractionary or neutral. The three possible budget outcomes usually associated with these stances are illustrated in **Figure 13.4**.

*   **Contractionary fiscal policy** occurs when net government spending is reduced either through higher taxes or reduced government spending or a combination of the two e.g. a budget deficit would be reduced, or a budget surplus increased. The effect of contractionary fiscal policy is to reduce the total level of economic activity and would be used to reduce spending, growth and inflationary expectations, if the economy was experiencing excessive inflation in a boom cycle.

Figure 13.4: Possible Government Budget Outcomes
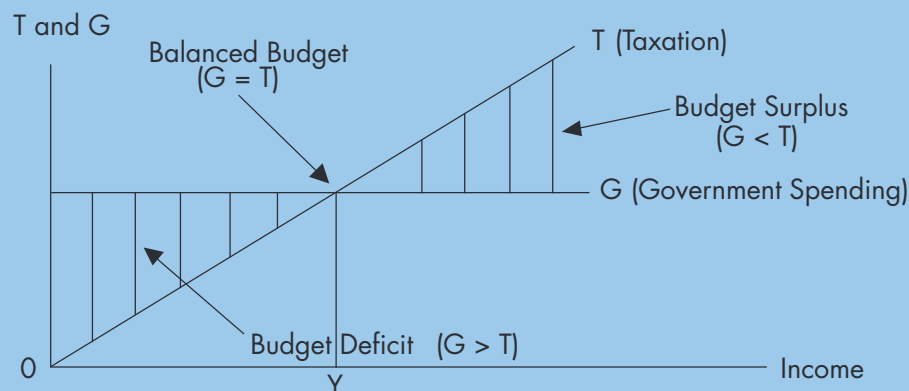
- A **neutral stance of fiscal policy** implies a balanced budget where G = T. Government spending commitments would be fully funded by taxation revenue, although a reduction in government spending matched by a tax cut may not reduce income by the same proportion as a cut in government spending. Taxpayers may save less as well as spend less. The government achieved a balanced budget in 1997-98 through a combination of discretionary cuts in spending, a cyclical rise in tax revenue, and the extra revenue received from the partial privatisation of Telstra.

- **Expansionary fiscal policy** involves a net increase in government spending either through lower taxes or increased government spending or a combination of the two e.g. an existing budget deficit (where G > T) would be increased or a budget surplus reduced. The cyclical component of the budget deteriorated in 2008-09 and 2009-10 because of the impact of the **Global Financial Crisis** through lower tax collections. This also occurred during the **COVID-19 recession** in 2020. The government also undertook explicit spending decisions in 2008-09, 2009-10 and 2020-21 to boost growth, which contributed to an increase in the structural component of the budget deficit.

The Howard government's (1996 to 2007), medium term fiscal objective was to achieve underlying budget balance on average over the economic cycle. This was based on achieving budget surpluses when economic growth was at trend and using these surpluses to retire public debt, which was completely retired in 2005-06. This **fiscal consolidation strategy** was based on cuts in discretionary spending and increased taxation revenue associated with positive economic growth. The Howard government introduced a *Charter of Budget Honesty Act* in 1998 to enhance the transparency and accountability of fiscal policy by requiring governments to set out their medium term fiscal strategy in each budget and to give full economic and fiscal outlook reports at budget time, at mid year, and prior to elections.

Economic conditions changed during the Rudd government's period in office (2007-10) as Australia was affected by the external shock of the Global Financial Crisis in 2008-09. An expansionary stance of fiscal policy was adopted to support aggregate demand and employment. This involved new spending measures such as the *Economic Security Strategy* ($10b) and the *Nation Building and Jobs Plan* ($42b). The increase in discretionary spending together with declining tax revenue led to a larger budget deficit, increasing from -$29.7b in 2008-09 to -$53.8b in 2009-10. It was anticipated that fiscal policy would support economic growth and employment during the Global Financial Crisis, and that the budget would move back into surplus after economic recovery was underway and tax receipts recovered.

Between 2010 and 2013 the Gillard government pursued a **Deficit Exit Strategy** as the economy recovered. It was believed that the operation of the automatic stabilisers, as growth strengthened, would lead to a rise in tax receipts and a fall in government payments, helping to reduce the budget deficit. Between 2016 and 2019 the Turnbull and Morrison governments used a **Budget Repair Strategy** to try and balance the budget and get the budget back into surplus by 2020.

The Government's Medium Term Fiscal Strategy

The former Morrison government's medium term fiscal strategy in 2020-21 was updated to reflect the huge impact of the COVID-19 recession on the budget balance and level of net public debt. The budget deficit and net public debt forecasts were revised down in the 2021-22 budget because of a general economic recovery in 2021. The underlying cash deficit was -$134.2b in 2020-21 falling to -$79.8b in 2021-22, with net debt at $631.5b in 2021-22.

The COVID-19 Economic Recovery Plan - 2020-21

"The Government's Economic Recovery Plan aims to promote employment, growth and business and consumer confidence through:

- Allowing the budget's automatic stabilisers to operate, to support aggregate demand;
- Temporary, proportionate and targeted fiscal support, including through tax measures that incentivise private sector investment to drive productivity and create jobs;
- Structural reforms to improve the ease of doing business and increase the economy's long-term growth potential to create jobs of the future; and
- Continuing to improve the efficiency and quality of government spending.

Progress on the economic recovery will be reviewed at each Budget update. This phase of the Strategy will remain in place until the unemployment rate is below 6 per cent". **Figure 13.5** shows Treasury estimates of the structural budget balance for the government between 2011-12 and 2032-33.

The Government's Economic and Fiscal Strategy - October 2022-23 Budget

The Albanese Labor government elected in May 2022, brought down a new budget (by Treasurer Jim Chalmers) on October 25th 2022, with a new strategy of 'Budget Repair' based on five elements:

1. Allowing the recovery in tax receipts and income support to be directed to budget repair.
2. Limiting the growth in spending until gross debt as a share of GDP is declining.
3. Improving the efficiency, quality and sustainability of government spending.
4. Focusing new spending on investments and reforms in areas such as the labourforce, the productive capacity of the economy and supporting action on climate change.
5. Delivering a tax system that funds government services in an efficient, fair and sustainable way.

Figure 13.5: Estimates of the Structural Budget Balance 2011-12 to 2032-33 (f)
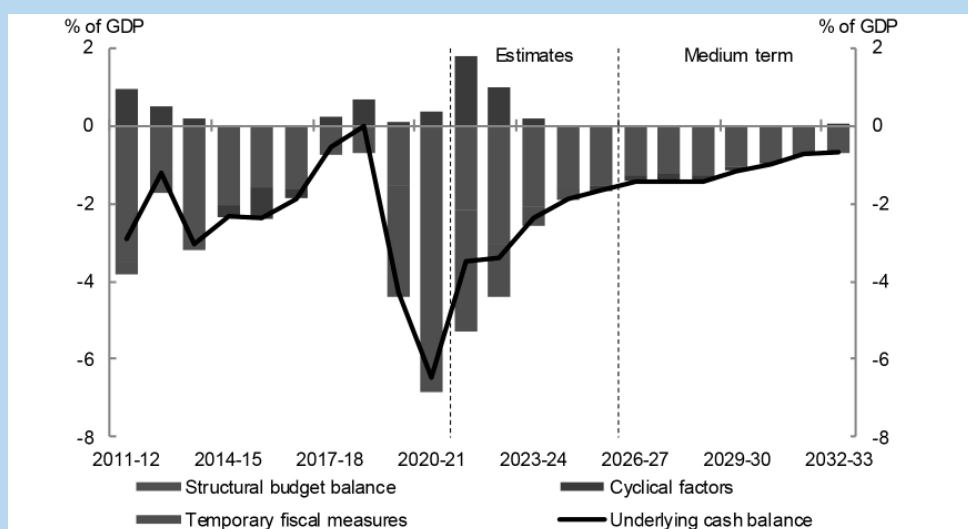
Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October.

CONSTRAINTS ON GOVERNMENT

A number of constraints exist on the Australian government in the conduct of its economic policy: the division of powers under the Australian Constitution; the size of the government's majority in the House of Representatives, and whether it has control of the Senate; international agreements to which the federal government is a signatory; and changes in the domestic and global business cycles.

Constitutional Powers

Under the Australian Constitution, the federal government has exclusive powers over matters which affect the nation such as defence and external affairs. It also has concurrent powers over matters such as taxation and banking which are shared with the states. Any dispute over concurrent powers may be referred to the High Court of Australia for interpretation and adjudication.

Other matters such as the Mabo and Wik legislation in the 1990s (which recognised Native Land Title) may also be referred to the High Court which can endorse or overturn government legislation considered to be in breach of the Australian Constitution. Matters arising from the Australian Constitution such as the call for an Australian Republic by the Australian Republican Movement (ARM) in 1999 or Marriage Equality (2017) can be put to the people through a direct vote in a referendum or a non compulsory postal survey. For a referendum to pass, a majority of voters and a majority of states must pass the referendum motion or motions put to the voting public.

In October 2005 the federal government drafted controversial legislation called *WorkChoices* to deregulate the labour market. This legislation came into effect in March 2006 and was challenged in the High Court by the state governments because it sought to establish a unified national industrial relations system by asking state governments to cede their powers on workplace relations to the federal government. This High Court challenge was unsuccessful as the legislation was held to be constitutional.

Agreements between the state and territory governments and the federal government may also alter the division of powers under the Australian Constitution. Examples include the handing over of taxation powers by the states to the federal government in 1942, and the *Competition Policy Reform Agreement* in 1995, which formalised the payment of dividends to state and territory governments, for implementing the *National Competition Policy Reform Act* at state or territory level. Recent examples include all states and territories signing a Heads of Agreement on National Health Reform in 2011 with the Australian government to improve the funding of public hospitals, and the National Plan for School Improvement (the Gonski reforms) signed by some state governments and the federal government in 2013.

Political Support

The political party, usually with a majority of seats in the House of Representatives, forms the Australian government and initiates legislation in this house. Governments however will be constrained in their ability to pass legislation if they do not have an absolute majority in the lower house or upper house, since legislation must be passed by both houses of parliament to become law. In the 2004 federal election, the Liberal-National Party Coalition won government for a record fourth term, and gained control of the Senate. This resulted in the federal government passing legislation in August 2005 for the sale of the remaining 51% of Telstra despite opposition from the Labor Party. In 2006 the federal government also passed the controversial legislation, *WorkChoices*, to deregulate the labour market.

In 2009, opposition in the Senate by the Liberal-National Party coalition, minor parties and independents prevented the passing of the Rudd Labor government's Carbon Pollution Reduction Scheme (CPRS) to introduce an emissions trading scheme in Australia. In the 2010 federal election the ALP was forced to form a minority government with the support of independents and one Green in the lower house. In addition the Greens gained the balance of power in the Senate. This made it difficult for the Gillard Labor government to have legislation passed without amendments by minor parties and independents.

In the 2013 federal election the Abbott led Coalition won victory and formed a majority government. However the Abbott government did not have control of the Senate. This led to negotiations by the Abbott government with minority parties and independents to have legislation passed by the Senate.

After Malcolm Turnbull replaced Tony Abbott as Prime Minister in 2015, he won a narrow one seat majority in the lower house at the July 2016 federal election. In late 2018 Malcolm Turnbull was replaced as Prime Minister by Scott Morrison who won a narrow majority in the May 2019 federal election. Anthony Albanese led the Australian Labor Party (ALP) to victory at the May federal election in 2022. The ALP formed a majority in the House of Representatives but not in the Senate.

International Agreements

The Australian government is a signatory to various United Nations (UN) conventions dealing with Human Rights, Refugees, the International Law of the Sea, the Biodiversity Treaty, the Convention on Global Warming and Climate Change (the Montreal Protocol and the Kyoto Protocol) and the Protection of World Cultural and Natural Heritage Areas. Australia is also a member of the World Trade Organisation (WTO), the OECD, the Asia Pacific Economic Co-operation (APEC) forum, the Cairns Group, Closer Economic Relations with New Zealand, the USA-Australia defence alliance, the International Labour Organisation (ILO) convention, the International Monetary Fund (IMF) and the World Bank. Government policies are usually framed to be consistent with Australia's international obligations and commitment to these treaties, alliances and conventions.

INFLUENCES ON GOVERNMENT POLICIES IN AUSTRALIA

There are many political parties, pressure groups, interest and lobby groups, and the media which exert varying degrees of influence on government policy through the provision of research, debate in parliament, public debate, lobbying, the media, advertising campaigns and direct political action.

Role of Political Parties

The major and minor political parties at the federal level are the Liberal Party (LP), the Australian Labor Party (ALP), the National Party (NP), the Greens and One Nation. There are also now many so called 'TEAL' Independents. Each party has a platform of policies on a range of political, economic, foreign policy, social, environmental and cultural issues. The extent of each party's political power is determined by their parliamentary representation and influence on debate and voting on legislation. Each party has ideological factions but is generally united on key issues. The LP and NP form a coalition (LNP), with the ALP the other major political party in federal parliament. The Liberal-National Party Coalition held power between 1996 and 2007 under Prime Minister John Howard. It formed governments under Prime Minister Tony Abbott after the 2013 election victory, in 2016 under Prime Minister Malcolm Turnbull, and in 2019 under Prime Minister Scott Morrison.

The Liberal Party has two major factions: the 'dries' who promote market forces and small government; and the 'wets' who promote an active role for government in the economy. The 'wets' were instrumental in a successful leadership challenge by Malcolm Turnbull in September 2015 to replace Tony Abbott as Prime Minister. The ALP has three factions: the Left promotes social justice and government intervention; the Centre Left promotes market forces and social justice; and the Right promotes market forces and smaller government. The ALP won government in 2007 with Kevin Rudd elected as Prime Minister. Kevin Rudd was replaced as Prime Minister in June 2010 in a 'leadership spill' by Julia Gillard and ALP factional leaders. The ALP formed a minority government after the 2010 federal election. Julia Gillard was replaced as leader by Kevin Rudd prior to the 2013 election which the ALP lost and Bill Shorten became the new ALP leader. Bill Shorten was replaced as ALP leader by Anthony Albanese after the election loss to the LNP Coalition in May 2019, but won the election in 2022 and formed government.

Business

Major business lobby groups include the Business Council of Australia (BCA), the Australian Chamber of Commerce and Industry (ACCI), the Confederation of Australian Industry (CAI), the Minerals Council of Australia and the Australian Industry Group (AIG). They attempt to influence government policy on a range of issues such as industrial relations, taxation reform and the conduct of economic policy in seeking more favourable policies towards business activity including less government regulation, lower taxation, more incentives for investment and exports, and industrial relations reform.

Trade Unions

The ACTU is the peak trade union body in Australia and attempts to influence government on industrial relations policy through information campaigns and the debate of industrial relations issues such as controls over trade union power, demands for higher wages and better working conditions and retention of penalty rates. The ACTU is involved in direct negotiations with the federal government over the annual Wage Setting Decision by the Fair Work Commission. It also campaigned actively between 2005 and 2007 through the media and public rallies against the former Howard government's *WorkChoices* legislation to deregulate the labour market and reduce trade union power in the workplace.

Environmental Groups

Groups such as the Australian Conservation Foundation, the Greens, the Wilderness Society, Sea Shepherd and Greenpeace lobby governments on environmental issues such as logging, national parks, land degradation, uranium mining and exports, biodiversity, toxic waste disposal, greenhouse gases and climate change, whaling in the Antarctic and live animal exports. They can influence government environmental policies and legislation through direct political action, public demonstrations and rallies and representation by the Greens or independents in the houses of state and federal parliaments.

Welfare Agencies

Welfare agencies such as the Australian Council of Social Services (ACOSS), the Brotherhood of St Laurence, the Salvation Army and various charity groups lobby the government on matters of social policy including the alleviation of poverty and the effective design of redistributive policies to assist disadvantaged groups and the poor including the unemployed, sick, elderly and low income families.

The Media

Media organisations such as News Corporation, Australian Consolidated Press, Fairfax Media Ltd, television and radio stations and newspaper groups report news and encourage public debate on government policies. They play a major role in influencing public opinion, particularly during election campaigns through news coverage, commentary, debate and editorials. Media owners successfully lobbied the federal government to change the cross media ownership laws and reduce industry regulation.

Interest Groups

Interest groups such as the National Farmers Federation (NFF), Australian Council of Social Services (ACOSS), Aboriginal groups, the Women's Electoral Lobby (WEL), the Australian Conservation Foundation (ACF), Greenpeace, the Australian Medical Association (AMA) and the Australian Republican Movement (ARM) lobby the government on issues affecting their members or supporters. Many interest groups are based on a single issue, whilst other lobby groups pressure the government on a variety of issues affecting their industry or membership. They attempt to change government legislation or pressure the government into introducing new legislation to achieve their aims.

International Influences

International influences on government include the foreign policies of allied governments (such as the USA and Britain) and the treaty obligations of Australia through the United Nations. The federal government's economic policy is influenced by changes in the global business cycle (including technology, trade and investment flows) and the policies of trading partners towards free trade and protection. Major trade agreements such as CER, APEC, the Cairns Group, the WTO and the policies of bodies such as the G7, G20, UN, World Bank and IMF also impact on government policies. Between 2001 and 2022 the Australian government maintained a close relationship with the Bush, Obama, Trump and Biden Administrations in the USA. It signed a free trade agreement with the USA in 2004, supported the USA in wars in Iraq and Afghanistan by sending troops, and supported the US 'war on terrorism'. Australia along with other allies condemned Russia's invasion of Ukraine in early 2022.

Appendix to Chapter 13: Calculation of the Underlying Cash Balance for the 2022-23 Budget

General Government Revenue (T)	
Individual Taxation	$280.1b
Company Taxation	$127.3b
Other Income Tax	$18.7b
Indirect Tax (Sales Taxes incl. GST)	$84.8b
Indirect Tax (Excise & Customs Duties)	$42.8b
Other Indirect Taxes	$9.1b
Non Taxation Revenue	$44.4b
Total Revenue	$607.2b

General Government Expenses (G)	
Social Security and Welfare	$228.8b
Health	$109.7b
Education	$46.3b
Defence	$38.4b
General Public Services	$30.3b
Other Economic Affairs	$68.2b
Other Expenses	$122.4b
Total Expenses	$644.1b

T ($607.2b) **-** **G** ($644.1b)

EQUALS

Underlying Cash Balance/Deficit	-$36.9b

Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October.

NB: Figures use the cash accounting measure, are rounded and may not total exactly

✍ REVIEW QUESTIONS

THE FEDERAL BUDGET, CONSTRAINTS
AND INFLUENCES ON GOVERNMENT POLICIES

1. What is meant by the federal budget and fiscal policy?

2. Distinguish between the structural and cyclical components of the budget outcome.

3. Refer to Figure 13.4 and the text and distinguish between deficit, surplus and balanced budget outcomes.

4. Explain the main elements of the Australian government's COVID-19 Economic Recovery Plan in 2020-21 and the Albanese government's Economic and Fiscal Strategy in the October 2022-23 budget.

5. Discuss the main constraints on the conduct of economic policies by the Australian government.

6. Discuss some of the main influences in the framing of Australian government economic policies.

CHAPTER 13: SHORT ANSWER QUESTIONS

Selected Details of the New Tax Package (effective July 1st, 2000)

Taxable Income Thresholds	Previous MRT	New MRT
0 - $5,400	0	0
$5,401 - $6,000	20%	0
$6,001 - $20,000	20%	17%
$20,001 - $20,700	20%	30%
$20,701 - $38,000	34%	30%
$38,001 - $50,000	43%	30%
$50,001 - $60,000	47%	42%
$60,001 and over	47%	47%

A goods and services tax (GST) of 10% was imposed on all goods and services (from July 1st 2000) except for basic food, council rates, medicines, child care and education. Social security payments rose by 4%.

Refer to the table above of selected details of the government's New Tax Package which was implemented on July 1st 2000 and answer the questions below.   Marks

1. What was the average rate of taxation on $20,000 under *The New Tax System*?   (1)

_____

_____

2. Discuss TWO separate reasons for the government introducing a GST in 2000.   (2)

_____

_____

_____

3. Discuss THREE different reasons for the government's reform of the tax system in 2000.   (3)

_____

_____

_____

_____

4. Explain TWO economic arguments for the government cutting MRTs on taxable income.   (4)

_____

_____

_____

_____

_____

☯ CHAPTER FOCUS ON THE ROLE OF GOVERNMENT

Australian Government Expenditure by Function in 2022-23

All other functions 11.3%
General public services 4.2%
Defence 6.1%
Education 7.1%
Health 16.8%
Social security and welfare 35.3%
Other purposes 19.2%
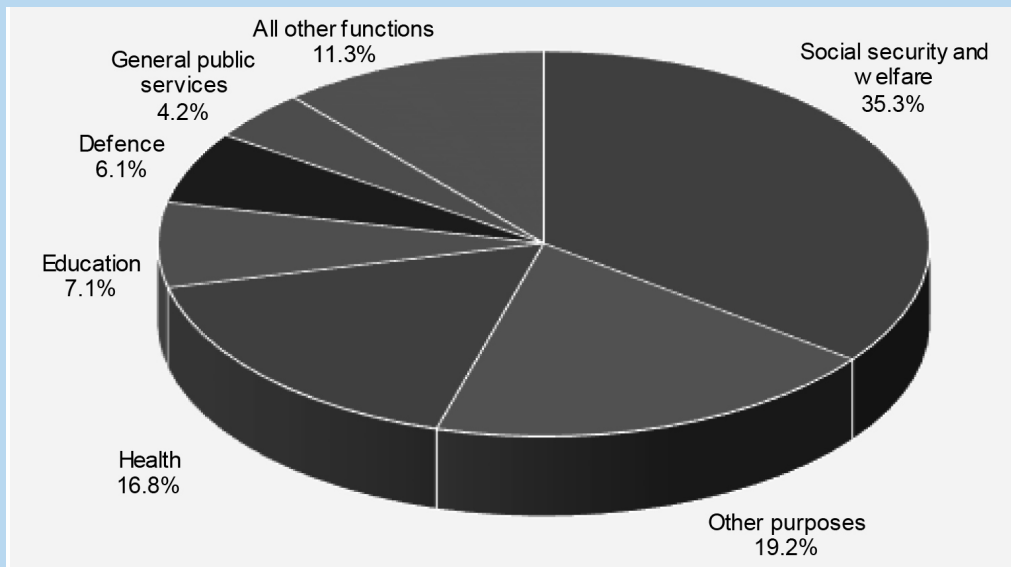
"Government spending provides a wide range of services to the community. The most significant component of government spending relates to social security and welfare, with over one third of total expenses providing support to the aged, families with children, people with disabilities, veterans, carers and unemployed people. Other major areas of government expenditure include health, education, defence and transfers to the States and Territories in general revenue assistance under the other purposes function."

Source: Commonwealth of Australia (2022), *Budget Strategy and Outlook 2022-23*, October, Box 6.1, page 179.

Discuss the main areas of Australian government expenditure in the October 2022-23 budget.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

CHAPTER 13: EXTENDED RESPONSE QUESTIONS

1. Discuss the economic functions of the Australian government. How does the Australian government use the taxation system to redistribute incomes and reallocate resources in the economy?

2. Distinguish between direct and indirect taxation. What are the main types of taxation levied by the Australian government? How does the government use the tax-transfer system to redistribute incomes in the economy?

3. What is the federal budget? How can the Australian government use the budget and fiscal policy to stabilise economic activity? Discuss the main elements of the Australian government's fiscal strategy in 2009-10 in countering the effects of the Global Financial Crisis.

4. Distinguish between balanced, deficit and surplus budgets. Explain the reasons for the Australian government trying to achieve budget surpluses on average over the course of the economic cycle.

5. What were the main arguments for and against reform of the Australian taxation system in 2000? How did the Australian government reform the taxation system in *The New Tax System* in 2000?

6. Discuss the main items of expenditure and revenue in the October 2022-23 federal budget. Explain the main elements of the Morrison government's COVID-19 Economic Recovery Plan in 2020-21 and the Economic and Fiscal Strategy of the Albanese government in the October 2022-23 budget.

7. Distinguish between the cyclical and structural components of the budget outcome. Discuss the impact of the Global Financial Crisis in 2009 on the cyclical and structural components of the 2009-10 budget outcome.

8. What are meant by the automatic stabilisers in the budget framework? Discuss the impact of the COVID-19 recession in 2020 on the cyclical and structural components of the 2020-21 budget outcome.

9. Outline the main sources of Australian government taxation revenue and areas of expenditure in the October 2022-23 federal budget. Explain the Australian government's Economic and Fiscal Strategy in the October 2022-23 federal budget.

✌ CHAPTER SUMMARY

THE ROLE OF GOVERNMENT

1. The Australian government has a number of broad economic functions:

   • The reallocation of resources through changes in taxation and government spending

   • The redistribution of income through changes in taxation and government spending

   • The stabilisation of economic activity through the use of monetary and fiscal policies

   • The provision of goods and services through public trading enterprises (PTEs)

   • The use of competition, environmental and other microeconomic policies to improve efficiency

2. Taxation revenue represents money paid by the private sector (individuals and businesses) to finance the expenditure of the Australian government. The main criteria used to evaluate the effectiveness of a tax or a taxation system are the degrees of equity, efficiency and simplicity.

3. The amount of taxation revenue collected by the government is equal to the tax base multiplied by the tax rate for various types of taxes.

4. The main categories of taxation are direct and indirect taxation. Direct taxes such as PAYG income tax and company tax are paid by those upon whom they are levied. Indirect taxes such as excise and customs duties and the GST are levied on one group of people such as manufacturers, importers and retailers but are usually passed on to consumers who ultimately pay the tax.

5. The impact of a tax is the initial point at which the tax is imposed. The incidence of a tax is the final resting place of the tax or who ultimately pays the tax. In the case of direct taxes (such as PAYG income tax and company tax) the impact and incidence are the same, whereas with indirect taxes (such as excise duty and the GST) the impact and incidence are usually not the same.

6. The main sources of federal government revenue are individual income tax, company tax, indirect taxes, capital gains tax, fringe benefits tax and non tax revenue.

7. *The New Tax System* introduced in 2000 involved the imposition of a 10% GST on most goods and services and reductions in the marginal rates of taxation (MRTs) on income tax. There was a shift away from the heavy reliance on income tax revenue to more reliance on indirect taxation revenue to fund government expenditure. These changes led to a broadening of the tax base and a change in the tax mix. Major tax reforms were also introduced in the 2012-13 budget.

8. The main areas of expenditure of the federal government are social security and welfare, payments to the states, health, education, defence, general public services and other economic affairs.

9. The three main types of income tax systems are progressive, regressive and proportional. In a progressive income tax system, the average and marginal rates of taxation both rise as taxable income rises. In a regressive income tax system, the average and marginal rates of taxation both fall as taxable income rises. In a proportional income tax system the average and marginal rates of taxation are both equal and do not change as taxable income rises.

10. The federal budget is an estimate of what the government plans to collect in revenue and spend in priority areas in the forthcoming financial year. The use of the federal budget by the government to achieve its economic objectives is known as fiscal policy.

11. The three possible stances of fiscal policy are neutral, contractionary and expansionary.

GLOSSARY OF TERMS

AANZFTA: .... ASEAN-Australia-New Zealand Free Trade Area Agreement

ABN: .... Australian Business Number

ABS: .... Australian Bureau of Statistics

absolute poverty: .... income units below some minimum income benchmark in society

AC: .... average cost (total cost divided by output)

ACCI: .... Australian Chamber of Commerce and Industry

accrual accounting: .... accounting for changes in economic value over time

ACTU: .... Australian Council of Trade Unions

ADIs: .... Authorised Deposit Taking Institutions

AFIs: .... all financial intermediaries

AFPC: .... Australian Fair Pay Commission

AFS: .... Australian Financial System

age distribution
of the population: .... composition of the population according to age groups

aggregate demand: .... total level of demand in the economy (i.e. AD = C + I + G + X - M)

AIRC: .... Australian Industrial Relations Commission

All Ordinaries Index: .... index of share price movements on the ASX

ANZSCO: .... Australia New Zealand Standard Classification of Occupations

APC: .... average propensity to consume

APP: .... average physical product (TPP divided by the number of units of labour)

APRA: .... Australian Prudential Regulation Authority

APS: .... average propensity to save

arbitration: .... where an industrial tribunal makes a binding decision on the outcome of an industrial dispute to which conflicting parties must abide by

arc formula: .... averages changes in the quantity demanded or supplied divided by average changes in prices to calculate a price elasticity co-efficient

ART: .... average rate of taxation

ASEAN: .... Association of South East Asian Nations (10 member nations)

ASIC: .... Australian Securities and Investments Commission

assumptions: .... suppositions made about economic behaviour in an economic model

ASX: .... Australian Securities Exchange

ATM: .... Automatic Teller Machine

Australian constitution: .... document outlining the division of powers between the levels of government

autonomous consumption: .... consumption independent of income

autonomous saving: .... saving independent of income

average rate of tax: .... the percentage of gross income payable in tax

AWA: .... Australian Workplace Agreement

award: .... minimum wage and working conditions for a particular occupation or type of work performed

AWE: .... average weekly earnings

AWOTE: .... average weekly ordinary time earnings

backward integration: .... merging or taking over a firm which supplies raw materials for a firm's output

bank: .... business issued with a banking licence to accept deposits and make loans

barriers to entry: .... costs preventing the entry of new firms into an industry

BAS: .... business activity statement

BIS: .... Bank for International Settlements

black market: .... illegal market for trade in goods or services at market prices

blue collar employment: persons employed in manufacturing and trades industries

bond: government debt instrument

boom: the peak of economic activity in the business cycle

BOOT: Better Off Overall Test administered by the Fair Work Commission

borrower: person, business or government borrowing funds in financial markets

borrowing rate: interest rate paid for borrowing funds in financial markets

breakeven income: that level of income where all income is spent (or C = Y) and saving is zero (S = 0)

BRICs: Brazil, Russia, India and China

broad money: M3 plus borrowings from the private sector by AFIs

brokerage: fee or commission charged by stockbrokers to clients for trading shares

budget deficit: budget outcome where government spending exceeds revenue (G > T)

budget surplus: budget outcome where government revenue exceeds spending (G < T)

business cycle: the tendency for economic activity in market economies to oscillate from low to high periods of activity over time

capital accumulation: process by which the capital stock is increased over time

capital gain: financial gain to an investor from the sale of a financial asset at a higher price than the purchase price

capital gains tax: tax applied to the real (inflation adjusted) gains from share/real estate sales

capital goods: the produced means of production

capital/labour substitution: use of capital in place of labour in production

carbon tax (repealed in 2014): tax of $23 per tonne on carbon emissions on the largest polluting companies

cash accounting: accounting only for cash received or paid

cash market: market for cash involving commercial banks and the Reserve Bank of Australia

cash rate: the interest rate paid for overnight borrowing of cash in the cash market

casualisation of labourforce: trend towards outsourcing and the use of casual and part time labour

certificate of deposit: debt instrument sold by banks to depositors

Certified Agreement: former agreement over wages and working conditions negotiated between a trade union and an employer

CGS: Commonwealth Government Securities

CHESS: Clearing House Electronic Sub-register System used by the ASX for trades

choices: alternatives faced in production, consumption and employment

circular flow of income: model of flows of income, resources and output in an economy

climate change: the rise in global temperatures caused by greenhouse gas emissions

collective goods and services: goods and services that satisfy collective needs and wants

collusion: situation of firms agreeing to restrict competition

commercial bill: bill of exchange drawn by one party on another

commercialisation: where PTEs guarantee a rate of return or dividend to their government owners

commission: source of unearned income based on the volume or value of goods, services or assets sold; fee (brokerage) charged by stockbrokers for their services

company tax: tax on company income or profits at a rate of 30%

competition policy: government policy used to achieve effective competition in markets

competitive neutrality: 'level playing field' for PTEs and private firms

complements: goods used jointly in consumption or production

conciliation: where an industrial tribunal attempts to get conflicting parties to agree on a resolution to an industrial conflict

conglomeration: business entity consisting of subsidiaries not always in the same line of production

constitution: document outlining the division of powers between governments

consumer goods: .... goods that satisfy consumer needs and wants

consumer preferences: .... a ranking of consumer tastes for goods and services

consumer sovereignty: .... the ability of consumers to determine the pattern of production and resource allocation through their spending decisions

consumer: .... person purchasing and consuming goods and services

consumption function: .... sum of autonomous and induced components of consumption

consumption schedule: .... table showing levels of consumption at various levels of income

consumption: .... that part of income spent on goods and services (C = Y - S)

contraction in demand: .... fall in the quantity demanded due to a rise in the price of a good or service

contraction in supply: .... fall in the quantity supplied due to a fall in price of a good or service

corporatisation: .... private management structure adopted by a PTE

cost inflation: .... inflation due to rising costs of production such as wages or raw materials

costs: .... the explicit monetary charges incurred by businesses in using resources

Council of Financial Regulators: .... Reserve Bank, APRA, ASIC and the Australian Treasury

CPI: .... consumer price index measure of inflation

CPM: .... Carbon Pricing Mechanism

CPRS: .... Carbon Pollution Reduction Scheme

credit: .... includes loans and advances by financial intermediaries plus total bank bills outstanding

cross elasticity of demand: .... %$\triangle$ in the quantity demanded of good Y divided by %$\triangle$ in the price of good X

CSO: .... community service obligation of a PTE

currency: .... notes and coins held by the private non bank sector

cyclical change: .... changes in economic activity due to changes in the business cycle

cyclical unemployment: .... unemployment due to a downturn in economic activity or aggregate demand

debt market: .... market for trade in debt securities such as mortgage and personal loans

decile: .... statistical interval of 10% of the population, income units or households

decrease in demand: .... shift to the left of the original demand curve

decrease in
labour demand: .... shift to the left of the demand curve for labour

decrease in labour supply: .... shift to the left of the supply curve for labour

decrease in supply: .... shift to the left of the original supply curve

deficit unit: .... investors who invest or spend more than they save out of current income

demand: .... quantity of a good or service consumers are willing and able to pay for

demand curve: .... graph of the demand schedule

demand for cash: .... sum of demands by commercial banks for cash in the cash market

demand for
loanable funds: .... demand for funds by the public over a range of interest rates

demand inflation: .... inflation due to excess aggregate demand in the economy

demand schedule: .... table showing quantities demanded of a good over a range of prices

deregulation: .... removal of government regulations imposed on a market

derivatives market: .... market for trade in financial securities derived from the primary market

derived demand: .... demand for resources derived from the demand for final output

developed economy: .... an economy with high levels of per capita income

developing economy: .... an economy with low levels of per capita income

diminishing returns: .... falling returns to a variable factor such as labour in production

direct finance: .... finance arranged directly between a lender and a borrower

diseconomy of scale: .... increase in average costs of production as output increases

disequilibrium: .... a situation in the circular flow of income where leakages do not equal injections causing fluctuations in income, expenditure, output and employment

disposable income: .... income after tax i.e. D (Y) = G (Y) - T

dissaving: .... levels of debt incurred when consumption exceeds income i.e. when C > Y, saving (S) is negative

distribution of income: .... pattern of allocation of incomes amongst the population

distribution: .... allocation of output and income in an economic system

dividend imputation: .... shareholders are given a tax credit if tax is paid on profits by companies

dividend: .... payment from the profits of a company to its shareholders or owners

downswing: .... a period of falling economic activity in the business cycle

duopoly: .... a market structure with only two firms

earned income: .... income sourced from labour's contribution to production

economic analysis: .... application of economic methodology to economic problems and issues

economic development: .... structural changes in an economy leading to higher levels of economic growth and human development

economic growth: .... increases in the real output or real GDP of an economy over time

economic model: .... abstract theoretical tool used in economics to simplify real world behaviour

economic problem: .... society's unlimited wants in relation to limited or scarce resources

economic prosperity: .... government objectives of output and employment growth and rising incomes

economic system: .... the way in which a society is organised to solve the economic problem

economics: .... a social science involving the study of the scarcity of resources in relation to society's unlimited needs and wants

economies of scope: .... cost savings by firms producing joint products

economy in transition: .... a former socialist economy making the transition from a planned to a market economy

economy of scale: .... reduction in average costs of production as output increases

EFT: .... Electronic Funds Transfer

EFTPOS: .... Electronic Funds Transfer Point of Sale

elastic demand: .... %△ in quantity demanded exceeds %△ in price

elastic supply: .... %△ in quantity supplied exceeds %△ in price

electronic banking: .... use of the internet, ATMs, smart phones and EFTPOS to conduct financial transactions

emerging economies: .... developing or transition economies sustaining high rates of economic growth such as Brazil, Russia, India and China (the BRICs)

empirical testing: .... collection and testing of data in an economic model

employee: .... person employed in a firm in return for the payment of an income or a wage

employer association: .... peak body of employers with a common voice on industrial relations matters

employer: .... person hiring labour services in return for the payment of wages

employment: .... total number of persons employed part time and full time

enterprise bargaining: .... system of wage determination based on productivity improvements and negotiations between employers and employees at the enterprise level

enterprise: .... the risk taking behaviour of entrepreneurs in organising a business for production activities

entrepreneur: .... a person who bears risks in organising and running a business

environmental policy: .... government policy used to control negative environmental externalities

environmental sustainability: .... use of natural resources in the present that does not compromise the ability of future generations to use these resources

equilibrium wage: .... wage determined in a labour market where labour demand equals labour supply

equilibrium: .... a situation in the circular flow of income where injections equal leakages causing output, income and employment to remain unchanged

equity market: .... market for trading in equity securities such as shares, options and rights

ethical decision making: .... decisions made by individuals and firms according to moral and legal principles and accepted community standards

excess demand: .... a situation where demand exceeds supply in a market (i.e. a shortage)

excess supply: .... a situation where supply exceeds demand in a market (i.e. a surplus)

Exchange Settlement
Accounts: ....accounts kept by commercial banks with the Reserve Bank of Australia

exchange:...the process by which resources and final output are bought and sold in markets

excise duty: ....a tax on the manufacture of tobacco, alcohol and fuel products

exports:...goods and services sold to overseas residents

extension in demand: ....increase in demand due to a fall in the price of a good or service

extension in supply: ....increase in supply due to a rise in the price of a good or service

externality:...unintended community consequence of a private action

factor incomes:..................................the payments to the owners of the factors of production

factor markets:...................................markets where productive resources or inputs are bought and sold

Fair Work Act 2009: ....federal legislation outlining 'Forward with Fairness' industrial relations policy

Fair Work Commission: ....national industrial relations body overseeing awards and agreements

Fair Work Ombudsman:.....................national industrial relations body enforcing the *Fair Work Act 2009*

FC: ....fixed cost (i.e. a cost not varying with output such as rent)

federal budget: ....an estimate of federal government spending and revenue for the fiscal year

fee: ....source of unearned income earnt by some professionals for the provision
of services such as doctors, lawyers and accountants

final income:......................................equivalent to disposable income plus the social wage minus indirect taxes

financial deregulation:.......................removal of RBA controls over banks and entry into the AFS in 1983

financial innovation: ....development of new financial products and services such as ATMs and EFT terminals

financial instruments:..........................debt and equity securities traded in financial markets

financial markets: ....markets trading in financial securities (debt and equity)

financial sector:.................................sector of the economy consisting of financial intermediaries which provide a link
between savers and investors

FIRB: ....Foreign Investment Review Board

firm: ....business enterprise producing output usually for a profit

firms sector:.......................................sector of the economy which produces goods and services for profits

fiscal policy: ....use of the federal budget to achieve a government's policy objectives

flat yield curve:..................................yield curve with approximately equal yields for short and long term financial securities

foreign aid: ....official development assistance given by advanced countries to developing countries to
promote their economic development and reduce poverty

foreign exchange market: ....market for trading in foreign and domestic currencies

forward integration:...........................merging or taking over a firm involved in the retailing or wholesaling of a firm's product

fringe benefits:...................................incentives other than wages paid or given to employees such as bonuses

fringe benefits tax (FBT):....................tax applied to non cash benefits of employees such as company cars

full employment:.................................a situation where all resources are fully utilised in production in an economy

full time employment:.........................employees who work an average of 35 hours or more per week

futures market: ....market for trade in derivative financial products such as swaps and options

G20: ....G7 plus 13 other major advanced and emerging economies

GDP : ....Gross Domestic Product

general formula:.................................%$\triangle$ in quantity demanded or supplied of a good divided by the %$\triangle$ in price

geographic mobility: ....ease of workers moving from one job location to another

GFC: ....Global Financial Crisis in 2008-09

Gini co-efficient: ....measure of the degree of income equality in a society

good faith bargaining: ....parties to an enterprise agreement must bargain seriously in their negotiations under the
terms of the *Fair Work Act 2009*

government sector: ....sector of the economy which collects taxes and spends funds in the provision of
collective goods and services and welfare to the community

government spending: ....money spent by the government on the provision of collective goods and services and welfare payments

greenfields agreement:......................enterprise agreement between employers and employees for a new enterprise

gross income: ....income before tax i.e. G (Y) = D (Y) + T

gross investment: ....new or net investment plus replacement investment

GST: ....goods and services tax levied at 10% on most goods and services

HDI: ....Human Development Index constructed by the UNDP

hidden unemployment:......................where persons would work if suitable jobs were available but are not registered as unemployed

HIN: ....holder identification number used in share trading on the ASX

homogeneous goods:.........................goods that are identical substitutes

horizontal integration: ....taking over or merging with a firm engaged in the same stage of production

House of Representatives: ....lower house of the Australian federal parliament

household sector:...............................sector of the economy consisting of consumers of goods and services and the providers of productive resources to firms

human capital: ....skills acquired by labour through training and education

IMF: ....International Monetary Fund

impact of a tax: ....point at which a tax is initially imposed

import duty: ....indirect tax on luxury imports e.g. imported cars

imports: ....goods and services purchased from overseas producers

incidence of a tax: ....final resting place of a tax i.e. the person who ultimately pays the tax

income elasticity
of demand: ....responsiveness of quantity demanded of a good due to a change in income

income tax: ....tax (PAYG) on the personal income of employees or the self employed

income: ....payments for the factors of production

increase in demand: ....shift to the right of the original demand curve

increase in labour demand: ....shift to the right of the demand curve for labour

increase in labour supply: ....shift to the right of the supply curve for labour

increase in supply: ....shift to the right of the original supply curve

indirect finance:.................................finance provided through a financial intermediary

individual workplace contracts:........employment contracts over wages and working conditions between a single employee and their employer

individual demand:............................demand for a good or service by one person over a range of prices

individual supply:...............................supply of a good or service by one firm over a range of prices

induced consumption: ....consumption dependent on levels of income

induced saving:..................................saving dependent on levels of income

industrial action:................................action by employees or employers to withdraw labour or work

industrial dispute: ....withdrawal of labour by employees (e.g. a strike) or work by employers (e.g. a lockout)

industrial relations: ....wages and conditions of work negotiated between employees and employers

industrial tribunal:..............................a court that hears industrial matters e.g. disputes and claims

industry: ....aggregation of firms in a similar field of production

inelastic demand:...............................%△ in quantity demanded of a good is less than the %△ in price

inelastic supply:.................................%△ in quantity supplied of a good is less than the %△ in price

inflation target: ....monetary policy target of 2% to 3% CPI inflation over the economic cycle

inflation:...rate of increase in the general price level over time

inflationary expectations:.................view of future prices based on present and past prices

informative advertising: ....advertising that attempts to disseminate factual information to consumers about goods and services

infrastructure:....................................social overhead capital usually provided by governments such as schools, roads, transport and hospitals to satisfy collective community wants

injection: a source of extra spending and income into the circular flow from investment (I), government spending (G) or exports (X)

interest rate: annual percentage cost of borrowing funds in financial markets

interest: the factor income return to capital

interest group: lobby group attempting to influence government policies

Intergenerational Report: a report in the 2002-03 federal budget which assessed the fiscal implications of population ageing in Australia

internal diseconomy of scale: increase in average costs of production as output increases due to less efficient production methods within the firm

internal economy of scale: reduction in average costs of production as output increases due to more efficient production methods within the firm

international reserves: Australia's holdings of gold, foreign exchange and SDRs by the Reserve Bank

inventory investment: investment in raw materials and unsold goods

inverse yield curve: yield curve that is downward sloping

investment: process by which capital goods are created and accumulated

ITS: Integrated Trading System for the trading of equity securities on the ASX

IPO: initial public offering of shares in the share market for capital raising purposes

Kyoto Protocol: 1998 agreement to limit greenhouse gas emissions

labourforce: percentage of the working age population in employment plus those actively seeking employment but are unemployed

labour market: factor market where labour services are bought and sold

labour: the human effort (physical, intellectual and emotional) put into the production of goods and services

lags: the time between a policy change and its effects on real economic activity

land: natural resources (such as water, minerals and forests) used in production

law of demand: the quantity demanded of a good or service varies negatively with its price

law of supply: the quantity supplied of a good or service varies positively with its price

leakage: funds withdrawn from the circular flow of income such as savings (S), taxation (T) and imports (M)

leisure: time spent relaxing out of work time

lender: intermediary advancing funds to borrowers

lending rate: interest rate charged to borrowers on various types of loans and credit

liability: legal responsibility for business debts

living standards: a measure of a country's access to material goods and services

lockout: employer industrial action to withdraw work from employees

long run: production time period where all factors can be varied

long term security: debt securities with a maturity of over 12 months

long term unemployment: persons unemployed for over 52 continuous weeks

LRAC: long run average cost curve

M1: currency plus transaction deposits with Authorised Deposit Taking Institutions

M3: M1 plus certificates of deposit and non transaction deposits with ADIs

macroeconomics: the branch of economics dealing with aggregate economic behaviour or the economy as a whole

marginal rate of tax: the change in tax payable as gross income changes

market demand: sum of individual demands for a good or service over a range of prices

market economy: type of economic system based on the private ownership of property, freedom of enterprise, self interest and the profit motive

market equilibrium: the situation where demand equals supply

market failure: where market forces fail to allocate resources efficiently

market period: production time period where supply is relatively inelastic

market supply: .... sum of individual firms' supplies for a good or service over a range of prices

maturity: .... lapse of time until a financial security is redeemable

MC: .... marginal cost or change in total cost after producing an extra unit of output

means test: .... eligibility criterion based on a person's income for the receipt of government welfare payments paid by Centrelink

merit good: .... a good undervalued by consumers whose production governments may subsidise or provide directly through a Public Trading Enterprise (PTE)

MFP: .... multi-factor productivity

microeconomics: .... the branch of economics dealing with individual, firm and market behaviour

mixed market economy: .... market economy with limited government intervention

MEC: .... marginal external cost

MNCs: .... multinational corporations

Modern Awards: .... rationalised system of 122 awards administered by the Fair Work Commission

monetary aggregates: .... narrow and broad measures of the money supply such as the M1 and M3

monetary easing: .... lowering of the cash rate by the Reserve Bank of Australia (RBA)

monetary policy: .... action by the Reserve Bank of Australia to affect the cost of credit in the economy to achieve its economic objectives

monetary tightening: .... raising of the cash rate by the Reserve Bank of Australia

money base: .... currency plus the Reserve Bank of Australia's liabilities

monopolistic competition: .... a market structure of many sellers of a slightly differentiated product

monopoly: .... a single producer in a market with no close substitutes for its product

mortgage loan: .... a loan secured by real property

MPB: .... marginal private benefit

MPC: .... marginal private cost

MPC: .... marginal propensity to consume

MPP: .... marginal physical product (change in TPP)

MPS: .... marginal propensity to save

MRT: .... marginal rate of taxation

MRRT: .... Minerals Resource Rent Tax

MSC: .... marginal social cost

multi-enterprise agreement: .... agreement between two or more employers and a group of employees or a trade union representing a group of employees

NAIRU: .... non accelerating inflation rate of unemployment

natural increase: .... population growth due to the excess of live births over deaths

natural monopoly: .... a firm able to supply an entire market with its existing plant size

NBFIs: .... non bank financial intermediaries

needs: .... basic desires for goods and services needed for survival such as food

NES: .... National Employment Standards

net investment: .... gross investment minus an allowance for depreciation of the capital stock

net migration: .... population growth due to immigration exceeding emigration

net or disposable income: .... income remaining after tax has been paid

neutral budget: .... a budget outcome where government spending equals revenue (G = T)

newly industrialising
economy: .... an economy that develops an industrial base and sustains high rates of growth in output and incomes such as Singapore, Korea, Taiwan and Hong Kong

NFPS: .... non financial public sector

NMW: .... National Minimum Wage administered by the Fair Work Commission

non renewable resources: .... natural resources not capable of reproduction

normal yield curve: .... yield curve that is upward sloping

NYSE: .... New York Stock Exchange (Wall Street)

occupational mobility: .... ease of workers moving from one occupation to another

OECD: .... Organisation for Economic Co-operation and Development

offshoring: .... relocation of manufacturing and service based activities to another economy

oligopoly: .... a market structure where there are only a few large sellers or firms

'on costs' of labour: .... costs other than wages in hiring labour such as workers' compensation payments and superannuation

OPEC: .... Organisation of Petroleum Exporting Countries

open market operations: .... buying and selling of AGS by the Reserve Bank of Australia

opportunity cost: .... the cost of the alternative foregone in using resources

option: .... the right to buy or sell a financial security in the future

ordinary time: .... time worked in normal hours, usually 35 hours per week

outsourcing: .... where a firm pays another firm to produce some of its output

overseas sector: .... sector of the economy consisting of firms which engage in the export and import of goods, services and financial assets

overtime: .... hours worked above ordinary time of 35 hours per week

part time employment: .... persons working more than one hour per week but less than 35 hours per week

participation rate: .... percentage of the working age population in work or actively looking for work

partnership: .... a business with 2 to 20 owners

PAYG: .... pay as you go income tax

penalty rates: .... higher than ordinary wage rates paid to labour for shift or weekend work

pension: .... source of income paid by the government to those unable to work e.g. the aged, sick, disabled and veterans

per capita income: .... average income per head of population

perfect competition: .... a market structure with many buyers and sellers of a homogeneous product

perfect elasticity: .... the elasticity co-efficient is equal to infinity

perfect inelasticity: .... the elasticity co-efficient is equal to zero

persuasive advertising: .... advertising that attempts to gain brand loyalty from consumers by appealing to emotions rather than facts or information about the product or service

planned economy: .... type of economic system based on government ownership of resources and the planning of output and exchange such as North Korea and Cuba

planning priority: .... industry given priority in production under socialist planning

planning target: .... an output target set by central planners in a socialist economy

PNFCs: .... public non financial corporations

point formula: .... change in quantity demanded or supplied divided by the change in price

policy interest rate corridor: .... lending and deposit rates above and below the cash rate set by the RBA

poverty: .... a situation where persons or households receive less income than is needed to remain above a pre-determined poverty line

precautionary motive: .... holding money to guard against unforeseen events such as unemployment

price ceiling: .... maximum price established by the government in a market below equilibrium

price control scheme: .... government scheme to fix a maximum price for a good

price elasticity of demand: .... %△ in the quantity demanded of a good divided by the %△ in price

price elasticity of supply: .... %△ in the quantity supplied of a good divided by the %△ in price

price floor: .... minimum price established by a government in a market above equilibrium

price maker: .... a firm which has the market power to alter its price

price mechanism: .... allocative device in market economies involving the forces of demand and supply in determining prices and output and the allocation of resources

price stability: .... monetary objective of low inflation

price support scheme: .... government scheme to fix a minimum price for a good in a market

price taker:...a firm which has little market power and must accept the market price

prices: ....relative values of goods and services and resources in monetary terms

primary industry: ....sector of the economy involving the extraction of raw materials

primary market:.................................financial market where newly listed financial securities are traded

private good:......................................goods which are rival and excludable in consumption

privatisation: ....sale of public assets to the private sector

producer: ....person or firm producing goods and services for sale to consumers in markets

product differentiation: ....where goods in markets have slight differences from each other

product markets:................................markets where final consumer goods and services are bought and sold

production possibility
curve: ....graph of the production possibility schedule

production: ....any economic activity directed towards the satisfaction of needs and wants

productivity of labour: ....output per labour input over time

productivity:.......................................output per unit of input over time

profit maximisation:............................assumption that producers attempt to maximise the greatest positive difference between total revenue and the total cost of production

profit:..factor income return to the entrepreneur for risk taking

progressive tax:.................................tax regime where the ART and MRT rise as income rises

property rights:..................................a system of private ownership of resources and assets in market economies

proportional tax: ....tax regime where the ART and MRT are equal and do not change as income rises

proprietary company: ....incorporated business with 1 to 50 owners

prudential supervision: ....regulatory system to ensure financial system stability

public company: ....incorporated business with 3 to an unlimited number of owners

public good:......................................goods which are non rival and non excludable in consumption

quality of life:.....................................refers to non material aspects of a person's standard of living such as health

quintile: ....statistical interval of 20% of the population, income units or households

rate of return:....................................required rate of return on invested funds

RBA: ....Reserve Bank of Australia

real interest rate:...............................the nominal interest rate minus an allowance for inflationary expectations

recession:...the trough of economic activity in the business cycle

regressive tax: ....tax regime where the ART and MRT fall as income rises

relative poverty: ....income units below an average standard of living in the community

renewable resources: ....natural resources capable of reproduction

rent: ....the factor income return to land

replacement investment:....................investment to replace worn out or obsolete capital goods

Reserve Bank of Australia: ....Australia's central bank and banker to the federal government

resource allocation: ....the way in which resources are used in production

resources:...land, labour, capital and enterprise used in production

restructuring: ....where a business changes its production methods and activities and the allocation of labour and other resources to improve its efficiency

retrenchment:.....................................loss of employment due to restructuring in an industry or the workplace

revenue: ....the price multiplied by the quantity of a good or service sold

royalty:..source of unearned income based on the sale of intellectual property rights

RTGS: ....Real Time Gross Settlement in the cash market

sales tax:...former indirect tax on the retailer or wholesaler of some goods

saving:...that part of income not consumed (S = Y - C)

savings function:.................................sum of autonomous and induced components of saving

savings schedule: ....table showing levels of saving at various levels of income

scarcity:...a situation where resources are insufficient to satisfy all wants

SDRs: ....Special Drawing Rights with the IMF

secondary industry: ....sector of the economy involving the manufacture of goods

secondary market: ....financial market for trade in existing financial securities

Senate: ....the upper house of the Australian federal parliament

SFE: ....Sydney Futures Exchange

share: ....unit of ownership (equity) in a listed or unlisted company

short run: ....production time period with fixed and variable factors

short term money market: ....market for cash involving the Reserve Bank of Australia and commercial banks

short term security: ....debt security with a maturity of less than 12 months

shortage of labour: ....a situation where labour demand exceeds labour supply

shortage: ....a situation where demand exceeds supply in a market

single enterprise agreement: ....agreement between a group of employees or a trade union and a single employer

social policy: ....government policy designed to create a fairer distribution of income by providing a safety net for low income earners

social security: ....social safety net payments by the government to low income earners

social wage: ....government spending on public housing, health, education and transport

social welfare: ....payments made by the government to persons who are unable to work or find suitable work (and are unemployed)

sole trader: ....a business with unlimited liability and one owner/manager

speculative motive: ....holding money to take advantage of investment returns

stockbroker: ....agent who buys and/or sells securities/shares for clients

strike: ....employee industrial action through the withdrawal of labour

structural change: ....change in the structure of production and technology in industry

structural unemployment: ....unemployment due to a mismatch of labour skills with the jobs available

sub contracting: ....where a large contract of work is broken into smaller units

substitutes: ....goods that can be used in place of each other in consumption or production

supply: ....quantity of a good or service firms are willing and able to supply

supply curve: ....graph of the supply schedule

supply of cash: ....total supply of cash by the Reserve Bank of Australia in the cash market

supply of loanable funds: ....funds available for lending to potential borrowers

supply schedule: ....table showing quantities of output supplied by firms over a range of prices

surplus: ....a situation where supply exceeds demand

surplus units: ....savers with surplus funds to lend in financial markets

swap: ....derivative security involving an exchange of financial obligations in the future

tax avoidance: ....legal minimisation of taxation liabilities

tax base: ....items which are taxed such as income and consumption

tax evasion: ....illegal non payment of taxation liabilities

tax impact: ....refers to the initial point of application of a tax

tax incidence: ....refers to the person or group who pays a tax

tax mix: ....the proportion of tax revenue accounted for by direct and indirect taxes

tax rate: ....percentage of income or expenditure payable in tax

tax reform: ....changes to the tax system to improve incentives, efficiency, simplicity and equity

tax transfers: ....funds redistributed by the government from taxation revenue as welfare payments or cash benefits to low income earners such as pensions

taxation: ....compulsory payment to the government (from current income or consumption) from the private sector to finance government spending

TC: ....total cost (i.e. the sum of fixed and variable costs)

technical optimum:............................minimum point on the long run average cost curve (LRAC)

term structure of
interest rates:......................................relationship between short and long term interest rates

tertiary industry: ....sector of the economy involving the sale of goods and services to consumers

total outlay formula:...........................use of changes in total outlay (total revenue) in response to price changes to measure the price elasticity of demand

TPP: ....total physical product (i.e. total output)

TR: ....total revenue (i.e. price multiplied by the quantity sold)

trade union: ....a group of employees using collective action to achieve wage and employment outcomes

transactionary motive: ....holding money to finance current expenditure on goods and services

Treasury: ....federal government department responsible for the budget and fiscal policy

treasury note:.....................................short term debt security issued by government

underclass:..group of persons in society either unemployed or receiving low wages who struggle to achieve minimum standards of living

underemployment: ....where persons working part time or casually may want full time work

unearned income:...............................income sourced from rent, interest, profits and dividends

unemployment rate: ....percentage of the labourforce not in work but actively seeking work

unemployment:...................................people willing and able to work but are unable to find suitable employment

upswing: ....a period of rising economic activity in the business cycle

VC: ....variable cost of production (i.e. a cost varying with output) such as wages

vertical integration: ....taking over or merging with a firm in a different stage of production

wage rate: ....hourly rate of pay for labour services

wage relativities: ....differences in wage levels between occupations and industries

wages: ....the payment for the use of labour resources in production

wants:..human desires for goods and services

welfare payments:..............................source of income paid by governments to those unable to earn sufficient market income

white collar employment: ....persons employed in the services sector of the economy

wholesale sales tax:............................tax formerly applied at different rates to the sale of a range of products

work: ....paid and unpaid production activities by persons

WorkChoices: ....legislation (2006) to deregulate the labour market

workforce:..total of persons employed and unemployed

working age population:.....................percentage of population in working ages i.e. between 15 and 64 years

working poor:......................................minimum wage earners receiving low incomes who experience a low standard of living

Workplace Relations Act 1996: ....legislation outlining the laws governing industrial relations

Workplace Relations
Amendment Act 2006:.......................WorkChoices legislation further reforming the system of industrial relations

Workplace Relations
(A Stronger Safety Net)
Amendment Act 2007: ....legislation to strengthen safety net provisions in the industrial relations system

Workplace Relations
(Transition to Fairness)
Amendment Act 2008:.......................legislation to strengthen the award safety net, prohibit new AWAs and encourage a movement to collective bargaining by trade unions and employers

yield curve:...curve showing yields on financial securities based on the time to maturity of such financial securities

yield: ....percentage return on a financial asset bought at the market price

youth allowance: ....payment made by the government to young people unable to earn market income and who satisfy a means or eligibility test

INDEX

Adam Smith
(1723-1790)

Adam Smith is often regarded as the founder of modern economic thought. He wrote *The Wealth of Nations* in 1776, which was the first comprehensive attempt to explain the process of economic growth and the reasons for the differences in economic development between nations.

The Wealth of Nations

Adam Smith founded the Classical School of economics which dominated for the next one hundred years. He wrote *The Wealth of Nations* during the early stages of the Industrial Revolution in Britain where he observed the capitalist system in operation. Technological advances had allowed the development of small and large factories which saw the emergence of two new social classes: industrialists (manufacturers) and employed labourers.

Classical economics was concerned mainly with explaining the causes of economic growth and identifying the economic system which would maximise growth. Later Classicists (such as Ricardo) studied the distribution of income between social classes. There were a number of ideas that were central to Classical economic thought:

- Wealth was accumulated by society through the process of economic growth.
- Markets and individual self interest promoted the economic wellbeing of society.
- Economic growth was best promoted by minimal interference by the government in markets.
- Free trade was beneficial to consumers because it led to more choice and lower prices.

Smith's belief that the combined forces of self interest and competition perform a co-ordinating role in markets by matching resource allocation with consumer demand remains a central idea of economics. This view is a rationale for present day microeconomic reform policies.

Smith's emphasis on the key roles played by labour productivity, capital accumulation, the profit motive and free international trade in promoting economic growth is also shared by modern economists.

Alfred Marshall
(1842-1924)
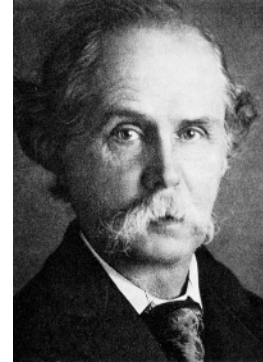
The Theory of Demand

Alfred Marshall's *Principles of Economics* (1890) used the methodology of abstraction and partial equilibrium analysis to develop a comprehensive theory of microeconomics. He translated the law of diminishing marginal utility into terms of price. This led to the derivation of demand curves and the law of demand: the amount demanded increases with a fall in price and diminishes with a rise in price. Marshall also developed the idea of consumer surplus, where a fall in price could lead to a rise in a consumer's real income.

The Theory of Production

Marshall's theory of production analysed the behaviour of costs, supply, the pricing of productive inputs, and the determination of factor income returns. In the long run production period, Marshall envisaged industries which could experience either constant, increasing or decreasing returns to scale, as all the factors of production could be varied. Marshall's analysis of market behaviour assumed competitive conditions where industry supply curves could be either upward sloping, downward sloping or horizontal, depending on whether internal and external economies or diseconomies of scale were being experienced by the firm.

The Theory of Price Determination

The most important contribution Marshall made to economics was his view that the interaction of costs of production and marginal utility determined market prices. He constructed demand and supply curves to illustrate price determination and used short and long run cost curves to depict price and output in competitive industries and for competitive firms as well as for monopolies.

Marshall's great contribution to political economy was his synthesis of microeconomic theory using partial equilibrium analysis. He believed in a free market system of the allocation of resources like Smith and Ricardo.