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HSC Economics

HSC Economics Topic 3
Economic Issues

Lesson 1

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HSC Economics Topic 3: Economic Issues

Lesson 1

Syllabus Dot-points covered:

- All of the Economic Growth topic

Economic growth

- Economic growth refers to an increase in the real value of goods and services that an economy produces over a period of time.
- Measured by changes in **Real GDP** (the national output of goods and services adjusted for changes in prices over time).
    - Real value refers to one which has been adjusted for inflation.
    - Real GDP provides a more accurate snapshot of economic performance, and a point of comparison between years.
- Increase in the rate of economic growth provide the means by which a country can raise its level of income and material standard of living.

Aggregate demand and its components: Y=C+I+G+X–M

- **Aggregate demand** is a measure of the total level of expenditure in the economy. This is the sum of consumption (C), investment (I), Government expenditure (G) and net exports (X-M).
- **Aggregate supply** (Y) is a measure of the economy's total productive capacity.
- According to Keynesian economics, aggregate demand is the most important influence on the economy's output (GDP) in the short run.

$AD = C + I + G + (X - M)$	$Y = C + S + T$
WHERE: **AD** = aggregate demand **C** = consumer spending by households **I** = investment spending by businesses **G** = government spending **X** = export revenue **M** = spending on imports	**WHERE:** **Y** = aggregate supply or national income **C** = consumer spending by households **S** = saving by households **T** = taxation by the government

Derivation of AD equation

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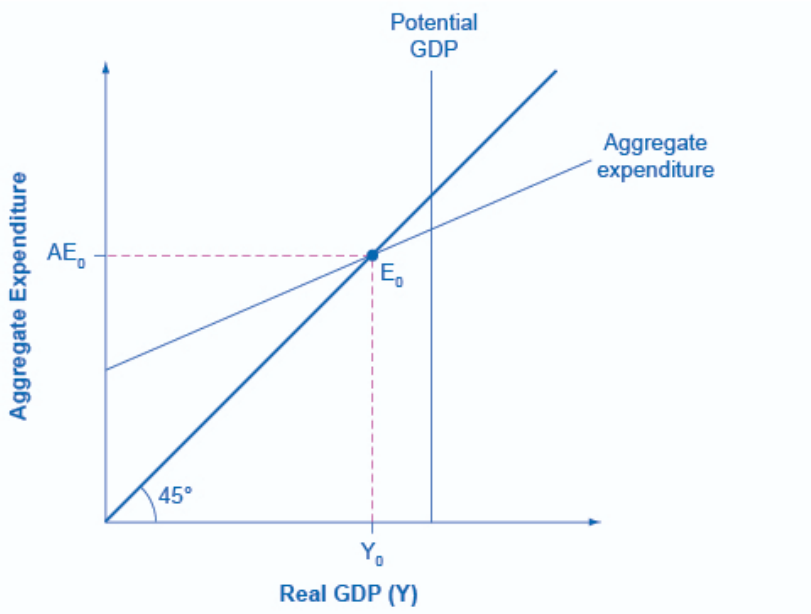
Equivalency of income, expenditure, and output at equilibrium:

- When the economy is at equilibrium (defined as the point at which there is no tendency to change)



  - **Y = E = O** (total value of income = total expenditure = total value of output received by the owners of productive resources in the economy)
- At equilibrium, Aggregate demand will equal aggregate supply:
  - **AS = AD**
  - **Y = C+I+G+X-M**

The consumption function

$C = C_o + cY$

- Y = income
- C = total consumption expenditure
- C_o = autonomous consumption expenditure
- c = marginal propensity to consume (MPC) = $\Delta C/\Delta Y$

The savings function

$S = -C_o + sY$

- S = total saving
- $-C_o$ = autonomous consumption
- s = marginal propensity to save

The investment function

$I = I_o$

- I = total level of investment expenditure by firms
- I_o = level of autonomous investment expenditure by firms

- Investment is spending by business firms on new capital goods used to increase productive capacity.
- Assumed to be autonomous as factors other than income (e.g. cost of capital, returns on capital, profit, business expectations etc) influences investment decisions.

Injections and withdrawals (I+G+X; S+T+M)

- Change in leakages and injections influences the level of economic activity
- If injections are greater than leakages, the economy will grow
- If leakages are greater than injections, the economy will contract

The simple multiplier: k = 1/(1–MPC)

- The multiplier effect is a process that causes an initial increase in AD to result in a multiplied (larger) final impact on output.

How does the multiplier effect work?

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- The multiplier is given by:

$$k = \frac{1}{1 - MPC}$$

$$k = \frac{1}{MPS}$$

Note that the two equations are equivalent since MPC+MPS=1.

Note how this equation suggests that the multiplier is higher when MPS is lower.

Total increase in output generated by an initial increase in AD:

$$\Delta Y = k \times \Delta AD$$

- This equation will work for both an increase and decrease in AD.

Past exam question (HSC)

1. In a hypothetical economy, MPC = 0.9.

   What is the change in national income if investment declines by $100 million?

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Measurement of growth through changes in real Gross Domestic Product

- Economic growth is measured by changes in real GDP over time.
- Real GDP measures the value of all goods and services produced in an economy over a period of time, adjusted for changes in the price level.

How to calculate economic growth given real GDP:

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How to calculate economic growth given nominal GDP and CPI:

	Nominal GDP	CPI
Year 1	500	100
Year 2	560	105

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Sources and effects of economic growth in Australia

Sources of economic growth (AD = C + I + G + X – M)

- Consumption
- Investment
- Government Expenditure
- Exports and Imports

Consumption

- Consumption makes up 60% of AD.
    - Usually, this is the main source of economic growth in Australia.
- **$C = C_o + cY$**
- Main factor is income: higher incomes allow households to purchase more goods and services. Also increases with the marginal propensity to consume.

Factors affecting this:

- **Consumer expectations**: Consumers would spend more if prices are expected to rise, higher real incomes were expected, or they expected future shortage of goods.
- **Level of interest rates**: Higher interest rates increase the returns on savings, thus reducing consumption. Vice versa.
- **Distribution of income:** The more equitable the distribution of income, the higher the aggregate consumption and vice versa. This is because lower incomes earners have a higher average propensity to consume.
- **Level of taxation:** Higher consumption taxes such as the GST will discourage consumption.

Investment

- Investment is the expenditure by firms on capital with the aim of making profits.
- Makes up around 20% of AD in Australia.

Influenced by:

- **Cost of capital equipment**:
    - **Interest rate:** Fall would make it cheaper to borrow. Rise would raise borrowing costs. Interest rates represent the opportunity cost of firms owning capital.
    - **Government policies**: Related to investment allowances and tax concessions. e.g. if businesses can claim higher rate of depreciation on capital equipment, this would reduce tax liability and make capital cheaper.
    - **Price and productivity of labour**: Labour is a substitute for capital. Higher wages result in firms using capital instead of labour, resulting in higher investment.
- **Business expectations**: ('animal spirits' - entrepreneurial)
    - **Expected demand for products:** Expected future increase would cause purchasing of capital to boost production and satisfy this demand.
    - **General economic outlook** - If outlook was of strong economic growth and prosperity, entrepreneurs would invest in capital equipment as they feel risks of expanding were declining. This is linked to Keynes' 'accelerator' effect – higher GDP growth creates expectations of greater profits which increases investment.
    - **Inflation** - causes uncertainty of future prices and costs production, leading to reduced investment
- **Level of business profits:** Higher profits can be re-invested in capital equipment, resulting in higher I.

Government expenditure

- Government expenditure refers to spending on current goods and services by the federal, state, and local governments. G makes up around 20-25% of AD in Australia.
- Fiscal policy is used to maintain a strong and stable rate of economic growth.
- G is affected by **automatic stabilisers**, as well as by **discretionary fiscal policy**.
- Automatic stabilisers refer to components of the Budget that change with the business cycle, having a counter-cyclical effect. Australia's **progressive income tax system** will collect higher revenues during a period of higher economic growth, resulting in lower disposable incomes and lower consumption. A period of higher economic growth is associated with lower unemployment, resulting in lower expenditure on **unemployment transfer payments.** These automatic stabilisers would decrease AD during an economic boom and vice versa.

Exports and imports

- They each make up around 20-25% of AD. Australia's net exports fluctuate around -1.5% of GDP.
- When export revenue = import spending, AD is unchanged
- **Overseas and domestic income**: increasing overseas income causes a rise in exports. Increasing domestic income causes a rise in imports
- **Exchange rates**: Weaker exchange rates means domestic industries are more competitive and products have greater appeal. Vice versa
- **Consumer tastes and preferences**

Increases in aggregate supply – improvements in efficiency and technology

Define the term 'aggregate supply'.

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Define the term 'aggregate demand'.

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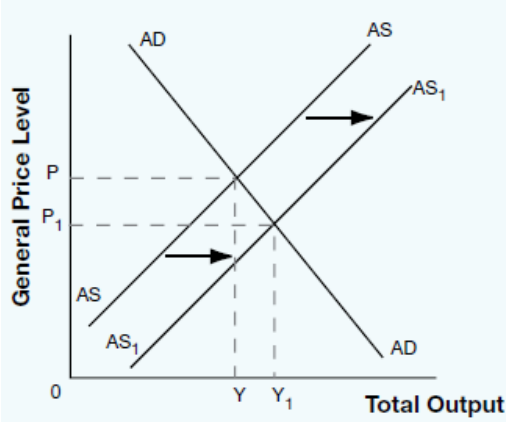

Graphical Representation

An increase in AS:

- Increases total output (economic growth)
- Reduces general price level (inflation)

Note that the X-axis can also be labelled GDP or National Income

Higher aggregate supply is achieved through:

- **Workers acquiring new skills** causing higher **productivity -** highly trained doctors diagnose illness more quickly and treat them more effectively. Also, firms may be using more **efficient work practices and the latest technology** to raise labour and capital productivity; higher **education**; use of **more resources** (immigration of skilled labour to increase the size of the workforce and more investment in resource projects)
- **Adoption of new technology** - Improved production methods to cut costs and increase output e.g. internet to place orders and make queries online saves cost of regular sales agents therefore reducing labour costs

- **Measures to improve efficiency** - Optimising production techniques or use of new methods e.g. international standards for size of shipping containers adopted by transport industry meant containers could be carried on all forms of transport (rail, road, ships) without shifting freight between different size containers
- **Discovery of new resources** - new mineral and metal deposits exploited to increase exports and increase economic growth
- **Population growth** - Increase in population increases workers available and allows the economy to produce more goods and services
- **Increased capital** - Investment in capital equipment that efficiently replaces labour will increase the capacity of the firm to produce goods
- **Government policies** - Removing rules and regulations in an industry may increase incentives for firms to be more efficient and may lead to increase in production of goods and services. Reduction in tariffs and barriers of trade; relaxation of barriers to international investment; changes to the structure and rates of taxation; domestic competition policy reforms; reforms in financial, labour and product markets causing improving efficiency of resource allocation in the long term.

There are 3 types of potential **efficiency** gains from microeconomic reforms:

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Effects of economic growth

Positive Effects

- **Living standards**: Increased real GDP per capita. Increased real wages - leading to higher disposable income and higher material living standards. e.g. purchases of more good goods and services to material wellbeing (better standards of nutrition, housing, clothing, education, health care, transport and recreation).
- **Employment**: Creates employment. Changes nature of jobs available (countries with higher economic growth create more highly paid and highly skilled jobs). Also, may decrease underemployment (workers switch from part time to full time, enjoying a rise in real income). Also lowers cyclical unemployment (higher demand for g/s leads firms to increase their demand for labour as an input into production (derived demand).
- **Investment** - leads to higher I as business expectations improve. This generates additional eco growth, as well as expanding an economy's long run capacity. Also, higher economic growth can have an **accelerator** effect on net investment (expectations of higher economic growth encourages even more investment).
- **Higher level of savings** in both public and private sectors - in private sector, increases in real income can lead to a rise in the household savings ratio (e.g. rose to 11% in 2012 during the peak of the mining investment boom). This allows households to reduce debt and save for retirement. Businesses can increase savings due to higher levels of economic growth. This comes from retention of business profits, which provide funds for future investment in productive capacity

- **Higher rates of productivity growth and technological progress** - Arises from efficient resource use, as producers are able to reduce production costs by using profits to innovate in keeping pace with rising demand for goods and services. Higher productivity is linked to wages growth in the long-term.
- **Increasing taxation revenue** for the government - known as **growth dividend**. This taxation revenue can be used to fund social and economic infrastructure, social security and welfare system for the provision of income support to the aged, sick, disadvantaged and unemployed
- **Protection of the environment** - May allow some resources to be released from current production for protection of environment. Increased leisure time and higher incomes may lead to more concern for protection of natural resources, including endangered species and rainforests, the minimisation of pollution and the rate of climate change through use of pollution abatement schemes (e.g. cleaner technologies and a system of tradeable emission permits; carbon tax), and government legislation to limit negative externalities caused by private production activities
- **Additional leisure time** - workers may 'trade off' extra work as real income rises for leisure time. Enables Australians to use leisure time to travel, play sport, or enjoy entertainment, literature, the arts, music, hobbies and to participate in voluntary community organisations. This has developed into 'growth' industries which offer new employment opportunities in areas such as sport, recreation, travel, tourism and entertainment

Negative Effects

- **Structural unemployment**- economic growth is a vehicle for great technological and structural changes in production, which can lead to structural unemployment of labour. Governments need to fund retraining schemes to re-skill the structurally unemployed for future employment in other industries.
- **Inflation**: High economic growth can lead to demand pull and cost push inflation as resources become scarce in relation to the increased demand for goods and services. Higher growth can result in larger wage claims also contributing to a rise in inflation. Amplified when aggregate supply cannot keep pace with AD growth (due to full capacity). This is a conflict with the objective of price stability. Aim of government policies is to ensure growth is kept at a level to prevent surge in inflation 'sustainable rate of growth'.
- **External stability**: Strong growth increases consumer and business spending, increasing imports which worsens the CAD. High growth poses risk to external stability of the economy. Therefore, BOP is a 'speed limit' on level of eco. growth.
- **Income distribution**: (doesn't always trickle down) May cause a widening in inequality of the distribution of income and wealth in a society, if the benefits of growth do not 'trickle down' to low- and middle-income groups, but are concentrated in high income groups. e.g. strong growth in Australia in the past 2 decades have flowed disproportionately to the owners of capital as profits rather than to workers as wages. Progressive taxation can be used to redistribute incomes and finance social security and welfare payments to lower income earners.

- **Environmental impacts**: If growth is pursued with little regard to environment, problems such as pollution, deforestation, land degradation and depletion of non-renewable resources can occur. Also occurs as more natural resources are needed to sustain higher rates of economic growth. Government policies aim for 'ecologically sustainable development' (maintain growth rate so that it does not cause irreparable damage to the environment)
- **Materialism and consumerism** in society - Emphasis placed on this may cause loss of traditional cultural and family values.

Key Takeaway: *Economic growth should not be pursued as an end itself but as a process of assisting the Australian economy to achieve higher living standards.*

Trends in business cycle

Recent trends:

- 2008-09: GFC slowed growth to 1.4%. But avoided recession
    - Reason: Recession was worse in USA/Europe, but less affected in the Asia Pacific region. The Chinese govnt's stimulus package underpinned demand for Australian resources, allowing Australia to avoid a technical recession
- 2010-11: 1.9%. European Sovereign Debt Crisis -> low world growth -> low China's growth -> reduced Aus. Exports
- 2011-12: 3-4%. high $A reduced competitiveness + slow growth in consumption spending -> uneven pattern of growth and two-speed economy
- 2012-2016: Around 3%. Declining ToT and slow-down in China resulted in slower growth
- 2017-18: Around 3%. Rising growth in global economy -> higher ToT -> higher EG in Aus. However, uncertainty over the US-China trade war has hindered growth.

- 2019: 2.3%. This is low in comparison to the trend following the GFC. Declining consumer confidence; household spending has declined notably. Wages growth has remained sluggish which has dragged on consumption. Continued uncertainty over trade war has weighed down on business confidence although it may be resolved soon with a deal with negotiations in place. Positive factors are that the USA's macroeconomy remains extremely strong in growth and unemployment, and growth in China has increased.
- 2019-20: 2.75 – 3%. Economic growth has picked back up slightly since it's low. Outlook is mostly unchanged and is expected to be supported by historically low levels of interest rates, recent tax cuts, ongoing spending on infrastructure, the upswing in the housing market and a brighter outlook for the resources sector. Trade war remains a dampening factor on global growth.
- 2020-21: -3.8%. Physical restrictions and supply chain shocks resulted in Australia's first technical recession in 28 years with a -7% June Quarter. Tourism and hospitality sectors were the hardest hit due to restrictions. However, easing of restrictions along with direct stimulation of AD by Fed. Gov and RBA resulted in a 3.3% Sept. Quarter rebound.
- 2021-22: -1.9%. First contraction since Q2 2020, amid prolonged lockdowns across many states. Household consumption fell for the first time in five quarters (-4.8% vs 1% in Q2), dragged down by spending on services; while private investment rose the least in a year (0.8% vs 1.9%), due to a sharp slowdown in dwellings investment and a fall in machinery and equipment investment.
- 2022-23: 1.5%. Output growth slowed during 2022 due to higher interest rates, higher cost of living and declining real wealth from falling housing prices. Consumption growth slows due to tapering of fiscal stimulus and pressures on disposable incomes. Outlook for business investment remains positive, with firms contending for construction projects. Export and import volumes increased strongly over 2022, reflecting return to international travel.

Practice Exam Questions

Multiple Choice

1. Which of the following is most likely to shift both the aggregate demand and aggregate supply curve to the right?

(A) An increase in investment and a reduction in subsidies to producers

(B) An increase in the budget deficit and a decrease in the cost of labour

(C) An increase in the productivity of labour and an increase in interest rates

(D) An increase in the budget surplus and an increase in the cost of raw materials

2. Other things being equal, what will be the final increase in income for an economy that has a MPC of 0.6, if investment increases by $10 million?

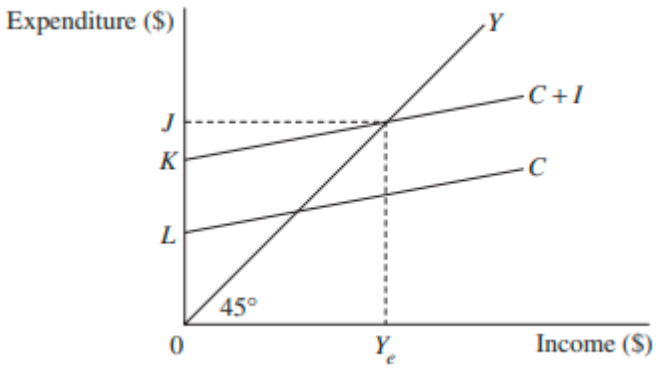
(A) $6 million

(B) $10 million

(C) $25 million

(D) $60 million

3. The diagram shows aggregate demand for a closed economy.



What is the level of aggregate demand at the equilibrium level of income?

(A) 0L

(B) LK

(C) 0K

(D) 0J

4. The table shows selected data for an economy.

National income components	($ million)
Savings	50
Investment	30
Taxation	40
Exports	50
Government spending	20
Imports	30

Using the information provided, which statement is correct for this economy?

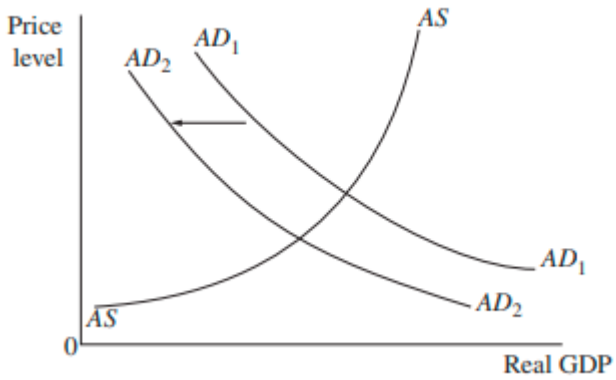
(A) There is a budget deficit

(B) The economy is in equilibrium

(C) There is a current account deficit

(D) Withdrawals are greater than injections

5. The following diagram shows aggregate demand and supply curves for the economy. Which of the following could cause the shift from AD1 to AD2?



(A) A decrease in the rate of income tax

(B) A decrease in the general level of prices

(C) An increase in the real level of national income

(D) An increase in the general level of interest rates

Short Answer

1. Calculate the value of the Marginal Propensity to Consume (MPC) for the following economy: (2)

The following table shows selected data for a closed economy.

Year	Income (Y) ($m)	Consumption (C) ($m)	Savings (S) ($m)	Investment (I) ($m)
1	300	280	20	50
2	400	360	40	50
3	500	440	60	50

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2. Write the formula for the simple multiplier (k) and calculate the value of the simple multiplier using the information in the table above. (2)

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3. Explain how an increase in autonomous investment can have a multiplier effect on the level of income in an economy. (3)

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4. Explain TWO benefits of sustainable economic growth to Australia. (4)

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Practice Exam Question Answers

Multiple Choice

1. **(B) –** *Shifting the aggregate demand and supply curves to the right implies an overall increase. Hence, an increase in budget deficit implies an expansionary stance that directly bolsters aggregate demand. Furthermore, decreasing the cost of labour increases the competitiveness of firms by enabling greater output and hence an increase of the supply curve.*

2. **(C) –** *Using the multiplier formula, k = 2.5. Final increase in income is the multiplier multiplied by the change in autonomous demand which is $10. Hence 2.5 x $10 = $25 million.*

3. **(D) –** *Following the equilibrium level of income, a level of aggregate demand that is matched is 0J.*

4. **(D) –** *Withdrawals or leakages refer to funds that are no longer circulating in the economy and can be found by the summation of savings, taxation and imports. Hence, total withdrawals is equal to $120 million whilst injections are $110 million.*

5. **(D) -** *The shift from AD1 to AD2 is a corresponding decline in aggregate demand. One way for this change to occur is when the RBA employs a contractional monetary policy stance by increasing the cost of borrowing. This occurs when there is an increase in the general level of interest rates.*

Short Answer

1. Calculate the value of the Marginal Propensity to Consume (MPC) for the following economy: (2)

The Marginal Propensity to Consume is equal to the change in consumption divided by the change in income (i.e. ΔC/ΔY). Between Years 1 and 2 consumption increases by $80m whilst income increases by $100m. Therefore, the MPC is equal to 0.8 or 4/5.

2. Write the formula for the simple multiplier (k) and calculate the value of the simple multiplier using the information in the table above. (2)

1/(1 – MPC) or 1/MPS

The value of the simple multiplier (k) may be found by substituting the value of the MPC in the formula for the simple multiplier:

k = 1/(1 – MPC)

k = 1/0.2

k = 5

3. Explain how an increase in autonomous investment can have a multiplier effect on the level of income in an economy. (3)

Autonomous investment is investment spending by businesses which is unrelated to changes in income. For example, an increase in autonomous investment on new plant and equipment will lead to an increase in spending in the economy. Through multiple rounds of spending the initial increase in autonomous investment will ultimately lead to an increase in income in an economy. The final increase in income will be a multiple of the initial increase in autonomous investment. For example, if autonomous investment increased by $100m, and the value of the multiplier was 5, the ultimate increase in income in an economy would be $500m.

4. Explain TWO benefits of sustainable economic growth to Australia. (4)

Economic growth is the increased productive capacity of an economy over time. It is usually measured by an increase in real Gross Domestic Product (GDP) or the total goods and services produced in a year. The process of economic growth is usually accompanied by an improvement in technological progress and innovation. Sustainable economic growth refers to a rate of growth that is not accompanied by increased inflation or a deterioration in external stability in Australia.

One benefit of sustainable economic growth to Australia is that as real GDP increases, real GDP per capita or income per head increases. This leads to higher incomes in the community and an improvement in living standards, as individuals are able to purchase more goods and services to improve their material well-being.

Another benefit of sustainable economic growth to Australia is that increased levels of real GDP require increased quantities and qualities of resources used in production including labour. Hence increased rates of sustainable economic growth are accompanied by an expansion in employment opportunities including full time and part time jobs. This will lead to a reduction in unemployment and the absorption of new workers into the workforce through a rise in the participation rate of the working age population.

- Two further benefits of sustainable economic growth include increased welfare and exports. Higher sustainable rates of economic growth lead to higher tax revenue to the Australian government.
- Some of this revenue can be used to finance transfer payments such as age pensions, family allowances and unemployment benefits to alleviate poverty.

Higher sustainable economic growth through rising real GDP can also lead to the establishment or expansion of export industries. Increased exports lead to specialisation in production, higher export income and a buildup of foreign exchange reserves which can be used to buy imported goods and services. Imports help to further raise living standards in Australia.