National income: key points



Source: Australian System of National Accounts.¹

Australia experienced significant real income growth during the past decade. Between 1994–95 and 2004–05, real net national disposable income per capita grew by 3.0% a year – appreciably faster than during the preceding 20-year period. ¹

The relationship of national income to progress	National income reflects Australians' capacity to purchase goods and services. It influences material living standards and is also important for other aspects of progress.
About the headline indicator and its limitations: Real net national disposable income per capita	There are many different ways of measuring income. The headline measure has a variety of features that make it an informative indicator of national progress (see box 'Measuring Australia's national income'). The headline indicator exhibits some advantages over other measures of income, but it does not account for everything of importance. National income does not take account of some non-market activities (such as unpaid household work), and the various other factors (such as assets and liabilities) that contribute to material living standards. Although these influences are not built into the headline income measure, commentaries on other progress indicators provide information about some of them.
National income: Other indicators	Real gross domestic product per capita; Real final consumption expenditure per capita; Real household consumption expenditure per capita; Net national saving as a proportion of GDP; Real industry gross value added; Real gross state income per capita; Terms of trade; Population in work; Selected measures of equivalised household disposable income.
Some differences within Australia	The headline indicator, real net national disposable income, is only available at the national level. However, one can look at real gross state income to provide a state-level perspective. Growth in real gross state income per capita was highest in Western Australia (3.7% per year) and lowest in the ACT (2.1% per year) over the period 1994–95 to 2004–05. Between 1994–95 and 2003–04, the average real income of low income households (i.e. the 20% of people with household incomes between the bottom 10% and the bottom 30% of incomes) increased by 22%, while the average real income for the middle income and high income groups increased by 22% and 19% respectively.
Links to other dimensions	The income dimension of progress is strongly linked to the work dimension. See also the commentaries <i>National wealth</i> , <i>Productivity</i> , <i>Education and</i> <i>training</i> , <i>Health</i> , <i>Economic bardsbip</i> , <i>Work</i> , <i>The natural landscape</i> , and <i>The air and atmosphere</i>

National income

Progress and the headline indicator

National income is a measure of Australia's capacity to acquire goods and services for consumption. It is a determinant of material living standards and is also important for other aspects of progress.

Australia experienced significant real income growth during the past decade. Between 1994–95 and 2004–05, real net national disposable income per capita grew by 3.0% a year – appreciably faster than during the preceding 20-year period.¹

The headline indicator exhibits some advantages over other measures of income (see box), but it does not account for everything of importance. National income does not take account of some non-market activities (such as unpaid household work) that contribute to material living standards. Some analysts would prefer an income measure that is adjusted to take account of changes in the value of natural assets, such as increases in the value of subsoil assets due to technological advances in mining, depletion of resources used in the production process, or environmental degradation from pollution. These aspects are not built into the headline income measure, but commentaries on other progress indicators provide some more information.

Not all income is spent on the current consumption of goods and services. Part of income may be set aside as savings for future consumption. Income that is saved can be used for investment purposes in the form of, say, houses, machinery or financial assets. These assets can directly satisfy individual and societal needs, or can generate future income and support future consumption.

A more detailed discussion of consumption and saving follows.

Measuring Australia's national income

There are many different ways of measuring income. The headline measure – real net national disposable income per capita – has a variety of features that make it an informative indicator of national progress.

- It is a per capita measure. Total income could rise during periods of population growth, even though there may have been no improvement in Australians' average incomes.
- It is a real measure it is adjusted to remove the effects of price change. Nominal or current price income could rise during periods of inflation, even though there may have been no increase in Australians' real capacity to buy goods and services.
- It takes account of income flows between Australia and overseas, and is adjusted for changes in the relative prices of our exports and imports (our 'terms of trade'). These international influences on Australia's income can increase or decrease Australians' capacity to buy goods and services.
- It is a net measure it takes account of the depreciation of machinery, buildings and other produced capital used in the production process. Hence, it reflects the income Australia can derive today while keeping intact the fixed capital needed to generate future income.





⁽a) Reference year 2003–04. Source: Australian System of National Accounts.¹

Real per capita income growth during the past decade has been quite strong. The average annual growth rate (3.0%) since 1994–95 is appreciably above the 1.8% per year recorded over the 30 years to 2005.

Consumption

If a nation experiences income growth, there may be an increase in consumption or saving or both.

Among the different forms of consumption, final consumption expenditure (FCE) is the most directly relevant to an assessment of progress. FCE is the acquisition of goods and services used for the direct satisfaction of individual or collective wants. It is distinguished from 'intermediate consumption' (the using up of goods and services) and 'consumption of fixed capital' (depreciation).

Over the past decade, growth in final consumption per capita has been quite strong. Between 1994–95 and 2004–05, real FCE per capita rose by 2.6% a year.

Both households and governments contribute to final consumption. There were some fluctuations in the relative contributions of the two sectors

Real final consumption expenditure(a) per



Source: Australian System of National Accounts.¹

Real household final consumption(a) per capita

			Average annual growth
	1994–95	2004–05	rate
	\$	\$	%
Food	2 549	2 784	0.9
Alcoholic beverages and tobacco	975	1 007	0.3
Clothing and footwear	786	995	2.4
Rent and other dwelling services	3 532	4 388	2.2
Electricity, gas and other fuel	404	514	2.4
Furnishings and household	1 000	4 470	2.0
equipment	1 009	1 470	3.8
Health	1 082	1 289	1.8
Transport	2 198	2 989	3.1
Communication	319	734	8.7
Recreation and culture	1 919	3 079	4.8
Education services	682	847	2.2
Hotels, cafes and restaurants	1 554	1 900	2.0
Miscellaneous goods and services	2 531	3 449	3.1
Total	19 376	25 447	2.8

(a) Volume measures; reference year 2003–04. Components may not sum to totals.

Source: Australian System of National Accounts.¹

during the past decade, but in both 1994–95 and 2004–05, households accounted for about three-quarters of the total and government for about one-quarter. The government contribution started to decline slightly towards the end of the decade as a result of government policy to reduce the rate of growth of spending in the public sector.

Real per capita household consumption expenditure grew by 2.8% per year on average between 1994–95 and 2004–05. Household expenditure on communication showed particularly strong growth (an average increase of 8.7% per year in real per capita terms). This partly reflected increased availability and use of both mobile phones and the Internet. Australians have often been quick to take up new consumer technologies. For more detail, see the commentary *Communication*.

Household expenditure on recreation and culture also grew strongly (up by 4.8% per year on average).

The share of household expenditure on items that could be considered essential for daily existence (namely, food, clothing, housing and utilities) fell during the past decade (down from 38% in 1994–95 to 34% in 2004–05), reflecting the increase in real incomes.

Real government consumption expenditure per capita grew by 2.1% a year between 1994–95 and 2004–05. Expenditure on education and health were the largest components of government consumption throughout this period.

Saving

Saving is one means of funding investment, which is the formation of fixed capital used in the production of goods and services (see the *National wealtb* chapter for a more detailed discussion of the concept of investment). Income that is saved rather than spent on current consumption can be used to accumulate assets (wealth) that will generate future income and support future consumption.

During the past decade, there was a 2.5 percentage point rise in the ratio of net national saving to GDP (from 2.2% to 4.7%). But the longer term trend has been downward; between 1964–65 and 2004–05 the ratio fell from 11.7% to 4.7%. Similar downward trends in national saving have been observed in some other developed countries, such as the United States of America and the United Kingdom.

There is an important distinction between gross and net national saving (see box overleaf). The ratio of depreciation to gross saving has risen during the past forty years – from an average of around 59% in the 1960s to 76% in 2004–05. This means that proportionately less of Australia's gross saving has been devoted to increasing the national stock of fixed capital and more to replacing the existing stock. A fuller discussion on capital stock and investment can be found in the commentary on *National wealtb*.





Source: Australian System of National Accounts.¹

Net national saving as a proportion of GDP has fluctuated a good deal during the past decade; between 1994–95 and 2004–05 the ratio rose from 2.2% to 4.7%. But the longer term trend during much of the past forty years has been downward.¹

Measuring national saving

Saving cannot be measured directly. It is calculated as a residual item by deducting final consumption expenditure from disposable income. Because it is estimated as the (relatively small) difference between two large national aggregates, saving is subject to any measurement error in, or revisions to, either aggregate.

Two concepts of national saving are used - gross and net. Gross saving represents the resources available for investment (capital formation) including replacement of fixed capital. Net saving is derived from gross saving by subtracting depreciation (consumption of fixed capital).

National saving and national wealth

The commentary National wealth introduces the concept of net worth (assets less liabilities). Measures of national and sectoral net worth provide an alternative, and in some ways preferable, perspective on how Australia's future income-generating potential is changing.

Net worth takes account not just of saving out of current income, but also of increases in national assets due to changes in volumes (such as the discovery of mineral deposits) and prices (such as capital gains).

Sectors within a nation can have different saving behaviour, and net national saving can be dissected to show the trends in saving by the following sectors - households, general government and corporations.

Over the longer term (from the 1960s onward), the household sector has been the main contributor to national saving. However, since the mid 1970s, the net saving of the household sector relative to GDP has fallen.

The general government sector went from being a net saver during the 1960s to a net dissaver between the mid 1970s and mid 1990s. But during the 1990s, government dissaving was progressively reduced and between 1997-98 and 2004-05 the government sector was again a net saver.

Except for a few years in the mid to late 1970s, the corporate sector has been a net saver.

Net national savings as a proportion of



Source: Derived from Australian System of National Accounts.¹

Real industry gross value added(a), average annual growth rates - 1994-95 to 2004-05

Industry	%	
Agriculture, forestry and fishing(b)		
Mining	2.6	
Manufacturing	1.8	
Electricity, gas and water supply	1.2	
Construction	5.1	
Wholesale trade	4.1	
Retail trade	4.3	
Accommodation, cafes and restaurants	4.1	
Transport and storage	4.4	
Communication services	6.4	
Finance and insurance	3.9	
Property and business services	5.1	
Government administration and defence	2.4	
Education	2.0	
Health and community services	4.2	
Cultural and recreation services	3.8	
Personal and other services	3.5	
Ownership of dwellings		
Gross Domestic Product	3.7	

(a) The sum of IGVA across industries differs from GDP to the extent of taxes less subsidies on products. (b) The growth rate has been significantly affected by the drought in the early 2000s. Source: Australian System of National Accounts.1

Industry output

A strong influence on national income is the production of goods and services. Production can increase if the factors of production - capital, labour and non-produced assets (such as land) are built up or are used more efficiently.

During the past decade, different industries have exhibited substantially different rates of real value added growth. Broadly, many service industries showed stronger growth than goods-producing industries.

Industry gross value added (IGVA) is the total value of goods and services produced by an industry, after deducting the cost of goods and services used up in the process of production. Among the industries showing strongest growth in real IGVA between 1994-95 and 2004-05 were Communication services (averaging over 6.4% a year), Property and business services, and Construction (both averaging 5.1% a year).

Some differences within Australia

By state

The headline indicator, real net disposable income per capita, is available only at the national level. To understand some of the trends underlying the national indicator, one can look at state contributions to GDP.

Real gross state income (RGSI) is the total value of goods and services produced in a state or territory, after deducting the cost of goods and services used up in the process of production and taking into account changes in state terms of trade. The comparable Australian estimate is real gross domestic income.

RGSI per capita grew in every state and territory between 1994–95 to 2004–05. Growth was strongest in Western Australia and the Northern Territory (respectively averaging 3.7% and 3.5% per year), and weakest in the Australian Capital Territory (averaging 2.1% per year). There were wide and persistent disparities in per capita RGSI levels among the states and territories between 1994–95 and 2004–05. In 2004–05, per capita RGSI levels ranged roughly between \$32,000 and \$55,000 (reference year 2003–04), with Tasmania the lowest and the ACT the highest.²

International comparisons of national income: Gross National Income

There is no OECD indicator available that is directly comparable to the headline indicator for national income: real net disposable income per capita. An indicator available for OECD countries that captures a similar concept is Gross National Income.

Gross National Income (GNI) measures the total domestic and foreign value added claimed by residents. GNI comprises Gross Domestic Product (GDP) plus net receipts of primary income from non-resident sources. This indicator reflects a country's capacity to purchase goods and services, which influences material living standards and is important for other aspects of progress.

In 2003, Luxembourg had the highest GNI per capita of US\$61,200. This was substantially higher than the next highest GNI of US\$39,700 in the United States. In 2003, the lowest GNI in the OECD was US\$7,700 in Turkey.

In 2003, Australia's GNI was US\$29,200 around the median for the OECD. France (US\$29,300), Finland (US\$29,600) and Sweden (US\$29,800) all had a very similar level of GNI to Australia.

See also the international comparison for consumption expenditure in the *Some international comparisons of progress* essay on page 186.

Gross National Income(a) – 2004



(a) Calculated using purchasing power parities. Source: World Bank Development Indicators 2005.

Real gross state income per capita, average annual growth rates – 1994–95 to 2004–05

	%
New South Wales	2.8
Victoria	3.2
Queensland	3.0
South Australia	3.2
Western Australia	3.7
Tasmania	2.7
Northern Territory	3.5
Australian Capital Territory	2.1
Australia	3.0

Source: Australian National Accounts: State Accounts.²

But state disposable incomes (if we could measure them) might not be so diverse, because there are significant transfer payments and other financial flows between states that can moderate the differences. Examples include Commonwealth

International comparisons of national income: average annual GDP growth

To examine changes over time in national income, growth in GDP is a useful indicator. GDP can be defined in three different ways: as the sum of labour incomes, net profits and depreciation; as the difference between gross output and intermediate consumption; or as the sum of consumption expenditures, fixed capital formation, changes in inventories and net exports.

During the period 1994–2004, Ireland reported the strongest GDP growth in the OECD with an average annual growth of 7.9%. This was substantially higher than the next highest annual average growth of 4.9% in Korea. The lowest annual average growth in GDP between 1994 and 2004 occurred in Japan (1.2%) and Switzerland (1.3%). Annual average growth in GDP in Australia during this period was 3.7%, the seventh highest of OECD countries.

See also the international comparison for consumption expenditure in the *Some international comparisons of progress* essay on page 186.

Average annual GDP growth(a) – 1994 to 2004



(a) Average annual volume change. Source: National Accounts of OECD countires, 2005.

		Year		Change 1994–95 to 2003–04	
Indicator	Unit	1994–95	2003–04	Absolute	%
Mean weekly income for se	elected groups of	people(b)			
Low income(c)	\$	246	300	54	22.0
Middle income(d)	\$	404	492	88	21.8
High income(e)	\$	861	1,027	166	19.3
Weekly income at top of se	elected income pe	rcentiles(b)			
20th(P20)	\$	245	299	54	22.0
50th(P50)	\$	403	491	88	21.8
80th(P80)	\$	625	743	118	18.9
Ratios of incomes at top of	f selected income	percentiles			
P90/P10	Ratio	3.77	3.70	-0.07	-1.9
P80/P20	Ratio	2.56	2.49	-0.07	-2.7
P80/P50	Ratio	1.55	1.52	-0.03	-1.9
P20/P50	Ratio	0.61	0.61	0.00	0.0
Share of total income receiption	ived by people wit	h:			
Low incomes(c)	%	10.8	10.9	0.1	0.9
High incomes(e)	%	37.8	37.4	-0.4	-1.1
Gini coefficient(f)	Ratio	0.302	0.294	-0.008	-2.6

Selected measures of equivalised disposable household income(a)

(a) See the *Economic hardship* commentary for a definition of equivalised income. (b) Adjusted for changes in the Consumer Price Index; values are given in 2003–04 dollars. (c) People in the 2nd and 3rd income deciles after all people are ranked from lowest to highest by their equivalised household income. (d) People in the 5th and 6th deciles after all people are ranked from lowest to highest by their equivalised household income. (e) People in the 9th and 10th deciles after being ranked from lowest to highest by their equivalised household income. (e) People in the 9th and 10th deciles after being ranked from lowest to highest by their equivalised household income. (f) A summary measure of income distribution between 0 and 1. If the measure approaches the value of 1 income inequality is higher and vice versa.

Source: Household Income and Income Distribution, Australia, 2003–04, cat. no. 6523.0.³

government taxes and expenditures, and incomes transferred between states or territories and the rest of the world.

Household income distribution

While aggregate national income growth is a key element of progress, the distribution of household income is also considered by many to be important in determining progress in this dimension.

The table above presents information about changes in household disposable income and its distribution among low, middle and high income households. Different households require different amounts of income to maintain the same standard of living. For example, larger households normally need more income than smaller households, and adults need more than children. The tabulated income data have been equivalised to put different households on an equal footing (this is explained in more detail in the *Economic hardship* commentary).

Between 1994–95 and 2003–04, the average real income of all households increased by 21%. There was a comparable increase for each of the different income groups; 22% for low income households (i.e. the 20% of people with household incomes between the bottom 10% and the bottom 30% of incomes), and 22% and 19% for the middle income and high income groups. One should remember that these figures are not necessarily comparing

changes in the same households over time. For example, some of the households that had a relatively low income in 1994–95 might, through changed circumstances, have income in the middle, or even higher, portion of the income distribution by 2003–04 (and vice versa).

Various measures of income distribution are included in the table above. Percentile ratios are one measure of the spread of incomes across the population. The P90/P10 ratio, for example, is the ratio of income at the 90th percentile (P90) to that at the 10th (P10). Another measure of income distribution is provided by the income shares going to groups of people at different points in the income distribution. The Gini coefficient is a single statistic that lies between 0 and 1 and is a summary indicator of the degree of inequality (values closer to 0 representing a lesser degree of inequality, and values closer to 1 representing greater inequality).

Changes in income distribution measures tend to be relatively small from year to year but trends can emerge over longer time periods. While it is difficult to assess the changes in income distribution over time due to methodological improvements introduced with the 2003–04 Survey of Income and Housing (for more information refer to *Household Income and Income Distribution, Australia, 2003–04*, cat. no. 6523.0), it appears that there has been no significant change





Gross Domestic Product

GDP is the total value of goods and services produced in Australia, after deducting the costs of goods and services used up in the production process. The volume measure of GDP is an indicator of real growth in Australian production. GDP is a fairly comprehensive measure of economic activity, but does not take account of some non-market activities such as unpaid household work.

As a measure of national progress, GDP is inferior to the headline indicator (real net national disposable income) in several ways. The headline indicator takes account of income flows between overseas and Australia and of changes in the terms of trade. Also, it is adjusted for the depreciation of fixed capital used in the production process.

GDP is discussed here because it is possible to dissect it by geography and by industry, to investigate different trends within Australia. Such dissections cannot be done for the headline indicator. As well, changes in domestic production are among the major driving forces underlying changes in Australia's incomes, so GDP and the headline indicator exhibit broadly similar trends.

in income inequality from the mid 1990s to 2003–04.

Factors influencing change

The most fundamental influence on income growth is growth in the volume of goods and services produced (real Gross Domestic Product, (GDP)). Between 1994–95 and 2004–05, Australia's real GDP grew by around 44% (averaging growth of 3.7% a year); in the same decade, the population grew by around 13% (averaging 1.2% a year).

GDP is, in turn, influenced by changes in labour, capital and non-produced assets (such as land), and by productivity change. Between 1994–95 and 2004–05, capital services used in market sector production grew by 49% (averaging growth of around 4.1% a year). In the same decade, the labour input to market sector production rose by 11% (averaging around 1.0% a year).

During the past decade, improvements in productivity (the amount of output per unit of input) have made a strong contribution to GDP growth. Between 1994–95 and 2004–05, market



(a) Reference year 2003–04. Source: Australian System of National Accounts.¹

Australia's terms of trade

The terms of trade index shows the relationship between Australia's export and import prices. A rise in the terms of trade indicates that Australia could purchase a greater volume of imports with a given volume of exports; a fall indicates that a greater volume of exports is required to purchase a given volume of imports.

sector multifactor productivity rose by 13% (averaging 1.3% a year).

Domestic production is not the only influence on national income growth. Between 1994–95 and 2004–05, income receivable from overseas rose by more than 98%, while income payable overseas rose by almost 150%.

Household consumption expenditure behaviour has changed appreciably throughout the decade – in part reflecting new technologies and the growth in expenditure on some services.

Trends in government consumption have in part reflected policy emphases and some changes in the mix of public and private provision of services.

Both cyclical and behavioural influences can affect national and sectoral savings. For example, the economic cycle has a significant influence on government saving (as outlays tend to rise and receipts tend to fall during an economic downturn). In Australia, the government sector experienced a period of dissaving following the recession in 1991. The rise in government saving in recent years in part reflected sustained economic growth and fiscal consolidation.

The possible changes to the corporate sector's distribution of profits in the form of dividends during the 1990s may also have influenced saving activity over the last decade.

Changes in rates of inflation can also affect saving rates. A certain amount of saving is required to 'protect' the real value of assets which would otherwise fall due to inflation. In periods of lower inflation – such as the 1990s – less saving is needed to be set aside for this purpose.

Domestic economic events are not the only influence on national income. In particular,



(a) Total employed persons as a proportion of population. Source: Labour Force, Australia. $^{\rm 4}$

Population in work

Looking at the proportion of the population that is employed adds to the information provided by the income and output indicators discussed above.

First, this proportion provides a broad indicator of the degree of economic dependency in Australia – the relative sizes of the total population and of that part of the population engaged in income-generating economic activity. Economic dependency may increase owing to, say, a rise in the number of unemployed or the number of self-funded retirees.

Second, because the income of employed people generally exceeds the incomes of those not in employment, this proportion also casts light on trends in the equality of income distribution.

Between June 1995 and June 2005, the proportion of the Australian population that was employed rose from 45.9% to 49.3%.⁴

changes in the relative prices of Australia's exports and imports (the terms of trade) affect real national income.

In recent years, Australia's terms of trade have shown fairly wide oscillations. Overall, between 1994–95 and 2004–05, there was significant improvement, reflecting changes in both the prices and the composition of traded goods and services.

Imports give the residents of a country access to goods and services that cannot be produced (or cannot be produced as cheaply) in the domestic economy. Exports are one important way of funding purchases of imports and of maintaining levels of domestic production, income and employment. Thus, changes in the terms of trade can affect the volume of goods and services that must be exported to fund a given volume of imports.

The goods and services that make up a country's exports are typically quite different from those that make up its imports – for example, agricultural and mining products account for a fairly large proportion of Australia's exports, whereas manufactured goods and some services account for a large proportion of our imports.

During much of the 20th century, there was a general trend toward falling prices of primary

commodities (especially agricultural products) relative to other traded goods and services. This reflected both shifts in the composition of worldwide demand and supply, and the effect of improvements in productivity. Around that long-term trend, however, there have been oscillations (each lasting several years) that have reflected short-to-medium run changes in demand and supply conditions. In more recent times, there have been sustained falls in the prices of many manufactured goods, particularly computers and similar goods.

During the period 1994–95 to 2004–05, Australia's terms of trade showed an improvement (up by 31%, reflecting an 19% rise in export prices and a 9% decrease in import prices). The terms of trade started to improve from 1993–94 after experiencing a period of deterioration a few years earlier. However, it again deteriorated in 1998–99, owing to a fall in export prices and a rise in import prices. Rising export prices and continued falls in import prices thereafter continued to improve the terms of trade to a level significantly above a decade earlier.¹

Links to other dimensions of progress

Australia's national income provides the material basis for many other dimensions of progress. For example, improvements in health and education may rely on expenditures funded out of income – such as the construction of hospitals and schools. Conversely, a healthier, more educated population can better engage in the economic activity that generates income. Income-generating economic activity may also go hand in hand with environmental depletion or degradation. But income can also be invested in its restoration. Some of the growth may be channelled to the accumulation of national wealth that will generate future income. Or it may be spent to improve the welfare of economically disadvantaged Australians.

The income dimension of progress is strongly linked to work. Changes in income may reflect demographic and labour market trends. Income growth may result partly from a trade-off for longer working hours and reduced leisure.

See also the commentaries *National wealtb*, *Productivity*, *Education and training*, *Healtb*, *Economic bardship*, *Work*, *The natural landscape* and *The air and atmosphere*.

End notes

- Unless otherwise indicated, all data in this commentary are derived from Australian Bureau of Statistics 2005, *Australian System of National Accounts 2004–05*, cat. no. 5204.0, ABS, Canberra.
- 2 Australian Bureau of Statistics 2005, *Australian National Accounts: State Accounts 2004–05*, cat. no. 5220.0, ABS, Canberra.
- 3 Australian Bureau of Statistics 2005, *Housebold Income and Income Distribution* 2003–04, cat. no. 6523.0, ABS, Canberra.
- 4 Australian Bureau of Statistics various issues, *Labour Force, Australia*, cat. no. 6202.0, ABS, Canberra.