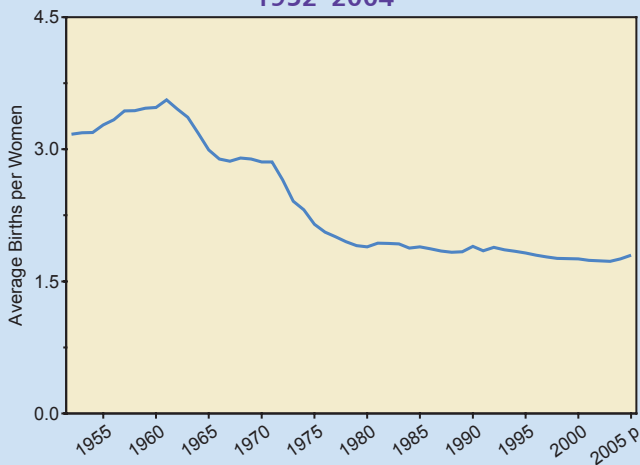


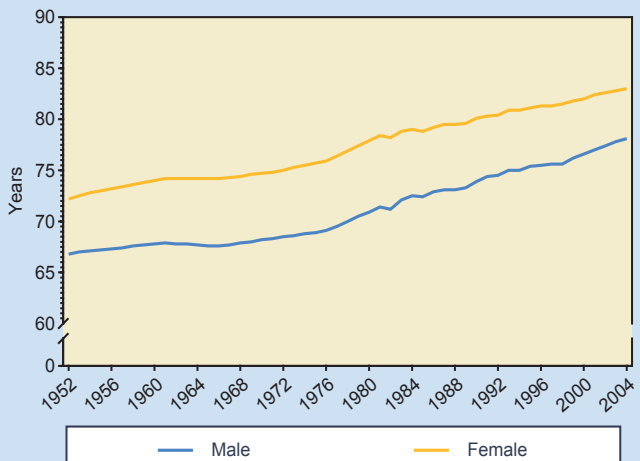
# Population Projections

**Fig. 1-23: Total Fertility Rate 1952–2004**



Source Data: ABS

**Fig. 1-24: Life Expectancy at Birth 1952–2004**



Source Data: ABS

Few issues are as important for Australia as the changes to our population that will occur over the next century.

Population growth and size, composition, distribution, skill level and age structure are key factors contributing to the economic, social, and environmental well-being of this country.

We have already entered a unique period in our history during which we will go from being a young and growing population, to one that is older and growing much slower, due primarily to our below replacement fertility rate and our increasing life expectancy. The magnitude of these changes is well illustrated by the likelihood that, in the 2040s, for the first time ever, more Australians are likely to die than are born.

## Factors Involved in Population Change

Australia's demographic future depends on the following key factors:

- fertility;
- life expectancy; and
- net overseas migration (NOM).

Change in the size of the population is the result of natural increase (births minus deaths) and NOM (permanent and long-term arrivals minus permanent and long-term departures adjusted for changes in travel intentions).

## Fertility

Australia's total fertility rate (TFR), the average number of children a woman would bear over her lifetime was 3.6 children per woman in 1961. The rate fell strongly in the first half of the 1960s and then again in the first half of the 1970s to reach 1.9 children per woman by 1979. It remained almost constant throughout the 1980s. From 1990, Australia's TFR gradually declined from 1.90 to reach 1.73 children per woman in 2002–03 (see Figure 1-23), which is the lowest on record. Since 1997, the TFR has been relatively stable, varying between 1.73 and 1.78.

This downward trend has been replicated in almost every developed country, as well as many developing nations. In fact, Australia's TFR is comparatively higher than most other developed nations. For example, Italy, Spain, the Slovak Republic, Japan, Austria, Hungary, Greece, Poland, and Germany, all have TFRs between 1.2 and 1.4. The TFRs of both Spain and Italy declined dramatically over a relatively short period of time i.e. for Spain, from 2.1 in 1980 to 1.2 in 1995 (a 43 per cent fall over 15 years) and, for Italy, from 1.7 in 1980 to 1.2 in 1994 (a 30 per cent fall over 15 years). In contrast, Australia's TFR declined from 1.9 in 1980 to 1.8 in 1995 (a 5 per cent fall over 15 years).

While Australia's TFR may fall further over the next ten years, there are indications that our TFR may be stabilising at current levels. To account for the uncertainty about the future of Australia's fertility rate, the ABS has constructed projections to 2101 based on average total fertility rates of 1.9, 1.7 and 1.5 children per woman.

## Life Expectancy

Expectation of life in Australia rose during the 1950s, but levelled out in the 1960s. At that time, analysts considered that we had come close to the limits of the human life span. Since the 1960s, however, expectation of life in Australia, and in other countries, has increased significantly. Since 1981 life expectancy at birth has increased by 6.7 years for males and 4.6 years for females, reaching 78.1 years for males and 83.0 for females in 2002-2004.

Internationally in 2003, Australia's life expectancy at birth for males ranked amongst the highest with Japan, Sweden, Switzerland, Canada, Italy and Singapore (each 78 years). It was above that of New Zealand (77 years), the United Kingdom (76 years) and United States of America (75 years).

Australia's life expectancy for females was similar to Spain, Sweden and Switzerland (each 83 years). It fell behind Japan (85 years), France and Italy (both 84 years) and was above Canada and New Zealand (both 82 years), Greece and the United Kingdom (both at 81 years) and the United States of America (80 years).

For the purpose of population projections, the ABS has constructed projections to 2101 based on life expectancy for males increasing to between 84.9 and 92.7 years for males, and to between 88.0 and 95.1 years for females by 2050-51.

## Net Overseas Migration (NOM)

Over the last 25 years, the contribution of NOM to population growth has averaged around 39 per cent per year but this has fluctuated significantly from a low of 17.8 per cent in 1992-93 to a high of 54.5 per cent in 1988-89.

NOM is subject to considerable fluctuations from year to year. The low points of in-migration and the high points of emigration have in the past tended to coincide with economic downturns in Australia, but the high points, while generally occurring in good economic times, are less directly associated with the economic cycle.

For its projections, the ABS has assumed NOM rises to 140,000 (high assumption) by 2007-08, 110,000 (medium assumption) per year over the projection period and 80,000 (low assumption) persons per year by 2007-08.

## Population Prospects for Australia

The ABS population projections span the period from June 2004 to June 2101 for Australia.

These projections are not intended as predictions or forecasts, but as illustrations of growth and change in the population which would occur if certain assumptions about future levels of fertility, mortality and NOM were to prevail over the projection period.

A summary of the ABS assumptions and projections is provided in the table below.

Fig. 1-25 : Main Projection Series, Australia

	Assumptions			Population as at 30 June		
	Total Fertility Rate <sup>(a)</sup>	Net Overseas Migration <sup>(b)</sup>	Life expectancy at birth (years) <sup>(c)</sup>		2051	2101
	women	Persons	Males	Females	million	million
Series A	1.9	140,000	92.7	95.1	33.4	43.5
Series B	1.7	110,000	84.9	88.0	28.2	30.6
Series C	1.5	80,000	84.9	88.0	24.9	22.4

(a) From 2018 (b) From 2007-08 for Series A and C From 2004-05 for Series B (c) From 2050-51

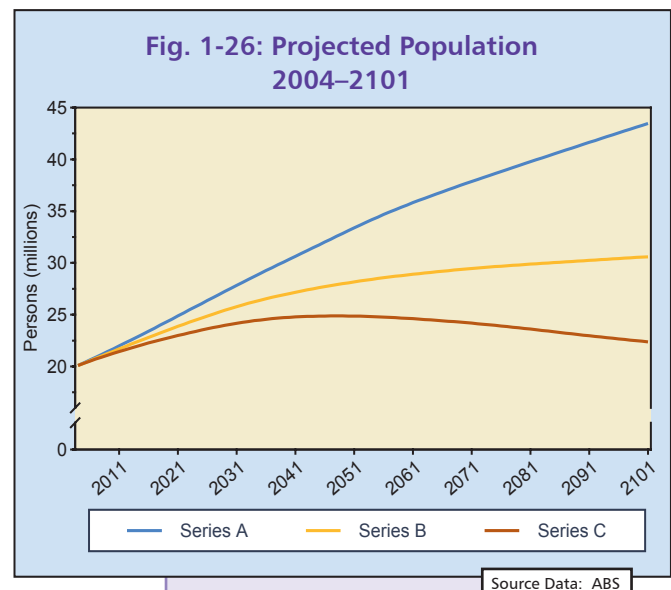
Source Data: ABS

Australia's estimated resident population (ERP) at June 2004 of 20.1 million is projected to grow to between 24.9 million and 33.4 million in 2051, and to between 22.4 million and 43.5 million in 2101. Growth will be highest under Series A and lowest under Series C (see Figure 1-25).

Under the medium assumptions (Series B), Australia's population would grow through to 2101 but at an increasingly slower rate.

Throughout the 1990s and early 2000s, Australia's annual population growth rate has been in excess of 1 per cent. This is due to natural increase, or an excess of births over deaths, as well as NOM. In 2004-05, there were 257,949 births and 130,900 deaths in Australia, which is a natural increase of 127,000 people.

Fig. 1-26: Projected Population 2004-2101



Projections indicate that deaths would exceed births in the future, leading to a state of natural decrease under Series C by 2044 and 2034 respectively. Therefore, while growth would continue at around its current rate for the next 5-15 years (except under Series C), it would slow throughout the remainder of the projection period, as NOM increasingly becomes the main source of growth. Under Series C growth would eventually become negative some time between 2051 and 2061, as NOM would not fully offset natural decrease.

## International Comparisons

According to the United Nations' population projections, some of Australia's major trading partners also show low positive to negative population growth rates between 2000-2005 and 2045-2050. Japan experienced an average annual population growth rate of 0.2 per cent in 2000-2005. However, it is projected that during the next 50 years Japan's population will decline by about 14 per cent below their current population. The United States of America experienced population growth of 1.0 per cent each year during 2000-2005, while it is projected to be 0.4 per cent per year on average during 2045-2050.

## The Population Debate

There are a number of groups in Australia who advocate high levels of NOM to ensure that the population will grow faster and not stop growing by mid-century. These groups argue that increasing the number of migrants will help slow the rate of ageing of the population, stimulate the economy and help develop the full potential of the country.

On the other hand, other groups argue that, by increasing the number of people living in Australia, immigration is placing further pressures on Australia's diverse and sometimes fragile environment and on its natural resources. There have also been recent calls for the Government to develop optimum population targets for Australia.

It is important to realise that the range of realistic options for future population levels available to Australia is restricted. This is because the policy levers available to governments to influence population size and distribution are limited, particularly in the case of a liberal democracy such as Australia where many of the kinds of measures generally associated with population policies in less democratic countries (eg. control of internal mobility and compulsory birth control programs) would not be acceptable.

Difficulties faced in influencing Australia's population size through immigration include the need to uphold Australia's international humanitarian obligations, the need to allow Australians to reunite with close family, the importance of skilled migration for meeting skill shortages, the increasing global competition for skilled people, the limited influence on emigration and on the entry of New Zealanders.

Population targets that have been suggested for Australia have ranged from as low as 6 million to as high as 50 million or even more. The ABS states that such targets are impossible to reach in

the foreseeable future, given current levels of fertility and historic levels of migration.

Even if fertility was to fall to 1.0 baby per woman, and NOM was set at zero, the population would be 16 million in 2051, although it would reach 6 million by 2101. In the more likely event that fertility and mortality remain at the levels specified under the medium projection series (Series B), to reach a population target as low as 6 million by 2051 would require negative net migration of around -245,000 per year.

To obtain a population of 50 million by 2051 with fertility at 1.7 babies per woman, migration would need to be 470,000 per year. Alternatively, with migration at 110,000 fertility would need to jump to about 3.7.

## Prospect for Other Dimensions of Population

Fertility, life expectancy and NOM have implications for other dimensions of population, including:

1. the workforce's potential growth rate and size;
2. the population age structure; and
3. population distribution.

### 1. Change in the Potential Workforce's Growth Rate and Size

The potential workforce is the number of people in the population of workforce age (ie. usually defined as 15-64 year olds). The actual workforce will depend on the proportion of 15-64 years olds that seek to actively participate in the workforce.

As population growth slows, growth in the potential workforce is also projected to slow considerably. Potential workforce growth peaked in 1999 and is projected to steadily decline. In recent years Australia's potential labour force has been growing by about 170,000 people each year. However, for the entire decade 2021-30, the potential labour force could increase in size by just over 400,000 people in total under the ABS series B projection.

The population aged 15-64 years numbered 13.5 million people and made up 67.2 per cent of Australia's population at June 2004.

Despite quite different outcomes in terms of the population size of those aged 15-64 years under the three different ABS series (see Figure 1-27), this age group follows the same pattern for all series in terms of the proportion of the total population. The proportion will increase slightly from 67 per cent at June 2004 for all three series before declining to 57 to 59 per cent by 2051 and 55 to 58 per cent by 2101.

### 2. Change in the Population Age Structure

The ageing of our population will continue. This is the inevitable result of fertility remaining at low levels over a long period and increasing life expectancy. As population growth slows, the population is projected to age progressively with the median age of 36.4 years in 2004 increasing to about 41 by 2021 and to about 45 years by 2051.

By 2051, around 26 per cent of Australia's population is projected to be aged 65 years or over, compared with 13 per cent currently. By 2101, this proportion will be around 27 per cent. The highest

annual rate of growth for this age group will occur around 2012, when the peak of the baby-boom generation reaches retirement age.

Those aged 85 years and over currently make up 1.5 per cent of the total population, but will grow to around 6 per cent by 2051 and to around 7 per cent by 2101.

Extensive research has concluded that immigration beyond current levels would have a diminishing impact on retarding the ageing of the population. This reflects ageing being a gradual process and that migrants who enter Australia would themselves be part of the aged population in 30 to 40 years time. Massive levels of immigration would be needed to have any significant impact on the proportion of the population that is aged. Such levels would result in a very large population in future years. Changes in the fertility rate have a far greater impact on the population age structure than changes in migration levels.

### 3. Population Distribution

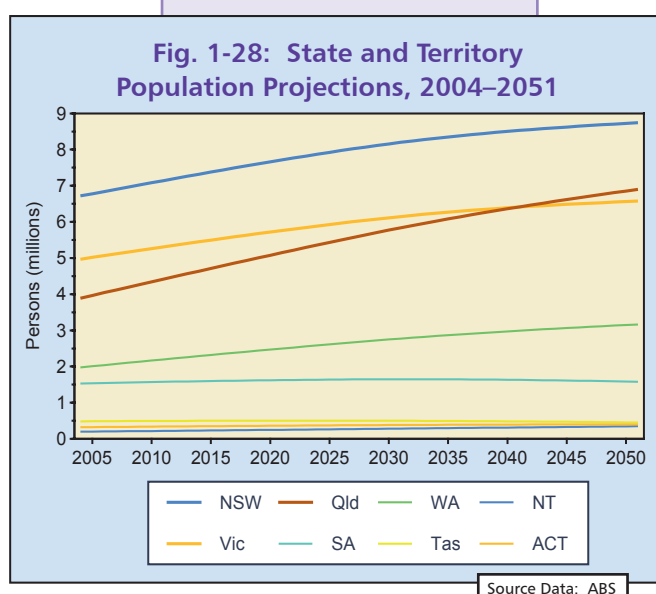
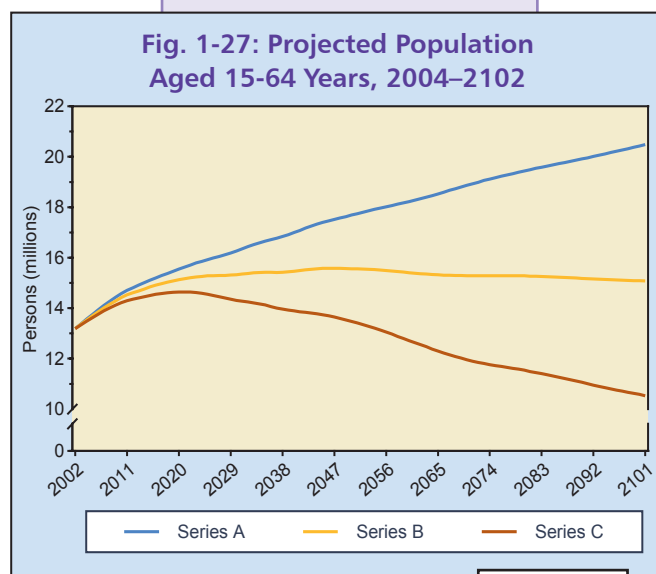
Population is not just about overall size and age structure. Where people live is just as important to the economic, social and environmental future of Australia. Over 75 per cent of Australia's population currently lives in three States: New South Wales (33.5 per cent); Victoria (24.7 per cent); and Queensland (19.4 per cent). The remaining 22.5 per cent live in Western Australia (9.8 per cent); South Australia (7.6 per cent); Tasmania (2.4 per cent); the ACT (1.6 per cent); and the Northern Territory (1.0 per cent).

The ABS notes that interstate migration is probably the most difficult component to measure in Australia's population estimation process. The movement of people between the States and Territories of Australia is unrestricted and depends on many factors such as varying economic opportunities, overseas immigration and settlement patterns, and lifestyle choices. As fluctuations in these factors are difficult to predict, the trends and levels of past net interstate migration are used by the ABS for their projections.

Series B projects population increase over the next 50 years in all States and Territories, except Tasmania. Between 2004 and 2051, the population of the Northern Territory would increase by 75 per cent, Queensland by 77 per cent and Western Australia by 60 per cent, well above the growth projected for Australia as a whole (40 per cent). The distribution of Australia's population is therefore projected to be noticeably different in 50 years' time.

Under Series B, New South Wales is projected to remain the most populous State in Australia, while Victoria would be replaced by Queensland as the second most populous State. Queensland, Western Australia and the Northern Territory would increase their share of Australia's population, while the remaining states' and territories' shares would decline under this Series.

Under Series B, all of the capital cities are projected to experience larger percentage growth than their respective balances, resulting



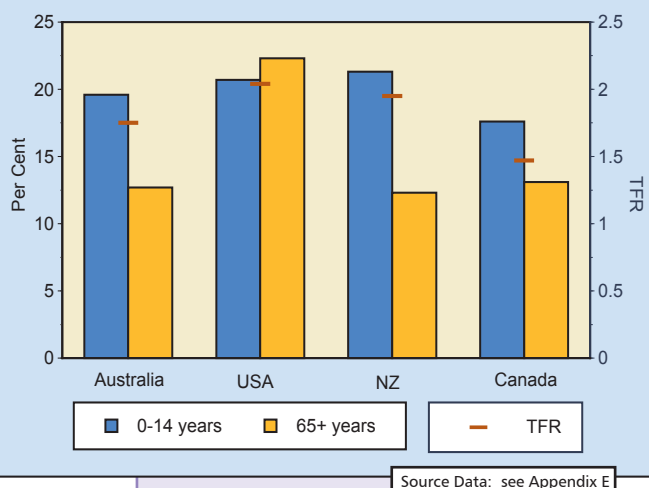
in the further concentration of Australia's population within the capital cities. Australia is highly urbanised. At June 2004, 64 per cent of Australians lived in capital cities, but by 2051, this proportion is projected to increase to 66 per cent. Sydney and Melbourne would remain the two most populous cities in Australia at 5.6 million and 5.0 million respectively by 2051. In this series the population of Darwin would exceed that of Hobart from 2048.

Brisbane is our fastest growing city, and other cities, such as Perth and Melbourne, are growing faster than Sydney. Within the capital cities, the inner areas have begun to experience population growth after years of decline. There is also continued growth in many regional centres including Maitland, Griffith, Dubbo, Ballarat, Wodonga, Townsville, Toowoomba, Mount Gambier and Albany. In contrast, population loss in rural Australia has been occurring for some time, largely as a result of internal migration.

Figure 1-28 illustrates Australia's State and Territory population projections (under Series B) up to 2051.

# Population Characteristics of Other Countries

**Fig. 1-29: Dependency Ratio and Total Fertility Rate Medium Variant, 2005-2010**



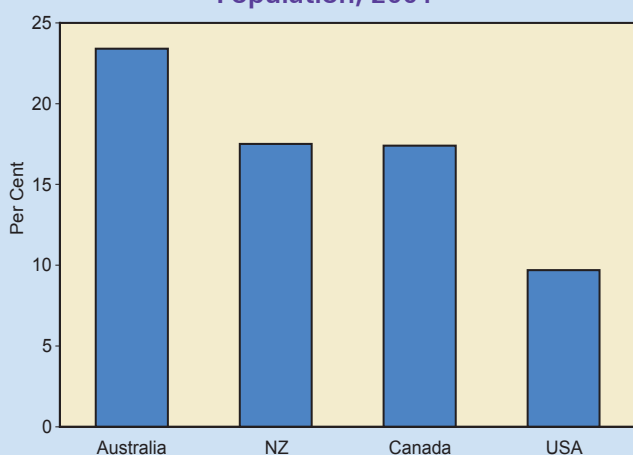
Source Data: see Appendix E

**Fig. 1-30: Life Expectancy, 2002-04**

	Male	Female
Australia	78	83
USA	75	80
NZ	77	82
Canada	78	82

Source Data: see Appendix E

**Fig. 1-31: Proportion of Overseas-born in Population, 2001**



Source Data: see Appendix E

Populations of different countries grow at different rates, depending on the number of births, deaths, immigrants and emigrants. Other than Australia, three countries operate planned migration programs, the USA, Canada and New Zealand. The characteristics of their populations are similar in some respects and quite dissimilar in others.

The annual average population growth rate between 2000 and 2005 for Australia was 1.1 per cent. Comparable growth rates for the other three countries with planned migration were 1.1 per cent for New Zealand, 1.0 for Canada and 1.0 for the USA (United Nations Population Division - World Population Prospects: The 2003 Revision). As with many other developed countries, the growth rate in Australia has slowed over time due to the decline in the fertility rate. The replacement level of 2.1 children per woman (that is, the number of children a woman will have in her lifetime that is required to replace the population) is not being met. Australia has a total fertility rate (TFR - the average number of children born to a woman during her lifetime) of 1.7 children per woman. Canada has a TFR of 1.5, New Zealand 2.0 and the USA 2.1, with much lower rates in many European countries and Japan.

Low fertility impacts on the ageing of the population and consequently on the size of the labour force. As people retire there is no counterbalance of similar numbers of younger people moving into the labour force causing governments to look for workers overseas. In the four planned migration countries the proportion of those people aged 65 years or more is increasing. Fig. 1-29 shows the proportion of those aged 65 years or more in Australia (12.7 per cent) was a little lower than Canada (13.1 per cent) but higher than the USA and New Zealand (both 12.3 per cent).

The proportion of the populations in the younger age groups is representative of the trends in fertility in each of the countries. New Zealand has the highest proportion with those aged less than 15 years accounting for 21.3 per cent followed by the USA with 20.2 per cent. Both these countries have a TFR that is higher than that of Australia and Canada. The proportion of the Australian population aged 15 years or less was 19.6 per cent and for Canada, 17.6 per cent. The group comprised of those aged less than 15 years and those aged 65 years or more, is collectively known as the dependent population, as they do not generally participate actively in the labour force.

Another component of population growth is life expectancy. All countries throughout the world have experienced a decline in mortality. For the four planned migration countries the life expectancy at birth (that is, the age that a person is expected to reach when they are born) of males and females is shown in Fig. 1-30. Life expectancy for these four countries compares well with other developed countries, with Canada and Australia ranking amongst the top group.

The proportion of the Australian population born overseas is significantly greater than in the other three migration countries. In 2001 the overseas-born comprised 18.4 per cent of the Canadian population, 18.7 per cent of the New Zealand population and 11.4 per cent of the population of the USA. This compares with 23.1 per cent of the Australian population (2001 Census) who were born overseas.