The Impact of Long-Term Visitors on Projections of Australia's Population

prepared for

the Department of Immigration and Multicultural and Indigenous Affairs

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EXECUTIVE SUMMARY

In 1999 and 2000, for the first time, net long-term visitor migration exceeded net permanent migration, by nine per cent in 1999 and by 21 per cent in 2000. This report focuses on the longer-term demographic implications of this change by constructing an alternative population projection methodology.

The issue

Projections of population conventionally are based on an assumption that a particular level of annual net overseas migration will continue through future years. There is an implicit assumption that this migration is permanent migration. Once the assumed migration is added to the population, there is no assumption that relates to the future departure of long-term visitors. Also, the visitors are subjected to Australian fertility and mortality rates as if they were permanent residents. The question addressed in this report is: if permanent residents and long-term visitors are treated as two separate populations, does this make a difference to the outcomes of population projections?

The method

The paper uses a new projection model that divides the Australian population into two components, permanent residents and long-term visitors. Each population is projected separately with provision for movement (by sex and single years of age) from the visitor population to the permanent population through visa conversion onshore. Visitors who do not convert to permanent residence on shore are 'tagged' with their expected year of departure and are taken out of the population in that year. The study found that the average length of stay for long-term visitors was three years (see Figures 7 and 8). Visitors are assumed to have a zero birth rate (because any births they have will leave with them) but are subjected to Australian rates of mortality while in Australia.

On-shore visa conversion

About 8 per cent of long-term visitors to Australia convert to permanent residence on shore. This means that about 10 000 of the 125 000 long-term visitors who arrived in 1999 will convert to permanent residence. The rate of conversion was lowest (about 2 per cent) for visitors arriving at ages 15-29 (the student ages) and highest (16 per cent) at the family ages of 0-14 and 30-44 (Figure 6). As net permanent migration in 1999 was about 50 000, the effective level of net permanent migration, including on-shore conversions is about 60 000.

Projection results (with permanent and long-term visitor migration constant at 1999 levels)

In 1999, net permanent and long-term migration was 88 000. If this level of net migration for Australia was assumed to remain constant into the future, the population would rise to **25.4 million** by 2050 based on the standard population projection methodology.

However, the level of 88 000 in 1999 consisted of about 60 000 permanent additions to the population (50 000 direct and 10 000 on shore) plus 28 000 temporary additions due to the excess of long-term visitor arrivals over visitor departures. If conditions were held constant at 1999 levels, that is, if long-term visitor arrivals remained unchanged at 125 000 per annum into the future, within a few years, net permanent and long-term migration would fall to 60 000 and the population would rise by 2050 to **23.1 million**. Put in another way, to maintain a net migration of 88 000 per annum while net permanent migration is 60 000 per annum, long-term visitor arrivals would need to increase continually throughout the next 50 years to over 400 000 per annum by 2050.

Alternative scenarios

By way of example, if the target for net migration for Australia over the next 50 years was to be 80 000 per annum, this might be constructed by any of the three following combinations:

1. Net permanent migration of 70 000 per annum, long-term visitor arrivals of 125 000 per annum and on-shore visa conversion to permanency of 8 per cent.
2. Net permanent migration of 50 000 per annum, long-term visitor arrivals rising across time to 328 000 per annum by 2050 and on-shore visa conversion to permanency of 8 per cent
3. Net permanent migration of 50 000 per annum, long-term visitor arrivals of 125 000 per annum and on-shore visa conversion to permanency of 32 per cent (immediately).

The study points to the fact that population projections will vary with different assumptions about both net permanent and net long-term movements and concludes that the gain from net long-term movements is a key element in Australia's population future.

In particular, the contribution of long-term visitor arrivals to net overseas migration gain is significant and growing. However, the extent of the contribution depends on continuous growth in long-term arrivals. If the number of long-term visitor departures came to equal long-term visitor arrivals in any one year, its contribution to net overseas migration would be zero. This would lead to a drop in net overseas migration to the level of net permanent migration (now 50 000) plus about 10 000 onshore visa conversions, or lower.

The definition of the Australian population

Prior to September 1976, short term movements of persons into and out of Australia were included in the calculations of the estimated population of the country.[1] This meant that, prior to September 1976, people who were visitors to Australia for very short periods were counted in the Australian population while present in the country. Thus, a tourist from the United States spending a week on the Great Barrier Reef was counted as a member of the Australian population during the visit. Likewise, Australians who went for a short holiday to New Zealand were excluded from the Australian population during their absence. The net addition to the Australian population from overseas movements of people was calculated as arrivals from overseas minus departures for overseas. No account was taken of the duration of the stay in Australia or of the absence from Australia. When short-term international movements into and out of Australia were small, this approach to measuring the Australian population presented little problem. However, as these movements increased, the continued use of this approach became untenable especially when it was considered that population totals were used in matters so significant as the distribution of Commonwealth revenue to the States and Territories and the definition of electoral boundaries. Today, there are about eight million short-terms moves both out of and into Australia each year (compared to 0.5 million in 1976).

As a solution to this situation, the Australian Bureau of Statistics (ABS) determined that short-term movements into and out of Australia should be excluded from estimates of net overseas migration for the purpose of estimating the Australian population (ABS 1982a, ABS 1982b). Short-term was defined as a period of less than 12 months. Thus, persons resident in an overseas country staying in Australia for less than 12 months are not included in the estimate of the Australian population and residents of Australia who are absent overseas for a period of less than 12 months continue to be counted as members of the Australian population. This definition of the population is termed the estimated resident population.

The use of a twelve-month criterion creates a problem because it is based upon people's stated intentions recorded as they enter or leave the country. Many people subsequently change their intentions and stay for longer or shorter periods than they originally stated. Where a change of intention involves a person staying longer than 12 months when they had stated that they intended to stay for less than 12 months, the person should be added to the estimated Australian population. In the reverse situation, a person who intended to be absent for less than 12 months but then stayed away for more than 12 months should be subtracted from the Australian population. These changes of intention from short-term to long-term and vice versa are presently known as 'category jumping'. The ABS makes estimates of category jumping and adjusts the Australian population to take account of category jumping. The estimates are made through a computer matching of arrival and departure cards, the cards that are completed by all people entering or leaving the country. The problems of measuring category jumping, addressed in a recent report by Khoo and McDonald (2000), are not considered in this report. However, the impact of

[1] Members of foreign embassies and their families were the single exception to this rule.

category jumping needs to be taken into account when trends in long-term migration are considered.

The definition of net overseas migration

Excluding category jumping, the re-definition of the Australian population meant that net overseas migration for the purpose of estimating the Australian population became the sum of the following three movements:

A. Net permanent overseas migration defined as:
1. arrivals in Australia of new permanent settlers, minus
2. permanent departures of permanent residents of Australia

B. Net long-term movement of Australian permanent residents defined as:
3. arrivals of permanent residents of Australia who have been absent for 12 months or more, minus
4. departures of permanent residents of Australia for a period of 12 months or more

C. Net long-term movement of persons who are not permanent residents of Australia (visitors) defined as:
5. arrivals of visitors for a period of 12 months or more, minus
6. departures of visitors who have been in Australia for 12 months or more.

There is a distinction made here between permanent residents of Australia (A and B) and visitors (C). Permanent residency is based upon legal status, the legal right to live in Australia on a permanent basis. However, for the purpose of estimating the population of Australia, a person is not a permanent resident unless they have taken up and maintained the right of permanent residency in Australia. For example, New Zealand citizens in Australia are not counted as permanent residents unless they arrive in Australia with the stated intention of remaining permanently. Likewise, an Australian citizen living permanently overseas has a right of permanent residence in Australia but is not counted as a permanent resident of Australia.

Long-term visitor migration and population projections

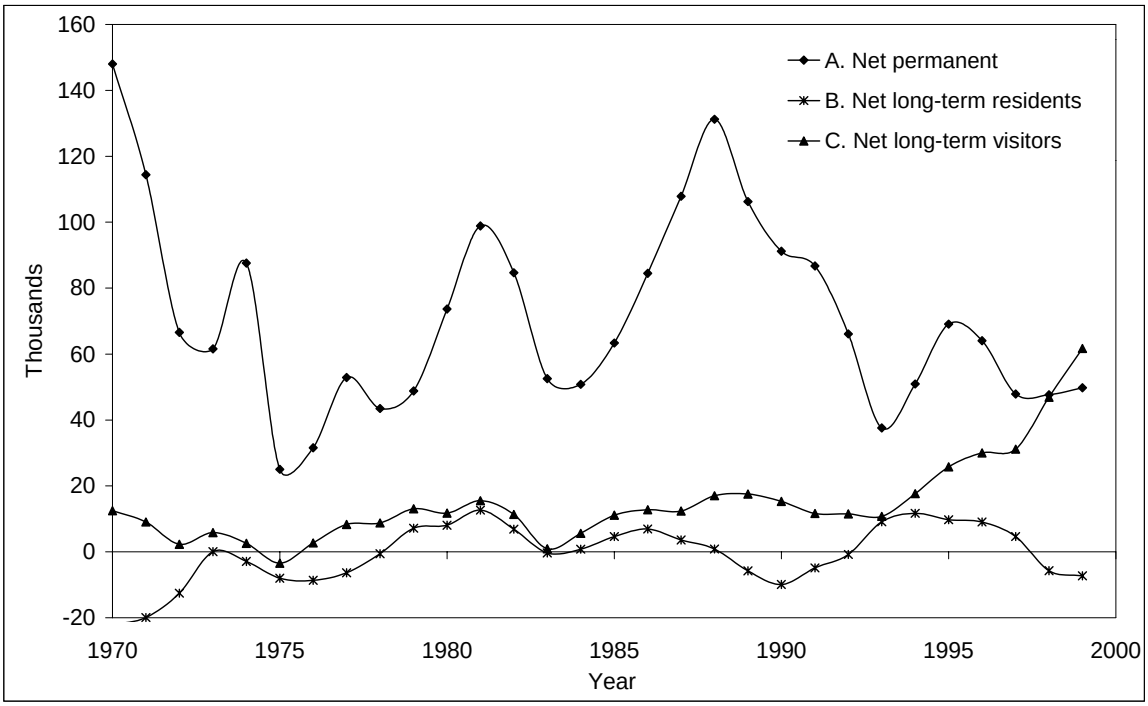
In 1999 and 2000, for the first time, net long-term visitor migration (Movement C) exceeded net permanent migration (Movement A), by nine per cent in 1999 and by 21 per cent in 2000. A shift in Australia's migration entry from permanent settlers to long-term visitors has many implications. In this report, we focus on the longer-term demographic impacts of this change. The standard population projection based on package programs assumes a particular level of annual net overseas migration that continues through future years. There is an implicit assumption that this represents permanent migration. Once the assumed migration is added to the population, there is no assumption that relates to the future departure of long-term visitors. Also, the visitors are subjected to Australian fertility and mortality rates as if they were permanent residents. The question addressed in this report is: if permanent residents and temporary residents of Australia are treated as

two separate populations, does this make a difference to the outcomes of population projections? The ABS projections (ABS 2000) take account of a division between permanent and temporary movements in their migration assumptions but do not consider the sustainability of the assumptions made about future temporary movements.

Permanent and long-term net migration, 1970–99

Throughout the period 1970–99, Movement B (net long-term resident migration) has fluctuated around zero. Up to 1994, Movement C (net long-term visitor migration) was usually positive but at a low level. Thus, the total of the three movements, net overseas migration, was dominated by net permanent migration (Movement A) (see Figure 1).

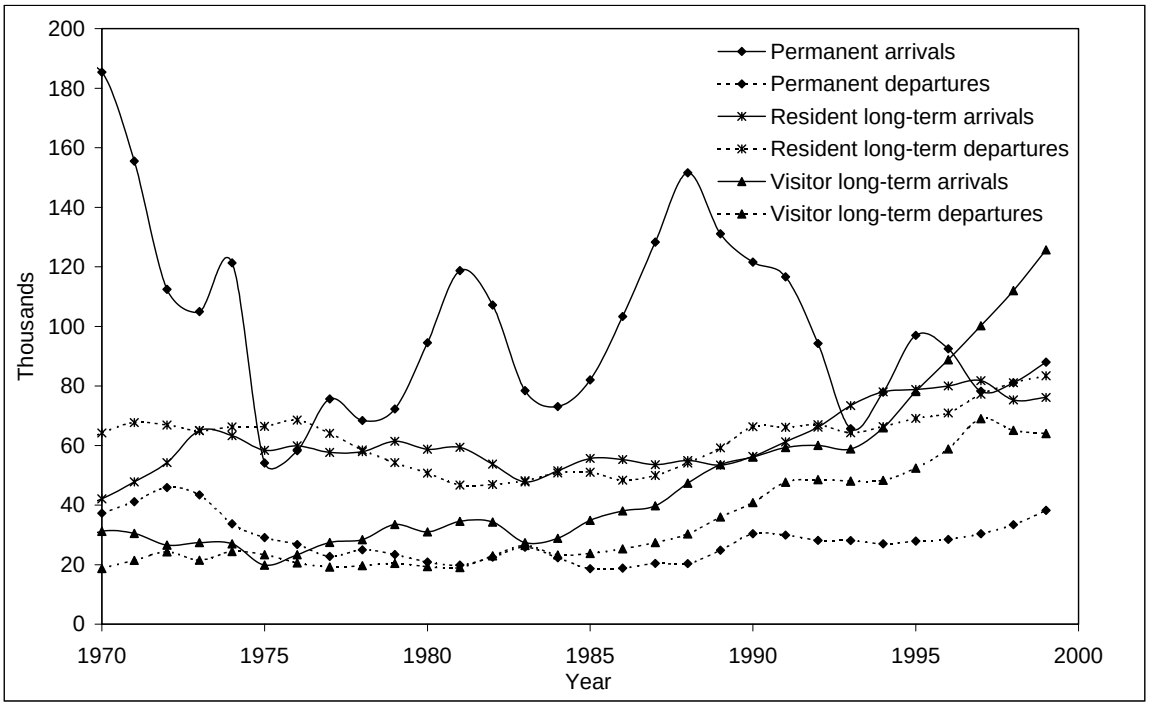
Figure 1. Net permanent and long-term migration[a], Australia, 1970–99



a. Does not include adjustments for category jumping.

Movement C (net long-term visitor migration) has been positive over a long period of time largely because of a lag effect. Visitor arrivals have been growing continually since about 1975 (see Figure 2). Visitor departures have also been rising, but because long-term visitors stay for about three years on average, there has been a lag of about three years in the rise of visitor departures. With a three-year lag, the two movements are very close to each other indicating that almost all visitors leave after an average of about three years in Australia. In regard to the population of Australia, this means that there has been a gradual build-up of the numbers of long-term visitors in the population that has been driven by a combination of the increase in the number of long-term visitor arrivals and the lag to departures.

Figure 2. Permanent and long-term arrivals and departures[a], Australia, 1970–99

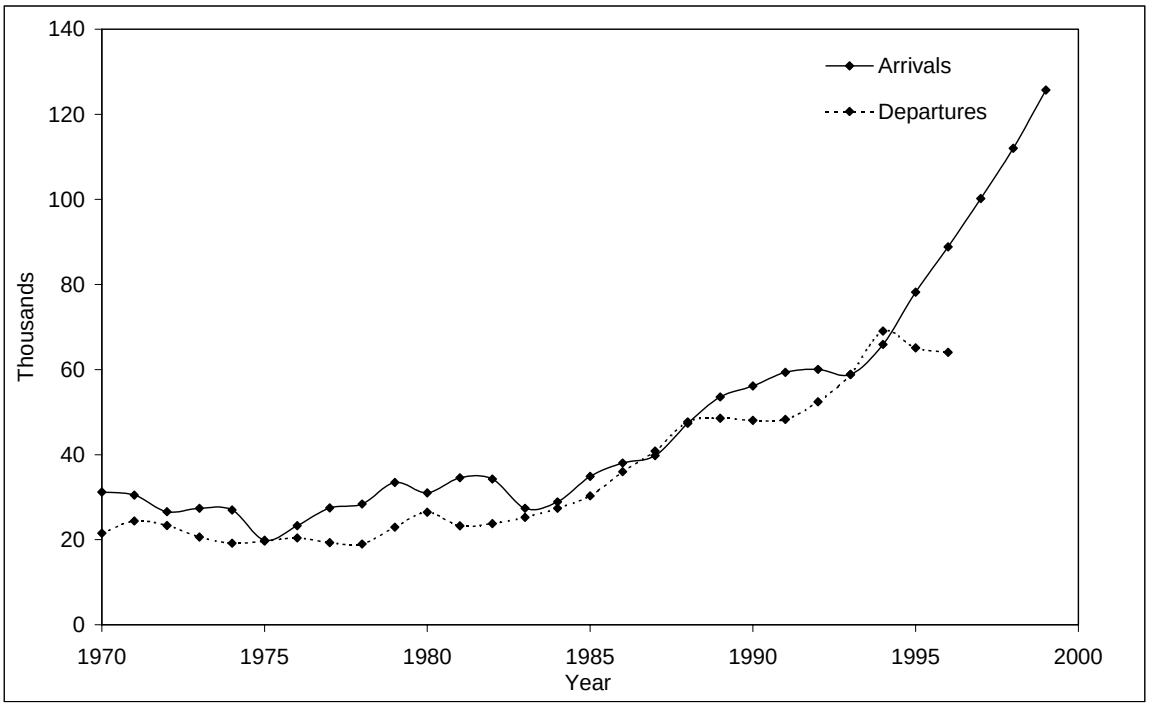


a. Does not include adjustments for category jumping.

Two changes in the general trend have occurred during the 1990s. First, the slow increase in arrivals of long-term visitors has, since about 1987, turned into a very rapid increase (Figure 3). The rise has been from 40,000 in 1987 to 125,000 in 1999. Second, in the last two years, a considerable gap has emerged between arrivals and lagged departures. Such a gap could emerge if there was a sudden shift to longer durations of stay among visitors. The largest increases in visitor arrivals in recent years have been in two categories that tend to stay for longer periods of time, students and those coming for employment (ABS 2001: 9). However, the trend in the number of long-term visitor arrivals followed a smooth upward trend during these years: there was no sudden shift upwards between 1994 and 1995. Also, the intended duration of stay distribution of long-term visitor arrivals does not vary greatly from year to year. So, this seems unlikely to have been the explanation for the emerging discrepancy between visitor arrivals and lagged visitor departures. It might also be the case that there was a sudden upward shift in the proportion of long-term visitors who converted onshore to permanent residency. The Australian Government in recent years has facilitated onshore applications for certain categories of people applying for permanent residence. This capacity is now available to students who have recently completed an Australian degree and to business applicants. When a person converts onshore from visitor to permanent status, no adjustment is made to the population count and the conversion is not recorded in the statistical data. That is, an onshore conversion is not recorded as a permanent arrival. However, again, this is most unlikely to be the explanation for the discrepancy firstly because the facilitation of onshore applications for permanency is too recent and, in any case, the proportion of

long-term visitors who convert onshore to permanent residency is too small to have produced the discrepancy.

Figure 3. Long-term visitor arrivals and departures (lagged three years)[a], Australia, 1970–99



a. Does not include adjustments for category jumping.

The recent gap between arrivals and lagged departures may also be caused by measurement error, but, if this is the case, we would have to explain why measurement error has become much more important in the last two years. In fact, there was a significant change in the way in which long-term visitor departures were measured between 1997 and 1998; that is, at just the point where the discrepancy emerges. A new form of departure card was introduced from July 1998. The departure card used up to June 1998 asked visitors or temporary entrants departing to state the duration of their stay in Australia on this visit in years, months or days. The response was used to determine those who had been in Australia for one year or more (long-term). The new card introduced in 1998 eliminated the question on duration of stay. From July 1998, the duration of stay for visitors has been directly calculated by computer matching with the arrival card information. A possible explanation for the gap between arrivals and lagged departures relates to visitors who state on arrival that they intend to stay for exactly 12 months. The practice of the ABS has been to allocate 25 per cent of these persons to the long-term movement, the remainder being classed as short-term. In fact, analysis has shown that most people who state a period of exactly 12 months at arrival stay for less than 12 months. For example, in 1998-99, 49.5 per cent of Working Holiday Makers stated at arrival that they intended to stay for 12 months or more but only 2.8 per cent who were departing had stayed for 12 months or more as calculated by matches with arrival cards (Khoo and McDonald 2000: Table 5). Before July 1998, when they would

have stated their duration of stay at departure, many of those departing close to 12 months may have reported their duration as 12 months thus creating a closer balance with the percentage assumed by the ABS. The use of the stated intended length for visitor arrivals in combination with the actual length of stay for visitor departures is likely to lead to a large negative category jumping (Khoo and McDonald, 2000:17). Category jumping has been calculated for 1999 and it was a large negative number, –16 000 (ABS 2001: 29). There are other reasons for category jumping but this one seems to produce a systematic overstatement of overseas net migration based on the balance of Movements A, B and C.

It is also possible that a long-term visitor may leave Australia for a short period in order to have their passport stamped in an overseas Australian Embassy and, when they return, they do so as a permanent resident. Such a person would initially be double counted in the population, once as a long-term visitor and once as a permanent resident, a correction being made to the double counting when the 'category jumping' adjustment was made. Finally, there is a suggestion that students who enter Australia on a long-term basis may leave for a short holiday back home and be classified as short-term at departure but as long-term when they arrive back in the country. This would lead to an over counting of long-term arrivals with no matching long-term departures. The two possibilities described in this paragraph would have applied both before and after 1999 and so are less likely to be explanations of a change in the direction of visitor departures that became apparent in 1999.

This is a complex argument but the apparent shift in Australia's migration stream from permanent settlers to temporary visitors in 1999 and 2000 may be more apparent than real as it needs to be interpreted in the light of:

- a new, systematic downward impact of category jumping on long-term visitor departures related to the change of departure cards in 1998;
- other causes of category jumping;
- the rapid rise in long-term visitor arrivals; and
- onshore visa conversions to permanent residence.

There is an argument from this analysis that instead of publishing a single number called 'category jumping', the ABS should produce revised estimates of long-term net migration. This would provide a more accurate assessment of the relative balance of permanent and long-term migration in Australia's net overseas migration. For example after category jumping, net overseas migration to Australia in 1999 was 88 000. This can be seen as 50 000 net permanent migration, 10 000 onshore visa conversions (see the model below) and a 28 000 increment to the long-term visitor population. With this presentation of the data, long-term visitor migration accounts for 32 per cent of annual net migration, rather than the 52 per cent that appears in the published data.

A model to examine the effects of visitor migration on population projections

The model

To sustain a continuing large and positive contribution of visitors to net overseas migration, the number of visitor arrivals would have to keep increasing at the same rate. If the rate of entry slowed down, the departures would start to catch up to the arrivals and the net visitor gain would fall. Also, visitors are probably much less likely than permanent residents to give birth and, even if they do, they will take the child with them when they leave the country. So, effectively, visitors should have a zero birth rate rather than the same birth rate as the Australian population as a whole. These concerns would be modified by the extent to which visitors convert to permanent residence onshore. Thus, it is also necessary in assessing the impact of visitor migration on population projections to consider the extent of these conversions. Effects on mortality are likely to be trivial because visitor migration is concentrated in ages where death rates are extremely low.

To examine the complex effects of visitor migration upon population projections, we have designed a population projection model that divides the Australian population into two components, permanent residents and long-term visitors (the temporary population). Each population is projected separately with provision for movement (by sex and single years of age) from the temporary population to the permanent population through visa conversion onshore. The populations are projected forward for one year at a time because visitor movements occur on a relatively short cycle. The largest number of visitors arrive for more than one year but less than two. A single calendar year, single year-of-age model is also useful because of the highly age-specific nature of visitor migration. For example, the numbers increase substantially from age 11 to 12 and from age 17 to 18. The model projects both populations forward for 50 years. Full details of the operation of the model are given in Appendix 2.

The base populations, permanent and long-term visitors

The base Australian population used for the projection is the estimated resident population of Australia by age and sex at 30 June 2000 (ABS 2001). This is the combination of permanent residents and long-term visitors. The long-term visitor population by sex and single years of age at 30 June 2000 was obtained from the cumulation of the number of long-term visitor arrivals from 1990 onwards. A standard age and sex distribution was applied to these arrivals derived from the average of visitor arrivals from 1996 to 1999. A standard distribution of length of stay and conversion to permanent residence for each sex and age category was applied to the arrivals (the derivation of this distribution is described below). This was used to remove people from the population as they reached the end of their duration of stay and to remove those who converted to permanent residence. In other words, the stock of visitors in 2000 was obtained by projecting from 1990 to 2000. The base visitor population obtained in this

way is also differentiated by (or, tagged with) the remaining length of stay (expected year of departure). The estimate of the long-term visitor population thus obtained was 288 034 at 30 June 2000. As an independent check, it was found that this estimate is close to the stock of long-term visitors estimated by the Department of Immigration and Multicultural and Indigenous Affairs (DIMIA). The number of permanent residents in each sex and age category was then obtained by subtracting the visitor population from the total population.

Projection

The permanent population is projected forward using the standard cohort-component methodology. This involves the use of a net migration figure for the permanent population (Movements A and B) with the addition of the number of long-term visitors for that year who later converted onshore to permanent residence. That is, using data on length of stay at the time of conversion, long-termers who convert to permanency are allocated to the permanent population from the time that they arrive in Australia. A standard age distribution of net migration for the permanent population is applied.

The visitor population is projected in a different way. The base population is aged forward year by year and subjected to Australian mortality rates. New long-term visitor arrivals (excluding those converted to the permanent category) are added to the visitor population in the year that they arrive according to their age and sex. As visitors are tagged with the year of their departure, those due to depart in the present year are taken out of the population. As visitors who later convert to permanent residence are shifted from the visitor population to the permanent population at the time that they arrive, the visitor population at any point in time consists entirely of persons who will ultimately leave Australia (precluding death). Finally, no fertility rate is applied to the visitor population on the assumption that any births that they have in Australia will be taken out of the country with them.

Standard input assumptions

Fertility

In all runs of the model, the Total Fertility Rate is assumed to fall from 1.75 births per woman in 2000 to 1.65 in 2010. Thereafter, the fertility rate remains constant at 1.65. Single year-of-age fertility rates are used for each age consistent with Australian rates and the fertility level.

Mortality

In all runs of the model and for both the visitor and the permanent populations, expectation of life is increased at the rate of one year of life for every ten calendar years from initial Australian levels in 2000 of 76.5 years for males and 82.5 years for females. Single year-of-age survival rates are applied based on Australian age patterns of mortality.

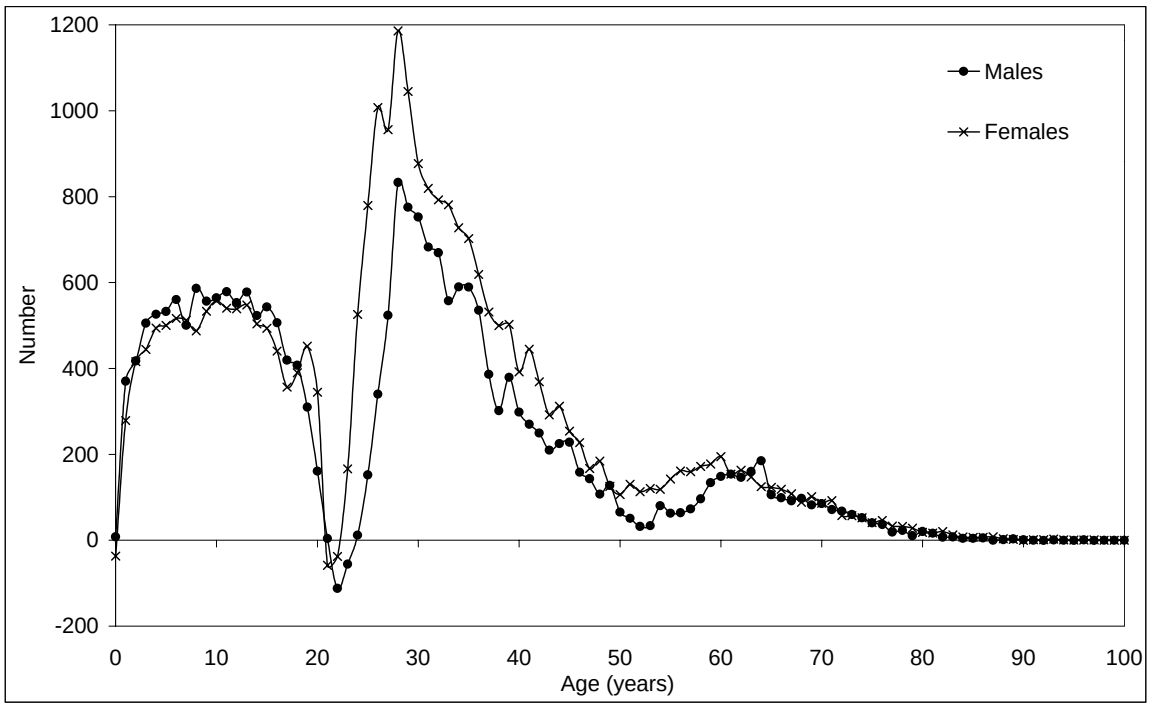
Annual net movement of the permanent population

Each run of the model makes a particular assumption about the annual level of net migration relating to the permanent population. This level combines both net permanent migration (Movement A) and net long-term migration of the permanent population (Movement B). In the past four years, the level of net permanent migration (Movement A) has been almost constant: 1997, 48 000; 1998, 48 000; 1999, 50 000; 2000, 52 000. Net long-term migration of permanent residents has been close to zero for many years (Figure 1). As a standard reference point for the annual net movement of the permanent population, a level of 50,000 per annum has been chosen on the basis of this recent experience.

The age distribution of the annual net movement of the permanent population

While the long-term migration of permanent residents is assumed to be zero, the lag between departures and arrivals means that departures and arrivals do not have the same age distributions. Hence, the net numbers by age in Movement B are not zero although the total is assumed to be zero. The average age distribution of net long-term migration of permanent residents for the years 1996–99 was used as the age distribution for this movement. This was then combined with the age distribution of the permanent movement of permanent residents (Movement A) to get an annual total age and sex distribution for net migration of the permanent population (long-term and permanent movements combined). When net permanent migration is set at the standard of 50,000 per annum, the sex and age distribution is that shown in Figure 4. Females make up 55.6 per cent of the total movement. The long-term departures of permanent residents are high in the late teens and early twenties leading to a trough in the distribution at those ages. The later return of these long-term movers from the permanent population in combination with the ages of new permanent settlers leads to a peak in the age distribution in the late twenties and in the thirties. Many entering in their late twenties or in their thirties apparently have children as the levels for children are high, except for babies.

Figure 4. Standard age-sex distribution of net migration of the permanent population (total=50 000),



Australia

Long-term visitor arrivals, numbers

The number of long-term visitor arrivals is on a sharply rising trend (Table 1). As a standard, long-term visitor arrivals are assumed to remain frozen at the 1999 level of 125,000 per annum. In some projections, however, the level is allowed to change over time. In 1999–2000, long-term visitor arrivals were divided across categories (see Table 2). The rise in long-term visitor arrivals over the 1990s has been concentrated primarily in the education category with a smaller and more recent rise in the employment category (ABS 2001: 9). Future rises in the number of long-term visitor arrivals imply further increases in the student intake and in the employment category.

Table 1. Long-term visitor arrivals, Australia, 1993–99

Year	Arrivals ('000)
1993	58.8
1994	65.9
1995	78.2
1996	88.8
1997	100.2
1998	112.0
1999	125.7

Table 2. Long-term visitor arrivals by main purpose of visit, Australia, year ended 30 June 2000

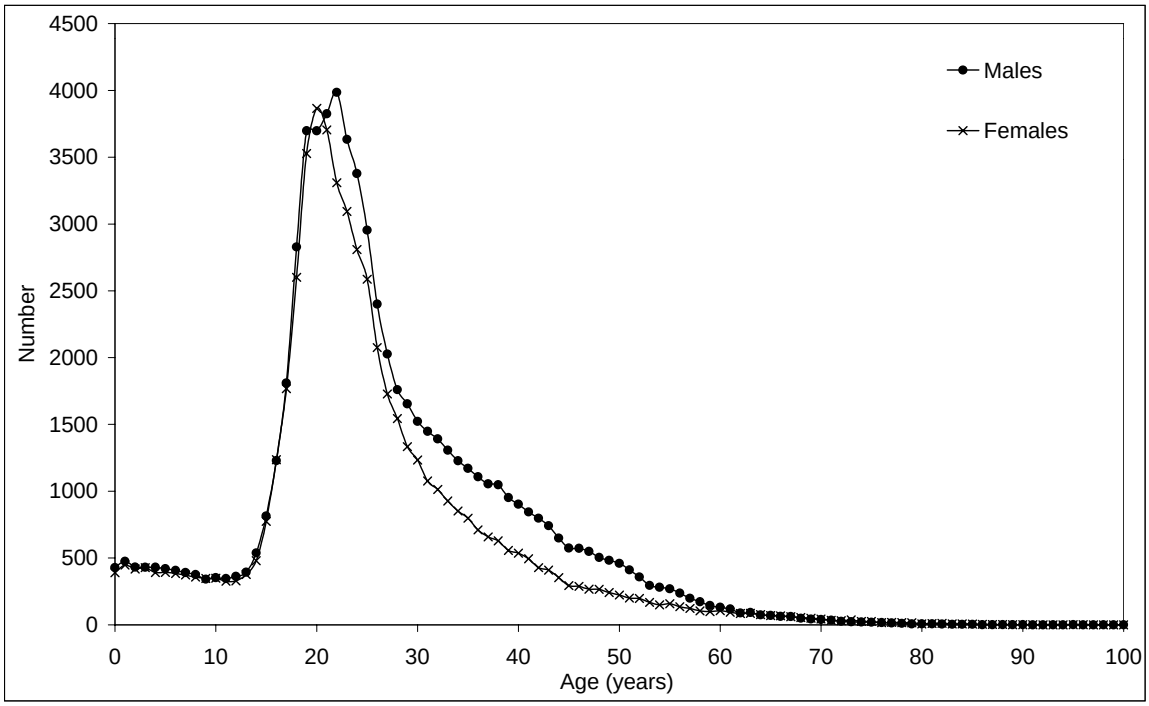
Purpose	%
Business	10.4
Visiting friends/relatives	3.7
Holiday	8.9
Employment	17.2
Education	48.0
Other and not stated	11.8
Total	**100.0**

Source: ABS 2001b: 68

Long-term visitor arrivals, sex and age distribution

The sex and age distribution of long-term visitor arrivals has remained relatively stable in recent years so a standard distribution has been derived as the average of the years, 1996–99. Reflecting the student component, the distribution is concentrated in the mid-teen years through to the early thirties with a substantial peak in the early twenties. In contrast to net migration of the permanent population, long-term visitor arrivals have an excess of males (55.0% of the total) and this excess mainly derives from the older ages (30 years and over).

Figure 5. Standard age-sex distribution of long-term visitor arrivals (total=125,000), Australia



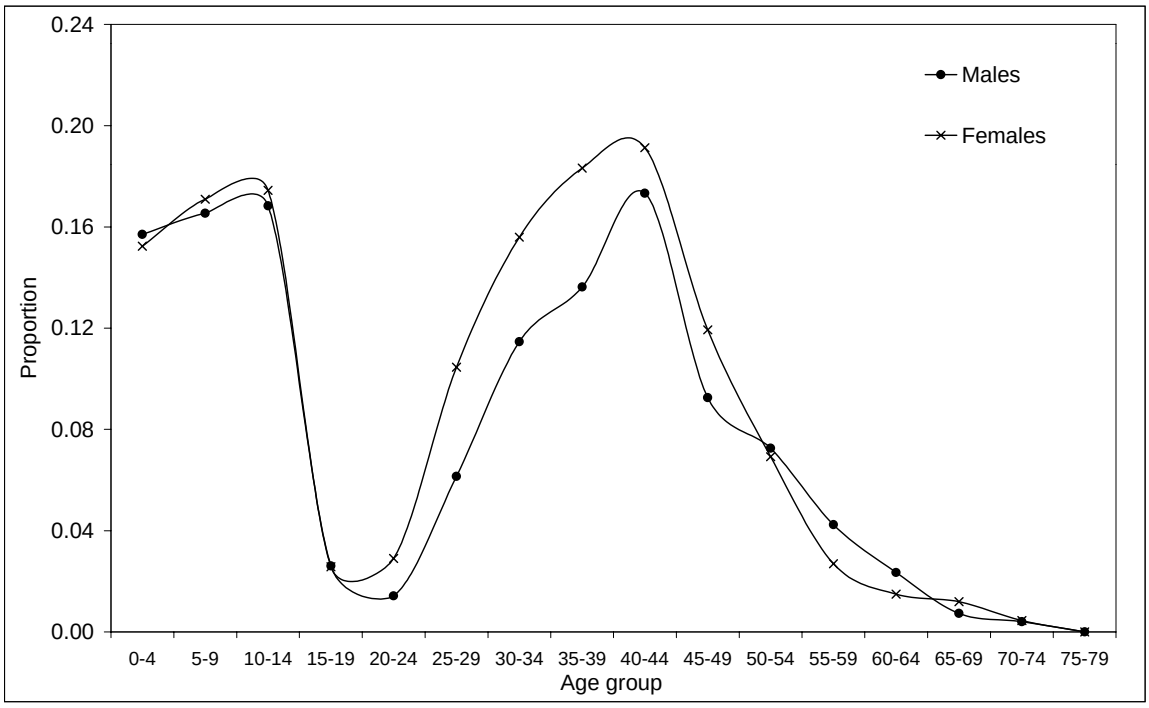
Long-term visitor arrivals, conversion to permanent residence onshore

We were supplied by DIMIA with unpublished information by age and sex of the numbers of people who converted onshore from visitor status to permanent residence in 1998–99 and 1999–2000. These were classified as short-term, long-term and not stated. Those with a not stated term were prorated across the known short-term and long-term to obtain estimates of the number of long-term visitors who converted onshore to permanent residence in each age and sex group for the two years. These numbers were used to calculate rates of eventual onshore conversion from long-term to permanent status for long-term arrivals by age and sex. The method used is complex and is documented in Appendix 1. The proportion who become permanent is the estimated proportion who

convert onshore at any time during their visit, from beginning to end. The rates of conversion are taken as the standard rates (see Figure 6).

The rates of conversion peak in the family ages, that is, children aged less than 15 years and adults aged between 30 and 50. The conversion rates are very low in the student ages, 15–19 and 20–24 and at ages 55 years and over. On the other hand, the arrival rates are very high in the student ages so that the number of conversions, as distinct from the rate of conversion, remains relatively high at the student ages. From 1 July 2001, the right to convert onshore has been extended to students who have completed an Australian degree in the past six months. This is likely to lead to a rise in conversion rates at these ages in the future.

Figure 6. Proportion of long-term visitors becoming permanent residents, by age and sex, Australia



Long-term visitor arrivals, length of stay distribution

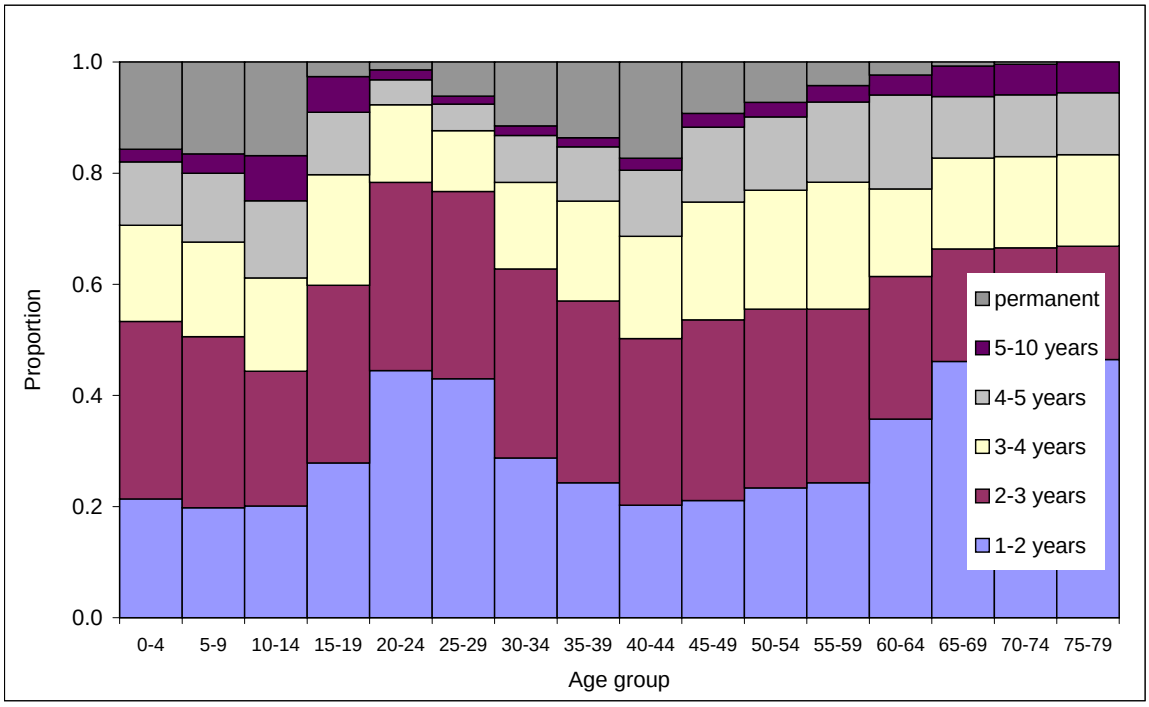
Intended distributions of stay were examined for each sex and age group for the years 1996–99 and found to be relatively stable. These were very similar from year to year and consequently were averaged to obtain a standard distribution of duration of stay in Australia for visitors. These length of stay distributions were combined with the visa conversion rates described in the preceding section at each age and sex to produce an 'outcome' distribution for long-term visitors at each age and sex. In the model, long-term visitor arrivals are subjected, at arrival, to the distributions shown in Figures 7 and 8. If they are to become permanent, then the model transfers them immediately upon arrival to the permanent population. In the standard assumptions, where long-term visitor arrivals

are kept constant at 125 000 per annum, there would be almost 10 000 onshore conversions to permanency which, when combined with the standard net permanent migration of 50 000 per annum, leads to a net annual addition to the permanent population of almost 60 000. Those visitors that never become permanent (115 000 in the standard assumption) are added to the long-term visitor population and tagged with a year of departure. They are then taken out of the population in the year of departure.

A standard model projection

In the previous section, a set of standard input assumptions was specified for the model. In the subsequent projections, the standard assumptions will be changed one at a time. The first task, however, is to examine the outcomes of the projection when all of the standard assumptions apply. This projection is made to demonstrate the effects of a cessation of the rise in long-term visitor arrivals. Having risen rapidly to 125,000 per year by 1999, in the standard projection, long-term visitor arrivals are frozen at that number throughout the 50 years of the projection.

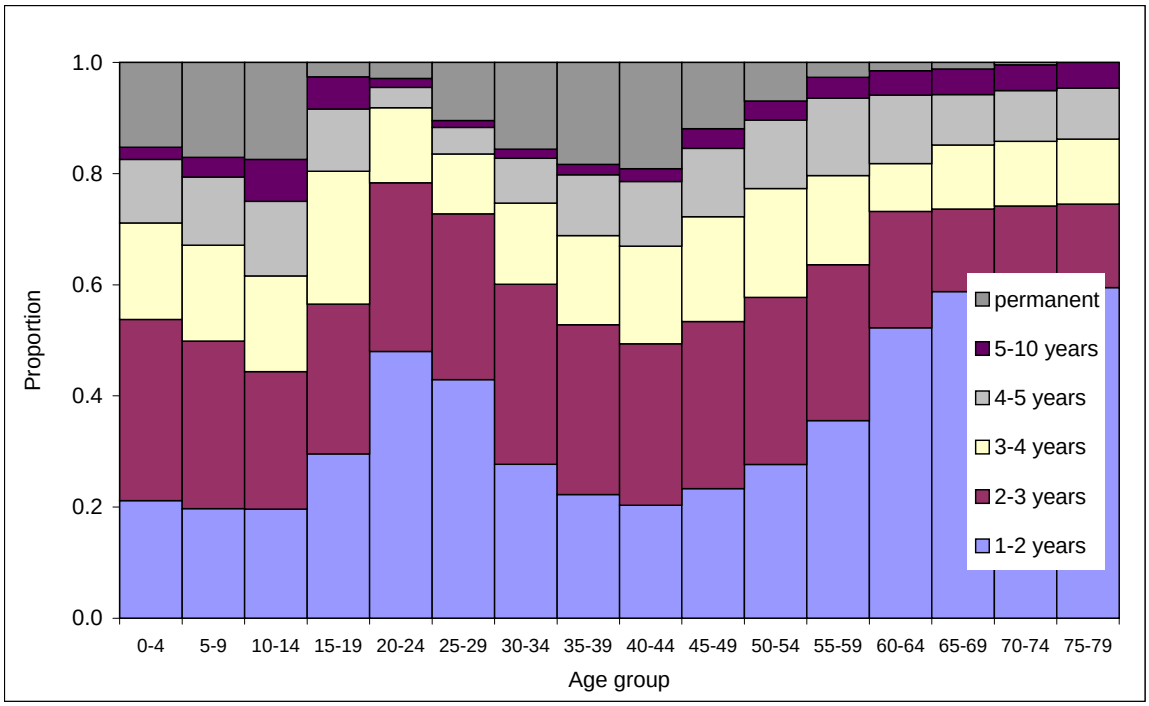
Figure 7. Standard length-of-stay distribution of long-term visitors, Australia, males



In simple terms, the effect of a cessation in the increase in visitor arrivals is that the lag to departures catches up in a few years and net overseas migration falls rapidly to the net permanent level plus onshore conversions; to about 60 000 per annum. The temporary population rises to only 298 000 from the base of 288 000. The proportion of temporary population reaches a peak of 1.53 per cent, only slightly above the base level of 1.50 per cent before falling to long-term stability at 1.29 per cent. The women of reproductive age

included in this visitor population are not subjected to Australian birth rates as it is presumed that whatever births they have will leave the country with them.

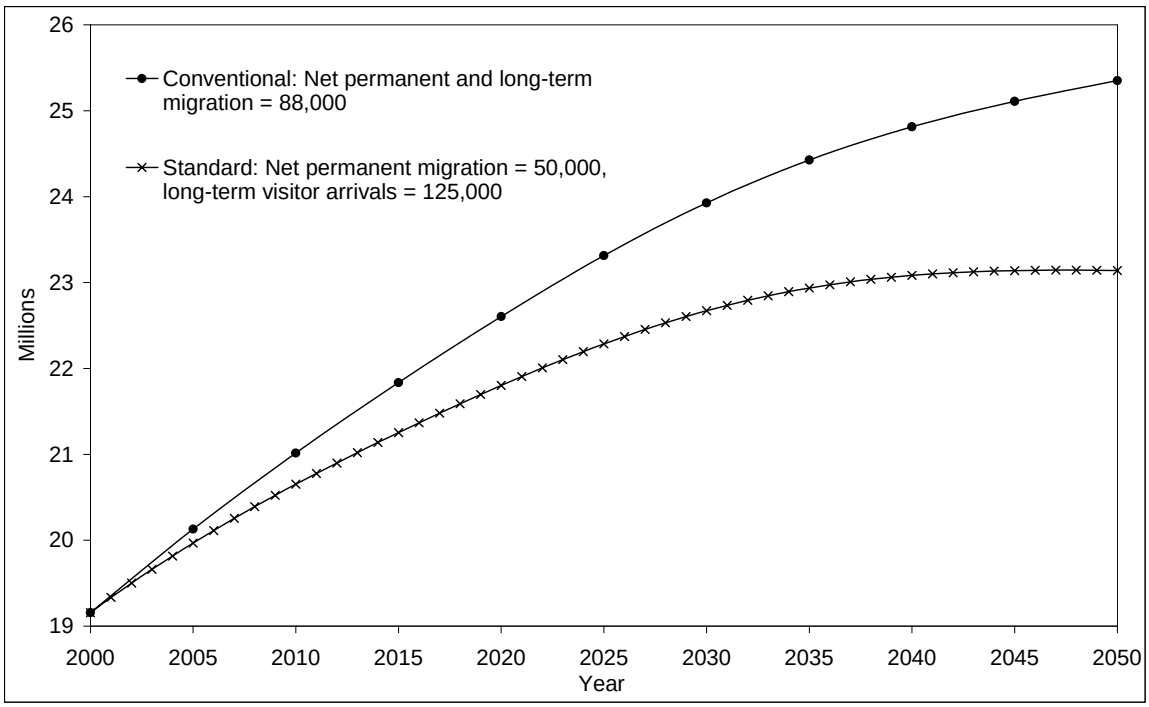
Figure 8. Standard length-of-stay distribution of long-term visitors, Australia, females



The most interesting outcome, however, is that, by 2050, the population would rise to only 23.1 million.

The purpose of this report is to compare the results of population projections that take the temporary nature of migration into account with projections that effectively assume that current net overseas migration is permanent. The standard assumptions we have used correspond to the migration levels that actually occurred in 1999 (net permanent migration of 50 000 and long-term visitor arrivals of 125 000). These led to net overseas migration in 1999 (after category jumping) of 88 000. Therefore, the counterfactual that is appropriate for comparison with this standard projection is the conventional population projection that assumes the same levels of fertility and mortality but an annual net overseas migration of 88 000. The conventional projection would lead to a population of 25.4 million in 2050 and the population would still be rising (see Figure 9). The standard projection that takes the temporary movement into account reaches 23.1 million by 2050 and is no longer rising. Figure 10 compares the annual number of births in each projection and Figure 11 shows the percentage of the population aged 65 years and over. The projection that takes the temporary nature of movement into account ends the period with around 33 000 fewer births per annum and has about 1.6 percentage points extra in the age group 65 years and over.

Figure 9. Total population under two projection scenarios, Australia, 2000–50



The comparison serves to show that there is a certain level of vulnerability to lower levels of future population than have been previously projected if we are relying upon long-term temporary migration to produce the net migration result. The vulnerability arises from the possibility that the number of long-term visitor arrivals may peak and the lag effect produced by rising arrivals would disappear in a short period.

Projections with fixed net overseas migration targets.

The conventional approach taken by the ABS is to assume a range of differing future levels of net overseas migration. These levels (in numbers) are assumed to remain constant throughout the term of the projection. For example, in the most recent official projections, annual levels of net overseas migration of 70 000, 90 000 and 110 000 were assumed.

Here we mirror this approach to projections, that is, we also assume that annual net overseas migration will meet a fixed, annual, numerical target. The targets rise from 60,000 per annum by units of ten thousand to 120,000 (seven target levels), varying the assumptions of the standard projection in three different ways to achieve these targets:

- variation in the level of net permanent resident migration;
- variation in the level of long-term visitor arrivals; and
- variation in the rate of onshore conversion of long-term visitors to permanent residence.

Figure 10. Annual births under two projection scenarios, Australia, 2000–50

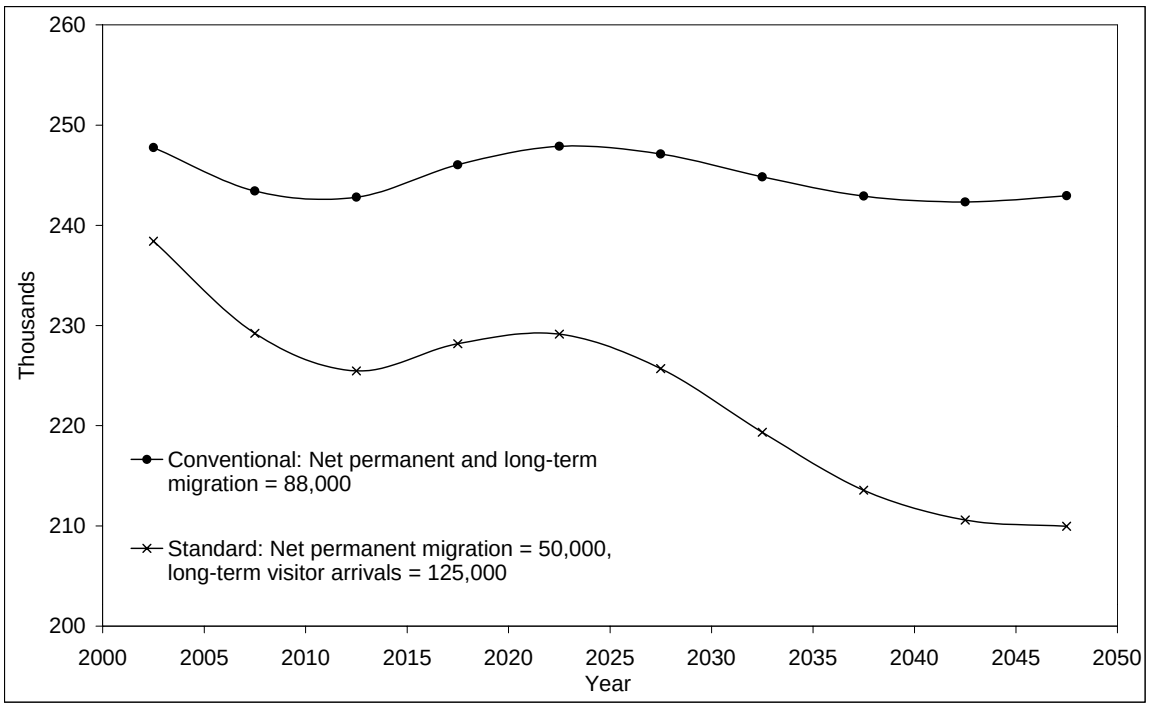
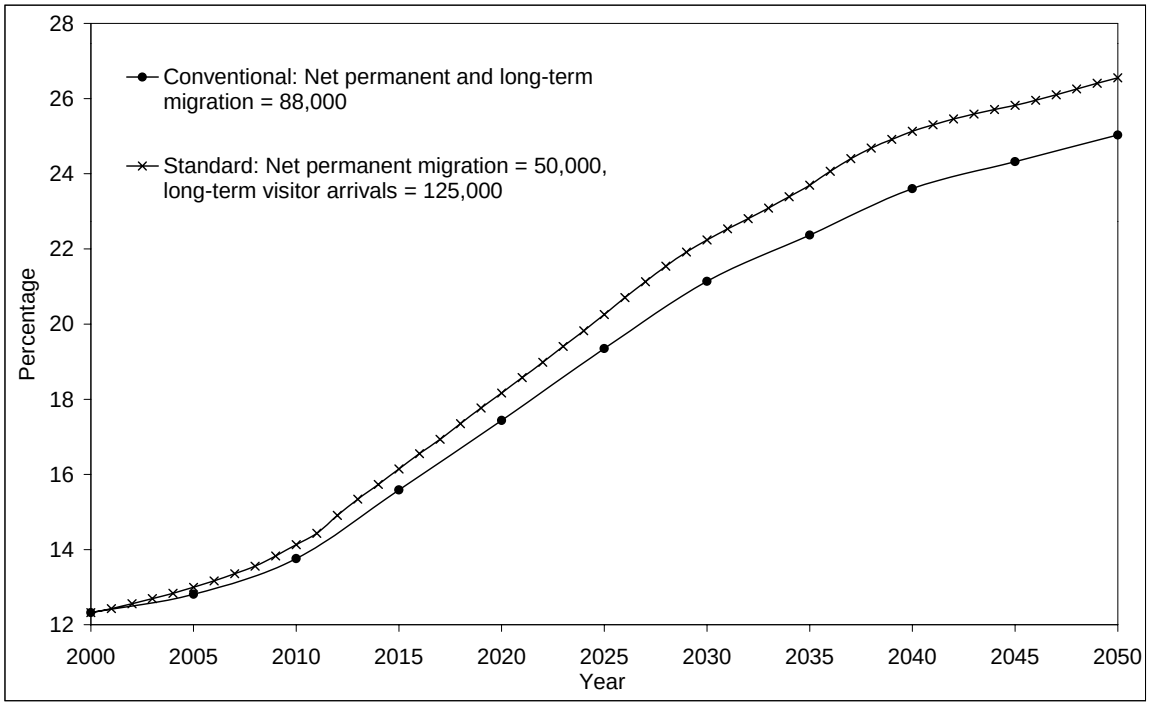


Figure 11. Percentage of the population aged 65+ under two projection scenarios, Australia, 2000–50



This amounts to seven sets of three projections of the type:

Net overseas migration = 60 000, achieved by changing net permanent migration
Net overseas migration = 60 000, achieved by changing long-term visitor arrivals
Net overseas migration =60 000, achieved by the rate of onshore conversion to permanency

Only one assumption is varied in each projection; all other assumptions remain the same as the standard.

Except for the first three years of the projection (while the lag is operational), the first set of projections (the 60 000 set) are, in fact, all virtually the same as the standard projection and, by implication, the same as each other. That is, 60 000 net overseas migration per annum is achieved with net permanent migration of 50 000, visitor arrivals of 125 000 and a conversion rate to permanency of eight per cent.

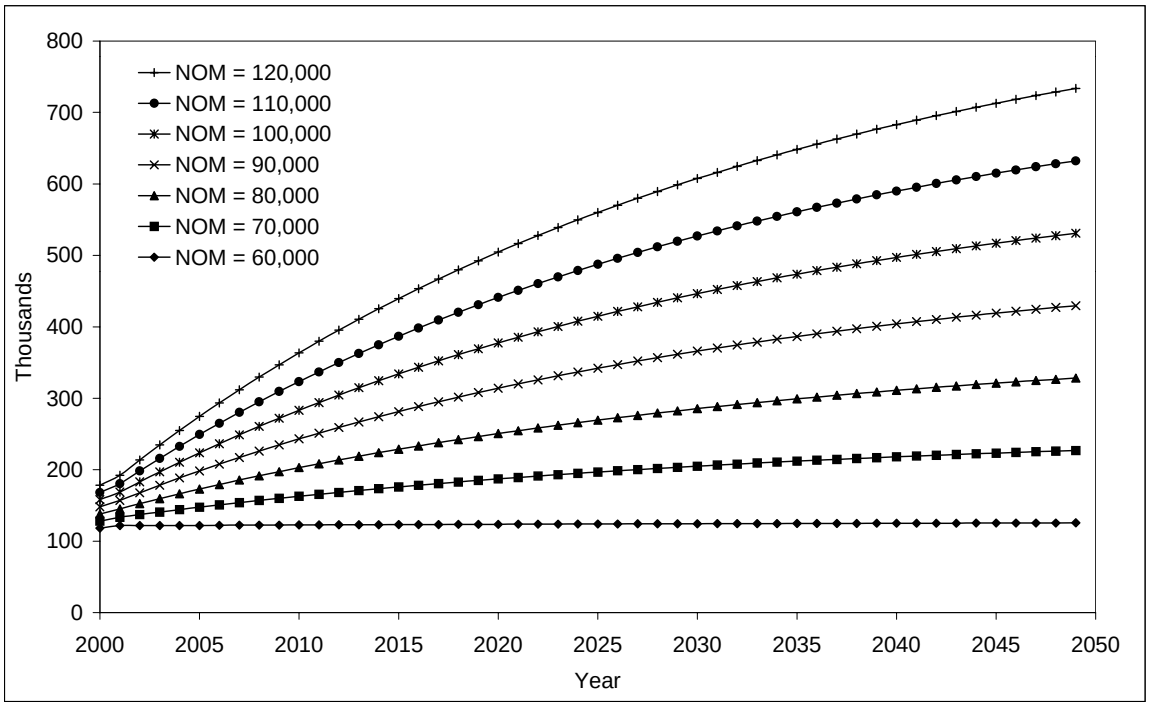
Table 3 shows the summary of the levels of net permanent migration, long-term visitor arrivals and rates of conversion to permanency that would be required to obtain each level of net overseas migration. It also shows the total population outcomes in 2050 from each projection. From 60 000 per annum, a level of net overseas migration of 70 000 per annum could be achieved by increasing net permanent migration by 10 000 per annum, an obvious result. If 70 000 per annum were to be achieved instead through increase in the number of long-term visitor arrivals, then long-term visitor arrivals would have to rise from 128 000 in 2001 to 227 000 in 2050. If the 70 000 result were to be attained through an increase in the rate of conversion to permanency, the rate of conversion would have to rise immediately to 16 per cent and remain at that level. The total population would rise to 23.8 million in 2050 under these three projections. Of course, combinations of changes can also occur, but they are not modelled here. There is some prospect that long-term visitor arrivals will continue to increase and some prospect, after the 2001 change that allows graduating students to apply for permanency onshore, for an increase in the conversion rate. Thus, without any increase in net permanent migration, net overseas migration of 70 000 per annum may be achievable across the 50-year period.

Table 3. Total population reached in 2050 given different levels of net overseas migration and levels of net permanent migration, long-term visitor arrivals and rates of conversion to permanency required to obtain each level of net overseas migration, Australia

		Level of net overseas migration achieved by changing:		
Net overseas migration	Population in 2050 (millions)	Net permanent migration ('000)	Long-term visitor arrivals ('000)	Conversions from long-term to permanent (%)
60,000	23.2	50	118–125	8
70,000	23.8	60	128–227	16
80,000	24.5	70	138–328	24
90,000	25.2	80	148–430	32
100,000	25.9	90	158–531	40
110,000	26.5	100	168–632	48
120,000	27.2	110	178–734	56

As we move up the scale of net overseas migration, however, the prospect of achieving the target through increases in long-term visitor arrivals or conversions to permanency becomes more difficult. When annual net overseas migration is set at 90 000 per annum, to achieve this result through continued increases in long-term visitor arrivals would mean that these arrivals would have to double in the next ten years (an annual numerical increase much higher than has been experienced in the past decade of rapid growth) and increase to 430 000 per annum by 2050. If annual net overseas migration were to be 110 000, then long-term visitor arrivals would have to rise by 20 000 per annum during the next decade (three times the annual numerical increase of the past decade) and to reach 632 000 per annum by 2050. It is clearly evident from these results that the potential for annual net overseas migration to rise solely as a result of increases in long-term visitor arrivals is limited much past 80 000.

Figure 12. Annual long-term visitor arrivals required to achieve selected levels of net overseas migration (NOM), Australia, 2000–50



Increases in net overseas migration are also limited if changes in the rate of conversion from visitor status to permanent status are used to achieve the result. To achieve a result of 90 000 annual net overseas migration, the conversion rate would have to rise from eight per cent now to 32 per cent immediately. The current reality is that most long-term visitors come to Australia with the intention of leaving again, and that is what 92 per cent of them do at present. While it can be envisaged that with changes in policy, the rate of onshore conversion may increase somewhat**,** it would probably take some time to increase much beyond 20 per cent. Furthermore, opening up opportunities for long-term visitors to convert their visas onshore would reduce the numbers who leave temporarily to have their passports stamped in another country, that is, arrivals of permanent settlers would fall.

The conclusion from all of this is that it would be difficult to sustain net overseas migration much beyond 80 000 persons per annum without increases in the number of settler arrivals. Indeed, the flow of long-term visitors is likely to be as volatile, if not more volatile, than the flow of permanent settlers. Complacency that a population of more than 24 million might be achieved by 2050 through increases in long-term visitor migration is misplaced. This is a message not just for Australia but applies even more strongly to very low fertility countries that are considering temporary migration as a means of dealing with their labour shortages. For example, McDonald and Kippen (2000) have shown that Japan would require ridiculously large numbers of long-term visitors in order to prevent its labour supply from falling over the next 50 years.

The percentage of the population who are long-term visitors

The projections also provide annual estimates of the proportion of the total estimated resident population who would be long-term visitors. At the commencement of the projections in 2000, we have estimated that the long-term visitor population constituted 1.5 per cent of the Australian population or one in every 67 persons. In Sydney and Melbourne, the percentage could be higher, maybe around one in every 40 people. This frequency could impact on local housing markets, and could have other social and economic implications. It is not the purpose of this paper to estimate these proportions or impacts, but it is important to remember that long-term visitors are locally concentrated. The 2001 Census of Population and Housing could be used to investigate this issue.

Impact on percentage of long-term visitors

When higher net migration targets are achieved through large increases in long-term visitor arrivals (the middle column of Table 4), the percentage of the population who would be visitors increases correspondingly. For example, with 80 000 annual net overseas migration being achieved through increases in long-term visitor arrivals, the percentage who were visitors would rise to 3.2 per cent in 2050. In the other two series, the percentage who are long-term visitors falls between 2000 and 2050, and falls by a larger amount the higher is the net migration target.

Table 4. Percentage of the population classed as long-term visitors, 21 projections, Australia, 2050

Net Overseas Migration	Net overseas migration achieved by changing: Net permanent migration	Long-term visitor arrivals	Conversions from long-term to permanent
	Percentage of the population in 2050		
60,000	1.29	1.29	1.29
70,000	1.25	2.27	1.14
80,000	1.22	3.20	1.00
90,000	1.18	4.10	0.87
100,000	1.15	4.95	0.74
110,000	1.12	5.76	0.62
120,000	1.09	6.54	0.52

Conclusion

The central conclusion of the study is that dividing the Australian population into two parts, permanent residents and long-term visitors, and projecting them separately into the future makes a considerable difference to the results of population projections. It makes a difference because this approach includes specific assumptions about the timing of departure of visitors and their rate of conversion to permanency. The comparison of the standard projection to its counterfactual conventional projection showed that the population in 50 years time would be smaller by more than two million when additional assumptions are added relating to the visitor population.

The study has also shown that it would be difficult for Australia to sustain levels of annual net migration much in excess of 80 000 per annum without increasing net permanent migration; that is, without increasing the number of settler arrivals. The scope to achieve high population futures through increases in long-term visitor arrivals or through onshore visa conversions is limited.

While the contribution of long-term visitor arrivals to net overseas migration gain is significant and growing, the extent of this contribution depends on continuous growth in long-term visitor arrivals. If the number of long-term visitor departures come to equal long-term visitor arrivals in any one year then its contribution to net overseas migration would be zero. This would lead to a drop in net overseas migration to the level of net permanent migration (now 50 000) plus about 10 000 onshore visa conversions, or lower.

The change in the departure cards in 1998 may be creating a systematic tendency for a large negative value for category jumping. This is an issue that needs to be considered. The impression gained from the published statistics that long-term visitors contribute more than 50 per cent of annual net overseas migration is misleading.

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Appendix 1. Method for calculating the rate of conversion from long-term visitor to permanent resident

Data:

- Long-term visitor arrivals in the calendar years 1996, 1997, 1998 and 1999 by single-year-of-age and sex.
- Total long-term visitor entries for 1994 and 1995.
- Onshore grants of permanent residency in the financial years 1998-99 and 1999-2000 by single-year-of-age, sex, period between arrival and grant (in completed years) and arrival visa status (long-term, short-term and unknown).

Method:

Onshore permanent residency grants to long-term visitors in the financial years 1998-99 and 1999-2000 were estimated by prorating visa status 'unknown' grants across long-term and short-term grants by age, sex, and period between arrival and grant.

Long-term visitor arrivals by age and sex for 1994 and 1995 were estimated by applying the 1996 age-sex distribution to total long-term visitor arrivals in these years.

The period between arrival and grant was given in years: 0–1 years, 1–2 years, 4–5 years. For simplicity, an average period was taken in each case. For example, someone converting to permanent residency in 1998-99, who arrived 1–2 years previously, was assumed to have arrived exactly 1.5 years before in the calendar year 1997.

This then gave $C_{i,s,y,x}$, the number of long-term visitors becoming permanent residents in each year, *y*, by age (at conversion), *i*, sex, *s*, and period between arrival and grant, *x*.

If $A_{i,s,y}$ is the number of long-term visitor arrivals of age *i* and sex *s* in year *y*, then the proportion of long-term visitors of age *i* and sex *s* who become permanent residents is:

$$P_{i,s,y} = \underbrace{\frac{C_{i+0.5,s,y+0.5,0.5}}{A_{i,s,y}}}_{\substack{\text{Proportion converting} \\ \text{0–1 years after arrival}}} + \underbrace{\frac{C_{i+1.5,s,y+1.5,1.5}}{A_{i,s,y}}}_{\substack{\text{Proportion converting} \\ \text{1–2 years after arrival}}} + \underbrace{\frac{C_{i+2.5,s,y+2.5,2.5}}{A_{i,s,y}}}_{\substack{\text{Proportion converting} \\ \text{2–3 years after arrival}}} + \underbrace{\frac{C_{i+3.5,s,y+3.5,3.5}}{A_{i,s,y}}}_{\substack{\text{Proportion converting} \\ \text{3–4 years after arrival}}} + \underbrace{\frac{C_{i+4.5,s,y+4.5,4.5}}{A_{i,s,y}}}_{\substack{\text{Proportion converting} \\ \text{4–5 years after arrival}}},$$

assuming that all conversions take place within five years of arrival.

Data are not available for each of these five terms, as they require conversions over five years, and we only have conversions for two years: 1998-99 and 1999-2000. However, assuming that the proportions converting from long-term to permanent are relatively constant across time, each term can be estimated using an average of the 1998-99 and 1999-2000 conversion numbers as follows:

Proportion converting 0–1 years after arrival =

$$0.5\left[\frac{C_{i+0.5,s,1998/99,0.5}}{A_{i,s,1998}}+\frac{C_{i+0.5,s,1999/2000,0.5}}{A_{i,s,1999}}\right]$$

Proportion converting 1–2 years after arrival =

$$0.5\left[\frac{C_{i+1.5,s,1998/99,1.5}}{A_{i,s,1997}}+\frac{C_{i+1.5,s,1999/2000,1.5}}{A_{i,s,1998}}\right]$$

Proportion converting 2–3 years after arrival =

$$0.5\left[\frac{C_{i+2.5,s,1998/99,2.5}}{A_{i,s,1996}}+\frac{C_{i+2.5,s,1999/2000,2.5}}{A_{i,s,1997}}\right]$$

Proportion converting 3–4 years after arrival =

$$0.5\left[\frac{C_{i+3.5,s,1998/99,3.5}}{A_{i,s,1995}}+\frac{C_{i+3.5,s,1999/2000,3.5}}{A_{i,s,1996}}\right]$$

Proportion converting 4–5 years after arrival =

$$0.5\left[\frac{C_{i+4.5,s,1998/99,4.5}}{A_{i,s,1994}}+\frac{C_{i+4.5,s,1999/2000,4.5}}{A_{i,s,1995}}\right]$$

These terms were calculated and summed for each sex and single year of age to give the proportions found in Figure 6.