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## ALTERNATIVE NET MIGRATION ESTIMATES FOR AUSTRALIA: EXPLODING THE MYTH OF A RAPID INCREASE IN NUMBERS

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*Extensive use has been made of recently published Australian Bureau of Statistics (ABS) estimates of net overseas migration. These estimates indicate a considerable increase in net overseas migration to Australia, from 79.2 thousand in 1997-98 to 154.2 thousand in 2002-03. This paper provides an alternative methodology which produces substantially lower, but more plausible net overseas migration estimates for Australia.*

### RECORD NET OVERSEAS MIGRATION?

Net overseas migration estimates published by the Australian Bureau of Statistics (ABS) indicate a very substantial increase in migration across the financial years from 1997-98 to 2002-03 (Table 1). The estimates for the most recent year have been described in the media as 'a new record level' for Australian migration. Respected journalist, Ross Gittens, writing in the *Sydney Morning Herald*<sup>1</sup> stated: 'far from falling, net migration has been on an upward trend since the Howard Government's first year in office, 1996-97. In 2000-01 it reached a peak of 136,000 — its highest level in 12 years.' He extols the Prime Minister for being able to bring about a huge increase in migration (thus currying favour with business) while appearing to the common voter to be 'tough on migration'. Hot news, but the statistical reality is somewhat different, as we show in this paper.

The reality is that the results in Table 1 are an artefact of a change in the method used by the ABS to estimate net overseas migration.<sup>2</sup> While this change of method is described in ABS working papers, it is not mentioned in the standard ABS monthly publication, *Overseas Arrivals and Departures*.<sup>3</sup> Misinterpretation of the results by those who are not 'insiders' is very likely as a consequence and, as cited above, misinterpretation has

been widespread. In this paper, we present two alternative methods of estimation of migration trends in these years. Both show that recent changes in migration levels have been much more moderate than Table 1 indicates.

### BACKGROUND: THE HISTORY OF THE MEASUREMENT OF NET OVERSEAS MIGRATION

Until the early 1980s, annual net migration in Australia was measured as the excess of total persons arriving in Australia over total persons departing from Australia. All movements were included in the calculation including short-term movements of tourists and business people. This could be termed 'the heads in - heads out' approach. Net migration measured in this way was then

**Table 1: Net overseas migration  
to Australia, 1997-98 to  
2002-03**

Financial year	Net overseas migration ('000s)
1997-98	79.2
1998-99	96.5
1999-00	107.3
2000-01	135.7
2001-02	133.7
2002-03	154.2

Source: *Migration, 2000-01 and 2001-02*, Cat. no. 3412.0, Australian Bureau of Statistics (ABS), Canberra, p.10; *Overseas Arrivals and Departures*, Cat. no. 3401.0, ABS, Canberra, p. 4

used as a component in the calculation of the total population of Australia and of its States and Territories. However, when short-term movements began to multiply rapidly, this approach was questioned. First, short-term movements (stays in Australia or absences from Australia of less than 12 months duration) began to vastly outnumber permanent and long-term movements. This meant that any volatility in the short-term movements led to volatility in quarterly and even annual estimates of net overseas migration if the 'heads in - heads out' approach to measurement was used. In addition, the inclusion of short-term visitors to Australia in the count of the Australian population was questioned because these counts were used in the allocation of electorates and the distribution of Commonwealth monies to the States and Territories.

Accordingly, the decision was taken in the early 1980s to exclude short-term movements into and out of Australia from the calculation of net migration.<sup>4</sup> Since that time, net migration has been calculated as the balance of permanent and long-term arrivals over permanent and long-term departures. Those arriving in Australia or departing from Australia have been asked to state the duration of their visit to, or absence from, Australia on the incoming and outgoing passenger cards. Visitors stating that they were coming to Australia for a period of less than 12 months were not counted in the Australian population and their entry was excluded from the net migration estimate. Likewise residents who stated that they intended to be absent from Australia for less than 12 months continued to be counted in the Australian population and were also not included in the net migration estimate. The Australian population for official purposes then

became the Estimated Resident Population at a point in time rather than the total number of heads that happened to be in Australia on a particular day. In demographic parlance, this was a shift from a *de facto* population count to a *de jure* count where *de jure* residence was defined by residence in Australia for a period of 12 months or more.

However, there was a problem with this new approach to the measurement of overseas migration. Having entered or left Australia, some people changed the length of their stated visit or absence. Specifically, some visitors who stated that they were coming to Australia for less than 12 months stayed for 12 months or more and some who stated that they intended to stay for 12 months or more left before one year had elapsed. Likewise, some Australian residents who stated that they intended to be away for less than 12 months stayed away for 12 months or longer while some who stated that they intended to be away for 12 months or more returned before one year had passed. In other words, after the duration of their movement had been taken into account in the calculation of net migration, some movers changed the duration of their movement from short-term to long-term or vice versa. This problem was overcome in the measurement of net migration through indirect estimates being made of the number of people who made these changes. From the stated duration of stay in Australia, the expected period of departure could be obtained. The correction for visitors could be calculated as the difference between the number of short-term visitors expected to leave in a period compared to the number that actually did leave. A similar approach was applied to residents departing short-term to obtain a correction for residents. The balance of these

two corrections then provided a net correction to the annual net overseas migration estimate (where the period was one year). This net correction was termed 'category jumping' and its level was published routinely in the ABS migration statistics.

#### **MEASUREMENT OF CATEGORY JUMPING: THE KHOO-McDONALD REVIEW**

The measurement and effects of category jumping up to the year 1999, were reviewed by Khoo and McDonald.<sup>5</sup> This review showed that adjusting for category jumping could make a significant difference to annual estimates of net overseas migration. For example, in the financial year, 1992-93, net overseas migration was 62,671 after adjusting for category jumping but would have been just 30,042 without the adjustment. However, its impact on population estimates was much smaller because category jumping has been positive in some years but negative in others. The review showed that Australia's population of 19.2 million in the year 2000 would have been just 21,800 fewer people if it had not been adjusted for category jumping since 1976.

The Khoo-McDonald review identified two specific problems in the measurement of category jumping up to the year 1999. First, it concluded that it was inadvisable to estimate category jumping on a quarterly basis before full information was available that enabled the accurate calculation of appropriate correction factors. Annual category jumping calculated on the basis of data that extended for at least one quarter beyond the year in question was considered preferable.<sup>6</sup>

Second, the review found that the vast majority of new arrivals who stated that they intended to stay for exactly 12 months left before the 12 months had

elapsed. This applied particularly to persons arriving in Australia on working holiday visas. In calculating category jumping, ABS had assumed that 25 per cent of those who stated their stay as exactly 12 months would stay long-term. The review concluded this assumption was too high and that, accordingly, ABS practices were overestimating long-term arrivals. This tendency to overestimation became even more problematic from 1998 onwards. Before this time, duration of residence in Australia was based on the statement of the departing passenger of how long they had been in Australia. Those who had been in Australia for about 12 months often rounded to 12 months even though their actual stay was almost always less than 12 months. In 1998, the question on duration of stay in Australia was dropped from the passenger card and duration was calculated directly by computer matching with the passenger's arrival date. McDonald and Kippen<sup>7</sup> concluded that, after 1998, category jumping was likely to be systematically negative and relatively large because of this change. Many more people classified as long-term visitors on arrival would be recorded as short-term visitors on departure.

#### **ABS ABANDONS THE ESTIMATION OF CATEGORY JUMPING**

The Khoo-McDonald review concluded that it was important to continue to make at least annual estimates of category jumping and this conclusion was strengthened by the observation made by McDonald and Kippen that category jumping was likely to be large and systematically negative. However, in a recently released working paper, the ABS has reported that its final net overseas migration and resident population estimates for September 1997 to June 2001

will not be corrected for category jumping due to 'a deficiency in the current method of estimation' of category jumping.<sup>8</sup> Preliminary estimates of net overseas migration and the resident population from July 2001 onwards will also not be corrected for category jumping pending a new methodology being developed.

After correcting for category jumping in net overseas migration estimates for 20 years, why has ABS announced a halt to this correction? What is the 'recently detected deficiency in the current measurement of category jumping' and what will be the implications for net overseas migration and population estimates of not making this adjustment?

The ABS sets out its reasons for its loss of confidence in its method for estimating category jumping in a recent working paper.<sup>9</sup> The principal reason cited is the gross confusion that arises when persons who are staying in Australia for more than 12 months (particularly, students, persons on 457 business visas and New Zealanders) leave Australia but return after a short absence. These may be students studying long-term in Australia who return home for a short holiday, to conduct fieldwork or to attend an overseas conference, or business people based in Australia who travel overseas for short business trips. The existing passenger cards are poorly designed to capture these movements. Part of the reason for this confusion is that the cards separate movements of Australian residents from those who are not Australian residents, but the definition of an Australian resident is not made clear on the card, and indeed, it is not clear in any case. The ABS states that 'Australian residence is self-defined as reported by travellers when completing Incoming and Outgoing Passenger Cards.'<sup>10</sup>

When the concern is to produce accurate estimates of net overseas migration to use in calculations of the Estimated Resident Population and to inform government policy, self-definition of Australian resident status seems a very poor approach. While for the purposes of calculating the Estimated Resident Population, persons who stay in Australia for 12 months or more are considered to be 'residents', there is confusion about their residence status in the migration movements. However, this may not be as large a problem as it may seem because there is evidence to suggest that 'Australian resident' is interpreted very largely to mean a permanent resident of Australia. McDonald and Kippen<sup>11</sup> show that the balance of long-term arrivals of Australian residents over long-term departures of Australia residents has fluctuated close to and around zero over the past 30 years, and Table 6 shows that this has continued to be the case right up to the most recent year. The tendency towards zero of this movement would not occur if the long-term movements of Australian residents included the movements of temporary long-term visitors because the stock of this group has been rising continuously.

The current problems in the estimation of category jumping are that the number of long-term visitors has increased in recent years and that they are also likely to travel in and out of the country fairly often. They often state a long-term arrival when they first arrive but a short-term departure when they leave on a short holiday or business trip. However, when they return from the holiday or business trip, they often state the duration of their intended stay as the total length of time that remains on their temporary stay visa in Australia. This may often be more than 12 months. Accordingly, they would state

for a second (third, fourth) time that they were arriving long-term and the one person would be counted as more than one long-term arrival.<sup>12</sup> Statistical evidence of this over-counting is presented below.

We agree with ABS that the increased volume of short-term overseas movements of long-term, temporary visitors together with changes in measuring the actual duration of stay of temporary overseas arrivals have rendered the ABS methodology for measuring category jumping and net migration unsustainable. The bottom line is that the existing passenger movement cards are simply inadequate to deal with movements into and out of the country of long-term visitors. However, we also show that the ABS decision to publish estimates of annual net migration with category jumping set to zero provides a grossly misleading picture of migration trends in the past five years and has created a myth of rapidly rising migration levels. In this paper, we examine the results of two alternative estimation procedures.

#### **THE RISE IN TEMPORARY LONG-TERM OVERSEAS MIGRATION**

ABS publications divide movements into and out of Australia into 10 categories. These 10 categories are shown in Table 2 for the period, 1993-94 to 2002-03.

First, it is worth noting the huge increase in the total movements into and out of Australia over the period, and the extent to which total movements are overwhelmingly made up of short-term movements. This underlines the point already made that any volatility in the short-term movement can have a very large impact on the balance of the total movement (the heads in - heads out approach).

In recent years, the net short-term movement has been consistently a large negative number: -58,900 in 2000-01;

-92,500 in 2001-02 and -42,200 in 2002-03 (Table 6). These large negative outcomes are consistent with the problem already described where long-term visitors to Australia embarking on a short overseas trip were recorded as 'short-term visitors departing' upon their departure but as long-term arrivals upon their return. This is confirmed by the fact that the large negative result is driven by the net short-term movements of visitors rather than by the net short-term movement of residents. When there is a systematic balance between overstated long-term visitor arrivals and understated short term visitor arrivals, the 'heads in - heads out' approach is likely to provide a better estimate of the migration of the resident population in these years than do the published ABS statistics.

Of all of the movements shown in Table 2, the rise in the number of long-term visitor arrivals has been the most spectacular, especially from 1999-2000 onwards.<sup>13</sup> Since the mid-1990s, there have been significant increases in the number of arrivals in the two main long-term, temporary entry categories: the temporary business entry 457 visa subclass and students (Figure 1). The increase in long-term visitor arrivals has been largely the result of a shift in migration policy to temporary entry. In regard to business entry, temporary migration (457 visas and a variety of similar visa types involving smaller numbers) helps to fill particular labour shortages in Australia without the delays normally associated with applications for permanent residence. The current policy direction is to speed up this process even more.

In relation to student entry, export of education has become a massive earner for Australia, exceeding wheat and wool in its value.<sup>14</sup> All of these trends suggest education has become a massive earner

**Table 2: Movements in and out of Australia by category, 1993-94 to 2002-03**

Category	1993-94	1994-95	199-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
<b>Arrivals</b>										
<i>Permanent arrivals</i>	69,770	87,450	99,120	85,760	77,350	84,160	92,280	107,360	88,910	93,920
<i>Long-term arrivals:</i>										
Australian residents	75,620	79,060	79,220	80,180	84,360	67,910	79,650	82,900	88,610	95,790
Overseas visitors	61,990	72,050	84,390	95,080	103,770	119,900	133,210	158,310	175,880	184,100
<i>Short-term arrivals:</i>										
Australian residents	2,245,500	2,387,000	2,569,600	2,786,100	3,020,100	3,191,700	3,300,000	3,543,000	3,345,000	3,309,900
Overseas visitors	3,168,700	3,535,300	3,966,200	4,252,800	4,220,100	4,288,100	4,651,800	5,031,300	4,768,300	4,655,900
<b>Total arrivals</b>	<b>5,621,580</b>	<b>6,160,860</b>	<b>6,798,530</b>	<b>7,299,920</b>	<b>7,505,680</b>	<b>7,751,770</b>	<b>8,256,940</b>	<b>8,922,870</b>	<b>8,466,700</b>	<b>8,339,610</b>
<b>Departures</b>										
<i>Permanent departures</i>	27,280	26,950	28,680	29,860	31,990	35,210	41,090	46,530	48,230	50,460
<i>Long-term departures:</i>										
Australian residents	64,790	68,390	70,260	73,800	79,420	82,880	84,940	92,960	92,070	86,200
Overseas visitors	47,940	50,150	54,140	62,970	74,910	57,430	71,850	73,440	79,390	82,900
<i>Short-term departures:</i>										
Australian residents	2,304,000	2,422,200	2,624,300	2,837,200	3,032,000	3,188,800	3,332,200	3,577,300	3,367,900	3,293,300
Overseas visitors	3,119,000	3,486,600	3,910,100	4,216,900	4,198,400	4,279,200	4,635,400	5,055,900	4,837,900	4,714,700
<b>Total departures</b>	<b>5,563,010</b>	<b>6,054,290</b>	<b>6,687,480</b>	<b>7,220,730</b>	<b>7,416,720</b>	<b>7,643,520</b>	<b>8,165,480</b>	<b>8,846,130</b>	<b>8,425,490</b>	<b>8,227,560</b>

Source: Overseas Arrivals and Departures, Cat. No. 3401.0, ABS, Canberra

and that the long-term temporary movement will continue to expand. This is made even more likely through policy changes in the approach to application for permanent residence in Australia. At the same time that delays in the processing of offshore permanent residence applications have blown out, in recent years, the government has made it easier for both 457 business entrants and foreign students to apply for permanent residence onshore. As time passes, more and more of the government's quota of permanent residence places are likely to be filled onshore.

McDonald and Kippen<sup>15</sup> have shown that, from 1970 to 1994, there was a very close balance between long-term arrivals of overseas visitors and long-term departures of overseas visitors three years later. This indicated that the average length of stay in Australia was three years. However, from the arrivals of 1995 onwards, as is evident from Table 2, the gap between these two numbers has widened every year. For example, the number of long-term visitor arrivals in 1998-99 exceeded the number of long-term visitor departures in 2001-02 by 40,000. The departures in 2002-03 were exceeded by arrivals three years earlier by more than 50,000. In part, this discrepancy is due to the increasing number of long-term visitors who convert to permanent residence onshore, but this possibility explains a maximum of 50 per cent of the discrepancy. At least half of the rising discrepancy is due to the misstatements on passenger cards already discussed.

Table 2 shows little change in the number of permanent arrivals to Australia in the years since 1994-95. However, this trend does not include the rising number of persons granted permanent residence onshore (see below). Permanent departures of Australian residents have almost

doubled in number over the period shown in Table 2. While it is often assumed that the government has total control over migration to Australia, effectively it controls only part of one of the 10 movements shown in Table 2, permanent arrivals. Moreover, this control is only partial because this movement includes New Zealanders who have an automatic right of entry.

#### **DURATION OF STAY OF LONG-TERM VISITOR ARRIVALS AND DEPARTURES**

Table 3 shows the recorded lengths of stay of temporary long-term visitors upon arrival and departure for the years, 1997-98 to 2000-01, according to type of entry visa. It is clear from the table that the proportion of temporary business entrants on long-stay visas, working holiday makers and students who say on arrival that they intend to stay for 12 months or more is much greater than the proportion who are recorded as such on departure. It is also clear that from 1998-99 onwards when the computer-generated length of stay replaced the statement made by those departing, the proportion departing after a stay of less than 12 months has increased substantially. In 1997-98, under the old system of determining duration of stay at departure, 86 per cent of temporary business entrants, 82 per cent of working holiday makers and 74 per cent of students were reported at departure as having stayed for less than 12 months. In 1998-99, these proportions have increased to 92 per cent, 97 per cent and 88 per cent respectively. Thus, the difference between duration of stay at arrival and at departure has widened under the new system of computer matching.

**Table 3: Stated length of stay at arrival and departure by temporary visa group, Australia 1997-98 to 2000-01**

Visa type and duration of stay	1997-98		1998-99		1999-00		2000-01	
	Arrivals %	Departures %	Arrivals %	Departures %	Arrivals %	Departures %	Arrivals %	Departures %
<b>Temporary business entry (long-stay)</b>								
<12 months	54.4	85.6	51.6	92.3	54.4	91.6	56.7	90.2
12 months	10.5	4.1	12.1	1.1	12	1.1	11.5	1.3
>12 months	35.1	10.3	36.4	6.6	33.5	7.3	31.8	8.6
Number	50,231	50,141	73,610	75,454	85,087	88,000	95,035	94,930
<b>Working holiday makers</b>								
<12 months	45.4	81.6	50.5	97.2	49.2	96.9	50.2	96.3
12 months	54.4	17.6	49.1	2.5	50.2	2.7	48.3	3.3
>12 months	0.2	0.8	0.4	0.4	0.6	0.4	1.5	0.4
Number	60,588	53,610	64,556	57,574	79,902	65,379	86,855	78,267
<b>Students</b>								
<12 months	50	73.7	50.9	88.3	50.1	88.5	49.9	89.3
12 months	22.8	10	21.7	1.6	21.3	1.3	20.4	1.3
>12 months	27.2	16.3	27.5	10	28.6	10.2	29.7	9.4
Number	159,151	148,054	159,246	142,385	181,595	162,166	208,290	191,705
<b>Temporary business visitors</b>								
<12 months	99.9	99.9	99.9	100	99.9	100	99.7	100
12 months	0	0	0	0	0	0	0.1	0
>12 months	0.1	0.1	0.1	0	0.1	0	0.2	0
Number	235,533	236,059	199,953	198,063	194,600	193,423	196,667	196,667
<b>Other visitors</b>								
<12 months	99.8	99.6	99.8	99.9	99.7	99.9	99.3	99.9
12 months	0.1	0.2	0.1	0	0.2	0	0.3	0
>12 months	0.1	0.2	0.1	0.1	0.1	0.1	0.4	0.1
Number	2,877,464	2,863,460	2,909,770	2,901,828	3,177,964	3,159,091	3,463,798	3,452,231
<b>Total</b>								
<12 months	96	97.5	95.6	98.6	95.4	98.5	95.2	98.6
12 months	2.2	0.9	2.2	0.2	2.4	0.2	2.4	0.2
>12 months	1.8	1.5	2.2	1.3	2.2	1.3	2.5	1.2
Number*	4,323,761	4,273,193	4,479,919	4,336,513	4,784,983	4,707,053	5,189,639	5,129,273

\*Includes other visa groups now shown above

Source: Unpublished data from the Department of Immigration and Multicultural and Indigenous Affairs (DIMIA)

That many more people entering as intended long-term visitors are departing as short-term visitors translates into negative category jumping. Although ABS has not published estimates of category jumping from 2000-01 onwards, our estimate of visitor category jumping based on visitors' durations of stay at arrival and departure in Table 3 for 2000-01 was -94,892 (Table 4). The rise of visitor category jumping to very large negative numbers clearly has had an impact on

ABS's decision to abandon category jumping. On the other hand, such large negative numbers make it imperative to find alternative approaches to the calculation of net overseas migration rather than to simply assume the problem away for the time being as ABS has done by setting category jumping to zero.

Table 4 shows that close to half of all people apparently changing status from long-term to short-term in 2000-01 were students. As Figure 1 shows, student

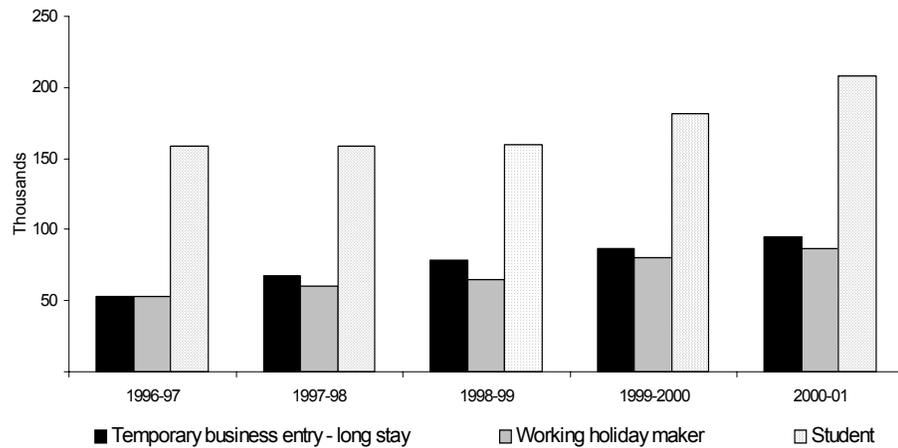
**Table 4: Estimates of category jumping\* by visa type, 1997-98 to 2000-01**

Visa type	1997-98	1998-99	1999-00	2000-01
Temporary business entry (long stay)	13,237	25,560	25,454	24,444
Working holiday makers	4,610	6,707	7,895	9,666
Students	20,876	32,072	37,947	48,070
Temporary business visitors	0	198	193	384
Other	-7,742	-3,826	-3,237	12,328
Total	30,981	60,711	68,252	94,892

\*Net change in status from long term to short term.

Source: Estimated by authors from unpublished DIMIA data.

**Figure 1: Arrivals by long-term visa categories, Australia, 1996-97 to 2000-01**



Source: Unpublished DIMIA data

arrivals have increased steadily since 1998-99. The next largest group of people apparently changing status from long-term to short-term is the temporary business entry 457 visa subclass. These people can stay in Australia for up to four years and about half of them arrived with the intention to stay for one year or more (as shown in Table 3). However, like students, they are a highly mobile group internationally, likely to make a number of trips overseas or to return home for holidays. This can be seen from Table 5

that compares first-time arrivals with all arrivals. The number of total arrivals of 457 visa holders is more than five times the number of first arrivals and the number of total arrivals of students is more than twice the number of first arrivals.

In the case of working holiday makers, a large portion of the increase in the number changing status from long term to short term is likely to be related to the change in procedure to determine their actual length of stay.

**Table 5: First and total arrivals by visa type, Australia, 1997-98 to 2000-01**

Visa type	1997-8	1998-99	1999-2000	2000-01
<b>Temporary business entry (long stay)</b>				
First arrivals	11,932	11,894	10,823	13,627
Total arrivals	50,231	73,610	85,087	95,035
<b>Working holiday makers</b>				
First arrivals	52,974	53,791	67,495	72,677
Total arrivals	60,588	64,556	79,902	86,855
<b>Students</b>				
First arrivals	79,537	66,739	74,301	85,811
Total arrivals	159,151	159,246	181,771	208,290

Source: Unpublished DIMIA data

### MEASURING NET OVERSEAS MIGRATION

Table 6 shows the different types of net overseas movements based on the arrivals and departures figures of Table 2. The net permanent movement has declined sharply since 2000-01 because of a fall in permanent arrivals despite the fact that the quota for new permanent settlers has been increased in these years. This is explained by an increase in conversions to permanent residence onshore as described above. Also, permanent departures of Australian residents have been steadily rising. Conversions onshore are not recorded as a migration movement.<sup>16</sup> As already mentioned, net long-term resident movements have continued to fluctuate in a relatively narrow range around zero (+/-10,000). However, all the upward action is in the trend of the net long-term visitor movement that reached a new high of 101,200 in 2002-03 having been only 14,050 just 10 years ago.

Net short-term visitor movements showed an unusual drop to -69,600 in 2001-02 and there was a similar, large negative result in 2002-03 (-58,800). A large negative figure means that there are considerably more short-term visitors departing than arriving in the given year. Such a result is possible if the arrival occurs in one year and the departure in the

next and arrivals are falling across time. Table 2 shows that there has indeed been a substantial fall in short-term visitor arrivals from 2000-01 onwards. The other possible explanation is that many long-term visitors are recorded as leaving as short-term visitor departures as has been argued above. Unfortunately, it is not possible to estimate the relative weight of these two possible explanations because of the large volumes in the short-term movement.

### AN ALTERNATIVE APPROACH TO MEASURING NET OVERSEAS MIGRATION AND THE RESIDENT POPULATION

The analysis of the net movements in Table 6 indicates that only two, the net permanent movement and the net long-term resident movement, can be used reliably in estimating net overseas migration for the purposes of the calculation of the Estimated Resident Population. Together, these two movements effectively constitute the net permanent and long-term movement of permanent residents of Australia and these estimates can probably be used reliably in the calculation of the Estimated Resident Population.

The problem then is to find a new way of estimating the net long-term movement of visitors to Australia. A potential approach to this problem is to measure

changes in the stock of people in the country on long-term temporary visas between two points in time. Based on administrative records and passport data computerised at the time of entry to and departure from Australia, the Department of Immigration and Multicultural and Indigenous Affairs (DIMIA) makes quarterly estimates of the number of persons on long-term visitor visas who are actually present in Australia at a point in time. Thus, it is a simple matter to calculate the change in this stock over a period of time. The visa types that should be included in the stock figures are 457 business visas, student visas excluding ELICOS visas which are all short term, and a variety of other small, temporary long-term visa types. Working holiday makers should not be included as virtually all leave Australia within 12 months.

However, the stock of long-term visitors can be reduced not only through leaving the country but also by conversion to permanent residence onshore. As those who become permanent residents onshore remain in Australia, they should be added to the change in the stock number. Also, some onshore conversions to permanent residence relate to people

who arrived in the country on a short-term visa (especially those who partner or marry while in Australia). These should also be included in the net migration calculation — formerly they would have been a component of category jumping.

A new category in recent years is the group who are granted temporary protection visas onshore. Most of these people do not appear in the passenger card movement data. Although relatively small, their numbers also need to be added to the long-term temporary population.

Finally, and most problematic, is the long-term temporary movement of New Zealand citizens. As New Zealand citizens have free movement into Australia, it can be somewhat arbitrary as to whether they state upon arrival that they are intending to be permanent residents, long-term visitors or short-term visitors. For our purposes, we need to obtain the annual change in the stock of New Zealanders in Australia on a long-term visitor basis. Those who state at arrival that they are coming as permanent residents would already have been included in the net permanent movement. DIMIA maintains annual stock estimates for New Zealand citizens according to the cate-

**Table 6: Net arrivals by category, Australia, 1993-94 to 2002-03**

Category	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
<b>Net permanent arrivals</b>	42,490	60,500	70,440	55,900	45,360	48,950	51,190	60,830	40,680	43,460
<b>Net long-term arrivals:</b>										
Australian residents	10,830	10,670	8,960	6,380	4,940	-14,970	-5,290	-10,060	-3,460	9,590
Overseas visitors	14,050	21,900	30,250	32,110	28,860	62,470	61,360	84,870	96,490	101,200
<b>Net short-term arrivals:</b>										
Australian residents	-58,500	-35,200	-54,700	-51,100	-11,900	2,900	-32,200	-34,300	-22,900	16,600
Overseas visitors	49,700	48,700	56,100	35,900	21,700	8,900	16,400	-24,600	-69,600	-58,800
<b>Net total arrivals</b>	<b>58,570</b>	<b>106,570</b>	<b>111,050</b>	<b>79,190</b>	<b>88,960</b>	<b>108,250</b>	<b>91,460</b>	<b>76,740</b>	<b>41,210</b>	<b>112,050</b>

Source: Derived from Table 2

**Table 7: Components of the 'stock' method of estimating annual net migration, Australia, 1998-99 to 2002-03, '000s**

Year	Net permanent movement	Net long-term movement (residents)	Change in long-term stock (excl. NZ)	Conversions to PR on shore	Addition to TPVs	Change in long-term stock - NZ
1998-99	49.0	-15.0	16.0	15.1	0.0	0.4
1999-00	51.2	-5.3	16.0	17.3	0.9	3.1
2000-01	60.8	-10.1	20.7	22.7	4.5	8.0
2001-02	40.7	-3.5	19.8	31.5	3.1	4.4
2002-03	43.5	9.6	20.6	31.3	n.a.	4.1

Source: Table 6 and unpublished DIMIA data

Note: PR is permanent resident and TPV is temporary protection visa.

category stated on their most recent arrival in Australia. This category is not separately available. Instead, this category is combined with short-term visitors. In addition, there is a large 'not stated' category and at June 2001 and June 2002, the numbers in each category are not available. We have made what are necessarily rough estimates of the stock of NZ long-term visitors in Australia<sup>17</sup> and, from these estimates, we have obtained the annual additions to the stock.

On this basis, annual net overseas migration could be estimated from the following formula:

Net Overseas Migration = (Net permanent and long-term movement of Australian residents) + (the change in the stock of persons on long-term temporary visas) + (conversions on-shore to permanent residence) + (newly issued temporary protection visas) + (the change in stock of New Zealanders staying in Australia on a long-term basis). For shorthand, we refer to this as the 'stock' method.

Table 7 shows the components used in our estimation of net overseas migration for the years, 1998-99 to 2002-03, using this approach. For the same years, Table 8 compares the results of this calculation with the estimates published by ABS and with the result of the heads in - heads out

approach. The six components that are used in the stock approach are shown in Table 7. There are no extraordinary movements. This provides some degree of confidence in the estimates.

The 'stock' approach, as would be desired, also displays less volatility over time than does the heads in - heads out approach. However, over a five-year period, the volatility in the heads in - heads out approach should be averaged out to a large extent. Accordingly, we would expect the five-year average of the estimate of annual net migration (permanent and long-term) to be close to the average for the total movement (heads in - heads out) as has been the case in the historical past. This is equivalent to saying that the accurate (as distinct from recorded) net short-term movement should be close to zero over a five-year period. Table 8 shows that the five-year average for the 'stock' approach (92,700) is relatively close to the average for the total movement (86,000). The two would be even closer if the arrivals of persons later granted temporary protection visas onshore were not excluded from the net total movement. In contrast, the five-year average for the ABS published statistics without adjusting for category jumping is almost 40,000 above the net total movement making up a very large

**Table 8: Comparison of three alternative ways of estimating annual net migration for Australia, 1998-99 to 2002-03, '000s**

Financial year	ABS (published)	Heads in - Heads out	'Stock' Approach
1998-99	96.5	108.3	65.5
1999-00	107.3	91.5	83.2
2000-01	135.7	76.7	106.6
2001-02	133.7	41.2	96.0
2002-03	154.2	112.1	112.0*
<b>5-year average</b>	<b>125.5</b>	<b>86.0</b>	<b>92.7</b>

\* Assuming addition to TPVs is 3.0

Sources: Table 1, Table 6 and Table 7

200,000 persons over the five-year period.

Finally, Table 9 shows the levels of category jumping that are implied by the estimates obtained using the 'stock' approach. Given that we would expect category jumping to be a large negative number as argued above, the values shown in Table 9 are broadly plausible.

#### DATA IMPLICATIONS

If the 'stock' method of estimating net overseas migration were to be adopted other than as a short-term expedient, there is an implication that Australia would need to gather information that enabled a clearer distinction to be made between the population of permanent residents and the population of long-term visitors. This implies that the arrival and departure passenger cards should be changed so that the term 'Australian resident' was replaced with the precise and

regident should permanent resident of Australia. that recognition permanent made from time to time. The most appropriate way to do this would be to combine the identification of permanent residents with the question that identifies citizens.

While the 'stock' approach undoubtedly produces estimates that are much more reliable than the ABS published estimates (Table 1), we do not have overwhelming confidence in the 'stock' approach to measurement. We publish it now for comment. If the method is considered to be unsatisfactory, the only viable alternative in our view is to institute a major redesign of the passenger arrival and departure cards.

#### WHO SHOULD BE INCLUDED IN THE POPULATION OF AUSTRALIA?

The total length of stay of a high proportion of students and persons on 457 business visas is more than 12 months but many of the people in these categories are never continuously present in Australia for one, full 12-month stretch because they leave for short trips overseas at least once every year that they are in Australia. The method of calculating category jumping that was used in Australia over

**Table 9: Category jumping implied by the 'stock' approach, Australia, 1998-99 to 2002-03, '000s**

Financial year	Implied category jumping
1998-99	-31.0
1999-00	-24.1
2000-01	-29.1
2001-02	-37.7
2002-03	-42.2
<b>5-year average</b>	<b>-32.8</b>

Source: Derived from Table 8

the past 20 years excluded these people from the count of the Australian population because their long-term entry was revised to short term when they left (for a short absence) within 12 months. There is a strong argument that they should have been included in the Australian population because they are living in Australia. They live in Australian houses, they pay Australian taxes, they shop in Australian shops, they use Australian services and their children (for the most part) go to Australian schools. An advantage of the 'stock' approach is that it allows for people on long-term visa

types to be included in the Australian population irrespective of the nature of their short-term movements into and out of the country. It can be argued that those who hold such visas but are not in Australia at the time the stock figure is calculated should also be included in the Australian population because they are only temporarily absent. However, to do this implies an assumption that the person will in fact return to Australia. Many may never return. Accordingly, the stock figure for long-term visitors is probably the best compromise.

### References

- <sup>1</sup> R. Gittens, 'Guess who's coming to live here', *Sydney Morning Herald*, 20 August 2003
- <sup>2</sup> The ABS has decided to set 'category jumping' to zero for every year from 1997 onwards until it finds a better method to measure category jumping. Category jumping and the reason for this new policy are explained in the subsequent text of this paper.
- <sup>3</sup> *Overseas Arrivals and Departures*, Cat. no. 3401.0, Australian Bureau of Statistics (ABS), Canberra, 2003
- <sup>4</sup> *Population Estimates in Australia: A Discussion Paper*, Working Paper 1979-1, Cat. no. 3216.0, ABS, Canberra, 1982
- <sup>5</sup> S-K. Khoo and P. McDonald, *Category Jumping: Trends, Demographic Impact and Measurement Issues*, Report to the Department of Immigration, Multicultural and Indigenous Affairs (DIMIA) and the ABS, Canberra, 2000, [www.immi.gov.au/statistics/publications/category\\_jumping/catjump.pdf](http://www.immi.gov.au/statistics/publications/category_jumping/catjump.pdf)
- <sup>6</sup> In recommending that quarterly category jumping be set to zero, this review concluded that it was still important to make annual estimates of category jumping. ABS, however, has incorrectly cited this review to justify category jumping being set to zero over the four-year period from 1 July 1997 to 30 June 2001.
- <sup>7</sup> P. McDonald and R. Kippen, *The Impact of Long-term Visitors on Projections of Australia's Population*, Report to DIMIA, Canberra, 2002, [www.immi.gov.au/research/publications/long\\_term\\_visitors.pdf](http://www.immi.gov.au/research/publications/long_term_visitors.pdf)
- <sup>8</sup> *Estimated Resident Population and Measurement of Category Jumping*, Demography Working Paper, 2003/1, ABS, Canberra, 2003
- <sup>9</sup> *ibid.*
- <sup>10</sup> *Overseas Arrivals and Departures*, Cat. no. 3401.0, ABS, Canberra, 2003
- <sup>11</sup> McDonald and Kippen, 2002, *op. cit.*, Figure 1
- <sup>12</sup> *Estimated Resident Population and Measurement of Category Jumping*, 2003, *op. cit.*
- <sup>13</sup> As discussed above, however, long-term visitor arrivals are likely to be heavily overstated.
- <sup>14</sup> As academics who teach foreign students, the image that Australia now rides on the academic's back has some currency with us.
- <sup>15</sup> McDonald and Kippen, 2002, *op. cit.*, Figure 3
- <sup>16</sup> These people would have been recorded as visitor arrivals in an earlier year.
- <sup>17</sup> We assume that the change in the short-term stock from 30 June of each year to the next is zero and that most of the 'not stated' category consists of permanent residents because DIMIA says that most arrived before November 1993. The distributions across categories in 2000 and 2003 are used to estimate the unknown distributions in 2001 and 2002. On the basis of the DIMIA advice, it was assumed that all those listed as 'not stated' in June 1998 (82,547) were permanent residents. In later years, when the 'not stated' category was larger than that recorded for June 1998, the additional numbers were distributed on a pro rata basis across the three categories provided by DIMIA: migrating permanently to Australia, resident returning to Australia, and temporary entrant or visitor (the last being the category we use in the calculation of the change in stock).