

**CATEGORY JUMPING
TRENDS, DEMOGRAPHIC IMPACT AND MEASUREMENT ISSUES**

A REPORT PREPARED

FOR

**THE DEPARTMENT OF IMMIGRATION
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BY

**SIEW-EAN KHOO AND PETER MCDONALD
DEMOGRAPHY PROGRAM
THE AUSTRALIAN NATIONAL UNIVERSITY**

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CATEGORY JUMPING

Trends, Demographic Impact and Measurement Issues

PART 1. INTRODUCTION

1.1. Background

The calculation of net overseas migration by the Australian Bureau of Statistics (ABS) for the purpose of estimating the resident population is based on net permanent and long-term (12 months or more) movements into and out of Australia. All arrivals and departures with duration of stay or travel abroad of less than 12 months are excluded from net overseas migration estimates.

However, changes between short-term and long-term/permanent status can occur after arrival or departure because people's actual duration of stay or travel sometimes differ from their stated intentions. These changes occur when: (a) an Australian resident departing on a short-term (less than 12 months) visit overseas does not return within 12 months; (b) an Australian resident departing long-term (at least 12 months) or permanently returns after less than 12 months; (c) an overseas visitor arriving with an intention to stay less than 12 months does not depart within 12 months; and (d) an overseas visitor on arriving with an intention to stay at least 12 months or permanently departs after less than 12 months.

Since 1976, ABS has made an adjustment in the calculation of net overseas migration figures to take into account these changes from short-term to long-term/permanent status and vice versa. Category jumping is the term that describes this adjustment.

Category jumping estimates are calculated for every 3-month period (quarter). A preliminary estimate is calculated about 5 months after the end of each quarter. A revised estimate is calculated about 15 months after the end of the financial year. While population estimates can be revised after each population census, there is generally no change to the category jumping estimate and it becomes final at this time, which can be more than five years after a reference quarter.

For about ten years after it was first applied, with the exception of the first year (1977), category jumping was a relatively small adjustment made in the calculation of net overseas migration. However, it became a significant component of net overseas migration in the late 1980s and early 1990s. More significantly, it also showed extreme volatility, going from large and positive to large and negative and then becoming positive again. There has also been considerable volatility in the quarterly estimates of category jumping as well as significant differences between preliminary and revised estimates in some quarters.

Unpredictable movements in the level and direction of category jumping can complicate the government's setting of annual targets for the immigrant intake. Therefore, there is a need for a better understanding of the reasons for its increasing unpredictability and volatility. It is important to know, in particular, whether the volatility in category jumping estimates is related to statistical or methodological issues or whether it is the result of changing patterns of international population movements and other external factors. An effort can then be made to improve the methodology and/or minimise the impact of any external influences.

Another concern about category jumping is its impact on population estimates, particularly at the State/Territory level. The impact of category jumping on population estimates at the State/Territory level also needs to be examined.

1.2. Objectives of the study

Because of current concerns with the volatility of category jumping estimates and its impact on net overseas migration and population estimates, this study has been undertaken to:

1. Examine the reasons for the recent volatility in estimates of category jumping and the discrepancies between preliminary and revised estimates;
2. Examine which types of overseas arrivals and departures are included in estimates of category jumping and whether there is the possibility of under- or overcounting;
3. Examine the feasibility and usefulness of calculating category jumping by visa category, purpose of travel and other relevant factors;
4. Examine the impact of category jumping estimates on net overseas migration, the population growth rate and population estimates, and assumptions underlying short-term and long-term population projections;
5. Examine the options for reducing category jumping, whether through improvements in the methodology or program planning, and evaluate the feasibility of these options.

The study first examines the current methodology and assumptions used in estimating category jumping. It also looks at the trend in category jumping, its two components and its effect on net overseas migration and the estimated resident population. Data from the Department of Immigration and Multicultural Affairs (DIMA) database on travel intentions and actual duration of stay of different types of temporary resident and visitor arrivals are then analysed to assess their possible implications for category jumping.

The study also investigates the approaches used in other countries similar to Australia to estimate net overseas migration, to see whether they can provide alternative ways of addressing the issue of category jumping. The revised United Nations' recommendations on international migration statistics are also examined to assess their implications for addressing the issue of category jumping.

A number of options to address the problems with category jumping have been proposed and considered in discussions with representatives from ABS Demography and DIMA Statistics sections. Some of the options will need further testing with empirical data to fully evaluate their feasibility.

1.3. Structure of the report

Part 1 of this report has provided a brief background to the study and described its objectives. Part 2 examines the methodology and assumptions used in estimating category jumping; recent trends in preliminary and revised estimates of category jumping; and the impact on net overseas migration and the estimated resident population. It also discusses the trends and patterns in temporary resident and visitor arrivals and departures, focussing on the differences between intended and actual duration of travel and their implications for category jumping. Part 2 concludes with a summary of the problems associated with category jumping and issues for further consideration.

Part 3 examines how other countries similar to Australia estimate overseas migration and the revised United Nations recommendations on international migration statistics. It then discusses a number of options to address the problems associated with category jumping.

The discussion includes consideration of the advantages and disadvantages of each option. The report concludes with some recommendations to improve category jumping and net overseas migration estimates.

PART 2. CURRENT STATUS

2.1. Current method of estimating category jumping

The current method used to estimate category jumping is described in Appendix 3 of the ABS Information Paper, *Demographic Estimates and Projections: Concepts, Sources and Methods* (ABS Catalogue No. 3228.0; available on the ABS website: <http://www.abs.gov.au>). Background information on the development of the category jumping concept and the methodology is available in the ABS Technical Paper (1983), *Estimates of Residents Temporarily Overseas, Visitors in Australia and Category Jumping* (Catalogue No. 3104.0).

The category jumping estimate is a net figure based on two components: an Australian resident component and an overseas visitor component. The two components are estimated as follows:

- The Australian resident component is calculated as the difference between the number of Australian residents departing Australia in a reference quarter for an intended duration of travel abroad of less than 12 months, and the number of Australian residents who return over the year following the reference quarter and who had departed during the reference quarter.
- The overseas visitor component is calculated as the difference between the number of visitors who enter Australia in a reference quarter with an intended duration of stay of less than 12 months, and the number of visitors who depart Australia over the year following the reference quarter and who had arrived in the reference quarter (ABS 1999).

Category jumping is estimated from the two components by subtracting the Australian resident component from the overseas visitor component. A positive estimate means that the net effect of the changes in status adds more people to Australia's resident population. A negative estimate subtracts from the resident population.

Tables 1a and 1b show how the two components are estimated for the March quarter of 1992-97. The percentage in the 'Remainder' column refers to residents who have not returned or visitors who have not departed within 12 months. It is the net number of category jumpers as a percentage of short-term resident departures or visitor arrivals in the reference quarter.

To obtain a preliminary estimate of the resident or visitor component of category jumping, the percentage departing in the Q+2 to Q+4 quarters have to be estimated to obtain the residual percentage in the 'Remainder' column. The preliminary estimate of the resident or visitor component of category jumping is then obtained by multiplying the estimated percentage in the 'Remainder' column with the number of residents departing or visitors arriving short-term in the reference quarter shown in the last column.

A revised estimate of category jumping is made when movement data are available for all five quarters. The revised estimate of the resident or visitor component of category jumping is the number in the 'Remainder' column. It is obtained directly as the difference between the number of residents departing or visitors arriving shown in the last column and the number who have returned or departed respectively in all five quarters.

The numbers and percentages in the tables refer to the number of movements of travellers rather than the number of individual travellers. For example, a person who makes two

short return trips overseas in one year will be counted as two short-term departures and two short-term arrivals.

As ABS notes, this approach in calculating the two components implicitly takes account of category jumping from permanent/long-term status to short-term status. This is because the effect on the resident population of a person category jumping from short-term to long-term/permanent status is cancelled out by another person category jumping from long-term/permanent status to short-term status. In the above approach to calculating the resident and visitor components, category jumpers from long-term/permanent to short-term are included among residents returning and visitors departing within 12 months of the reference quarter. The two components measure the net effect of category jumping, from short-term to long-term/permanent and vice versa, by residents and visitors.

Because the category jumping estimate is a net figure based on two components that are themselves also net figures, it is a concept that can cause confusion among data users. Revisions to category jumping estimates are also difficult for the data user to understand when they are the net effect of revisions to components that off-set each other.

There is also some confusion as to whether category jumping is an indicator of queue jumping by immigrants or overseas visitors overstaying illegally. ABS regularly points out in its *Migration* publication that category jumping does not imply illegality of movements because people can shorten their travel or extend their stay legally. Category jumping does not differentiate between people who extend their stay legally from those who overstay illegally so some illegal overstayers are included in category jumping. Since category jumping includes both legal and illegal overstayers, this can also be confusing to people.

2.1.1. Methodology for obtaining preliminary estimates

It is clear from the above description that category jumping for a reference quarter that is based on actual duration of stay or travel cannot be estimated until at least 12 months after the end of the quarter. It is only after that time that we will know how many Australian residents who depart during that quarter intending to return within a year have not done so, and how many visitors who arrive intending to depart before 12 months have not done so. The same applies to residents departing long-term who return earlier than intended and visitors who arrived long-term but depart earlier than intended.

When ABS began to adjust population estimates for category jumping in the early 1980s, starting with the September 1976 quarter, it simply assumed that category jumping was zero in its preliminary estimates of net overseas migration and the resident population. Category jumping was estimated some 15 months later, when movement data for the reference quarter as well as the following four quarters were available.

Preliminary estimates of category jumping were produced starting with the December 1989 quarter. The issue of *Australia Demographic Statistics* for that quarter stated that “the level of category jumping has increased significantly in recent periods. On the basis of this an estimate of category jumping is now included in preliminary population estimates commencing with this issue.” (ABS 1990, p.18). The increase that was referred to had occurred in 3 quarters: the September 1988 quarter when category jumping peaked at 17192, the March 1999 quarter when it was 9351 and to a lesser extent the March 1988 quarter when category jumping was 6073 (ABS 1990, Appendix table). (As pointed out later, the large figures for the September 1988 and March 1999 quarters were largely due to the government’s grant of temporary residence of up to four years to Chinese students in Australia on short-term visas following the June 1989 Tiananmen Square incident.)

According to the ABS Information Paper, *Demographic Estimates and Projections: Concepts, Sources and Methods*, Section A3.19:

“Preliminary estimates of category jumping have proven difficult to estimate to the desired level of accuracy since the ABS began adjusting population estimates for category jumping in the September 1976 quarter. This is because it is necessary to estimate from only 2 quarters of data (ie the reference quarter and the following quarter) the number of residents returning and the number of overseas visitors departing in the 4 quarters following the reference quarter of their ‘first leg movement’. ...For example, when making a preliminary estimate of category jumping to be used in compiling the population estimate for the March quarter 1998 (published September 1998), only March and June quarter 1998 overseas arrivals data are available. This means that an estimate has to be made of the number of Australian residents who will return in the September and December quarters 1998, and the March quarter 1999 (the same estimation has to be made for overseas visitors).”

As described above, the current method of estimating preliminary category jumping is based on actual movement data for 2 quarters (a 6-month period spanning the reference quarter and the next quarter). An estimate is then made of the percentage of short-term Australian residents who will not return and the percentage of overseas visitors who will not depart over the next 3 quarters, for which actual data are not available. There is no set formula to calculate this estimate. The usual approach is to base the estimate on the pattern observed for the same quarter in previous years, taking into account any unusual pattern. ABS considers this flexibility an advantage over using a set formula as “it can take account of sudden changes in category jumping patterns” (ABS 1999, Section A3.23). However, the challenge is to know when and what sudden changes are happening and how to take them into account in estimating preliminary category jumping.

Data for Australian residents show that about 90 per cent of those who depart in a reference quarter return during the same quarter (Q) or the next quarter (Q+1). Similarly more than about 90 per cent of visitors depart in the same or following quarter after their arrival. Thus preliminary estimates of category jumping are calculated based on more than 90 per cent of travel completed. ABS only has to estimate how many of the remaining 10 per cent or so will return during the Q+2, Q+3 and Q+4 quarters. However, this exercise is an extremely sensitive one, because the residual percentage, even though small, can result in a large number of “category jumpers” when multiplied by the large volume of short-term movements.

2.1.2. Sampling

Because of the large volume of overseas arrivals and departures, sampling is used in the processing of data on short-term movements. Sampling is based on citizenship, with different sampling fractions used for different countries of citizenship. For example, in the early 1980s, it was 1 in 30 for USA citizens, 1 in 20 for Australia, UK and New Zealand citizens, 1 in 10 for Canada and Japan citizens and 1 in 4 for all other citizens (ABS 1983). The sampling fractions can be varied by ABS. The sample generated by these fractions is large enough and it is unlikely that sampling errors have any significant impact on category jumping estimates.

2.1.3. Rounding in intended duration of stay or travel:

Some visitors arriving and residents departing are inclined to report their intended or actual duration of stay in Australia or overseas in whole years or whole months. As expected, the tendency to 'round' duration of travel is significantly greater in reporting intended than actual duration of stay (ABS 1983). The rounding that affects category jumping estimates is that of one year exactly since 12 months is the criterion defining whether the stay is short-term or long-term.

Currently, people who state an intended duration of stay in Australia or overseas of exactly one year are randomly allocated to short-term or long-term status according to a ratio of 75:25 for overseas visitors and 67:33 for Australian residents. These ratios are set by ABS and reflect the ratio of visitors departing and residents returning at 11 months to 13 months.

To test the validity of these ratios would require examination of individual cases on DIMA's movement database to find out the actual duration of stay or travel of those who state an intended duration of exactly 12 months. Although such a validation process was planned for this project, it became a very time consuming procedure. A small number of cases of working holiday makers was examined, but the time involved made it impossible to examine a large enough sample that would provide reliable results.

An examination of the validity of the ratios based on aggregate data is simpler. Since July 1998, the actual number of days of stay or travel has been calculated by DIMA's computer system from the dates of travel on passenger cards. Data on actual duration of stay for all visitors departing during the year 1998-99 show that the ratio of those departing after a stay of 11 months (334 days) to those departing after a stay of 13 months (395 days) is 88:12. Data for all residents returning during 1998-99 show that the ratio of those returning at 11 months to those returning at 13 months is 82:18. These results are quite different from the ratios currently being used.

The allocation of people stating exactly 12 months to short-term and long-term status according to movements at 11 and 13 months assumes that they depart at 11 and 13 months. However, they can also depart at any time before 12 months or any time after 12 months. A few may depart or return at exactly 12 months.

The current ratios are likely to overestimate category jumping because they underestimate the proportion of people who are actually short-term but who round up their intended duration of stay to exactly 12 months. This appears to be one of the weaknesses of the current methodology. A revision of the ratios to allocate a greater proportion of those stating exactly 12 months to short-term status is likely to improve estimates of category jumping.

2.1.4. Intended duration of stay or travel not stated

ABS also has to allocate to short-term or long-term status those travellers who do not state their intended duration of stay on their passenger cards. Currently, all travellers who do not state their intended duration of travel or stay are allocated to short-term status. Since the proportion not stating their intended duration of stay or travel is small, it is unlikely to have a significant effect on category jumping estimates.

2.2. Recent efforts by ABS to improve the methodology of estimating preliminary category jumping

ABS has experimented with various methods of producing preliminary estimates of category jumping. These have included fitting regression models of the relationship

between intended and actual duration of travel for the resident and visitor components separately; and examining rates of category jumping by country of birth. Nine regression models were tested by ABS. Some of the models showed reasonable prediction of preliminary category jumping among residents. However, none of the models were satisfactory in predicting category jumping among visitors. This confirms observations that it is the visitor component of category jumping that is more volatile and difficult to estimate reliably.

The models have also been tested by considering overseas visitors by country of citizenship. Nineteen different countries and geographic regions were examined. Again the models did not work well. The differences between observed and predicted category jumping were large and did not show any consistent pattern.

2.3. Recent trends and patterns in category jumping

2.3.1. Estimates of category jumping

Annual estimates of category jumping for the years ending June 1977 to June 1998 are shown in Figure 1. For the years from 1978 to 1987, category jumping ranged between – 3200 and 6500 a year. It was positive for most years, indicating that the overseas visitor component was greater than the Australian resident component. However, in 1987 it rose to 16,000 and then to 20,000 for the years 1989 and 1990, suggesting that more overseas visitors were changing from short-term to long-term stay than vice versa, with the visitor component exceeding the resident component of category jumping. Category jumping then became negative for the years 1991-97, reaching a low of –33,000 in 1993. It became positive again in 1998.

What are the reasons for this volatility in category jumping after 1987? ABS (1995) offered some explanations after examining the Australian resident and overseas visitor components of category jumping. The increase in category jumping in the years 1989 and 1990 was due largely to the increase in the visitor component, which peaked at 64,249 in 1988-89 (ABS 1995). Some of the increase could be attributed to the decision announced by Prime Minister Hawke in 1989 to grant temporary residence to students from the People's Republic of China who were in Australia at the time of the Tiananmen Square incident. In 1989-90, category jumping among Chinese visitors was 20,800 and was the largest contribution to category jumping recorded by any birthplace group (ABS 1995).

The decline to negative category jumping during the early 1990s was thought to be related to economic conditions in Australia and overseas. Category jumping by Australian residents rose to 76,751 in 1992-93, exceeding the visitor component, which had fallen to 44,122 (ABS 1995). The early 1990s were years of recession in Australia but conditions were relatively better overseas, particularly in some Asian and European countries, which had relatively high economic growth rates. It was thought that many residents, both Australian-born and overseas-born, might have gone overseas for short-term employment that became long-term, thus prolonging their stay overseas.

While it may be possible to explain the peaks and troughs of annual estimates of category jumping, it is more difficult to explain the volatility in the quarterly estimates (figure 2). Both preliminary and revised estimates show peaks and troughs, from one quarter to the next, and the fluctuation in revised estimates was greater than that in preliminary estimates during the period 1994-96. There was no apparent relation to the number of short-term and long-term arrivals and departures, which did not show such volatility from one quarter to the next.

2.3.2. Differences between preliminary and revised estimates

Also of concern is the discrepancy between preliminary and revised quarterly estimates, which also show considerable fluctuations (figure 3). Preliminary estimates were revised downward by over 15,000 in the March 1998 quarter, the largest revision recorded. Most of the revisions to preliminary estimates were downward, indicating that they tend to overestimate the extent of category jumping. This overestimation may be related to the arbitrary approach in estimating preliminary category jumping, particularly the tendency to be conservative when estimating the percentage of visitors who would depart and the percentage of residents who would return during the three quarters (Q+2, Q+3 and Q+4) for which actual movement data are not yet available.

A comparison of the two components of category jumping on a quarterly basis shows that it is the visitor component that is the more problematic (table 2). The preliminary estimate of the visitor component was consistently higher than the revised estimate and the overestimate was close to 10,000 or higher for 3 of the 20 quarters. Also in 3 quarters, the preliminary estimates were positive when the revised estimates were negative. The average difference between preliminary and revised estimates for the visitor component (3,787) is much higher than the average difference between revised and preliminary estimates for the resident component (2,132).

The three largest differences between preliminary and revised estimates of the visitor component all occurred during the March quarter, which is usually the time of arrival of a large number of overseas students because of the start of the school and university academic year during that quarter. Since the volume of movements is greater during this quarter, it is not surprising that errors would be numerically larger.

It was rather more puzzling that category jumping among residents was very high in the March quarter of 1996 and 1997 but quite low in the March quarter of 1998. There was no unusual pattern in short-term resident departures to indicate possible causes of these fluctuations.

2.3.3. Resident and visitor components of category jumping

The two components of category jumping have shown a decline and then a levelling off at about 20,000 during the later part of the 1990s (figure 4). Preliminary figures for 1998-99 show a further decrease, particularly in the resident component. The reasons are unclear. Short and long-term movements of residents and visitors have been increasing, which would imply that the rate of category jumping is declining for both residents and visitors.

Figure 4 also showed that net category jumping was increasing even as the resident and visitor components were decreasing. These contradictory trends in the components and the net figure illustrate the difficulty of trying to predict category jumping on an annual basis.

2.3.4. Category jumping estimates by country of birth

ABS also produces category jumping estimates by country of birth of residents and visitors. For preliminary estimates of category jumping by country of birth, ABS allocates a proportion of total net category jumping to each country of birth. The proportion is based on the number of permanent and long-term arrivals by country of birth. For example, if net category jumping for a particular quarter is estimated as 5000, and 10 per cent of all permanent and long-term arrivals in that quarter were born in the United Kingdom, then category jumping is estimated as 500 for the UK-born for that quarter. ABS estimates

preliminary category jumping for 66 countries of birth using this method. This method was also used to obtain revised category jumping prior to the September 1996 quarter.

Since the September 1996 quarter, revised estimates of category jumping by country of birth are calculated in the same way as total category jumping. For example, to estimate category jumping for UK-born visitors, the number of UK-born short-term visitors arriving in a reference quarter and their numbers departing in the reference quarter and the next four quarters are obtained from the Overseas Arrivals and Departures unit record database. The difference between the number arriving and the total number departing is the number of UK-born visitors category jumping. The same exercise is carried out for Australian residents born in the UK. Net category jumping for the UK-born is then calculated as “UK-born short-term visitors category jumping”- “UK-born short-term residents category jumping”.

The country of birth estimates also show considerable volatility for many of the birthplace groups (table 3), some of which are more readily explained than others. For example, the increase in category jumping among Chinese visitors in 1988-89 and 1989-90 was the expected outcome of the government’s decision to extend the stay of Chinese nationals after the Tiananmen Square incident. Category jumping among Fijian nationals was also higher in 1987-89 possibly because of the political situation in Fiji in 1987. On the other hand, it was more difficult to explain the volatility among Australian-born and UK-born residents between 1989-90 and 1994-95. The high levels shown for 1990-91 might be due to the economic recession in Australia, but thereafter the pattern was very uneven. There was also considerable variation in the residual ‘Other’ category of both residents and visitors.

The estimates are useful in showing generally which birthplace groups are contributing to category jumping and in which direction. For example, in 1992-93 when category jumping among residents was highest, it was mostly due to overseas-born residents, with half of total category jumping coming from the residual ‘Other’ birthplace group. The estimates also show that visitors from New Zealand, United Kingdom and China are among the largest contributors to category jumping. This is expected since these countries are major sources of visitor arrivals. Category jumping is positive among them, indicating that they are more likely to extend a short-term stay into long-term stay than vice versa. Category jumping is also positive for people from Philippines, although the volume is smaller. In contrast, category jumping is negative for visitors from Singapore, Hong Kong and the United States, indicating that they are more likely to depart short-term after indicating a long-term stay than vice versa.

It is possible to explain these patterns of category jumping with data on the major sources of the various types of temporary visitor arrivals. United Kingdom is a major source country of working holiday makers, temporary business arrivals and tourists (table 4) and it is likely that a small proportion of these visitors extend their stay to long-term. Since the number of temporary arrivals from the United Kingdom is very large, a small percentage extending their stay can result in a relatively large contribution to category jumping. This is also true of New Zealand arrivals. China is the origin of many temporary business arrivals on short-stay visas who are known to extend their stay by applying for the long stay business visa after arrival, thus contributing to positive category jumping. Some of the positive category jumping may also reflect illegal overstaying as DIMA statistics show that the UK, China and the Philippines are among the top ten countries of illegal overstayers. Singapore and Hong Kong-born visitors contributing to negative category jumping are likely to be students who say they are staying long-term but depart short-term.

2.4. Recent trends in temporary visitor movements

We now turn to an examination of data on the various types of temporary visitor movements. Figures 5 and 6 show the number of long-term and short-term visitor arrivals for the years 1982-83 to 1997-98. Both long-term and short-term arrivals have increased steadily since the early 1980s. There was a levelling off during the recession years of the early 1990s. Then the number of both short- and long-term arrivals nearly doubled between the years 1992 and 1998.

There have been increases in all types of temporary arrivals (DIMA 1999a; 1999b). The number of working holiday visas given out has increased every year since 1992. Total arrivals exceeded 60,000 in 1997-98. A further increase has been announced. In 1997, two types of temporary business visa were introduced, one allowing for a stay of up to 4 years, the other for a stay of up to 3 months. Total entry of people in the business entry long stay visa class numbered 52,000 in 1997-98 while that of short stay business visitors numbered 335,000. The number of student visas granted offshore has increased from about 35,000 in 1992-93 to 64,000 in 1997-98. Total student arrivals in 1997-98 were about 160,000. The number of New Zealand citizens arriving for a temporary visit has also increased in parallel with those arriving for permanent residence (see DIMA 1999a).

Figure 7 shows the quarterly pattern of different types of temporary arrivals. As expected, student arrivals usually reach a peak in the March quarter because of the start of the academic year in that quarter. New Zealand citizen arrivals show the opposite pattern, with peaks in the September quarter and troughs in the March quarter. There is no seasonal pattern in the arrival of working holiday makers or temporary business people, which are spread more evenly throughout the year.

2.4.1. *Intended and actual duration of stay of temporary arrivals*

Because category jumping involves changes in the duration of stay in Australia of visitor arrivals and overseas of Australian residents, it is important to examine data on intended and actual duration of stay of these two groups of people. The preferred approach is to compare the intended and actual duration of travel for individuals. However, this turned out to be very time consuming to do for a sample of reasonable size. Therefore, the approach taken was to examine distributions by intended and actual duration of stay of the different visa classes of arrivals and departures. The limitation of this approach is that it does not compare the same group of people arriving and departing. Nonetheless it provides some indication of which groups are likely to contribute to category jumping.

Table 5 shows the distribution by intended or actual duration of stay of temporary arrivals and departures by visa type for the year 1998-99. This table is a comparison of aggregate data and therefore the arrival and departure figures do not refer to the same people. It is also notable that the number of arrivals exceeds the number of departures for groups such as working holiday makers, students, New Zealand citizens and visitors. This is consistent with the increase in these arrivals in recent years.

The data indicate that temporary entrants, particularly working holiday makers, temporary business entrants on long-stay visas and students, tend to say on arrival that they will stay longer than they actually do. Many will therefore be counted as category jumping. Since they tend to leave the country sooner than intended, the impact on the category jumping estimate is negative.

Table 5 also shows a strong tendency to round intended duration of stay to exactly 12 months by some visa classes. Almost half of all working holiday makers state on arrival a

stay of exactly 12 months. This is because their visa allows them to stay for a maximum of 12 months. In reality, almost all of them (97 per cent) depart before 12 months. Because their visas allow for multiple entry, some of them travel to New Zealand and then return to Australia for another period of stay. Among students, there is heaping at less than 1 month, 6 months and 12 months in their intended duration of stay,

Most people on visitor visas (99.8 per cent) and New Zealand citizens (97.6 per cent) indicate a stay of less than 12 months on arrival and almost all (99.9 per cent of visitors and 99.1 per cent of New Zealanders) depart within 12 months. Only a very small percentage appeared to change their travel intentions between short-term and long-term. However, the volume of these two types of movements is large – over 3 million visitors and about 650,000 New Zealand citizen arrivals each year – so that even a small percentage changing their travel intentions can have a significant impact on category jumping.

There is also not much difference in the percentage of Australian residents departing who indicate short-term (98.2 per cent) and returning within 12 months (98.0 per cent). But again the volume is large (about 3.2 million in 1998-98) and a small percentage difference can result in category jumping of the order of a few thousand.

In summary, the data show that a significant percentage of working holiday makers, temporary business entrants and students are likely to be counted as category jumpers. Their contribution to category jumping is likely to be negative because they tend to be long-term arrivals departing short-term. Tourists, other visitors and New Zealand citizen arrivals appear to have lower rates of category jumping, but their volume is much larger so their contribution to category jumping can be numerically greater than those of longer-term visas such as students and working holiday makers. It is also likely to be positive when they extend their stay into long-term.

2.5. Impact on net overseas migration and population estimates

According to ABS, the rationale for adjusting for category jumping is to obtain better population estimates.

“If no adjustments were made for category jumping, a resident who states on the passenger card that he/she is departing on a short-term trip but never returns to Australia would not be subtracted from Australia’s population. However, if this resident returned after an absence of more than a year he/she would be added to the population even though he/she had not been subtracted on departure. Similarly, a visitor who arrives on a short-term trip but who never departs would not be added to the population, or if he/she departs after one year, he/she will be subtracted from the population even though he/she had not been added in on arrival” (ABS 1999, paragraph A3.13).

As shown in table 6, category jumping can have a large impact on net overseas migration estimates. The preliminary estimate of category jumping has been 9 times as large as the net overseas migration estimate (June quarter 1993) and the revised estimate of category jumping has been more than 4 times as high as the net overseas migration estimate (December quarter 1992). On an annual basis, ABS (1999, p. 25) has pointed out that “in recent years category jumping has tended to accentuate fluctuations in net overseas migration causing deeper troughs and higher peaks” (figure 8). It gives as examples, “in the late 1980s, net overseas migration peaked at 157,400 but without category jumping, the peak would have been 137,200. Similarly, the trough of 30,000 in 1992-93 would have been 62,700 without category jumping”.

The impact of category jumping on annual estimates of net overseas migration, population growth and estimated resident population is shown in Table 7. The impact of category jumping on net overseas migration was much greater in the years since 1987 and was particularly large in the early 1990s.

The impact is much less over the long term. Net overseas migration averaged 89,700 per year over the period 1978-98. If there was no adjustment for category jumping, it would have averaged 90,500. Category jumping made more difference during the period 1988-98 when average annual net overseas migration was 92,800 a year. If there had been no adjustment for category jumping, it would have averaged 97,700 per year. Therefore, if the net overseas migration assumption for population projections was based on the average figure for 1988-98, it would have been higher (close to 100,000 per year instead of about 90,000) if there had been no adjustment for category jumping.

Category jumping also had a bigger impact on population increase since 1987. Population increase was 7-8 per cent higher in 1989-90 because of category jumping. In the early 1990s it was 10-20 per cent lower because of category jumping.

The effect of category jumping on the estimated resident population is much smaller than on net overseas migration and has been not more than 0.5 per cent. It is cumulative over the years and was greatest in 1990 when the estimated resident population had 84,300 more people (0.49 per cent more) because of the category jumping adjustment. However, the negative impact of category jumping of the early 1990s caused the situation to turn around in 1995 when the difference in the estimated resident population with and without the category jumping adjustment was only 0.01 per cent or 1,300 people. In mid-1998, after 20 years of adjusting for category jumping, the population was 0.09 per cent lower (17,200 fewer people) than it would have been without the adjustment. These comparisons indicate that category jumping has little effect on population estimates.

2.5.1. Impact of category jumping on State/Territory population estimates

As indicated in the Introduction, concern with category jumping at the State/Territory level focuses on its likely effect on the State/Territory population estimates, particularly the possibility that it effectively excludes a number of temporary residents such as overseas students from the estimated resident population.

Category jumping is estimated at the national level. It is then distributed by State/Territory in proportion to the number of permanent and long-term arrivals for each State/Territory for the same quarter. This assumes that the impact of category jumping on the States and Territories is the same as that of permanent and long-term arrivals. No reason is given for this assumption. The ABS Technical Paper (1983, p.15) indicated that using net permanent and long-term movement as a basis for distribution was considered but judged to be unstable particularly for the smaller States and Territories. One may argue that if category jumping is more likely among certain groups of arrivals or residents than others then the distribution of category jumping across States and Territories may well differ from that of permanent and long-term arrivals.

Table 8a shows how the revised category jumping estimate of 7192 for the year ending June 1998 is distributed among States and Territories following the distribution of permanent and long-term arrivals for that quarter. As shown in the table, category jumping added about 3,000 people to New South Wales' estimated resident population and 54 people to Tasmania's estimated resident population during the year ended June 1998. It has more impact on States such as New South Wales, Western Australia and Victoria that receive a

larger share of permanent and long-term arrivals compared to their share of total population. It has very little effect on Tasmania's population because Tasmania receives a small share of permanent and long-term arrivals. However, its effect on State and Territory populations is too small (0.05 per cent or less) to affect the population distribution by State and Territory. With or without category jumping, each State or Territory's share of the total population remains virtually the same.

Even when category jumping is large, as in the year to June 1993, its impact on the estimated resident population of States and Territories does not exceed 0.3 per cent (table 8b). The percentage distribution of estimated resident population with and without category jumping (columns 7 and 8) also shows that category jumping does not have any significant impact on each State or Territory's share of the total population.

What happens when category jumping estimates are revised? Table 9 shows the preliminary and revised net overseas migration and estimated resident population for States and Territories at June 1998 and the difference due to revisions in category jumping estimates and births and deaths statistics. The revisions affect net overseas migration and the estimated resident population in some States/Territories more than in others, but they do not change the percentage distribution of estimated resident population by State/Territory (unless one considers a difference of 0.01 in the case of four States a change). States and Territories that receive a larger proportionate share of permanent and long-term arrivals, and therefore also a larger proportionate share of category jumping, are more affected by revisions to category jumping estimates than those that receive a smaller proportionate share of permanent and long-term arrivals. The revision resulted in a decrease of some 8,000 people for New South Wales or 0.12 per cent of its resident population, but only 84 people for Tasmania or 0.03 per cent of its resident population. This is because while New South Wales has about 33 per cent of the total population, it receives 41 per cent of all permanent and long term arrivals in the year to June 1998 and therefore 41 per cent of all category jumping. Tasmania received fewer permanent and long-term arrivals than its share of total population and therefore was less affected by revisions to category jumping.

Tables 8 and 9 also show that when there is a large revision to category jumping estimates, the size of the revision to population estimates can exceed the size of category jumping itself.

State/Territory population estimates are used for the allocation of seats in the House of Representatives and the distribution of Commonwealth funds to the States and Territories. The effect of category jumping on State/Territory population estimates and their implications for the allocation of Commonwealth funds can be examined.

The results show that there is no cause for concern that failure to adjust for category jumping will have considerable implications for the allocation of Commonwealth funding to States and Territories. This is demonstrated in tables 10a, b and c, which show the impact on Commonwealth grant distributions to the States and Territories of three estimates of category jumping, ranging from 20,852 (in 1998-99) to -32629 (in 1992-93).

The distribution of Commonwealth money to the States and Territories is based on their weighted estimated resident population. The population weights used for the distribution and the total amount of grant distributed vary from year to year. Generally, the Northern Territory has a weighting that is nearly five times that of the States. The weights shown in tables 10 a, b and c were the actual weights used in those years for the grant distribution, as given in the Federal Financial Relations Budget Paper No.3 for the respective years. The Budget Papers also showed that the total Commonwealth grant distributed to States and

Territories for those years were between \$16.7 billion (for 1992-93) and \$22 billion (for 1998-99).

The calculations in table 10b show that when category jumping was 20,852 in 1998-99, New South Wales received \$2 million more than it would have if its estimated resident population had not been adjusted for category jumping. This was out of its total allocation of \$6.7 billion. Thus the adjustment for category jumping made a difference of 0.03 per cent in the amount of money received by New South Wales.

While New South Wales was 0.03 per cent better off with category jumping, Tasmania Australia was 0.075 per cent worse off. It received \$658,360 less because of the category jumping adjustment to its estimated resident population, but its total allocation was still about \$881 million.

The situation is reversed when category jumping is negative (table 10c). New South Wales became worse off with the category jumping adjustment while Tasmania fared better. New South Wales had received \$2.3 million less because of the adjustment for category jumping while Tasmania had received \$735,520 more. However, these amounts were only 0.05 per cent and 0.1 per cent of their allocation.

The calculations show that States that receive more than their share of permanent and long-term arrivals will get more money when category jumping is positive and less money when category jumping is negative than if no adjustment is made to their estimated resident population for category jumping. Conversely, States that receive less than their share of permanent and long-term arrivals will get less money when category jumping is positive and more money when category jumping is negative than if no adjustment is made to their estimated resident population for category jumping. The difference in the amount of grant received with and without the category jumping adjustment is very small (0.1 per cent or less) in relation to their total allocation.

The adjustment for category jumping also makes no difference (except in the second decimal place in one or two cases) in the percentage distribution of the grant money across States and Territories (last two columns of the lower panel of each table). This is expected since category jumping has virtually no effect on the percentage distribution of population by States and Territories.

2.5.2. Do preliminary estimates of category jumping improve population estimates?

Since preliminary estimates of category jumping have sometimes been revised downward substantially, does having a preliminary estimate result in better preliminary population estimates? Preliminary estimates of category jumping had been produced only since 1989; before that time, ABS had assumed a preliminary estimate of zero category jumping.

Table 11 shows that having a preliminary estimate of category jumping may be better than assuming preliminary category jumping to be zero in 14 out of the 20 quarters to June 1998. This is because the discrepancy between the preliminary estimate and the revised estimate was smaller than the discrepancy between a preliminary estimate of zero and the revised estimate. In the other 6 quarters, the difference between the preliminary and revised estimates of category jumping was larger than the difference between the revised estimate and a preliminary estimate of zero. Thus the preliminary estimate of visitor category jumping was better than a zero estimate in 12 quarters out of 20 and the preliminary estimate of resident category jumping was better than a zero estimate in 16 out of 20 quarters.

The preliminary estimates were more effective in the period up to June 1995. Since September 1995, the record has not been as good, with preliminary estimates being better than a zero estimate in 7 out of the 12 quarters. In the 5 quarters when having a preliminary estimate was not effective, the revisions downward were also particularly large. The last column of table 11 also shows that 4 out of the 5 negative percentages were over 600 while the positive percentages were all less than 100. This shows that while having a preliminary estimate of category jumping is better than not having one in the majority of quarters, the improvement is small. But when the preliminary estimate is not an improvement, the negative impact is usually quite large.

Although having a preliminary estimate of category jumping may be better than not having one in the majority of quarters over the past five years, the effect on the total population is quite small. It made a difference of a few thousand people in a population of 17-18 million. Category jumping estimates are subject to error like all estimates, and preliminary estimates are particularly susceptible since they are based on assumptions about future travel movements. Adjusting for category jumping produces a small change in population estimates. Whether this improves population estimates is not clear as no one knows what the actual population is. The adjustment is also an interim measure since population estimates are adjusted again after each population census.

It is also not certain that preliminary estimates of category jumping improve State and Territory population estimates because category jumping is apportioned to the States and Territories following the pattern of permanent and long-term arrivals. There is no information to indicate that this assumed distribution approximates reality.

2.5.3. Category jumping and usual residence

The implicit definition of usual residence in category jumping estimates is at least 12 months – the definition of long-term residence status. Long-term overseas visitors who depart before 12 months are “removed” from population estimates by category jumping, while short-term ones who stay for at least 12 months are added to population estimates.

This definition of usual residence is different from that associated with the concept of estimated resident population at the local level. According to ABS description of estimated resident population (ABS 1999:48), “Usual residence is that place where each person has lived or intends to live for six months or more from the reference data for data collection.” The 1996 Census also included these instructions with the question on usual residence:

‘Usual’ address is that address which the person has lived or intends to live for a total of 6 months or more in 1996.

For boarders at boarding school or college, give address at boarding school or college.

The forthcoming 2001 Census has included specific instructions on residency for overseas visitors. Overseas visitors visiting for less than 12 months will be asked to give their usual residence as overseas. This is more in agreement with the definition of residence used in category jumping and estimates of net overseas migration. The new instructions will exclude temporary visitors such as working holiday makers from population estimates. However, it is uncertain how other visa classes such as overseas students or temporary business visitors will answer the usual residence question in the next census.

2.6. Summary and conclusions

The above examination of the category jumping methodology and trends in category jumping estimates and temporary resident and visitor arrivals and departures has provided a better insight into the problems with current estimates of category jumping. The analyses

of the impact of category jumping on population estimates have also provided an assessment of the rationale for adjusting for category jumping. It is useful to summarise the major issues that have emerged from the analyses and need further consideration.

2.6.1. Issues and problems related to current methodology

The current methodology has two apparent weaknesses. One is the difficulty in estimating preliminary category jumping before data on actual duration of travel are available for all four quarters following the reference quarter. The other is the treatment of heaping at exactly 12 months in travel intentions, which tends to be more prevalent among some types of temporary entrants than others. Another methodological issue is the distribution of category jumping to States and Territories based on each State and Territory's share of permanent and long-term arrivals, although this is an issue in relation to States' and Territories' population estimates only.

Preliminary estimates of category jumping depend on assumptions about international travel movements, which are difficult to predict as they can be sensitive to all sorts of conditions, including changes in airfares and climate. ABS has used a flexible approach in making these assumptions, maintaining that it allows for unusual events to be taken into consideration. However, it is a very arbitrary approach and depends on the judgement of the person making the calculations. There is also very little margin for error, because a small percentage difference can result in a large number of the large volume of short-term movement from which preliminary category jumping is estimated. The large volume of short-term movements also means that a small difference between the preliminary and revised estimates of the 'residual' percentage who do not depart or return within 12 months can result in a large difference between preliminary and revised estimates of category jumping.

The other weakness in the methodology relates to the validity of the ratios used to split the numbers stating travel intentions of exactly 12 months into short-term and long-term movements. The ratios currently used are 75:25 for visitors and 67:33 for residents, but data for 1998-99 show that the number of visitors departing at 11 months to that departing at 13 months, which is the basis for the ratios, is 88:12 while the corresponding ratio for residents is 82:18. Since July 1998 the data processing system has allowed actual duration of stay or travel to be calculated from the dates of travel so these ratios are based on more reliable data than before.

The current ratios are likely to underestimate the proportion short-term and overestimate the proportion long-term. They may also produce category jumping estimates that are particularly sensitive to the increase in visa classes such as working holiday makers, students and temporary business entrants who tend to round their travel intentions to exactly 12 months.

2.6.2. Assessment of category jumping estimates

Significant volatility in category jumping has been more likely since 1987. Since that time, there has also been a large increase in all types of temporary movements. This suggests a likely relation between the two trends as category jumping is a measure of the change of status between short-term and long-term.

Some of the peaks and troughs in annual estimates of category jumping can be explained by external factors such as prevailing economic conditions and government response to political crises overseas. However, while it may be possible to rationalise the patterns retrospectively, the volatile pattern makes it difficult to predict the level and direction

(whether positive or negative) of category jumping each year. The problems with both preliminary and revised estimates of category jumping are likely to be related to the increase in overseas arrivals such as students and other temporary residents who tend to state exactly 12 months or more in their intended duration of stay and then depart earlier.

Both preliminary and revised quarterly estimates are highly volatile, with the revised estimates sometimes showing greater fluctuations than the preliminary estimates. The preliminary estimate of the visitor component is clearly more problematic than the estimate of the resident component. Overestimation of a large scale tends to occur, particularly in the March quarter, suggesting some relation to the seasonal pattern of overseas student arrivals and departures. The difficulty of estimating preliminary category jumping, particularly for visitors, raises the issue of the reliability of any preliminary estimate.

Category jumping estimates by country of birth of residents and visitors are generally helpful in showing which birthplace groups are major contributors to category jumping and the direction of their category jumping. It is not surprising that the major sources of overseas visitors are also major contributors to category jumping. While these estimates may be indicative of the general trend in category jumping by specific birthplace groups, their volatility for some groups suggest that individual estimates may be less useful.

2.6.3. Impact of category jumping on population estimates

The category jumping adjustment to net overseas migration can be quite significant. For example, in the 12 months to June 1993, net overseas migration was 62,671 with category jumping but 30,042 without it. Category jumping also tends to accentuate fluctuations in net overseas migration causing deeper troughs and higher peaks.

In contrast to its impact on net overseas migration, category jumping has only a very small impact on population estimates. It has added up to 21,000 people to, or subtracted up to 33,000 people from, Australia's population in one year. This is less than 0.1 per cent of estimated resident population. The impact of category jumping on State/Territory population is also small. The largest impact it has had is to reduce the population of New South Wales by 13,000 people for the year to June 1993.

More importantly, category jumping has no significant effect on population distribution by State/Territory. This is because category jumping is not estimated separately for each State/Territory, but is distributed among the States and Territories according to the distribution of permanent and long-term arrivals for the same time period. Revisions to category jumping estimates also have little impact on the population distribution by State/Territory.

Revisions to category jumping estimates have a larger impact, in terms of population numbers, on the population of States/Territories that receive more than their share of permanent and long-term arrivals. The reason is that these States/Territories will also receive a larger share of category jumping compared to their share of the total population.

Considering the small impact of category jumping on population estimates, the number of overseas students and visitors who are excluded from population estimates by category jumping (because they depart before 12 months in spite of an intended stay of 12 months or more) is also likely to be small. Category jumping may add or remove 0.2 per cent of the population of the States and Territories that receive a larger share of permanent and long-term arrivals, and 0.1 per cent of the population of States and Territories that receive a smaller share. When there is a large difference between the preliminary and revised

estimates of category jumping, the revision to State/Territory population estimates can sometimes be greater than the contribution of category jumping itself.

The impact of category jumping on State/Territory entitlements to Commonwealth funding is also very small. Calculations for 1998-99, when category jumping was estimated at 20,852, showed that NSW was better off by \$2.0 million because of category jumping, but South Australia was \$1.0 million worse off and Tasmania was \$658,000 worse off. New South Wales total entitlement was nearly \$7 billion, and that of South Australia and Tasmania was \$2.1 billion and \$0.9 billion respectively. Therefore, the difference due to category jumping was less than 0.1 per cent. When category jumping was negative instead of positive, the reverse occurred – New South Wales received a bit less than it would have without the category jumping adjustment to its population, and South Australia and Tasmania received a bit more.

The distribution of category jumping across States and Territories is based on the assumption that each State or Territory's share of category jumping is the same as its share of permanent and long-term arrivals for the same quarter. However, there is no theoretical or empirical basis for this assumption. The distribution of category jumping may well differ from that of permanent and long-term arrivals if some types of visitors or residents have higher rates of category jumping than others.

PART 3. FUTURE OPTIONS

Before discussing options to address the problems with category jumping, it may be helpful to examine how other countries similar to Australia estimate net overseas migration and the resident population and whether they make an adjustment for category jumping. It is also useful to review the recently revised United Nations recommendations on international migration statistics, particularly in relation to the definition of long-term and short-term movements.

3.1. Other countries' approaches to estimating net overseas migration and the resident population

The approaches used to estimate net overseas migration and the resident population used in four countries – New Zealand, Canada, United Kingdom and United States of America – have been reviewed to see whether they can provide alternative ways of addressing the issue of category jumping.

3.1.1. New Zealand

Statistics New Zealand (SNZ) publishes external migration statistics on a monthly basis. The statistics refer to the number of movements of travellers, not the number of travellers. This is similar to statistics published by ABS on overseas arrivals and departures. In its *External Migration* publication Technical Notes, SNZ alerts data users to the possibility of category jumping, saying that:

“In the preparation of migration statistics the classification of each passenger is primarily determined by the passenger's response, on the arrival or departure card, to the question on intended or actual length of stay/absence. If the person's intention changes later during the trip, then he or she may also change their migrant category. For example, if a person comes to New Zealand with the declared intention of settling permanently, but in fact returns overseas after a few months, then this person is classified as a permanent/long term migrant on arrival, but is later classified as a short-term visitor on departure. This has resulted in a migration category jumping. Data users should recognise the limitations inherent in the information supplied by travellers.”

SNZ monitors category jumping as it occurs above, following ABS methodology, but does not adjust for it in published migration statistics. SNZ also does not distinguish between permanent and long-term movements. Its migration statistics refer to only two categories: (1) permanent and long-term movements and (2) short-term movements.

3.1.2. Canada

Statistics Canada does not use a 12-month criterion to distinguish between permanent/long-term and short-term migrants. Its estimates of international migration and the resident population are based on a formal/legal status (permanent or temporary) of Canadians abroad and foreigners in Canada. Estimates of immigration are based on immigrant arrival files provided by Citizenship and Immigration Canada. Estimates of emigration are derived from the administrative files of the US Immigration and Naturalization Service (to estimate emigration to the US, the main destination of emigrants from Canada) and Revenue Canada's Child Tax Benefit program (to obtain the number of child emigrants), supplemented by an indirect measurement of the number of adult emigrants to a country other than the US.

Aside from estimates of immigration and emigration, Statistics Canada also estimates the number of Canadians temporarily abroad and non-permanent residents in Canada which are components in the derivation of population estimates. An estimate of the net change in the number of Canadians living temporarily abroad is made from data from the Reverse Record Check of the 1991 and 1996 Censuses. Canadians abroad are those who were abroad for less than 6 months prior to the Census and “those who were studying or working outside for more than 6 months but were maintaining a residence for immediate occupancy” (Michalowski 1999). This is differentiated from the definition of an emigrant who is a person who has “left Canada and do not have an intention of returning or if a person’s intentions of returning were unknown but a departure occurred more than 2 years before the Census day” (Michalowski 1999). Estimates of non-permanent residents – “foreigners arriving for temporary stay in Canada and leaving after their stay ends” – are produced from information provided by Citizenship and Immigration Canada on the number of persons holding residence permits or claiming refugee status.

Estimates of immigration, emigration, Canadians temporarily abroad and non-permanent residents, together with births and deaths, are the components in the population estimates produced by Statistics Canada. For the year 1998-99, Statistics Canada estimated 173,011 immigrants, 58,787 emigrants (which include emigrants and the net variation in persons temporarily abroad) and 11,713 net increase in non-permanent residents. Canada’s estimated population at July 1999 was 30,491,300, which included non-permanent residents. There is no category jumping adjustment for changes in status. Changes in status are presumably captured in administrative files on which estimates of the different components are based.

3.1.3. *United Kingdom*

The United Kingdom estimates net international migration from three sources of data. These are the International Passenger Survey, a continuous voluntary sample survey carried out by the Office of National Statistics; information provided by the Home Office on people who enter the UK as asylum seekers or who seek asylum after entry as short-term visitors; and information on migrants between the UK and the Irish Republic. In discussing the quality of international migration data, Vickers (1998) of the Office of National Statistics warned that “the data sources that are used to measure migration are subject to some uncertainty”.

The definition of migrant used in the United Kingdom is based on residence or travel duration of 12 months or more. A migrant to the United Kingdom “is a person who has resided abroad for a year or more, and who states on arrival the *intention* to stay in the United Kingdom for a year or more” while the definition of a migrant from the United Kingdom is “a person who has resided in the United Kingdom for a year or more, and who states on departure the *intention* to reside abroad for a year or more” (Vickers 1998). Net international migration is simply the sum of the net movements estimated from the three data sources. There is no adjustment for category jumping. Estimated net immigration to the United Kingdom was 93,000 in 1996, which was 0.16 per cent of an estimated population of 58 million.

3.1.4. *United States of America*

Estimates of the resident population of the United States are derived using the component method with births, deaths, net international migration and the net movement of US Armed Forces and civilian citizens as the components. Net international migration

composes of five types of movements: legal immigration, refugee immigration, undocumented net immigration, Puerto Rican immigration, and emigration of legal residents (US Census Bureau 1999).

The components of net international migration are based on various administrative sources and analytic estimates (US Census Bureau 1999). Data on legal immigrants are provided by the Immigration and Naturalization Service, while data on persons admitted to the United States as refugees come from the Office of Refugee Settlement. Puerto Rican immigration and emigration estimates come from Immigration and Naturalization Service data and independent research conducted by the Census Bureau's International Programs Center". Two components "for which reliably accurate and current data are unavailable are undocumented immigration and permanent emigration of legal residents". The US Census Bureau makes an allowance of 225,000 net migration per year for undocumented immigration, while the emigration of legal residents is estimated from research on foreign-born and native-born emigration. The net effect of temporary movements of US citizens and students is assumed to be zero.

The US Census Bureau produces four types of monthly population estimates. These are (1) the resident population, (2) resident population plus Armed Forces overseas, (3) civilian population, and (4) civilian non-institutional population. The civilian non-institutional population excludes residents of institutions such as jails, nursing homes and mental hospitals (see <http://www.census.gov>).

3.1.5. Discussion

None of the statistical agencies of the above four countries makes any use of category jumping in their methods of estimating net international migration and producing population estimates. It is not known if these agencies, aside from Statistics New Zealand, are aware of the issue of category jumping, or whether it is impossible for them to make the adjustment because of lack of data. It is also possible that category jumping is perceived as a minor issue compared to the margin of error in estimating net international migration from a variety of data sources.

Australia is therefore very much alone in adjusting for category jumping. It is able to make this adjustment largely because of the system it has in place to collect and process overseas arrivals and departures data, yielding statistics on international movements that are much more detailed and complete than those in other countries. The ability to adjust for category jumping depends on information on intended and actual duration of stay or travel. None of the countries reviewed above, except New Zealand, collects this information.

3.2. The United Nations' revised recommendations on international migration statistics

The United Nations recently revised its recommendations on international migration statistics in response to increasing international population movements. The main elements of the revised recommendations are:

- Visitors are defined as persons who do not reside in the country of arrival and who are admitted for short stays for purposes of leisure, recreation, holiday, visits to friends or relatives, business or professional activities not remunerated in the country of arrival, medical treatment or religious pilgrimage. Visitors include tourists and business travellers.
- A new category of short-term migrants, defined as persons who move to another country for at least 3 months but less than one year (12 months) and are in paid

employment in the country of destination. The country of usual residence of short-term migrants is considered to be the country of destination during the period they spend in it.

- The definition of a long-term migrant is a person who moves to another country for a period of at least 12 months. The country of destination is the country of residence of long-term migrants.
- Migrants for settlement who are defined as persons granted the permission to stay for a lengthy or unlimited period, who are subject to virtually no limitations regarding the exercise of an economic activity.

The definition of long-term currently used in Australia – at least 12 months – is therefore in agreement with the above UN recommendation. Since persons staying in Australia for at least 12 months are included in the resident population, this is also in agreement with the UN's recommended definition of the usual residence of long-term migrants.

However, Australia does not have a category of short-term migrants as defined above. Information is not available on source of income of short-term overseas arrivals to identify short-term migrants defined in this way. All overseas visitors staying for less than 12 months are considered short-term and are not included in the resident population.

3.3. Options to address the problems with category jumping

Considering the various problems with category jumping estimates, the question arises as to whether it is useful to continue to adjust net overseas migration and the estimated resident population for category jumping, and if so, what improvements in methodology are possible. The options discussed here therefore range from making only minimal changes to eliminating category jumping as a component in net migration estimates. The default option is, of course, to do nothing and continue with the current methodology. The options are discussed below in order of maximum to minimum change.

Option A. Eliminate category jumping as a component of net overseas migration.

While there is good theoretical reason for adjusting for category jumping – to obtain better estimates of net overseas migration and the resident population – in practice the adjustment makes a very small difference in the estimated resident population, although it can have a big impact on net overseas migration figures. Adjusting for category jumping also has only a small effect on State or Territory population estimates. It has a negligible effect on the percentage distribution of the population by State/Territory.

Option A.1. Net overseas migration will be based on net permanent and long-term movements only. Long-term is as currently defined.

This option eliminates category jumping but makes no other change in estimating net overseas migration. It is the approach used by Statistics New Zealand. The effect of this option on net overseas migration and population estimates for the past 20 years can be observed in table 7. The impact on total population estimates is very small. However, net overseas migration figures would have fluctuated to a lesser extent.

Option A.2. Net overseas migration will be based on net permanent and long-term movements. Long-term movements defined as 6 months or more.

This option eliminates the category jumping component from net overseas migration, and revises the definition of long-term movements to include a greater proportion of overseas movements. Overseas students and working holiday makers will be included in population estimates if they spend 6 months or more in Australia while Australian residents who are abroad for 6 months or more will be excluded. The definition of long-term in this option is

not compatible with the United Nations recommendations on international migration statistics.

The 6-month definition of residence corresponds with the definition of usual residence in the previous census, which is also the basis for the concept of estimated resident population. However, in the 2001 Census, recent arrivals from overseas will be instructed to state their usual place of residence as overseas if they are visiting for less than 12 months. So there is no advantage in this option in relation to future censuses. This approach is also likely to result in an increase in net overseas migration estimates if the numbers of overseas students and working holiday makers continue to increase.

Option A.3. Net overseas migration will be based on net permanent and all movements of at least 3 months duration except those for tourism, business or medical treatment.

This approach will include an even greater proportion of all overseas movements in net overseas migration estimates. It adopts the 3-month short-term migrant criterion of the United Nations revised recommendations on international migration statistics and will include people on temporary visas who spend 3 months or more in the country – such as students and working holiday makers – as part of the resident population while they are here. It will exclude all Australian residents who are abroad for 3 months or more from the resident population while they are away. It is likely to result in an increase in net overseas migration estimates if the number of overseas visitors visiting for 3 months or more continue to increase.

Option A.4. Net overseas migration to be based on net permanent and temporary movements irrespective of duration.

Net overseas migration is based on all overseas arrivals minus all departures. This is the approach used by Price (1996) to estimate net overseas migration retrospectively over a 5- or 10-year period. It may be more appropriate for that kind of time perspective than quarterly estimates, which are likely to be affected by seasonal variation in short-term movements. However, seasonal adjustments can be made if necessary.

Option A.5. Net overseas migration will be based on net permanent movements only. The resident population will be based on net overseas migration plus an estimate of foreigners temporarily resident in Australia minus an estimate of Australians temporarily overseas.

This approach is similar to that used by Statistics Canada. Estimates of the number of visaed temporary entrants in Australia at the end of each quarter are already available from DIMA. ABS will need to estimate the number of Australian residents temporarily overseas each quarter. Alternatively, DIMA may also be able to provide these estimates from the Movements Data Base.

This option represents a radical change from the current approach and will result in a very distinct break in the series of net overseas migration estimates since two of the three components have been excluded. Population estimates will not be effected to the same extent because they will still include overseas visitors temporarily in Australia and exclude Australian residents who are overseas long-term.

Option B. Eliminate the category jumping component in net overseas migration and incorporate category jumping into revised movement data.

This option does not adjust net overseas migration for category jumping directly but does so indirectly through revising permanent and long-term arrivals and departures data. The preliminary estimate of net overseas migration will be based on preliminary data on

permanent and long-term arrivals and departures. This option does not allow for a preliminary adjustment for category jumping to be made. The adjustment for category jumping is made about 15 months later when actual movement data are available to estimate category jumping. The estimate of net overseas migration is then revised based on the revised permanent and long-term arrivals and departures data.

This option is demonstrated in tables 12 and 13. Table 12 shows how net overseas migration is currently presented in ABS publications; table 13 shows how it would be presented in this option. The preliminary estimate of net overseas migration is based on preliminary data on net permanent and long-term arrivals and departures. There is no preliminary category jumping component. A year later, two of the four components – visitor arrivals and resident departures – will be revised, resulting in a revised estimate of net overseas migration. This flows through to a revision of the estimated resident population. Note that the end result – the revised estimate of net overseas migration – is the same in both tables even though there is a category jumping component in one table and no category jumping component in the other.

The advantage of this option is that it still adjusts for category jumping, but the adjustment is made only when actual movement data are known about 15 months after the reference quarter. The adjustment for category jumping is achieved through revision of movement data instead of a separate category jumping component. There is no “break” in the net overseas migration estimates due to a different methodology. Category jumping is being subsumed in the revised arrival and departure figures.

The revision of movement data is not a new concept. Birth and death statistics, the other components in estimating the resident population, are also subject to revision. On the other hand, having preliminary and revised estimates of most categories of overseas movements may cause confusion among clients of Overseas Arrivals and Departures data.

This option raises the question of whether unit record data on arrivals and departures would have to be revised. Discussions with DIMA and ABS indicate that DIMA can provide preliminary and revised data on permanent, long-term and short-term overseas arrivals and departures to ABS, which can be maintained as two separate unit record files. This may increase maintenance costs. DIMA currently matches the departure cards of overseas visitors with the arrival information on the Movements Data Base to calculate the actual duration of stay of each individual. However, information on intended duration of stay is not kept on the Movement Data Base. According to DIMA, the Movement Data Base records could in turn be matched with the keying system, which does have data on intended duration of stay. It is therefore possible to obtain a file of visitor arrivals (and similarly for Australian resident departures) with intended and actual stay (for those whose actual stay was up to 12 months). However, the amount of programming and computer time involved is unknown.

DIMA’s publication of settler and temporary arrival statistics will continue to be based on the initial (unrevised) figures. These publications provide detailed information on the characteristics of types of overseas arrivals, and as such should provide this information on **all** settler and temporary arrivals according to their status at the time of arrival. ABS publications of birth and death statistics and their detailed characteristics on a period of registration are also not modified because of later revisions to the number of births and deaths in estimating the resident population.

Option C. Retain the category jumping component in net overseas migration, but modify the current approach.

This option continues the adjustment for category jumping in net overseas migration estimates but suggests some changes to the current methodology for estimating category jumping.

Option C.1. Long-term movements defined as 6 month or more and short-term movements as less than 6 months.

This option seeks to eliminate the problems associated with the use of 12 months as the division between short-term and long-term residence status. The tendency to rounding at 12 months will not be a problem with this option. No temporary visa has a maximum stay of 6 months so temporary arrivals are less likely to state an intended stay of 6 months.

Students who depart after 9 months while stating a longer intended duration would not be classified as category jumpers but would be included in the resident population. The 6-month criterion for inclusion in the resident population is similar to the definition of usual residence associated with the current census definition of the population.

Under this option, category jumping will be based on movement data for only three quarters (visitors/Australian residents departing/returning within 6 months of the reference quarter) instead of the current five quarters. Actual movement data will be available for two out of the three quarters for producing preliminary estimates of category jumping, instead of the current two out of five quarters. This will reduce the margin of error as an assumption is needed for only one quarter to calculate the residual percentage needed to obtain the preliminary estimate of category jumping.

A disadvantage is that the 6-month criterion does not agree with the United Nation's and other countries' definition of long-term movements. This approach will also have the effect of increasing the number of long-term arrivals and departures. Net overseas migration will be more affected by the trend in student and working holiday makers. It is useful to provide the stock estimate of these people with this option and to note their temporary residence status.

Option C.2. Revise the ratios used to allocate those stating exactly 12 months to short-term and long-term status

This option addresses the heaping at exactly 12 months in intended duration of stay/travel, particularly by working holiday makers, temporary business entrants and students who then depart in less than 12 months. These three visa groups have been increasing in numbers in recent years and are likely to be the causes of the large overseas visitor component of category jumping. As indicated earlier, the current ratios of 75:25 for visitors and 67:33 for residents do not reflect the proportion actually departing or arriving at 11 months to 13 months. Data for 1998-99 show that a much larger proportion depart at 11 months compared to 13 months. If the ratios are to adequately reflect current movement patterns, they should be 88:12 for visitors and 82:18 for residents, as indicated by 1998-99 data.

It is suggested that the ratios be revised to 85:15 for visitors and 80:20 for residents in allocating heaping at 12 months intended duration to short-term and long-term status. The ratios should also be reviewed annually and updated when necessary.

This option involves a minor change in assumption and leaves the current methodology as it is. It may reduce the volatility in category jumping estimates by removing a significant proportion of increasingly large visa groups such as working holiday makers and students from being included in category jumping, simply because they tend to round duration of stay to exactly 12 months.

Option C.3. Estimate category jumping separately for each major visitor group

It has been pointed out earlier in this report that it is the visitor component of the preliminary category jumping estimate that is the more problematic. The difficulty lies in predicting the percentage of visitors who will depart in the Q+2, Q+3 and Q+4 quarters for which actual movement data are not yet available. It is possible that this difficulty is related to the different types of visitors making up the visitor component and their different patterns of intended and actual duration of stay. Table 5 has shown, for example, that working holiday makers and students have different patterns of intended and actual duration of stay from each other and from tourists and New Zealand citizens.

It may improve preliminary category jumping estimates if these different types of visitors are considered separately in attempting to predict the percentages who will depart in the Q+2, Q+3 and Q+4 quarters. Each group's pattern of intended and actual duration of stay can then be taken into account in estimating the percentage who will depart in the Q+2, Q+3 and Q+4 quarters. The visitor component of category jumping is then obtained as the sum of the category jumping estimate for each group.

It is suggested that preliminary category jumping be estimated separately for each of these groups of temporary entrants: working holiday makers, students, temporary business entry (long stay), temporary business entry (short stay), all other visaed visitors and New Zealand citizens.

It is possible that with this approach, the preliminary estimate of category jumping is less susceptible to changes in the composition of temporary entrants such as a large increase in working holiday makers or students, or temporary business entrants or New Zealand citizen arrivals. Because the current approach does not take into account changes in visitor composition, the preliminary estimate of category jumping can be affected by a significant change brought on by an increase of a particular group that has a distinct pattern of intended duration of stay.

This option requires preliminary and revised estimates of category jumping to be calculated separately for each major visitor group, however, the computations can be done easily on an Excel spreadsheet.

No change is suggested for the resident component of category jumping.

Option D. Assume preliminary estimate of category jumping to be zero

Another option is to continue adjusting for category jumping but only when data are available for all four quarters after the reference quarter. There is no preliminary adjustment for category jumping. This was the situation before September 1989. If preliminary estimates are sometimes so different from revised estimates, the whole purpose of making them – to obtain better preliminary estimates of the resident population – is lost. As noted earlier, adjusting for category jumping makes only a marginal difference in population estimates and tends to even out over time. Furthermore, when there is a large discrepancy between preliminary and revised estimates, the revision makes larger difference to population estimates than category jumping itself.

This option eliminates the need to derive a preliminary estimate when data on actual duration of travel are not available for all relevant quarters. Category jumping will be estimated 15 months after each reference quarter when data on actual travel or residence duration are available for all four quarters following the reference quarter.

Option E. Delay estimating preliminary category jumping until data for at least three of the five quarters needed are available

The main difficulty with preliminary estimates of category jumping is that they have to be made when movement data for only two of the five quarters needed are available. An arbitrary estimate has to be made about the number of visitors departing and residents returning during the three remaining quarters. It may improve preliminary estimates slightly if they were made when data for another quarter are available. This will mean that preliminary estimates are made some eight months instead of the current five months after the reference quarter.

This option may not be possible in practice since ABS produces preliminary population estimates within six months after the end of a reference quarter. It is also questionable that a significant improvement in preliminary estimates can be made with data for only one additional quarter. The scope for errors remains since the current approach of making a guess of movement patterns is still necessary for the remaining two quarters.

Option F. Replace the term “category jumping” with the term “change in intended duration”

The final option is to continue with the present approach, with just a change in the terminology. The term “category jumping” is not helpful to understanding the concept of the adjustment or the reasons for it. It has been confusing to the non-specialist and tends to convey the notion of queue jumping by foreigners seeking to migrate to Australia, and overseas visitors overstaying illegally. The confusion of the term is also not helped by the complexity of the methodology of estimating category jumping.

The term “category jumping” can be replaced with a term such as “change in intended duration”. This describes the adjustment being made and clarifies the measurement of net overseas migration as being based on net long-term and permanent movements with an adjustment for changes in intended duration from short-term to long-term/permanent or vice versa in a visitor’s stay in Australia or a resident’s travel overseas.

3.4. Recommendations

Of the various options discussed above, some are likely to be better or more feasible than others. Obviously options that are likely to improve category jumping estimates, that are feasible from a data management perspective, that present minimal disruption to the migration data series and that conform with the United Nations recommendations are to be preferred, other things being equal. A combination of options may also be an appropriate approach to deal with the various issues and problems with category jumping.

We have recommended three of the options discussed above. At the time of writing, it has not been possible to test these options with actual data. Accordingly we also discuss some approaches to testing and implementing these changes.

1. Since the main problem with category jumping is in estimating preliminary category jumping, especially the visitor component, in the absence of actual movement data for three out of the five quarters, it is recommended that an attempt be made to improve the methodology as suggested in Option C3. The current approach to estimating preliminary category jumping is rather subjective and has resulted in significant overestimates of the visitor component in some quarters. Option C3 takes account of the different patterns of visitor movements in estimating preliminary category jumping separately for major visitor groups. With this approach, the percentage of each major visitor group departing in the Q+2, Q+3 and Q+4 quarters can be estimated as the

average pattern observed for the reference quarter in the previous five-year period. This would be an improvement over the current approach to estimating these percentages.

2. At the same time, it is also recommended that the ratios used to allocate heaping at 12 months in intended duration of stay to short-term and long-term status should be revised to better reflect current movement patterns (Option C2). Recent movement data suggest that the ratios be revised to 85:15 for visitors and 80:20 for residents
3. These changes will need to be tested for a period of at least 12 months (four quarters) to see to what extent they improve the preliminary estimates of category jumping.
4. It is also recommended that ABS investigate possible improvements to the methodology by which category jumping is distributed across the States and Territories. One approach may be to allocate Australian residents and overseas visitors separately on the basis of permanent and long-term departures and arrivals respectively. A further refinement may be to allocate each major visitor group separately on the basis of permanent and long-term arrivals in that group.
5. Considering the interest of States and Territories in the issues of category jumping and population estimates, it is recommended that ABS consult with State and Territory governments on implementing these recommendations. A suggested forum for such consultations is the Australia-New Zealand Population Workshop.
6. If preliminary estimates of category jumping cannot be improved, it is recommended that no preliminary adjustment should be made for category jumping. The usefulness of having a preliminary estimate can be questioned when the estimate has to be substantially revised sometimes (see section 2.5.2.). This recommendation to eliminate preliminary estimates of category jumping is essentially a return to the situation before September 1989. It is still useful to adjust for category jumping when movement data are available for all five quarters.
7. It is recommended that the term “category jumping” be replaced with a different and less confusing term. A suggested alternative is “change in intended duration” (Option F).

8. Conclusions

The increase in category jumping in recent years appears to be related to the steady increase in temporary movements. The number of working holiday makers and student arrivals have increased steadily throughout the 1990s. The introduction of the temporary business visa classes (long stay and short stay) in 1996-97 has also added to the increase in temporary movements. As the volume of temporary movement increases, it is inevitable that more people will change their travel duration between short-term and long-term.

Some of the peaks and troughs in category jumping observed in particular years can be explained in terms of external factors, such as the government's decision to extend the stay of foreign nationals because of political unrest in their country; and economic conditions that can affect employment opportunities of Australian residents overseas and overseas migrants in Australia. However, the volatility of the quarterly estimates of category jumping is more difficult to explain and may be related to limitations in the methodology, particularly in estimating the visitor component of category jumping. Preliminary estimates are particularly susceptible to error, especially those for the March quarter. Since overseas student arrivals usually peak in the March quarter, it is likely that the errors can be sourced partly to the change in visitor composition brought on by this increase and the students' pattern of intended and actual duration of stay.

Since changes in government policy can also contribute to the volatility of category jumping, it is useful for DIMA to consider the implications of any policy change for category jumping. However, the category jumping estimate is a net figure that is also dependent on resident as well as visitor movements, so that it can still be difficult to anticipate its level and impact on net overseas migration.

The at times large discrepancies between preliminary and revised estimates of category jumping observed are usually due to the difficulty in predicting the visitor component of preliminary category jumping. At the time of making preliminary estimates, data for three of the five quarters needed are not yet available and ABS has to make a partly subjective estimate based on the patterns of previous years. This approach fails sometimes, because changes in visitor movements such as a large increase in a particular visitor group can change the pattern observed in previous years. Because of the large volume of visitor movements, a small percentage change in the distribution of visitor departure patterns can result in a large impact on the category jumping estimate.

It may be possible to improve the methodology with two modifications. One is to estimate preliminary category jumping separately for each major visitor group. This takes into account the distinct patterns of intended and actual duration of stay shown by the different groups when predicting departures for the three quarters when actual movement data are not yet available, instead of a general pattern for all overseas visitors. Producing category jumping estimates by major visitor groups may also be of interest to DIMA because it will provide information on which visa groups contribute positively or negatively to category jumping. The other modification is to revise the ratios used to address rounding of intended duration of stay at exactly 12 months to reflect more current movement patterns.

The allocation of category jumping across States and Territories may also be improved by considering Australian residents and overseas visitors separately based on the State/Territory distribution of permanent and long-term departures and arrivals of these two groups respectively. A further refinement may be to consider major groups of overseas visitors separately.

Category jumping estimates are based on total movements, not just the first entry of individuals. There is no evidence that any group of overseas arrivals and departures has been excluded from category jumping estimates or that double counting has occurred. The problems with category jumping are unrelated to overcounting or undercounting of overseas arrivals and departures.

One of the most important conclusions of this study is that adjusting for category jumping makes a very small change in population estimates, both nationally and for States and Territories. Category jumping is not estimated separately for each State and Territory; each quarterly or annual estimate is distributed among the States and Territories according to their share of permanent and long-term arrivals for the same period. There is no information as to how closely this assumed distribution approximates reality. The question of adjusting for category jumping is one of the degree of accuracy required in population estimates. The difference in the estimated resident population, with and without the category jumping adjustment, is less than 0.5 per cent and has been as small as 0.01 per cent. The category jumping estimate itself has a margin of error so that adjusting for category jumping does not necessarily result in improved population estimates. The adjustment is also temporary because population estimates are revised again after each population census.

Since the effect of category jumping on population estimates is small, and its estimation, particularly the preliminary estimate and the visitor component, is problematic, the question arises as to whether it is worthwhile to continue to adjust for category jumping in net overseas migration estimates. If the recommended modifications to the current methodology do not improve preliminary category jumping estimates, it is further recommended that preliminary estimates of category jumping not be made at all, as was the case before September 1989. Adjustments for changes between long-term and short-term status can be made when actual movement data are available some 15 months after the reference quarter.

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Table 1a. Australian residents returning from overseas who departed in the March quarter, 1992 to 1997.

Year	% returning in each quarter						Residents departing short-term
	Same Q	Q+1	Q+2	Q+3	Q+4	Remainder	
1992	66.5	20.9	3.6	2.6	1.5	4.9	454,170
1993	68.4	21.9	3.2	2.4	1.5	2.6	460,291
1994	66.3	24.2	3.4	2.2	1.3	2.6	492,142
1995	68.8	23.1	3.6	2.4	1.3	0.8	512,528
1996	65.9	23.5	3.3	2.2	1.4	3.7	578,898
1997	66.5	23.8	3.4	2.2	1.2	2.9	625,077

Source: ABS (1999)

Table 1b. Visitors departing Australia who arrived in the March quarter, 1992 to 1997.

Year	% departing in each quarter						Visitors arriving short-term
	Same Q	Q+1	Q+2	Q+3	Q+4	Remainder	
1992	74.9	17.0	1.9	2.1	0.8	3.3	652,143
1993	76.8	17.2	1.7	2.1	0.8	1.3	746,156
1994	77.1	17.5	1.7	2.2	0.7	0.8	862,212
1995	78.0	16.8	2.0	2.6	0.8	-0.2	936,882
1996	77.3	16.6	2.2	2.7	0.9	0.3	1,075,451
1997	76.3	17.0	2.3	2.5	1.0	0.9	1,141,757

Source: ABS (unpublished tabulation)

Table 2. Quarterly preliminary and revised estimates of the visitor and resident components of category jumping.

Quarter	Visitors			Residents			Total		
	Preliminary	Revised	Difference, Revised - Preliminary	Preliminary	Revised	Difference, Revised - Preliminary	Preliminary	Revised	Difference, Revised - Preliminary
1993									
September	7,086	7,502	416	6,147	5,634	-513	939	1,868	929
December	3,589	1,642	-1,947	13,174	10,382	-2,792	-9,585	-8,740	845
1994									
March	8,622	7,035	-1,587	11,812	13,214	1,402	-3,190	-6,179	-2,989
June	7,010	4,167	-2,843	13,165	11,548	-1,617	-6,155	-7,381	-1,226
September	6,403	8,474	2,071	6,404	4,220	-2,184	-1	4,254	4,255
December	1,990	-2,744	-4,734	12,467	12,681	214	-10,477	-15,425	-4,948
1995									
March	5,619	-3,775	-9,394	6,150	4,052	-2,098	-531	-7,827	-7,296
June	9,605	9,523	-82	8,004	3,442	-4,562	1,601	6,081	4,480
September	9,032	5,811	-3,221	6,857	5,586	-1,271	2,175	225	-1,950
December	9,772	5,900	-3,872	6,746	5,732	-1,014	3,026	168	-2,858
1996									
March	10,754	1,964	-8,790	15,051	21,480	6,429	-4,297	-19,516	-15,219
June	3,607	621	-2,986	0	-4,295	-4,295	3,607	4,916	1,309
September	6,976	7,124	148	2,963	2,495	-468	4,013	4,629	616
December	4,764	-1,685	-6,449	0	-991	-991	4,764	-694	-5,458
1997									
March	11,417	11,163	-254	16,252	17,887	1,635	-4,835	-6,724	-1,889
June	4,616	66	-4,550	3,720	4,594	874	896	-4,528	-5,424
September	10,587	11,973	1,386	3,174	6,891	3,717	7,413	5,082	-2,331
December	1,194	2,259	1,065	4,620	7,378	2,758	-3,426	-5,119	-1,693
1998									
March	16,614	535	-16,079	2,603	2,523	-80	14,011	-1,988	-15,999
June	7,428	11,303	3,875	-1,635	2,086	3,721	9,063	9,217	154
September	7,548			-682			8,230		
December	2,360			-5,000			7,360		
1999									
March	3,416			1,400			2,016		
June	100			-3,146			3,246		

Sources: ABS (various years), Australian Demographic Statistics. Catalogue no. 3101.0

Table 3. Major contributors to category jumping of residents and visitors by country of birth.

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
Resident's birthplace	Australian residents										
Australia	13121	-394	6291	151	18380	11014	3087	12862	-2490	-1652	-9891
New Zealand	7160	3716	8419	4600	9064	3172	2032	3413	388	874	2021
UK and Ireland	-655	4424	9601	475	13835	3420	14906	7356	-1539	953	-1038
Former Yugoslavia	-109	2933	412	2327	-2890	1185	-1167	1375	-1557	696	514
Malaysia and Brunei	1492	614	-256	2933	3804	4103	3394	432	1359	565	187
Viet Nam	44	-318	-37	-422	206	303	1933	-431	3422	-3131	-661
China	538	-1024	759	980	2603	4828	625	1112	2876	2957	2730
Hong Kong and Macau	111	369	-550	2237	2875	9214	7041	3477	3901	8233	17336
Japan	906	1393	1785	3116	2973	4616	4206	1059	2481	-417	86
India	-355	-115	1040	19	178	1650	2446	2124	-881	1822	-2022
Other	10762	16317	16590	15005	14360	29238	38248	8399	16435	8920	14723
Total	33015	27915	44054	31421	65388	72753	76751	41178	24395	19820	23985
Visitor's birthplace	Overseas visitors										
Australia	6072	2245	-544	2582	3572	6301	3042	8559	7226	4323	1967
Fiji	1351	3285	3092	820	735	896	763	-1	250	445	260
Papua New Guinea	1163	1044	499	827	2072	710	660	437	-115	128	-431
NZ	22429	7498	11449	6204	9995	4601	7044	10613	6424	7250	5728
UK, Ireland	2430	2136	11687	1313	5267	5808	4280	4023	6755	6818	16233
Philippines	2073	1891	1588	1587	1890	1905	1795	595	-4	1991	4369
Singapore	-63	-483	-1325	-405	427	403	-1419	-4703	-2138	-2656	-5107
China	1612	6194	10531	20800	2262	3592	3563	4603	8910	11296	10024
Hong Kong and Macau	83	891	1274	23	-228	1673	3118	-1519	-8770	-9024	-9296
USA	1620	-3233	3199	-1335	628	-140	-714	-1441	-6113	-1692	407
Other	10834	12596	22799	19786	31759	24696	21990	-820	2737	-4583	-7486
Total	49604	34064	64249	52202	57063	51445	44122	20346	11478	14296	16668

Sources: ABS (various years), *Migration Australia*. Catalogue No. 3412.0

Table 4. Major source countries of temporary overseas arrivals by type of visitor, 1997-98.

Working holiday makers	Temp. business entry (long stay)*	Students
(%)	(%)	(%)
United Kingdom (50.5)	United Kingdom (23.9)	Indonesia (16.0)
Japan (16.6)	United States (12.4)	Hong Kong (10.5)
Ireland (13.7)	Japan (10.8)	Malaysia (10.5)
Netherlands (8.0)	South Africa (6.2)	Singapore (9.6)
Canada (6.4)	China (5.1)	Korea (7.7)
(Total arrivals = 60,558)	(Total number = 31,550)	(Total arrivals = 159,151)

Temp. business entry (short stay)	Tourists
(%)	(%)
United States (20.8)	Japan (26.2)
Japan (10.4)	United Kingdom (12.3)
United Kingdom (9.6)	United States (8.7)
China (9.3)	Singapore (7.4)
Singapore (6.2)	Taiwan (5.0)
(Total number = 334,662)	(Total arrivals = 2,767,702)

Source: Department of Immigration and Multicultural Affairs (1999b)

* refers to number present in Australia at 30 June 1998, not arrivals

Arrivals = number of movements

Table 5. Temporary arrivals and departures, 1998/99, by intended and actual duration of stay.

Duration (months)	Working holiday makers				Temporary business entry (long stay)			
	Arrivals (N=64556)		Departures (N=57574)		Arrivals (N=79232)		Departures (N=79305)	
	%	Cumulative %	%	Cumulative %	%	Cumulative %	%	Cumulative %
<1	6.5	6.5	7.3	7.3	29.2	29.2	30.2	30.2
1<2	2.3	8.8	6.1	13.4	4.4	33.6	14.3	44.5
2<3	3.0	11.8	7.9	21.3	3.2	36.8	10.4	54.9
3<4	5.5	17.3	9.2	30.5	3.9	40.7	7.9	62.8
4<5	4.4	21.7	7.3	37.8	1.4	42.1	7	69.8
5<6	3.7	25.4	7.6	45.4	1.0	43.1	5.3	75.1
6<7	9.0	34.4	6.2	51.6	4.7	47.8	4.2	79.3
7<8	3.0	37.4	6.5	58.1	0.4	48.2	3.5	82.8
8<9	4.8	42.2	5.6	63.7	0.9	49.1	3.5	86.3
9<10	2.2	44.4	5.9	69.6	0.6	49.7	1.8	88.1
10<11	4.0	48.4	9.1	78.7	1.3	51.0	2.1	90.2
11<12	2.1	50.5	18.5	97.2	0.7	51.7	2.3	92.5
12<13	49.1	99.6	2.4	99.6	11.8	63.5	1.1	93.6
13+	0.4	100.0	0.4	100.0	36.5	100.0	6.3	100.0

Duration (months)	Total temporary residents*				Students			
	Arrivals (N=194123)		Departures (N=184961)		Arrivals (N=159246)		Departures (N=142385)	
	%	Cumulative %	%	Cumulative %	%	Cumulative %	%	Cumulative %
<1	23.3	23.3	24.0	24.0	9.8	9.8	5.7	5.7
1<2	3.9	27.2	10.7	34.7	1.5	11.3	7.0	12.7
2<3	3.6	30.8	9.1	43.8	2.9	14.2	8.6	21.3
3<4	4.6	35.4	8.2	52.0	3.4	17.6	8.3	29.6
4<5	2.9	38.3	6.8	58.8	3.7	21.3	17.3	46.9
5<6	2.4	40.7	6.1	64.9	4.8	26.1	8.3	55.2
6<7	6.6	47.3	4.9	69.8	12.9	39.0	4.1	59.3
7<8	1.8	49.1	4.3	74.2	1.9	40.9	3.5	62.8
8<9	2.5	51.6	4.0	78.2	2.1	43.0	3.7	66.5
9<10	1.6	53.2	3.1	81.3	1.9	44.9	9.7	76.2
10<11	2.2	55.4	4.5	85.8	3.9	48.8	7.5	83.7
11<12	1.3	56.7	7.7	93.5	2.1	50.9	4.7	88.4
12<13	24.1	80.8	1.6	96.1	21.7	72.6	1.6	90.0
13+	19.3	100.0	4.8	100.0	27.5	100.0	10	100.0

Duration (months)	Tourists				Temporary business entry (short stay)			
	Arrivals (N=2771603)		Departures (N=2767151)		Arrivals (N=199953)		Departures (N=198063)	
	%	Cumulative %	%	Cumulative %	%	Cumulative %	%	Cumulative %
<1	81.1	81.1	86.2	86.2	88.4	88.4	92.8	92.8
1<2	10.5	91.6	8.0	94.2	6.0	94.4	3.8	96.6
2<3	3.2	94.8	2.8	97.0	2.6	97.0	2.6	99.2
3<4	3.3	98.1	1.0	98.0	2.7	99.7	0.6	99.8
4<5	0.4	98.5	0.5	98.5	*	99.7	*	99.8
5<6	0.2	98.7	0.6	99.1	*	99.7	*	99.8
6<7	1.0	99.7	0.2	99.3	0.1	99.8	*	99.8
7<8	*	99.7	0.1	99.4	*	99.8	*	99.8
8<9	*	99.7	0.1	99.5	0.1	99.9	*	99.8
9<10	*	99.7	0.1	99.6	*	99.9	*	99.8
10<11	*	99.7	0.1	99.7	*	99.9	*	99.8
11<12	*	99.7	0.2	99.9	*	99.9	*	99.8
12<13	0.2	99.9	*	99.9	*	99.9	*	99.8
13+	0.1	100.0	0.1	100.0	0.1	100.0	0.2	100.0

Table 5 (continued)

Duration (months)	Total visitors**				New Zealand citizens			
	Arrivals (N=3109723)		Departures (N=3099892)		Arrivals (N=671428)		Departures (N=650915)	
	%	Cumulative %	%	Cumulative %	%	Cumulative %	%	Cumulative %
<1	81.9	81.9	86.9	86.9	89.0	89.0	91.6	91.6
1<2	10.0	91.9	7.5	94.4	4.2	93.2	3.6	95.2
2<3	3.1	95.0	2.7	97.1	1.5	94.7	1.3	96.5
3<4	3.3	98.3	1.0	98.1	0.9	95.6	0.7	97.2
4<5	0.3	98.6	0.4	98.5	0.4	96.0	0.5	97.7
5<6	0.2	98.8	0.6	99.1	0.2	96.2	0.4	98.1
6<7	0.9	99.7	0.2	99.3	1.0	97.2	0.2	98.3
7<8	*	99.7	0.1	99.4	0.1	97.3	0.2	98.5
8<9	*	99.7	0.1	99.5	0.1	97.4	0.2	98.7
9<10	*	99.7	0.1	99.6	0.1	97.5	0.2	98.9
10<11	*	99.7	0.1	99.7	0.1	97.6	0.1	99.0
11<12	*	99.8	0.2	99.9	0	97.6	0.1	99.1
12<13	0.1	99.9	*	99.9	1.2	98.8	0.1	99.2
13+	0.1	100.0	0.1	100.0	1.1	100.0	0.8	100.0

* Include working holiday makers, temporary business entry (long stay) and other smaller categories

** Include tourists, business entry (short stay) and other smaller groups.

Duration (months)	Australian resident			
	Departures (N=3271553)		Arrivals (N=3259537)	
	%	Cumulative %	%	Cumulative %
<1	65.9	65.9	69.2	69.2
1<2	16.0	81.9	16.0	85.2
2<3	5.8	87.7	4.6	89.8
3<4	3.7	91.4	2.5	92.3
4<5	1.0	92.4	1.2	93.5
5<6	0.4	92.8	1.2	94.7
6<7	2.1	94.9	0.7	95.4
7<8	0.2	95.1	0.5	95.9
8<9	0.2	95.4	0.5	96.4
9<10	0.2	95.5	0.3	96.7
10<11	0.2	95.8	0.4	97.1
11<12	0.1	95.9	0.6	97.7
12<13	2.4	98.2	0.3	98.0
13+	1.7	100.0	2	100.0

Source: Department of Immigration and Multicultural Affairs (unpublished data)

Table 6. Impact of quarterly estimates of category jumping on estimates of net overseas migration.

Quarter	Category jumping		Net overseas migration		Category jumping as % of NOM	
	Preliminary	Revised	Preliminary	Revised	Preliminary	Revised
Mar-1991	5700	4600	34200	33100	16.67%	13.90%
Jun-1991	1200	-3300	18000	13500	6.67%	-24.44%
Sep-1991	-800	-800	25800	25800	-3.10%	-3.10%
Dec-1991	-12300	-12300	9300	9300	-132.26%	-132.26%
Mar-1992	-2900	-1006	25200	27100	-11.51%	-3.71%
Jun-1992	-10100	-7213	3500	6400	-288.57%	-112.70%
Sep-1992	-8078	-4042	11100	15200	-72.77%	-26.59%
Dec-1992	-11234	-13175	4700	2900	-239.02%	-454.31%
Mar-1993	-252	-2006	20300	18600	-1.24%	-10.78%
Jun-1993	-8000	-13406	-900	-6300	888.89%	212.79%
Sep-1993	939	1868	17300	18229	5.43%	10.25%
Dec-1993	-9585	-8740	4100	5000	-233.78%	-174.80%
Mar-1994	-3190	-6179	22500	19500	-14.18%	-31.69%
Jun-1994	-6155	-7381	5600	4400	-109.91%	-167.75%
Sep-1994	-1	4254	25000	27800	0.00%	15.30%
Dec-1994	-10477	-15425	8800	3900	-119.06%	-395.51%
Mar-1995	-531	-7827	32000	24700	-1.66%	-31.69%
Jun-1995	1601	6081	19300	23800	8.30%	25.55%
Sep-1995	2175	225	31100	29100	6.99%	0.77%
Dec-1995	3026	168	28400	29200	10.65%	0.58%
Mar-1996	-4297	-19516	35300	25100	-12.17%	-77.75%
Jun-1996	3607	4916	19300	20600	18.69%	23.86%
Sep-1996	4013	4629	31700	28200	12.66%	16.41%
Dec-1996	4764	-694	24800	19376	19.21%	-3.58%
Mar-1997	-4835	-6724	31200	29354	-15.50%	-22.91%
Jun-1997	896	-4528	11500	6062	7.79%	-74.69%
Sep-1997	7413	5082	30355	28024	24.42%	18.13%
Dec-1997	-3426	-5119	10618	8925	-32.27%	-57.36%
Mar-1998	14011	-1988	47719	31700	29.36%	-6.27%
Jun-1998	9063	9217	17531	17685	51.70%	52.12%
Sep-1998	8230		34766		23.67%	
Dec-1998	7360		27429		26.83%	
Mar-1999	2000		37100		5.39%	

Sources: ABS (various years), Australian Demographic Statistics, Catalogue No. 3101.0

Table 7. Net overseas migration, population increase and estimated resident population, with and without category jumping.

Year ended June	Category jumping	Net overseas migration ('000)			Population increase ('000)			Estimated resident population ('000)		
		(as published)	without CJ	% difference	(as published)	without CJ	% difference	(as published)	without CJ	% difference
1978	6.6	62.7	56.1	10.5%	167.0	160.4	4.0%	14,359.3	14,352.7	0.05%
1979	-3.2	55.1	58.3	-5.8%	156.5	159.7	-2.0%	14,515.7	14,512.3	0.02%
1980	-1	75.9	76.9	-1.3%	179.6	180.6	-0.6%	14,695.4	14,693.0	0.02%
1981	0.5	119.2	118.7	0.4%	227.9	227.4	0.2%	14,923.3	14,920.4	0.02%
1982	5.2	128.1	122.9	4.1%	261.0	255.8	2.0%	15,184.2	15,176.1	0.05%
1983	-2.2	73.3	75.5	-3.0%	209.2	211.4	-1.1%	15,393.5	15,387.6	0.04%
1984	2.6	49.1	46.5	5.3%	185.9	183.3	1.4%	15,579.4	15,570.9	0.05%
1985	5.7	73.7	68	7.7%	208.9	203.2	2.7%	15,788.3	15,774.1	0.09%
1986	6.4	100.4	94	6.4%	230.0	223.6	2.8%	16,018.4	15,997.8	0.13%
1987	16.6	125.7	109.1	13.2%	245.5	228.9	6.8%	16,263.9	16,226.7	0.23%
1988	6.1	149.3	143.2	4.1%	268.3	262.2	2.3%	16,532.2	16,488.9	0.26%
1989	20.2	157.4	137.2	12.8%	282.3	262.1	7.2%	16,814.4	16,750.9	0.38%
1990	20.8	124.6	103.8	16.7%	250.7	229.9	8.3%	17,065.1	16,980.8	0.49%
1991	-8.3	86.4	94.7	-9.6%	218.9	227.2	-3.8%	17,284.0	17,208.0	0.44%
1992	-21.3	68.6	89.9	-31.0%	210.6	231.9	-10.1%	17,494.7	17,440.0	0.31%
1993	-32.6	30	62.6	-108.7%	172.4	205.0	-18.9%	17,667.1	17,645.0	0.13%
1994	-20.8	46.5	67.3	-44.7%	187.6	208.4	-11.1%	17,854.7	17,853.4	0.01%
1995	-12.9	80.1	93	-16.1%	217.0	229.9	-5.9%	18,071.8	18,083.4	-0.06%
1996	-5.5	104.1	109.6	-5.3%	239.0	244.5	-2.3%	18,310.7	18,327.8	-0.09%
1997	-7.3	87.1	94.4	-8.4%	213.4	220.7	-3.4%	18,524.2	18,548.6	-0.13%
1998	7.2	86.4	79.2	8.3%	226.8	219.6	3.2%	18,730.4	18,747.6	-0.09%

Source: ABS (1999) *Migration* (Table 50) for statistics on category jumping, net overseas migration, population increase and estimated resident population

Table 8a. Distribution of category jumping by State/Territory, 1997-98.

State or Territory	PLT* arrivals	% distribution of PLT arrivals	Distribution of revised CJ**	ERP		% distribution of ERP		Difference in ERP due to CJ
				(with CJ)	(excluding CJ)	with CJ	without CJ	
NSW	108143	40.76%	2931	6333515	6330584	33.81%	33.81%	0.05%
Vic	60670	22.86%	1644	4654937	4653293	24.85%	24.85%	0.04%
Qld	43008	16.21%	1166	3453477	3452311	18.44%	18.44%	0.03%
SA	11446	4.31%	310	1486418	1486108	7.94%	7.94%	0.02%
WA	31964	12.05%	866	1829145	1828279	9.77%	9.76%	0.05%
Tas	2007	0.76%	54	471700	471646	2.52%	2.52%	0.01%
NT	2144	0.81%	58	189937	189879	1.01%	1.01%	0.03%
ACT	5965	2.25%	162	308057	307895	1.64%	1.64%	0.05%
Australia	265441	100.00%	7192	18730359	18723167	99.98%	99.98%	0.04%

*Permanent and long-term

** according to distribution of permanent and long-term arrivals

Table 8b. Impact of category jumping on State/Territory ERP, June 1993.

State or Territory	PLT* arrivals	% distribution of PLT arrivals	Distribution of revised CJ**	ERP		% distribution of ERP		% difference in ERP due to CJ
				(including CJ)	(excluding CJ)	with CJ	without CJ	
NSW	84421	41.43%	-13518	5997400	6010918	33.97%	33.98%	-0.22%
Vic	48591	23.85%	-7781	4464200	4471981	25.28%	25.28%	-0.17%
Qld	29459	14.46%	-4717	3116000	3120717	17.65%	17.64%	-0.15%
SA	9945	4.88%	-1592	1462900	1464492	8.29%	8.28%	-0.11%
WA	22476	11.03%	-3599	1676300	1679899	9.49%	9.50%	-0.21%
Tas	1979	0.97%	-317	471400	471717	2.67%	2.67%	-0.07%
NT	1393	0.68%	-223	169300	169523	0.96%	0.96%	-0.13%
ACT	5502	2.70%	-881	298900	299781	1.69%	1.69%	-0.29%
Australia	203766	100.00%	-32,629	17656400	17689029	100.00%	100.00%	-0.18%

*Permanent and long-term

** according to distribution of permanent and long-term arrivals

Table 9. Impact of revisions in category jumping on State ERP, year end June 1998.

	Net overseas migration		Difference due to revised CJ	Estimated resident population				% difference in ERP due to cat. jump.
	Preliminary	Revised		Preliminary	Revised	Difference	Difference due to nat. increase	
NSW	42709	34899	7810	6341600	6333515	8085	275	0.12%
Vic	25643	20801	4842	4660900	4654937	5963	1121	0.10%
Qld	16918	13800	3118	3456300	3453477	2823	-295	0.09%
SA	4294	3390	904	1487300	1486418	882	-22	0.06%
WA	15247	12834	2413	1831400	1829145	2255	-158	0.13%
Tas	240	84	156	471900	471700	200	44	0.03%
NT	791	644	147	190000	189937	63	-84	0.08%
ACT	389	-90	479	308400	308057	343	-136	0.16%
Australia	106223	86354	19869	18751000	18730359	20641	772	0.11%

	Net overseas migration		Estimated resident population	
	Preliminary	Revised	Preliminary	Revised
	%	%	%	%
NSW	40.21%	40.41%	33.82%	39.17%
Vic	24.14%	24.09%	24.86%	28.89%
Qld	15.93%	15.98%	18.43%	13.68%
SA	4.04%	3.93%	7.93%	4.27%
WA	14.35%	14.86%	9.77%	10.92%
Tas	0.23%	0.10%	2.52%	0.97%
NT	0.74%	0.75%	1.01%	0.31%
ACT	0.37%	-0.10%	1.64%	1.66%
Australia	100.01%	100.01%	99.98%	99.87%

Source: Net overseas migration and estimated resident population statistics from ABS (various years),
Australian Demographic Statistics. Catalogue No. 3101.0

Table 10a. Impact of category jumping on Commonwealth grant distribution to States and Territories, 1997-98.

State or Territory	PLT arrivals	% distribution PLT arrivals	Category jumping*	ERP		% distribution of ERP		Weights for ERP**
				(with CJ)	(no CJ)	with CJ	no CJ	
NSW	108,143	40.76%	2,931	6,333,515	6,330,584	33.81%	33.81%	0.88
Vic	60,670	22.86%	1,644	4,654,937	4,653,293	24.85%	24.85%	0.88
Qld	43,008	16.21%	1,166	3,453,477	3,452,311	18.44%	18.44%	1.02
SA	11,446	4.31%	310	1,486,418	1,486,108	7.94%	7.94%	1.22
WA	31,964	12.05%	866	1,829,145	1,828,279	9.77%	9.76%	0.98
Tas	2,007	0.76%	54	471,700	471,646	2.52%	2.52%	1.55
NT	2,144	0.81%	58	189,937	189,879	1.01%	1.01%	4.82
ACT	5,965	2.25%	162	308,057	307,895	1.64%	1.64%	0.95
Australia	265,441	100.00%	7,192	18,730,359	18,723,167	99.98%	99.98%	

* distributed as for permanent and long-term arrivals

**actual weights for NSW, Vic and NT; assumed weights for others

State or Territory	Weighted ERP		Amount of grant (\$'000)			Diff. as % of grant with CJ	% distribution of grant	
	(with CJ)	(no CJ)	(with CJ)	(no CJ)	Difference		(with CJ)	(no CJ)
NSW	5,558,609	5,556,037	5,960,999.85	5,960,454.90	544.95	0.009%	29.66%	29.66%
Vic	4,098,300	4,096,852	4,394,977.52	4,395,057.31	-79.80	-0.002%	21.87%	21.87%
Qld	3,528,970	3,527,779	3,784,433.84	3,784,562.06	-128.22	-0.003%	18.83%	18.83%
SA	1,816,317	1,815,937	1,947,800.62	1,948,117.64	-317.02	-0.016%	9.69%	9.69%
WA	1,797,172	1,796,320	1,927,269.66	1,927,072.56	197.10	0.010%	9.59%	9.59%
Tas	731,541	731,456	784,497.24	784,698.22	-200.97	-0.026%	3.90%	3.90%
NT	915,248	914,968	981,502.73	981,567.00	-64.27	-0.007%	4.88%	4.88%
ACT	293,101	292,947	314,318.54	314,270.30	48.24	0.015%	1.56%	1.56%
Australia	18,739,256	18,732,296	20,095,800.00	20,095,800.00	0.00	0.000%	100.00%	100.00%

Table 10b. Impact of category jumping on Commonwealth grant distribution to States and Territories, 1998-99.

State or Territory	PLT arrivals	% distribution PLT arrivals	Category jumping*	ERP		% distribution of ERP		Weights for ERP**
				(with CJ)	(no CJ)	with CJ	no CJ	
NSW	114,103	41.96%	8,749	6,411,680	6,402,931	33.80%	33.80%	0.90
Vic	63,010	23.17%	4,831	4,712,173	4,707,342	24.84%	24.85%	0.86
Qld	41,815	15.38%	3,206	3,512,356	3,509,150	18.52%	18.52%	1.01
SA	11,073	4.07%	849	1,493,074	1,492,225	7.87%	7.88%	1.21
WA	31,731	11.67%	2,433	1,861,016	1,858,583	9.81%	9.81%	0.95
Tas	1,959	0.72%	150	470,261	470,111	2.48%	2.48%	1.61
NT	2,399	0.88%	184	192,882	192,698	1.02%	1.02%	4.84
ACT	5,817	2.14%	446	310,173	309,727	1.64%	1.63%	1.10
Australia	271,945	99.99%	20,852	18,966,788	18,945,936	99.98%	99.98%	

* distributed as for permanent and long-term arrivals

**actual weights for NSW, Vic and NT; assumed weights for others

State or Territory	Weighted ERP		Amount of grant (\$'000)			Diff. as % of grant with CJ	% distribution of grant	
	(with CJ)	(no CJ)	(with CJ)	(no CJ)	Difference		(with CJ)	(no CJ)
NSW	5,767,178	5,759,308	6,713,024.26	6,711,018.62	2005.64	0.030%	30.41%	30.40%
Vic	4,061,139	4,056,975	4,727,186.53	4,727,379.60	-193.07	-0.004%	21.42%	21.42%
Qld	3,536,486	3,533,258	4,116,487.45	4,117,119.00	-631.55	-0.015%	18.65%	18.65%
SA	1,801,842	1,800,817	2,097,352.85	2,098,397.29	-1044.44	-0.050%	9.50%	9.51%
WA	1,764,113	1,761,807	2,053,436.33	2,052,940.37	495.96	0.024%	9.30%	9.30%
Tas	756,673	756,432	880,771.74	881,430.10	-658.36	-0.075%	3.99%	3.99%
NT	934,376	933,485	1,087,618.79	1,087,741.19	-122.40	-0.011%	4.93%	4.93%
ACT	342,028	341,536	398,122.05	397,973.83	148.22	0.037%	1.80%	1.80%
Australia	18,963,835	18,943,618	22,074,000.00	22,074,000.00	0.00	0.000%	100.00%	100.00%

Table 10c. Impact of category jumping on Commonwealth grant distribution to States and Territories, 1992-93.

State or Territory	PLT arrivals	% distribution PLT arrivals	Category jumping*	ERP		% distribution of ERP		Weights for ERP**
				(with CJ)	(no CJ)	with CJ	no CJ	
NSW	84,421	41.43%	-13518	6,004,880	6,018,398	33.99%	34.00%	0.85
Vic	48,591	23.85%	-7781	4,472,387	4,480,168	25.31%	25.31%	0.84
Qld	29,459	14.46%	-4717	3,109,788	3,114,505	17.60%	17.60%	1.09
SA	9,945	4.88%	-1592	1,460,674	1,462,266	8.27%	8.26%	1.22
WA	22,476	11.03%	-3599	1,677,669	1,681,268	9.50%	9.50%	1.12
Tas	1,979	0.97%	-317	471,659	471,976	2.67%	2.67%	1.48
NT	1,393	0.68%	-223	170,734	170,957	0.97%	0.97%	4.78
ACT	5,502	2.70%	-881	299,302	300,183	1.69%	1.70%	0.87
Australia	203,766	100.00%	-32629	17,667,093	17,699,722	100.00%	100.00%	

* distributed as for permanent and long-term arrivals

**actual weights for NSW, Vic and NT; assumed weights for others

State or Territory	Weighted ERP		Amount of grant (\$'000)			Diff. as % of grant with CJ	% distribution of grant	
	(with CJ)	(no CJ)	(with CJ)	(no CJ)	Difference		(with CJ)	(no CJ)
NSW	5,128,168	5,139,712	4,893,018.81	4,895,329.44	-2310.63	-0.047%	28.98%	29.00%
Vic	3,734,443	3,740,940	3,563,202.74	3,563,066.17	136.56	0.004%	21.11%	21.11%
Qld	3,398,998	3,404,154	3,243,139.48	3,242,293.73	845.74	0.026%	19.21%	19.21%
SA	1,783,483	1,785,427	1,701,702.53	1,700,533.99	1168.54	0.069%	10.08%	10.07%
WA	1,873,956	1,877,976	1,788,027.25	1,788,682.53	-655.28	-0.037%	10.59%	10.60%
Tas	698,055	698,524	666,046.46	665,310.94	735.52	0.110%	3.95%	3.94%
NT	816,791	817,859	779,338.03	778,971.09	366.94	0.047%	4.62%	4.61%
ACT	258,896	259,658	247,024.72	247,312.11	-287.39	-0.116%	1.46%	1.46%
Australia	17,692,791	17,724,252	16,881,500.00	16,881,500.00	0.00	0.000%	100.00%	100.00%

Table 11. Comparison of preliminary and revised estimates of category jumping, and effectiveness of the preliminary estimate relative to a preliminary estimate of zero.

Quarter	Visitors				Residents				Total			
	Preliminary	Revised	Difference, Revised - Preliminary	Effectiveness of preliminary CJ relative to revised CJ (1)	Preliminary	Revised	Difference, Revised - Preliminary	Effectiveness of preliminary CJ relative to revised CJ (1)	Preliminary	Revised	Difference, Revised - Preliminary	Effectiveness of preliminary CJ relative to revised CJ (1)
1993												
September	7,086	7,502	416	94%	6,147	5,634	-513	91%	939	1,868	929	50%
December	3,589	1,642	-1,947	-19%	13,174	10,382	-2,792	73%	-9,585	-8,740	845	90%
1994												
March	8,622	7,035	-1,587	77%	11,812	13,214	1,402	89%	-3,190	-6,179	-2,989	52%
June	7,010	4,167	-2,843	32%	13,165	11,548	-1,617	86%	-6,155	-7,381	-1,226	83%
September	6,403	8,474	2,071	76%	6,404	4,220	-2,184	48%	-1	4,254	4,255	0%
December	1,990	-2,744	-4,734	-73%	12,467	12,681	214	98%	-10,477	-15,425	-4,948	68%
1995												
March	5,619	-3,775	-9,394	-149%	6,150	4,052	-2,098	48%	-531	-7,827	-7,296	7%
June	9,605	9,523	-82	99%	8,004	3,442	-4,562	-33%	1,601	6,081	4,480	26%
September	9,032	5,811	-3,221	45%	6,857	5,586	-1,271	77%	2,175	225	-1,950	-767%
December	9,772	5,900	-3,872	34%	6,746	5,732	-1,014	82%	3,026	168	-2,858	-1601%
1996												
March	10,754	1,964	-8,790	-348%	15,051	21,480	6,429	70%	-4,297	-19,516	-15,219	22%
June	3,607	621	-2,986	-381%	0	-4,295	-4,295	0%	3,607	4,916	1,309	73%
September	6,976	7,124	148	98%	2,963	2,495	-468	81%	4,013	4,629	616	87%
December	4,764	-1,685	-6,449	-283%	0	-991	-991	0%	4,764	-694	-5,458	-686%
1997												
March	11,417	11,163	-254	98%	16,252	17,887	1,635	91%	-4,835	-6,724	-1,889	72%
June	4,616	66	-4,550	-6794%	3,720	4,594	874	81%	896	-4,528	-5,424	-20%
September	10,587	11,973	1,386	88%	3,174	6,891	3,717	46%	7,413	5,082	-2,331	54%
December	1,194	2,259	1,065	53%	4,620	7,378	2,758	63%	-3,426	-5,119	-1,693	67%
1998												
March	16,614	535	-16,079	-2905%	2,603	2,523	-80	97%	14,011	-1,988	-15,999	-705%
June	7,428	11,303	3,875	66%	-1,635	2,086	3,721	-78%	9,063	9,217	154	98%

(1) Percentage difference of preliminary CJ estimate from revised CJ estimate, relative to a preliminary CJ estimate of zero.

Table 12. Current presentation of components of population change.

a. Preliminary						
Period	Births	Deaths	Natural increase	Net PLT movement	Category jumping	Net overseas migration
	('000)					
1996						
June	61.9	31.7	30.2	15.7	4.9	20.6
Sept p	65.5	37.7	27.9	27.7	0.6	28.2
Dec p	61.3	30.2	31.1	20.1	4.8	24.8
1997						
March p	62.0	28.2	33.9	36.1	-4.8	31.2
June p	64.4	31.5	33.0	10.6	0.9	11.5
Sept p	63.9	37.9	26.0	22.9	7.4	30.4
b. Revised						
Period	Births	Deaths	Natural increase	Net PLT movement	Category jumping	Net overseas migration
	('000)					
1996						
June	61.9	31.7	30.2	15.7	4.9	20.6
Sept r	65.1	37.1	28.1	27.7	4.6	32.3
Dec r	63.6	30.5	33.2	20.1	-0.7	19.4
1997						
March r	61.4	28.4	33.1	36.1	-6.7	29.4
June r	63.4	31.4	32.1	10.6	-4.5	6.1
Sept p	63.9	37.9	26.0	22.9	7.4	30.4

Source: ABS Demography (prepared for this project)

Table 13. Alternative presentation of components of population change, based on revisions to permanent and long-term movement data.**a. Preliminary**

Period	Births (^{'000})	Deaths (^{'000})	Natural increase (^{'000})	PLT arrivals (^{'000})	PLT departures (^{'000})	Net overseas migration (^{'000})
1996						
June	61.9	31.7	30.2	50.5	29.9	20.6
Sept p	65.5	37.7	27.9	64.3	36.7	27.7
Dec p	61.3	30.2	31.1	64.4	44.3	20.1
1997						
March p	62.0	28.2	33.9	82.7	46.6	36.1
June p	64.4	31.5	33.0	49.5	38.9	10.6
Sept p	63.9	37.9	26.0	65.1	42.2	22.9

b. Revised

Period	Births (^{'000})	Deaths (^{'000})	Natural increase (^{'000})	PLT arrivals (^{'000})	PLT departures (^{'000})	Net overseas migration (^{'000})
1996						
June	61.9	31.7	30.2	50.5	29.9	20.6
Sept r	65.1	37.1	28.1	71.5	39.2	32.3
Dec r	63.6	30.5	33.2	62.7	43.4	19.4
1997						
March r	61.4	28.4	33.1	93.9	64.5	29.4
June r	63.4	31.4	32.1	49.6	43.5	6.1
Sept p	63.9	37.9	26.0	65.1	42.2	22.9

Source: ABS Demography (prepared for this project)

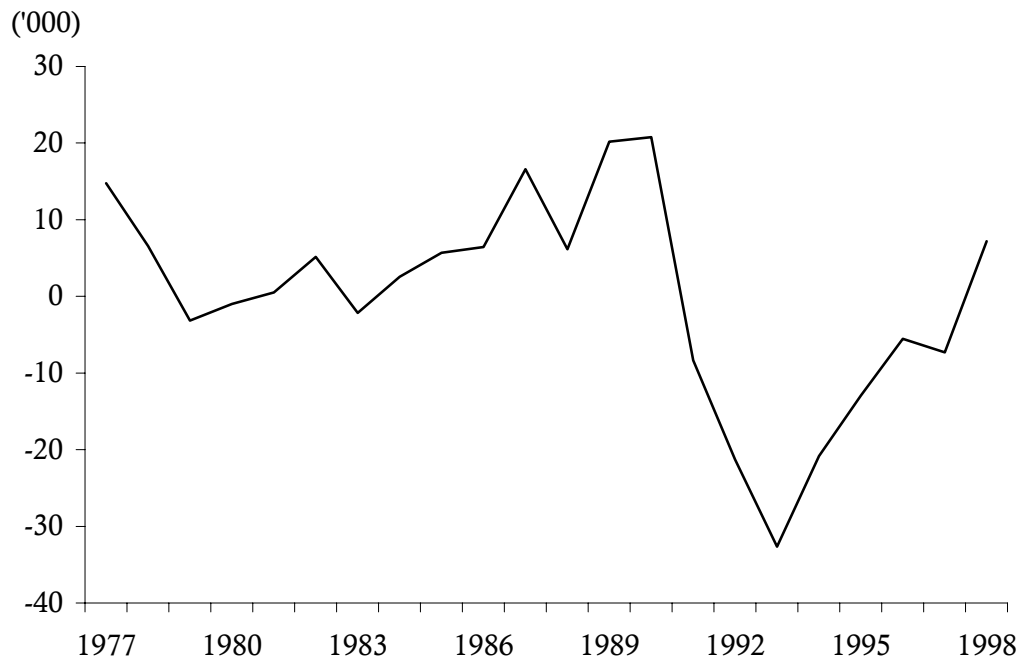
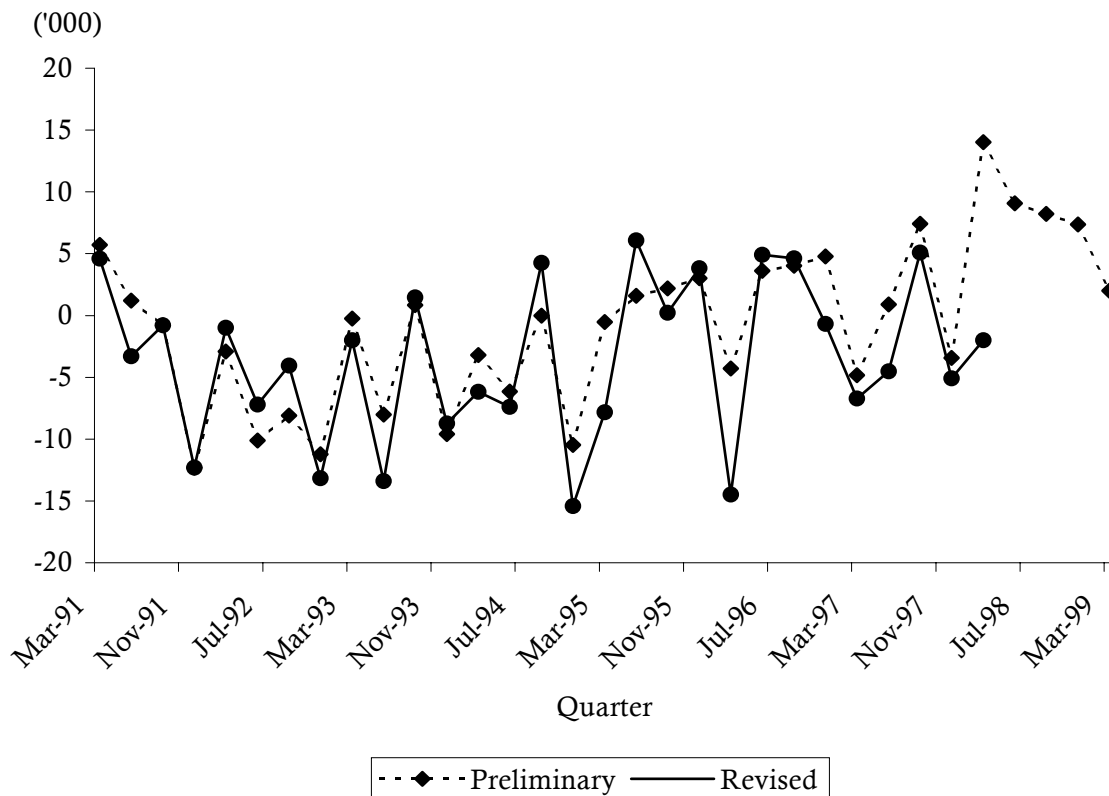
Figure 1. Annual estimates of category jumping, year ending 1977-98.**Figure 2. Preliminary and final estimates of category jumping, by quarter 1991-99.**

Figure 3. Difference between preliminary and revised quarterly estimates of category jumping.

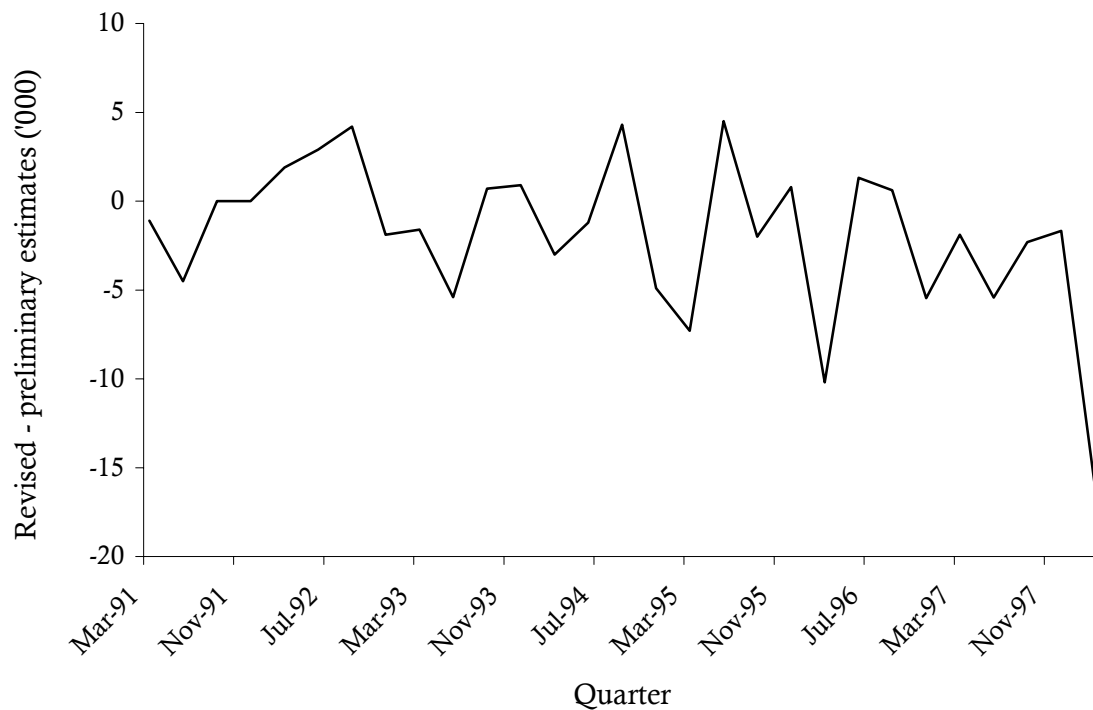


Figure 4. Annual estimates of category jumping and its two components.

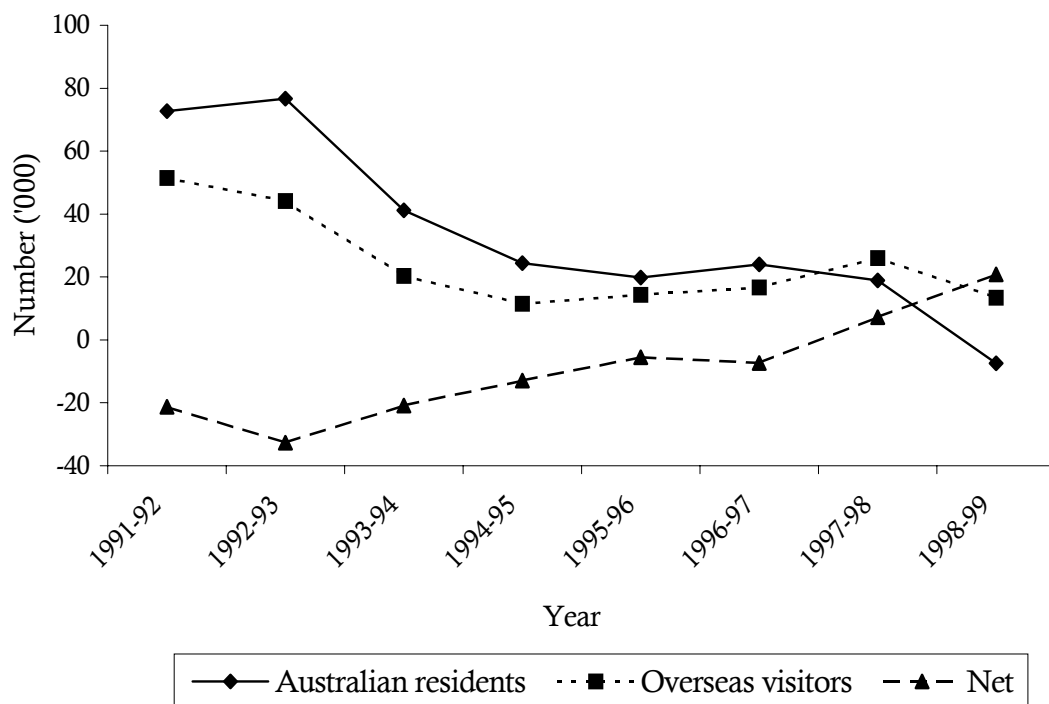


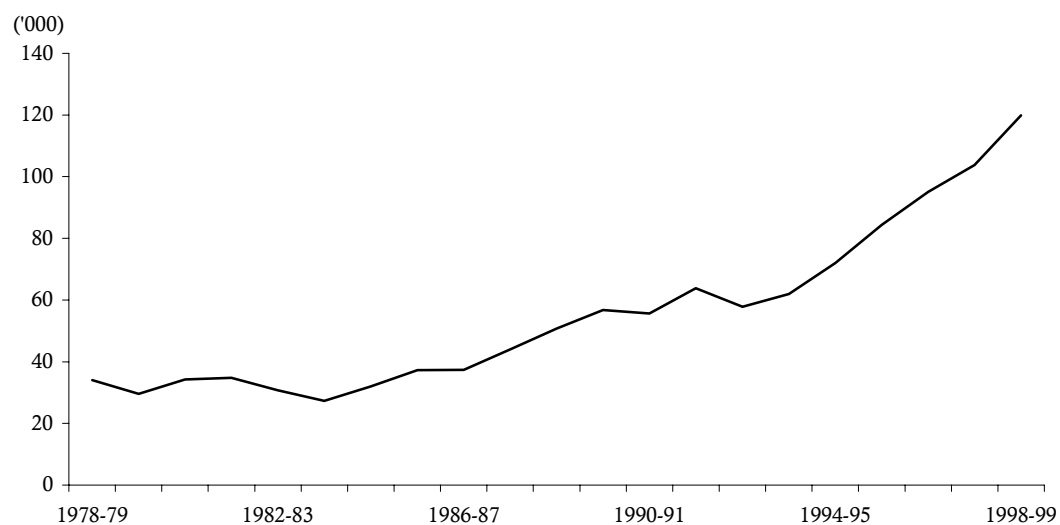
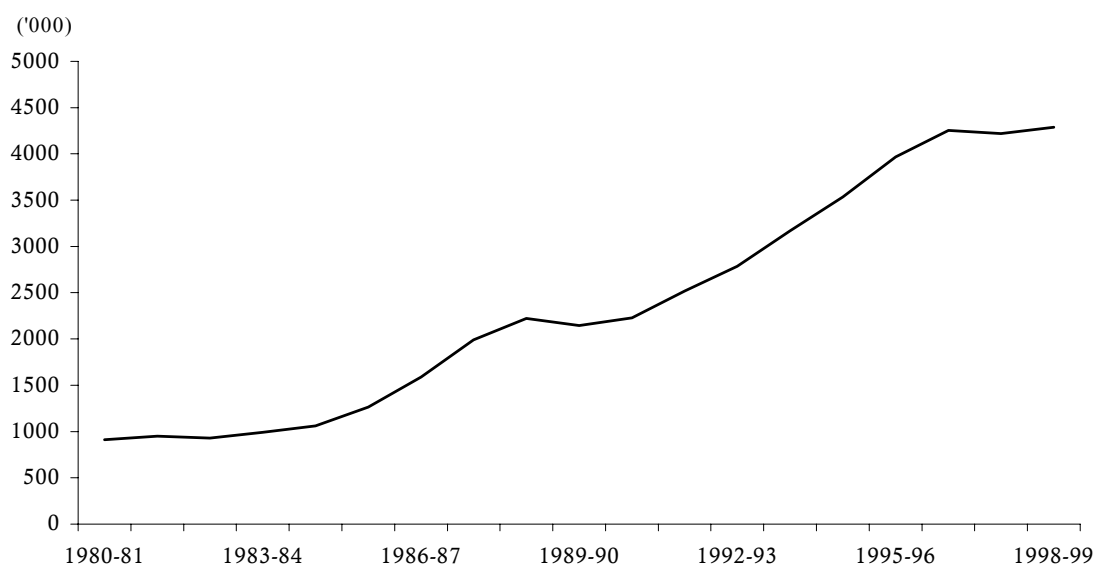
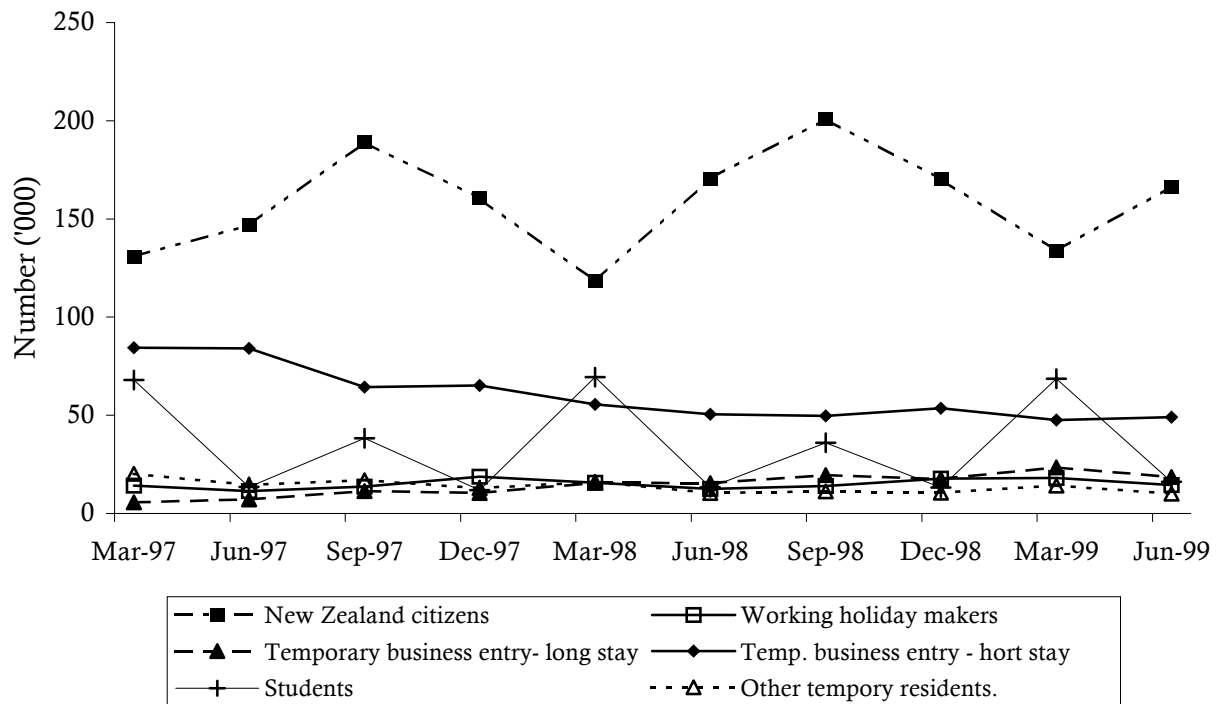
Figure 5. Long-term visitor arrivals, 1978-98.**Figure 6. Short-term visitor arrivals, 1980-98.**

Figure 7. Long and short term visitor arrivals by quarter and type.**Figure 8. Net overseas migration, with and without category jumping, 1978-98.**