

**Changing places: Indigenous population
movement in the 1990s**

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Summary

This paper presents selected measures of Indigenous population mobility using 1996 Census data and compares these with equivalent measures for the non-Indigenous population. There are two parts to the exercise. The first comprises an examination of relative propensities to move according to the age and sex distribution of movers, their labour force status and income distribution. The second is an analysis of the contribution of mobility to spatial redistribution of the Indigenous population.

Propensity to move

The mobility rate among those who identified as Indigenous in 1996 was substantially higher than the rate observed for those who identified as Indigenous in 1991. Between 1986 and 1991, a total of 94,167 Indigenous people (45 per cent) changed residence, whereas between 1991 and 1996, 147,955 individuals (52 per cent) moved. The latter was much higher than the 43 per cent figure recorded for the rest of the Australian population. Over the one-year period between 1995 and 1996, a total of 97,010 Indigenous people changed their usual place of residence. This comprised 29 per cent of all those who could have moved—a proportion much higher than the 18 per cent recorded for the rest of the population.

For the Indigenous population, very high movement propensities are recorded in the south-east Queensland regions of Wide Bay–Burnett, Fitzroy, Brisbane, Darling Downs and Moreton, as well as in other major migrant destinations such as Canberra and Perth. The Mallee region of western Victoria also stands out. This contrasts sharply with the situation across the whole of Northern Australia where census-recorded mobility rates are well below average. Elsewhere, pockets of relative immobility emerge such as in southern Tasmania and generally through the south-east of Western Australia.

Apart from in south-east Queensland and the south-west of Western Australia, the spatial pattern of non-Indigenous relative movement propensities could not be more different from the Indigenous pattern with the highest movement rates located across Northern Australia and much of Western Australia.

Low Indigenous movement propensities in remote northern regions should not be taken as an indication of immobility, but rather of a lack of migration. The importance in these regions of frequent mobility in Indigenous social and economic life has been extensively recorded and the basic statistical problem here derives from the inability of fixed-period migration questions to capture short-term and circular population movements.

Despite similarities in the age distribution of mobility, Indigenous rates are substantially higher than non-Indigenous rates:

- 34 per cent of Indigenous infants change their usual place of residence each year compared to only 23 per cent of non-Indigenous infants;
- 25 per cent of Indigenous children of compulsory school age change their usual place of residence each year compared to only 15 per cent of non-Indigenous school-age children;
- in the years of peak movement, between 20 and 24 years, as much as 43 per cent of Indigenous people shift location annually compared to 39 per cent of other young adults; and
- at older ages mobility rates fall away for both populations, but the differential between them increases such that Indigenous rates are around 10 to 20 percentage points above those for non-Indigenous people.

Spatial redistribution

As with previous censuses, the 1996 Census again reveals that the overall flows between capital cities and non-metropolitan areas tend to cancel each other out. However, the non-Indigenous capital city population revealed an aggregate net loss while the overall Indigenous population of capital cities revealed a net gain. This gain was confined to Brisbane, Perth, Darwin and Adelaide, with Sydney, Melbourne and Hobart recording net migration losses.

At the regional level, it is clear that certain country regions (South West and North West Queensland, Far West New South Wales) are generally unattractive (with high out-rates relative to in-rates), while others, usually in proximity to metropolitan centres (Moreton, Outer Adelaide, Richmond-Tweed, Canberra and East Gippsland), are generally attractive to migrants (high in-rates relative to out-rates). These latter-type regions also have very high rates of population turnover.

As for the contribution of mobility to regional population change, for the Indigenous population it has long been observed that a process of gradual urbanisation is under way, manifest in a shift in population distribution to the south and east of the continent. While this redistribution is undeniable, much of it reflects change in the propensity of individuals to identify in statistical collections as Indigenous. Regions where this effect is most prominent include Sydney, Hunter, Illawara, Central and Mid-North Coast New South Wales, Canberra, Melbourne, all of Tasmania, Moreton, Brisbane and Darling Downs.

Policy implications

The results of this analysis confirm evidence increasingly available from other sources that the regular mobility of many Indigenous people has a significant impact on the level and nature of their interaction with mainstream institutions; for example, by contributing to greater breaching of social security provisions, by reducing rates of school attendance and by constraining opportunity for favourable employment outcomes. At the same time, it is unclear whether mobility is more a cause or a symptom of this situation.

In those regions identified as having high population turnover there is an urgent need to examine which groups in the population are most involved and if any association exists with other social indicators. In south-east Queensland, for example:

- around 40 per cent of recent population growth was due to change in the propensity to identify;
- of those who declared Indigenous status in 1996, 75 per cent had changed residence since 1991;
- 33 per cent change residence each year;
- there was an almost 60 per cent turnover of the of the population in the five-year period since 1991; and
- in all probability, in an area such as this, by the time planning processes emerge out of data analysis, the intended targets of policy would have changed.

A major concern arising from the analysis relates to the implications of high mobility for the measurement of outcomes, particularly in the context of the Commonwealth Grants Commission's new charter to develop indices of relative disadvantage for the purposes of revenue allocation in Indigenous affairs.

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Introduction

There is growing awareness within the Indigenous affairs policy community of a need to better understand the dynamics of change in the size and composition of the Indigenous population so as to formulate policies that are not based solely on current or historic assessment of government obligations, but also take into account some estimation of anticipated requirements. For example, recognition of this type of dynamic has been foremost in the estimation of future employment needs based on projections of the labour force (Taylor and Hunter 1998). While it is true that confidence in estimation and projection of the overall size of the Indigenous population is undermined by shifts in ethnic identity, when it comes to accounting for national demographic change one factor, at least, of population growth (overseas migration) can be disregarded because of its scant size. However, at the sub-national or regional level, prediction of Indigenous population change is much less straightforward because of the need to account for population redistribution due to internal migration.

Available evidence indicates that Aboriginal birth and death rates vary geographically (Gray 1990; Gray and Tesfaghiorghis 1993; Mathers 1995; Australian Bureau of Statistics (ABS) 1997a: 57, 1997b: 47–8; Strong et al. 1998: 15), but as far as can be ascertained these spatial variations are relatively small in terms of their contribution to regional population change. As a consequence, from a purely demographic perspective, it is the net balance of migration into, and out of, regions that constitutes the main determinant of change in local population size and composition. For the total Australian population, it has been amply demonstrated that internal migration is the fundamental force shaping and modifying the pattern of human settlement in Australia, with significant impacts on the demand for services (Newton and Bell 1996). It is also true that mobility is a selective process—for example, it is usually high among young adults and declines with age. To the extent that services or special programs are age-specific or directed at other groups in the population, it is clearly important to gauge the impact of these migration differentials on changes in regional population composition.

While these facts are well known and well researched for the total population, the same cannot be said for the Indigenous population, as a review of the available literature has demonstrated (Taylor and Bell 1996a). Although some redress has been made using 1991 Census data highlighting distinct patterns of Indigenous mobility (Taylor and Bell 1996b), it cannot be simply assumed that these patterns hold for 1996. There is a very real sense in which the 1996 Census-identified Indigenous population is comprised of a different set of individuals from that identified at the 1991 Census due to substantial non-biological increase in the population (Taylor 1997; Ross 1999). This begs the question of what the new census data reveal. In particular, a fundamental question for analysis is the extent to which the spatial variation in population

growth reflects demographic as opposed to sociological factors. For example, the 1996 Census revealed a significant extension of a long-standing shift in the distribution of the Indigenous population to the south and east of the continent, primarily towards major urban areas. But to what extent did this reflect a real redistribution of people rather than simply ethnic reclassification of individuals in situ?

This paper seeks to establish selected parameters of Indigenous population mobility using 1996 Census data and to compare these with equivalent measures for the non-Indigenous population. There are essentially two parts to this exercise. The first comprises an examination of relative propensities to move according to particular census characteristics that are of interest in social and economic policy terms. These include the spatial pattern of movement propensities, the age and sex distribution of movers, and their labour force status and income distribution. The second is an analysis of the contribution of mobility to spatial redistribution of the Indigenous population. This is conducted primarily at the Statistical Division (SD) level (see Appendix Figure A1), although consideration is also given to the more structural question of whether mobility is leading to a greater concentration of the Indigenous population in capital cities.

Propensity to move

Previous analysis of census migration data has indicated that Indigenous people change residence between censuses at about the same rate as the rest of the population. While the rate of mobility recorded among Indigenous people between 1986 and 1991 (44.7 per cent) was somewhat higher than the figure of 40.3 per cent recorded for all other Australians (Taylor and Bell 1996b: 396), this gap was entirely accounted for by the younger age profile of the Indigenous population. When the data were standardised to take account of these differences in the age profile, the rates of movement were found to be almost identical (40.8 and 40.3 per cent, respectively).

It is interesting to note, then, that the 1996 Census yielded an Indigenous mobility rate that was substantially above that for the rest of the population, even after standardising for the effect of differences in age structure. Overall levels of mobility in Australia have been relatively stable over the past two decades (Bell 1995; Bell and Hugo forthcoming) and the marked jump in mobility in the early 1990s appears to be an artefact of problems in 1996 Census coding, rather than any significant rise in the underlying propensity to move (Bell and Stratton 1998). Although historical data on the mobility of the Indigenous population are sparse, the available evidence suggests a similar pattern of stability, at least until the end of the 1980s (Table 1). However, Table 1 reveals two distinctive features of mobility among Indigenous people. The first is that the proportion of Indigenous people changing their usual place of residence has been consistently above that for non-Indigenous people. The second is the massive rise in Indigenous mobility in the latest intercensal period, an increase that cannot be accounted for by the

1996 Census coding errors. In the 1990s, then, Indigenous people can be said to be unequivocally more mobile than the rest of the population.

However, in the context of a large non-biological intercensal increase in the population it is difficult to clearly ascribe this higher mobility to an increased propensity to move among Indigenous people. In effect, successive census data are capturing the characteristics, including mobility, of different populations. Consequently, all that can be said is that the mobility rate among those who identified as Indigenous in 1996 was substantially higher than the rate observed for those who identified as Indigenous in 1991. While there is some scope for estimating the compositional impact of newcomers to the population using fixed population characteristics such as age left school (Eschbach, Supple and Snipp 1998; Hunter 1998), for characteristics that are variable over time, such as mobility status, this is simply not possible. Whether Indigenous people are, in fact, now more (or less) mobile than in the past is therefore beyond analytical reach using census data.

Table 1. Indigenous and non-Indigenous population mobility rates, 1966–96

Intercensal period	Indigenous	Non-Indigenous	Total
1966–71			39.4
1971–76	46.7		40.7
1976–81			40.7
1981–86			41.2
1986–91	44.6	40.3	40.7
1991–96	52.2	42.9	43.0
Age standardised ^a			
1986–91	40.8	40.3	
1991–96	46.9	42.9	

Note: a. Direct standardisation against the non-Indigenous population.

Source: Indigenous rate for 1971–76 from Young 1982; all other intercensal periods from ABS Census of Population and Housing, and Bell 1995.

These caveats aside, it can be confidently stated that the number of Indigenous people reporting an intercensal change of residence at the 1996 Census was substantially higher than in the past. Between 1986 and 1991 a total of 94,167 movers were recorded, whereas between 1991 and 1996 147,955 individuals indicated a change of address. Conversely, 135,322 Indigenous people reported no change in their residential address over the 1991–96 intercensal period, though this is not to say that they did not move during that time—but simply that if they did, then such movement involved a circuit back to the point of origin and was therefore not measured by the census fixed-period migration question.

Regional variations

The propensity to move varies markedly across space with the population in some SDs being much more likely than in others to have changed residence over the intercensal period. One way of highlighting this variation and the particular regions that stand out as having excessively mobile or immobile populations, is to classify movement propensities for each SD according to whether they are above or below one standard deviation from the national average of 52 per cent. This is done for Indigenous and non-Indigenous populations in Figures 1 and 2, respectively.

At one extreme in the distribution, only 27 per cent of the Indigenous population of Northern Territory Balance SD changed their usual place of residence over this period. At the other extreme, 75 per cent of the Indigenous population in Moreton SD were recorded in a different residence in 1996 compared to 1991. In this schema, Mackay and Darwin SDs are closest to the average.

Quite different patterns are evident for the two populations in terms of regional propensities to move. For the Indigenous population, very high movement propensities are concentrated in the south-east Queensland regions of Wide Bay–Burnett, Fitzroy, Brisbane, Darling Downs and Moreton, as well as in other major migrant destinations such as Canberra and Perth. The Mallee region of western Victoria also stands out. Other moderately high propensities are evident in regions surrounding these foci in southern Queensland, north coast New South Wales, central and southern New South Wales, Gippsland, Barwon and the Wimmera and south-western Western Australia. In addition, the whole of South Australia has relatively mobile populations, except in the Yorke Peninsula and outer Adelaide, although the reported rate in the Far North SD is more likely to reflect circumstances in the vicinity of Port Augusta, Whyalla and Port Pirie than that in the northern Pitjantjatjara Lands.

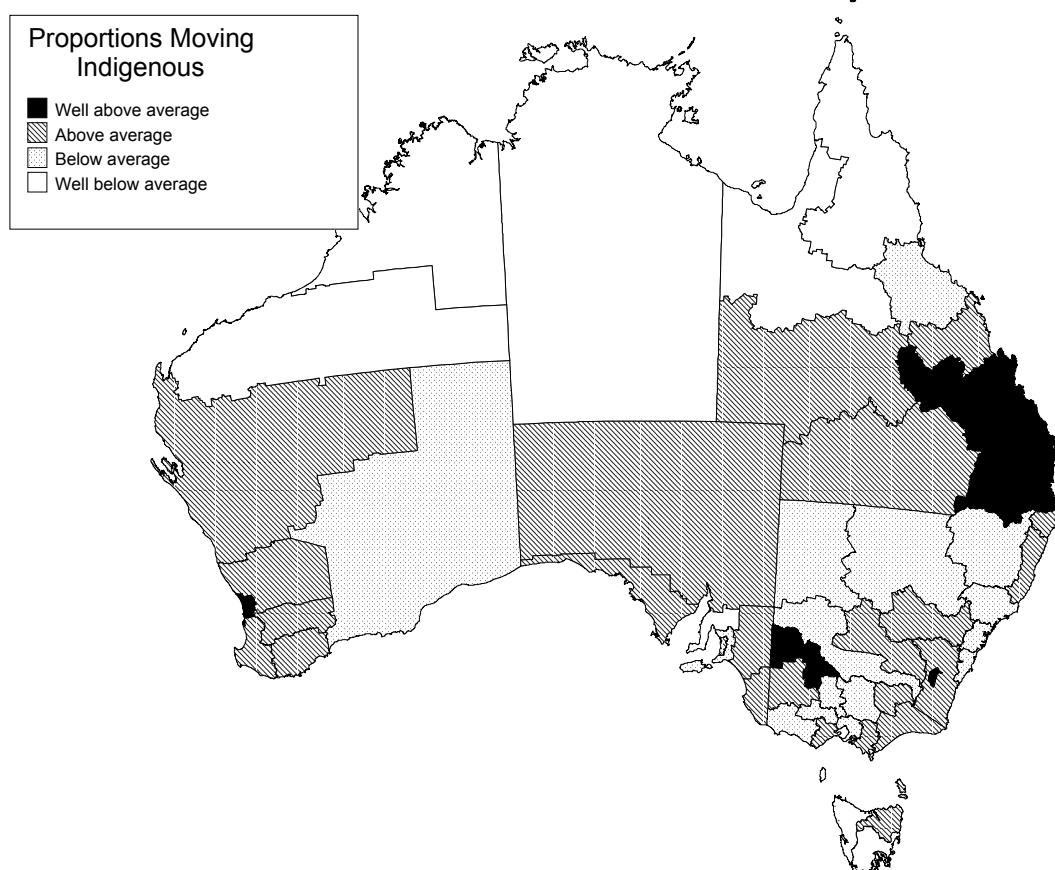
This pattern of relatively high mobility contrasts sharply with the situation across the whole of Northern Australia where census-recorded mobility rates are well below average. Elsewhere, pockets of relative immobility emerge in the Yorke Peninsula of South Australia, in Southern Tasmania and generally through the south-east of Western Australia, the Far West and North West of New South Wales, and parts of central Victoria.

Apart from in south-east Queensland and the south-west of Western Australia, the spatial pattern of non-Indigenous relative movement propensities could not be more different from the Indigenous pattern (see Figures 1 and 2). By far the highest proportion of non-Indigenous people who had changed residence over the five-year period were located across northern Australia and much of Western Australia. The single clear exception for this was found in the Moreton SD of south-east Queensland. In the Kimberley SD, for example, 74 per cent of the non-Indigenous population had moved compared to only 40 per cent of Indigenous people. This creates, in effect, two distinct populations in remote

regions—a relatively stable and long-standing Indigenous resident group and a chronically transient non-Indigenous group.

As a note of caution, the fact that the five-year mobility indicator reveals low Indigenous movement propensities in remote northern regions should not be taken as an indication of immobility, but rather of a lack of migration. The importance in these regions of frequent mobility in the daily, periodic and seasonal round of activities associated with Indigenous social and economic life has been extensively recorded (Young 1981, 1990; Altman 1987: 20–27, 100–7; Taylor 1988, 1998; Young and Doohan 1989; Coulehan 1995) and the basic statistical problem derives from the inability of fixed-period migration questions to capture short-term and circular population movements.

Figure 1. Indigenous propensity to move by SD, 1991–96

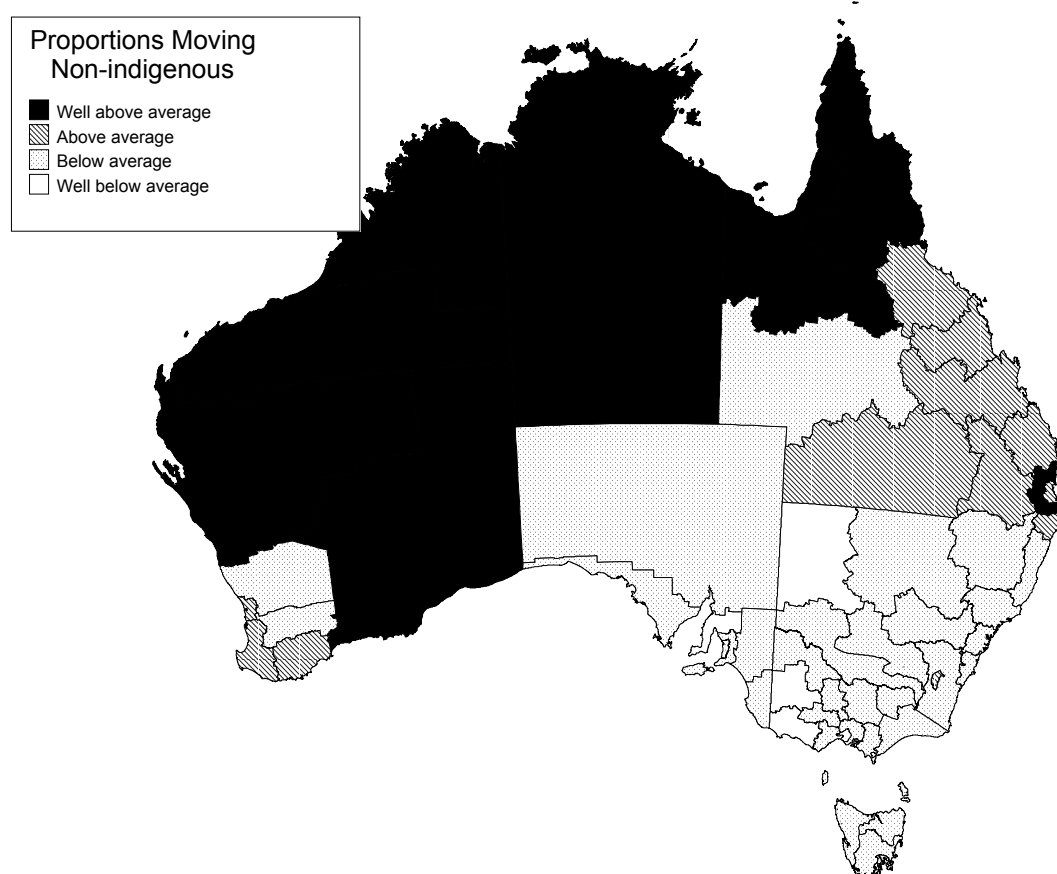


Source: 1996 ABS Census of Population and Housing (unpublished data).

The other important point to note from Figures 1 and 2 is that Indigenous people follow the national pattern of relatively high rates of movement in regions such as Moreton, Wide Bay–Burnett, Fitzroy and Brisbane in Queensland, and Central and Perth in Western Australia. At the same time, apart from in the mainly remote SDs of Far North and North West in Queensland, South Eastern,

Pilbara and Kimberley in Western Australia and Darwin and Northern Territory Balance in the Northern Territory, Indigenous movement rates exceed those for the non-Indigenous population in all other regions. In some regions the Indigenous rate is considerably higher. For example, Indigenous movement rates in the following SDs are over 40 per cent above the non-Indigenous equivalent: in New South Wales—Murrumbidgee, South Eastern, Far West; in Victoria—Barwon, Wimmera, Western District, Mallee, Ovens—Murray, Gippsland and East Gippsland (in effect, most of non-metropolitan Victoria); in South Australia—Adelaide, Murray Lands, Eyre, South East and Northern (in effect, most of South Australia); in Queensland—Darling Downs; and in Western Australia—Upper Great Southern. If there is a pattern here, then it points to substantially higher rates of Indigenous movement in Victoria and South Australia as well as some focus on country regions in proximity to metropolitan centres.

Figure 2. Non-Indigenous propensity to move by SD, 1991–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

One-year mobility indicator

The 1996 Census output represents an advance on the previous census in providing a one-year mobility indicator based on changes of address between 1995 and 1996. There are two main advantages to be gained by using the one-year mobility indicator for analysis as opposed to the five-year indicator. First, non-response to the census question on place of residence one year prior to the census is markedly lower for Indigenous people (3.3 per cent for the one-year indicator compared to 6.2 per cent for the five-year indicator), presumably because recall is less of a problem. Secondly, the characteristics of migrants recorded by the census are temporally much closer to the actual timing of population movement (within the past year) and therefore represent a more reliable indication of the characteristics pertaining at the time of the move than is the case with the five-year period. For these reasons the socioeconomic characteristics of migrants are examined using the one-year indicator.

Over the one-year period between 1995 and 1996, a total of 97,010 Indigenous people changed their usual place of residence. This comprised 29.2 per cent of all those who could have moved—a proportion that stands in stark contrast to the 18.1 per cent recorded for the rest of the population. This higher rate of Indigenous mobility was partly due to the younger age profile of the Indigenous population as younger people tend to be more mobile. Standardising for this effect against the age distribution of the non-Indigenous population reduces the Indigenous rate (to 26 per cent), but this is still indicative of a far greater propensity to move, with Indigenous people almost 50 per cent more likely than the rest of the population to have changed residence over the one-year period.

The fact that the Indigenous/non-Indigenous mobility differential is higher for the one-year period (29.2 per cent compared with 18.1 per cent) than for the five-year period (52.2 per cent compared with 43.0 per cent) underlines another key feature of the Indigenous population: their greater propensity to engage in repeat migration. A total of 83,208 Indigenous people aged five years and over reported a move between 1995 and 1996. If mobility rates were constant, this would imply some 416,040 moves over the five-year interval 1991–96. However, the five-year data reveal only 147,955 movers. The balance of 268,085 moves (64 per cent of the implied total) are effectively lost in the five-year data. In contrast, for non-Indigenous people the comparable figure is 53 per cent. These moves are missed because the five-year migration question only captures a single move; any return, secondary or subsequent migrations are ignored. Thus, the data point to a much greater rate of repeat mobility among the Indigenous population than among the rest of the community. Whether this takes the form of return or onward moves, however, and whether it reflects very high mobility among a small segment of the population, or a more general propensity for repeat movement among the population at large, remains to be established.

Differences are also apparent between Indigenous and non-Indigenous people in their propensities to move at varying spatial scales. In Table 2, those who moved between 1995 and 1996 are organised according to the type of move they made, which represents a crude surrogate for migration distance. Almost half (46 per cent) of all Indigenous moves occurred within the same Statistical Local Area (SLA) compared with just 40 per cent for non-Indigenous people. For the latter, moves of this type generally represent local housing adjustment, a large proportion of which take place within the suburbs of capital cities and other urban areas. While similar processes also occur among Indigenous Australians, their higher propensity to make intra-SLA moves may also reflect greater instability in their housing arrangements. An additional factor to consider is that Indigenous people are more strongly represented in large rural SLAs in the more remote rural parts of the country such as in the Northern Territory, the north and west in Queensland, the north and west of South Australia and the north and interior of Western Australia. In these areas, intra-SLA moves can occur over considerable distances. While it may thus be less accurate to describe such movement as local, it still invariably occurs within familiar social and economic territory—for example, between Indigenous townships and associated outstations.

Table 2. Mobility of Indigenous and non-Indigenous Australians by type of move, 1995–96

Type of move	Indigenous		Non-Indigenous	Difference (2)-(3)	
	Number (1)	Per cent (2)	Per cent (3)	Absolute	Per cent
Moved Same SLA	43,630	45.7	40.2	5.5	13.6
Other SLA same SD	25,367	26.6	36.0	-9.4	-26.1
Other SD same State	17,765	18.6	13.4	5.2	38.8
Interstate	8,682	9.1	10.4	-1.3	-12.5
Total	95,444	100.0	100.0		

Note: Excludes 1,566 individuals who changed residence but did not state the SLA to which they moved.

Source: 1996 ABS Census of Population and Housing (unpublished data).

Overall, then, Indigenous people tend to be more localised than others in their spatial relocations, although non-Indigenous movers are concentrated within the next category of movement which implies only slightly longer distance relocations—those occurring to another SLA within the same SD (36.0 per cent of all non-Indigenous movers compared to 26.6 per cent). This mainly describes movement between metropolitan suburbs, between country towns or between a rural area and a country town. In the third category of movement, between SDs within the same State, the share of Indigenous movers is again notably higher. Relocation within this category typically involves moves between capital cities and their hinterlands, as well as between non-metropolitan regions within each State

and Territory. Finally, the longest-distance moves—those occurring between States and Territories, including between capital cities—accounted for an almost equal share of Indigenous and non-Indigenous movers, although in each case these were the least prevalent relocations.

Movement propensities by age and sex

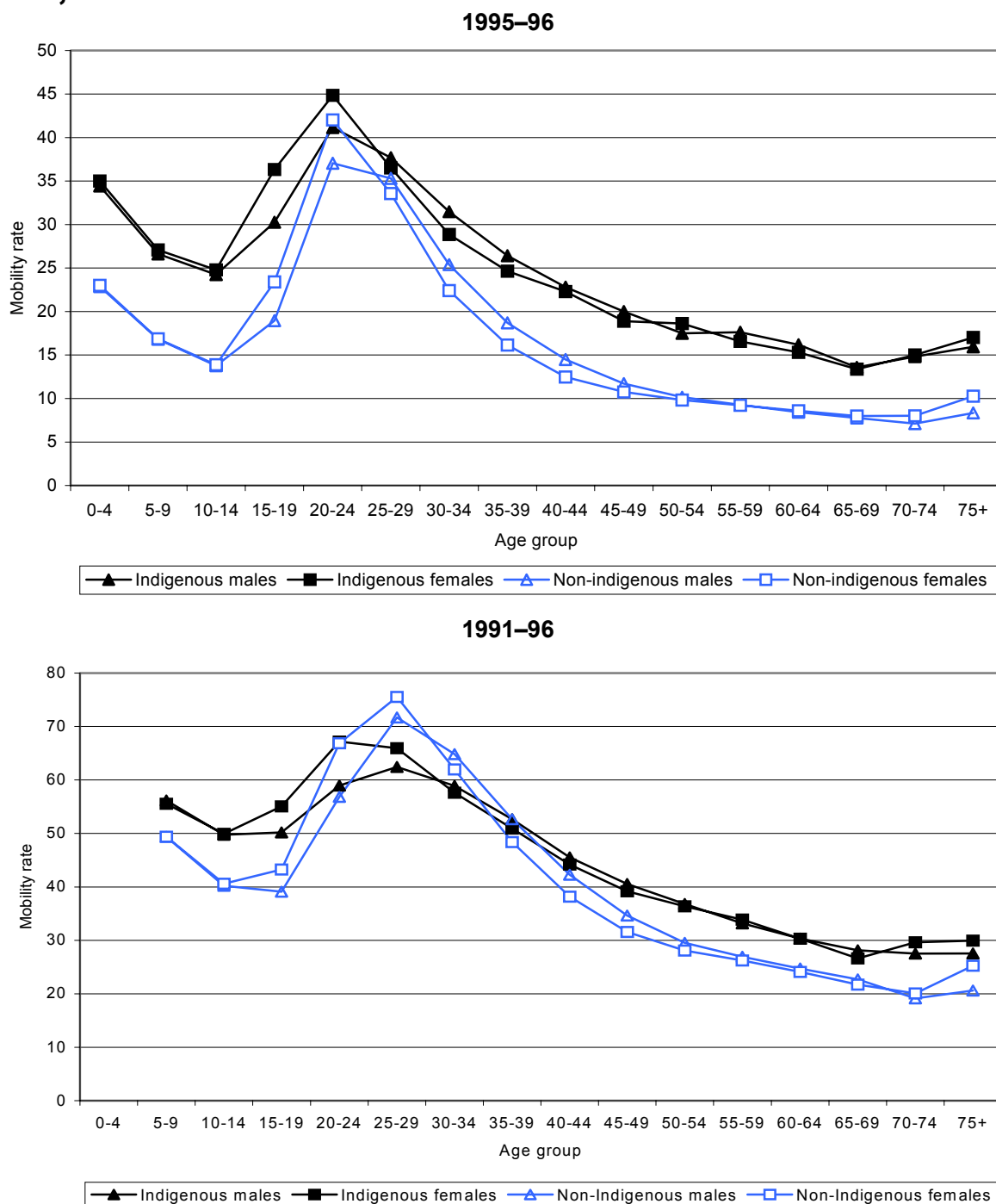
Mobility is a selective process and one of the key factors influencing the propensity to move is age. The age profile of mobility for Indigenous people is very similar to that observed for all other Australians with movement rates peaking in the 20s age range followed by a sharp decline, but with a slight rise in the retirement ages (Figure 3). A secondary peak in rates is also evident among infants and children, reflecting the migration of family groups. The other feature in common is that female mobility rates tend to be higher than male rates up to the age of 30 years, but beyond this, male rates consistently exceed those of females, though only slightly.

These sex differentials also occur among the non-Indigenous population where they are generally attributed to the earlier age at marriage among women and the associated formation of new households (Bell 1995: 22). While this may also be the case among Indigenous females, their much greater participation in tertiary education compared to males may also be of relevance (for example, 62 per cent of Indigenous adults attending universities are female). As for young Indigenous males, a greater proportion of their employment has been derived from participation in the Community Development Employment Projects (CDEP) scheme (which accounted for 30 per cent of all males employed in 1996) and this is likely to have restrained their mobility relative to females by providing employment for individuals in their home communities.

Despite similarities in the age distribution of mobility, a significant point of difference between the Indigenous and non-Indigenous profiles for the one-year rates is the much higher mobility displayed by Indigenous males and females compared to their non-Indigenous counterparts. This is especially so among children and youth and those in middle and old age, but the difference is much less pronounced among adults in their 20s. This means that, typically, around 34 per cent of Indigenous infants change their usual place of residence each year compared to only 23 per cent of non-Indigenous infants. Likewise, around 25 per cent of Indigenous children of compulsory school age change their usual place of residence each year compared to only 15 per cent of non-Indigenous school-age children. In the years of peak movement, between 20 and 24 years, as many as 45 per cent of Indigenous females and 41 per cent of Indigenous males shift location annually but in this case the rates are only marginally above their non-Indigenous equivalents (42 and 37 per cent, respectively), and the differential is even smaller among those in their late 20s. At older ages mobility rates fall away for both populations, but the differential between them increases such that Indigenous rates are around 10 to 20 percentage points above those for non-

Indigenous people. This persistently higher Indigenous mobility in older ages is interesting as it suggests that the usual life-cycle events of mortgage repayment, career development and family commitments that generally serve to dampen mobility have a weaker influence for Indigenous people.

Figure 3. Age and sex profile of Indigenous and non-Indigenous mobility rates, 1995–96 and 1991–96

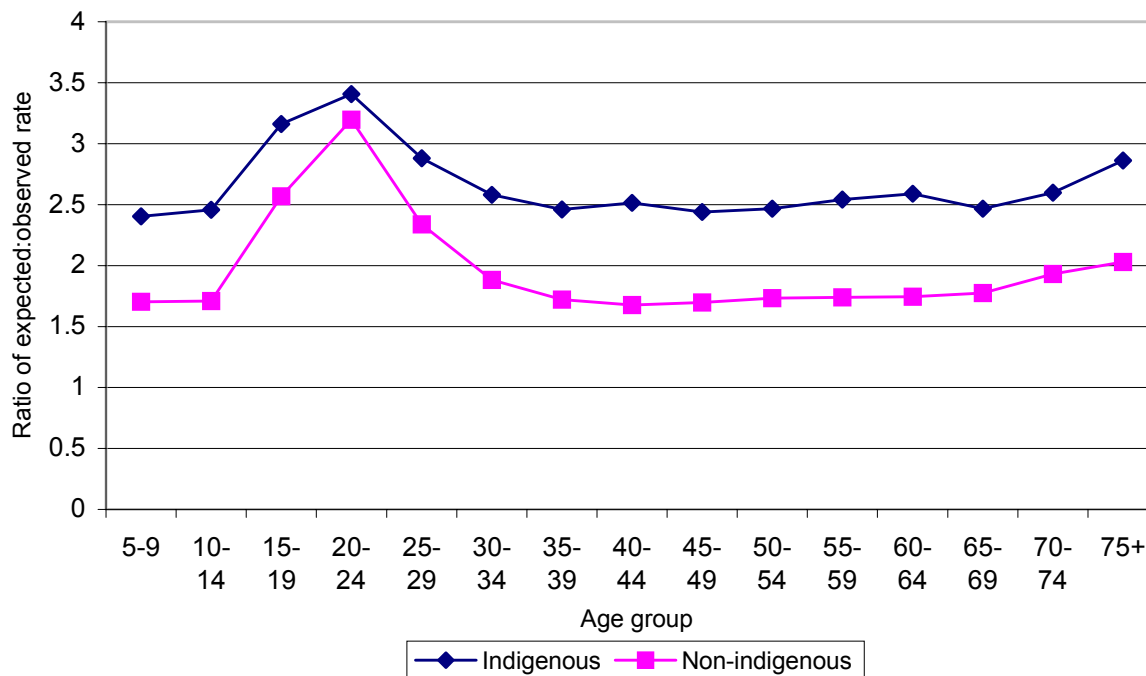


Source: 1996 ABS Census of Population and Housing (unpublished data).

While the five-year mobility profiles display the same life-cycle variations, a key point of difference is the much flatter age profile for both Indigenous males and females. This is largely because Indigenous rates in the 15–34 years age range are either equivalent to, or lower than, non-Indigenous rates. Also, while Indigenous rates are still highest at all other ages, the gap—compared with non-Indigenous rates—is much less pronounced than in the one-year mobility profile. This variation in the profiles, measured over different length-intervals, reinforces the point made earlier that the high level of Indigenous mobility revealed by the one-year indicator reflects the occurrence of repeat movement among certain segments of the population.

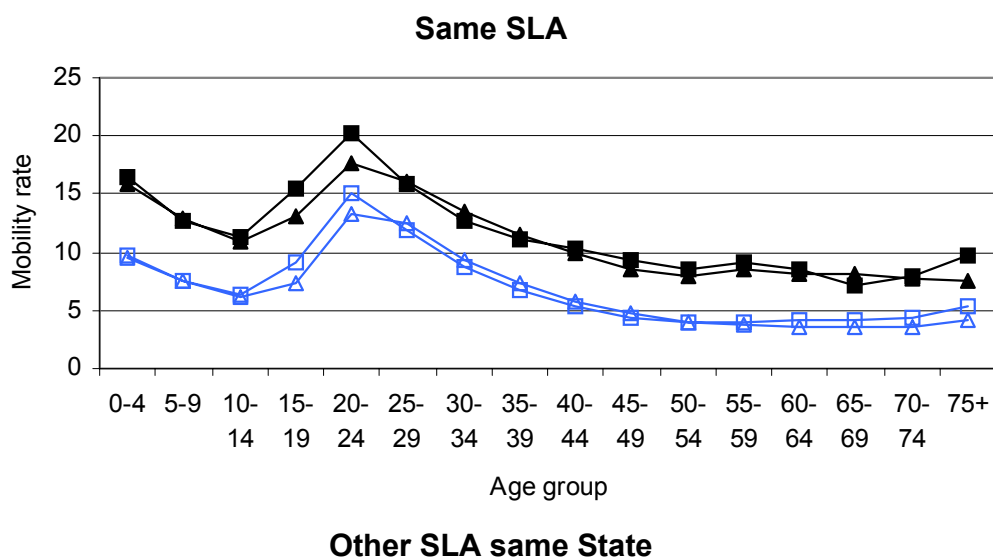
One way to identify which segments of the population are most prone to repeat movement is to compare the five-year rates with five times the one-year rates. These ratios, which are depicted in Figure 4, provide a rough measure of the way in which repeat mobility varies with age. The results show a significant difference in the age pattern of repeat mobility between the Indigenous and non-Indigenous populations. For both groups, most repeat mobility is found in the 15–29 years age range with the peak in the early 20s. At other ages, however, the incidence of repeat movement is remarkably stable, although there is a small rise at extreme ages. What is also apparent is that Indigenous people are consistently more likely to engage in repeat movement at all ages (except age 20–24 years), but especially in the compulsory school-age range and beyond the age of 30 years.

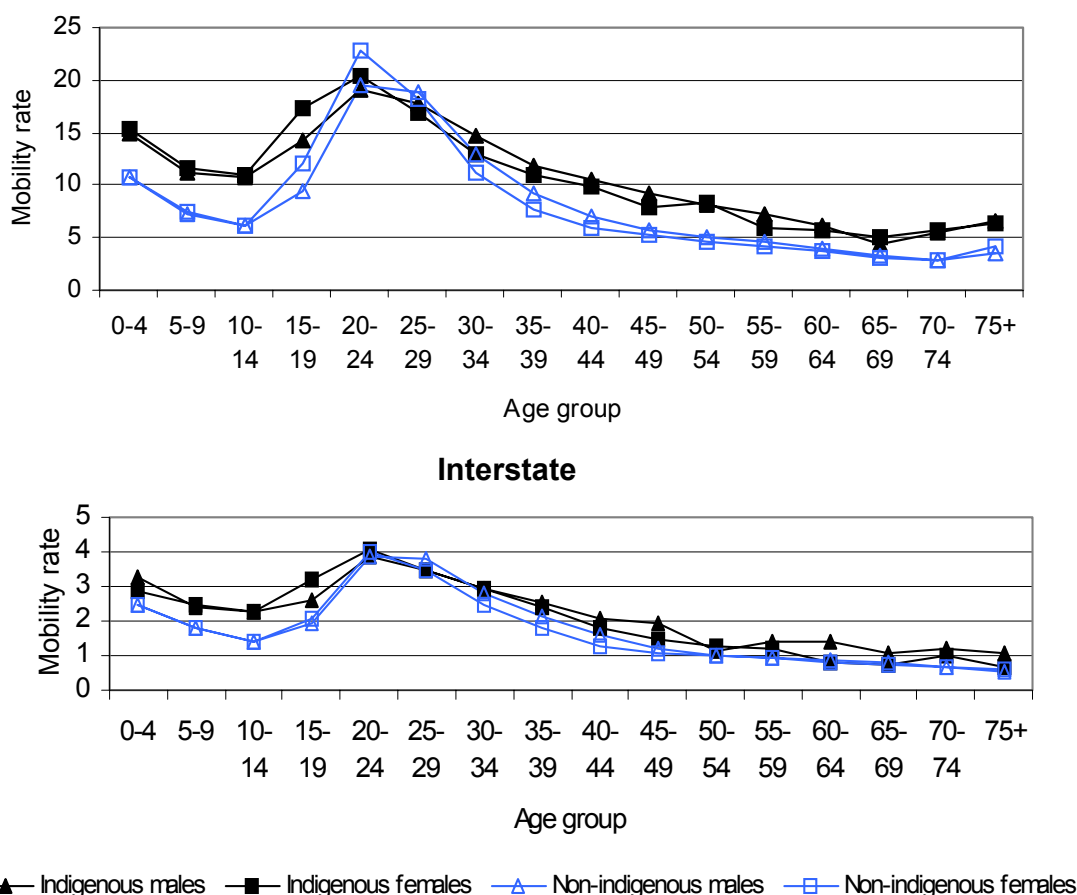
Figure 4. Ratio of expected to observed five-year mobility rates: Indigenous and non-Indigenous Australians, 1991–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

Figure 5. Indigenous and non-Indigenous age- and sex-specific mobility rates by type of move, 1995–96





Source: 1996 ABS Census of Population and Housing (unpublished data).

For the population in general, the peak in the age profile of migration in the young adult age range has been firmly linked to the combined influence of life-cycle events including departure from the parental home, the start of tertiary education and training, entry into the labour force and the establishment of independent living arrangements (Bell 1995: 19–24). Broad agreement in the patterning of migration by age thus suggests that similar influences also bear on the Indigenous young adult population. However, the lower Indigenous five-year mobility rates observed in the young adult age range combined with the much higher repeat movement among Indigenous people at all ages suggests that the factors identified above operate to varying degrees among the two populations.

For example, relatively low levels of participation by young Indigenous adults in the workforce (in 1996, the labour force participation rate for young Indigenous adults was only 50 per cent compared to 67 per cent for other young adults) combined with high levels of reliance for employment on participation in the CDEP scheme, may serve to dampen Indigenous five-year mobility rates compared to their non-Indigenous counterparts, as indicated in Figure 3. At the same time, higher repeat moves at all ages may reflect greater detachment from

those life-cycle factors that serve to produce a degree of residential stability, such as home purchase (in 1996, only 30 per cent of Indigenous dwellings were owned or being purchased compared to 70 per cent generally) and full-time employment (in 1996, only 24 per cent of Indigenous adults were employed full time compared to 41 per cent of non-Indigenous adults).

From Figure 5, it would appear that much of this higher rate of Indigenous repeat movement occurs at the local level within SLAs. At this level, excess Indigenous mobility is prevalent at all ages. However, as the migration distance increases so the gap between Indigenous and non-Indigenous mobility diminishes. Accordingly, among long-distance (interstate) migrants who are more likely to have shifted residence for reasons of employment or lifestyle change, the extent of the variation in mobility between the two populations is almost negligible.

Movement propensities by labour force status

An issue that has permeated policy deliberations regarding Indigenous engagement with the labour market is the question of whether individuals are prepared to move from their place of residence in order to look for and acquire employment and whether they have the capacity to do so. Related to this is the extent to which people who are already in employment are willing and able to be mobile, for example between branch offices of government departments or private sector companies. From the time of the 1985 Review of Aboriginal employment and training strategies (Miller 1985) there has been some ambivalence surrounding this issue. On the one hand, programs such as the CDEP scheme (which accounted for an estimated one-fifth of the Indigenous workforce in 1996) and the community elements of the Training for Aboriginals Program (TAP) have stressed localised participation of mostly unskilled labour. As such, they may be assumed to have been migration inhibiting. On the other hand, the growth of participation in TAP programs involving wage subsidies and training for mainstream labour market participation under the Aboriginal Employment Development Policy and *Working Nation* initiatives (now revived under the Indigenous Employment Policy), may be viewed as encouraging mobility by either requiring or stimulating relocation for employment and training. Whatever the emphasis in policy terms, a fundamental question to be addressed is whether there is any evidence from census data to suggest a link between labour force status and mobility. Also, whether Indigenous people differ in this regard from other Australians.

Over the one-year period between 1995 and 1996 a total of 21,880 Indigenous people who were recorded by the census as employed changed their usual place of residence. This represented almost 27 per cent of all those employed—which is well above the figure of 19 per cent recorded for the non-Indigenous employed. However, interpretation of these rates is difficult, as it cannot be established from Census data whether people became employed as a

consequence of moving or whether they moved while in employment. Equally significant, but also unknown, is whether moves that resulted in employment were speculative, or contractual. One clue to the labour market significance of this mobility is provided by the labour force status of movers according to the type of move undertaken, as shown in Table 3. From this, it is clear that Indigenous people in employment were much more likely to be mobile locally as opposed to over long distances—indeed, well within what the former Department of Employment, Education and Training (DEET) described as ‘natural labour markets’ based on journey-to-work patterns (DEET 1993). Furthermore, from Table 4 it is clear that this localised mobility occurs at a much greater rate than among non-Indigenous employed persons.

Table 3. Indigenous propensities to move (per cent) by labour force status, type of move and sex, 1995–96

	Employed	Unemployed	Not in the labour force
Males			
Same SLA	12.7	17.8	10.9
Other SLA	8.0	11.3	6.6
same State			
Other SD same State	3.9	8.9	5.3
Interstate	2.2	4.5	2.5
Total	26.8	42.5	25.3
Females			
Same SLA	12.7	17.9	13.4
Other SLA same State	8.2	12.4	7.5
Other SD same State	3.5	9.5	5.4
Interstate	2.2	5.9	2.6
Total	26.6	45.7	28.9

Source: 1996 ABS Census of Population and Housing (unpublished data).

There are two ways in which this much greater propensity for local mobility among the Indigenous employed might be explained. First, it reflects greater involvement by Indigenous people in the secondary labour market that is characterised by high job turnover. This has the effect of both freeing and requiring people to be mobile in order to secure employment. This particular interpretation accords well with findings from the analysis of the Department of Employment Workplace Relations and Small Business (DEWRSB) longitudinal data set on Indigenous job seekers (Hunter, Gray and Jones 1999). This found a substantial amount of shift between labour force states together with a high degree of residential mobility (more than 30 per cent of individuals had changed their address within an 18-month period). Interestingly, it also revealed that most people moved for social rather than work-related reasons. This leads to the second interpretation of high local mobility rates, which is that it occurs as a function of Indigenous social life regardless of employment status. Indeed, as Gale and Wundersitz (1982) found in their (now rather dated) study of Aboriginal mobility within Adelaide, the whole process of urbanisation is greatly assisted by the capacity for new migrants to move frequently between the households of

kinfolk, as needs dictate. A similar process in a much smaller urban context has been described by Taylor (1990).

Table 4. Ratio of Indigenous/non-Indigenous propensities to move (per cent) by labour force status and type of move, 1995–96

Type of move	Ratios of Indigenous/non-Indigenous rates		
	Employed	Unemployed	Not in the labour force
Males			
Same SLA	174.4	155.3	198.3
Other SLA same SD	106.2	108.0	154.4
Other SD same State	174.0	168.1	252.9
Interstate	114.3	102.2	181.6
Total	141.2	134.3	191.1
Females			
Same SLA	171.4	144.0	206.6
Other SLA same SD	100.4	103.9	161.1
Other SD same State	165.1	158.4	251.6
Interstate	130.5	114.0	166.5
Total	137.3	128.6	194.6
Total			
Same SLA	173.1	150.7	204.0
Other SLA same SD	103.5	106.1	158.8
Other SD same State	170.3	163.7	252.1
Interstate	120.9	106.8	171.7
Total	139.5	131.7	193.5

Source: 1996 ABS Census of Population and Housing (unpublished data).

One feature clearly shared with the general population is that mobility is highest among the Indigenous unemployed. Between 1995 and 1996, almost half of all Indigenous unemployed persons (44 per cent) changed their usual place of residence with little difference in the rate between males and females. This was much higher than the 33 per cent recorded for the non-Indigenous unemployed, although again, much of this difference in overall rates was accounted for by higher Indigenous local mobility as both Indigenous and non-Indigenous unemployed persons moving interstate do so at roughly equivalent rates (Table 4).

Table 4 also suggests much higher mobility among Indigenous people who are not in the labour force compared to their non-Indigenous counterparts. However, this is partly due to the much smaller number of Indigenous people in the older low mobility age groups. Just 13 per cent of Indigenous adults outside the labour force were aged 60 years or more compared with almost half of non-Indigenous adults. When the data are standardised to eliminate this age structure effect, the overall Indigenous/non-Indigenous ratio for males is reduced

from 191.1 to 149.8, and for females from 193.1 to 149.3, which is more in line with the ratios observed for the employed and unemployed.

Movement propensities by income status

Somewhat tied to labour force status is a variation in the propensity to move according to individual income levels, although the interesting patterns to emerge from this variable are again associated with the distance of movement undertaken. Census analysis from the 1970s and 1980s found that people on high incomes and with higher levels of education were likely to be more mobile than those on low incomes and without formal qualifications (Hugo 1983), at least for moves over long distances (Rowland 1979: 133–8). One reason advanced for this was that those with higher qualifications were more likely to be engaged in managerial and professional occupations and therefore were responsive to employment opportunities nationally.

Over the one-year period between 1995 and 1996, a different pattern emerges with the highest mobility observed among individuals in the income range starting around the national median of \$15,200 per annum and extending to \$31,200. In contrast with earlier findings, those in the highest income bracket (over \$52,000 per annum) displayed the lowest rate of movement. Table 5 shows that this pattern applies to both Indigenous and non-Indigenous populations, although Indigenous mobility is much higher at all income levels. For example, 28 per cent of Indigenous adults in the lowest income bracket (less than \$15,600) changed residence between 1995 and 1996—a rate two-thirds above the 17 per cent recorded for non-Indigenous people in the same low-income bracket. This is consistent with the relatively high levels of mobility already observed among the Indigenous unemployed and those not in the labour force. At the same time, this is influenced to some degree by the younger age structure of the Indigenous population and the relative dearth of age pensioners among whom mobility is relatively low.

While mobility peaked for both groups in the \$15,600 to \$31,200 range, Indigenous people in this category were far more likely than their non-Indigenous counterparts to have changed address. In explaining this, one factor to consider is that Indigenous people are relatively concentrated towards the lower end of the distribution within this income range (Hunter and Gray 1999). Other contributory factors are likely to be the younger average age of Indigenous adults as well as their greater probability, due to low occupational status (Taylor 1994), of casual attachment to the labour market—both factors that are associated with higher mobility rates.

Some rationale can be found for the gap in mobility rates among those in the lower income brackets, but reasons for sustained high ratios of Indigenous to non-Indigenous mobility rates in the higher-income categories are less obvious. Presumably individuals with incomes above \$31,200 are mostly employed, and

while variation in average age may continue to be a factor in accounting for mobility differentials between Indigenous and non-Indigenous groups, this is likely to be less so as income levels increase. Notwithstanding this, the ratio of Indigenous to non-Indigenous mobility rates rises among high-income earners to 1.61 (Table 5). Indeed, Indigenous females in the high-income group are more than twice as likely than their non-Indigenous counterparts to have moved over a one-year period. Why should this be so? The answer may be found in the nature of employment combined with the very different spatial distributions of the two populations.

Table 5. Indigenous and non-Indigenous propensities to move by broad income category, 1995–96

	Annual individual income			
	Less than \$15,599	\$15,600– \$31,199	\$31,200– \$51,999	Over \$52,000
Indigenous (1)	28.5	32.3	28.9	25.6
Non-Indigenous (2)	17.0	20.8	18.6	15.9
Ratio (1/2)	1.67	1.55	1.55	1.61

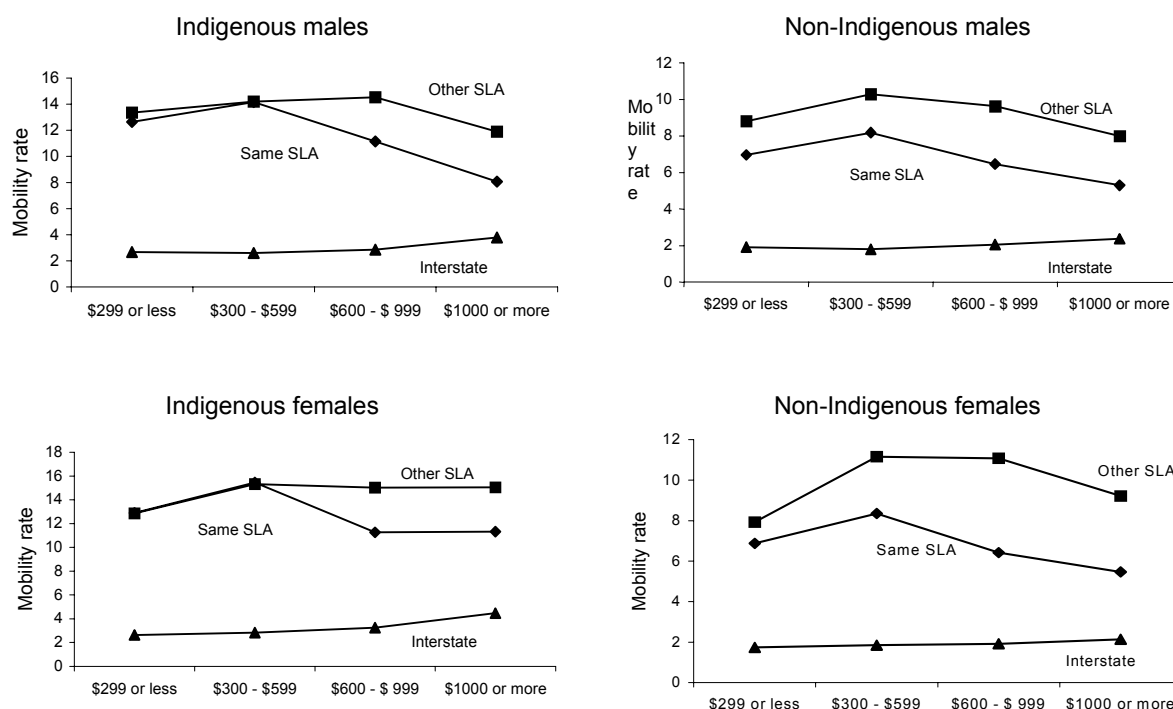
Source: 1996 ABS Census of Population and Housing (unpublished data).

As pointed out earlier, mobility among high-income earners is often tied to movement between branch offices within organisations that have a national, or at least regional, structure (McKay and Whitelaw 1977). An obvious example here would be the Aboriginal and Torres Strait Islander Commission (ATSIC) with its national head office in Canberra, State offices in each capital city and 36 Regional Council offices around the country in major regional centres. Advancement to higher paid management positions within this structure invariably involves residential shift. While similar career-driven mobility is evident among the general labour force, the proposition here is that Indigenous people on high incomes employed in national, multi-locational enterprises of this type are more likely than their non-Indigenous counterparts to relocate. There are three reasons for suggesting this. First, the universality of Indigenous issues in public policy applications and the resulting widespread demand for labour. Second, the premium placed within the related job market on Indigenous people with requisite skills. The final factor is the much greater dispersal of the Indigenous population across the country away from capital cities and major centres of employment.

Some evidence in support of this interpretation is provided by Figure 6 that shows the relationship between distance of movement and income level. Also included is a comparison between Indigenous and non-Indigenous males and females. The key feature to emerge for all population sub-groups is a tendency for the level of local movement (same SLA) to fall and for longer-distance (interstate) movement to rise, with increasing income. Thus, individuals with high weekly incomes (over \$1,000) are far more likely than those on lower incomes to be involved in long-distance movement and far less likely than others to move

locally. Furthermore, this rise in long-distance movement for high-income individuals is most apparent among Indigenous people.

Figure 6. Indigenous and non-Indigenous mobility rates by broad income category and type of move, 1995–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

Spatial redistribution

The 1996 Census count underlined a long-standing trend of a shifting balance in Indigenous population distribution away from the north and west of the continent in favour of the east and south, and away from a predominantly rural residence to an urban existence. Over the long term, this process may be viewed as an effect of the European settlement of Australia—the original dispersed distribution of Indigenous peoples broke down as individuals and families moved, or were moved, into government and mission settlements, reserves, towns and cities. Over the shorter term, it is unresolved as to whether demographic or sociological processes are more responsible for this redistribution, or indeed, just how much redistribution has occurred.

The proportion of the Indigenous population resident in urban areas rose from just over two-thirds in 1991 (67 per cent) to almost three-quarters in 1996 (73 per cent). Consequently, almost one-third of Indigenous Australians are now resident in major urban areas and while this is still less than the total population (63 per cent), it nonetheless represents a substantial increase from the 15 per

cent of the Indigenous population counted in 1971. As this process of ever greater population counts in urban areas has unfolded, *ipso facto* the rural share of the population has continued to decline—down from 33 per cent in 1991 to almost one-quarter (27 per cent) in 1996.

If anything, these figures understate both the extent and rise of urban living, especially in terms of proximity to metropolitan centres and large cities. ABS criteria for classifying Collection Districts as urban or rural are based on measures of population density, land use and spatial contiguity (ABS 1993). This means that many people who may reasonably be regarded as forming part of a city region are not classified as urban dwellers. One way of incorporating such populations is to examine distribution according to the SDs that are coincident with each major urban area as these incorporate populations regardless of land use and density measures. In 1991, a total of 70,872 Indigenous Australians (27 per cent of the population) lived in major urban SDs. By 1996, this figure had risen to 128,452 (36 per cent of the Indigenous population).

Initial research on the causes of this trend towards urbanisation focused on the role played by migration, especially to metropolitan areas (Taylor and Bell 1996a: 157–8). Subsequent analysis, however, has pointed to the likelihood that migration to major cities contributed less to Indigenous urban population growth than previously assumed (Smith 1980; Gray 1989), and that much of the apparent shift in population distribution from the 1950s onwards could have been due simply to increased enumeration of city-based residents. In support of this, evidence from census data since the mid-1970s points to persistently low effectiveness of Indigenous migration flows between metropolitan and non-metropolitan areas (Gray 1989; Taylor and Bell 1996b: 400–2).

To further this analysis, movement rates over the 1991–96 intercensal period between capital cities and the balance of their respective States and Territories, as well as between these units and all other States and Territories, are shown for Indigenous people in Table 6, and for non-Indigenous people in Table 7. The actual numbers of Indigenous migrants are shown in Appendix Table A1. Analysis of these data is presented systematically flow by flow and comparison is also drawn with equivalent rates calculated for the 1991 Census-identified Indigenous population as reported in Taylor and Bell (1996b: 400–2).

Table 6. Indigenous intrastate and interstate migration rates (per thousand) for capital cities and rest of State, 1991–96

Region	Intrastate migration			Interstate migration		
	In-	Out-	Net	In-	Out-	Net
Sydney	62.1	83.7	-21.6	34.4	48.1	-13.7
Rest New South Wales	43.0	32.9	10.1	33.8	54.2	-20.4
Melbourne	47.0	60.0	-13.0	67.6	80.0	-12.4
Rest Victoria	59.7	46.8	12.9	84.8	120.9	-36.1
Brisbane	120.6	94.0	26.6	90.3	40.8	49.5
Rest Queensland	26.7	34.2	-7.5	52.3	34.4	17.9

Adelaide	80.5	74.1	6.4	102.1	89.3	12.8
Rest South Australia	62.1	67.5	-5.4	65.2	63.3	1.9
Perth	134.6	95.6	39.0	53.8	36.7	17.1
Rest Western Australia	45.1	63.5	-18.4	25.7	28.4	-2.7
Hobart	100.9	78.3	22.6	38.1	60.1	-22.0
Rest Tasmania	38.8	50.0	-11.2	30.5	53.4	-22.9
Darwin	144.3	99.5	44.8	116.2	131.0	-14.8
Rest Northern Territory	17.4	25.2	-7.8	28.6	31.0	-2.4
Canberra	n.a.	n.a.	n.a.	313.9	228.7	85.2
Total capital cities	90.3	83.0	7.3	70.1	62.3	7.8
Total non-metropolitan	35.6	38.8	-3.2	40.8	44.3	-3.5

Note: n.a. = not applicable.

In-, out- and net rates are derived from arrivals, departures and net movement for each region divided by the mean intercensal usual resident population in each region expressed as parts per thousand.

Source: 1996 ABS Census of Population and Housing (unpublished data).

While low migration effectiveness of flows between capital cities and non-metropolitan areas again emerges from 1996 Census data, and while the non-Indigenous population of capital cities once more reveals an aggregate net loss, the population identifying as Indigenous at the 1996 Census recorded an overall net gain to capital cities in contrast with those who identified as Indigenous at the 1991 Census. However, this aggregate net gain of Indigenous population to capital cities was by no means uniform, as indicated by the contrasting features of the many component flows as described below:

Capital cities

- Sydney—experienced a sizeable net loss of Indigenous people to the rest of New South Wales as well as to other States. This was the same pattern as in the previous intercensal period and essentially follows the non-Indigenous pattern, although the rate of net loss was greater for the Indigenous population.
- Melbourne—recorded a net loss to the rest of Victoria and to other States with rates similar to those reported for the period 1986–91. The same pattern was evident among the non-Indigenous population but the level of Indigenous population turnover was much greater with relatively high rates of in- and out-migration.
- Brisbane—as in the previous intercensal period considerable net migration gains were recorded but the 1996 Census-identified Indigenous population indicated much higher rates of net gain compared to the 1991 Census-identified population. Indigenous rates of net gain from other parts of Queensland were also much higher than for the non-Indigenous population.
- Adelaide—previously high net gains to Adelaide from the rest of the State and from other States were much reduced in 1996, though still evident—especially from interstate. This was in contrast to the non-Indigenous population which recorded an increased net interstate loss. The rate of

Indigenous movement in and out of Adelaide was also much higher than for the non-Indigenous population.

- Perth—overall, the balance of migration flows continued to substantially favour Perth with all net flows recorded as positive and Indigenous intrastate movement rates again being much higher than for the non-Indigenous population.
- Hobart—displayed a clear pattern of net migration gains from other parts of Tasmania and net losses to other States with one cancelling the other out. While this was similar to the non-Indigenous pattern, Indigenous intrastate movement rates were much higher.
- Darwin—recorded a substantially higher rate of in-migration and net gain from other parts of the Northern Territory compared to the previous intercensal period, although the net interstate migration flow was, once again, negative. This pattern was the opposite to that observed for the non-Indigenous population which gained population from interstate but lost to the rest of the Territory (though mostly to the Darwin rural area).
- Canberra—continued to record the highest Indigenous net migration gains of any jurisdiction, although these were somewhat lower than in the previous intercensal period. This mirrored the general trend, although for the population as a whole net gains were reduced to almost zero due to public service downsizing.

Non-metropolitan areas

- New South Wales—as with the population in general, the Indigenous population continued to record a net gain from Sydney and a net loss to other States, although the net interstate loss was much greater than in 1991.
- Victoria—as with New South Wales, rural Victoria continued to gain from Melbourne but experienced increased net losses interstate. This pattern was most marked for the Indigenous population with a considerably higher out-migration rate to other States.
- Queensland—a net loss of Indigenous people to Brisbane and a net gain from other States mirrored the pattern of migration that has been evident among the general population for at least the last two decades. However, Indigenous rates were much lower than for the rest of the population especially in terms of the sizeable non-Indigenous rate of net interstate migration gain.
- South Australia—in line with the general trend, non-metropolitan parts of South Australia continue to lose Indigenous population to Adelaide, although the Indigenous population gained slightly from interstate moves in contrast with the rest of the population.
- Western Australia—a net loss of Indigenous people was recorded between 1991 and 1996. By contrast, the non-Indigenous population gained substantially from interstate migration.
- Tasmania—the Indigenous pattern of net migration is now in line with the rest of the population with net losses recorded for all migration flows.

- Northern Territory—as in the previous intercensal period Indigenous net losses were recorded, mostly to Darwin. However, the main feature is the low rate of spatial interaction shown by Census data.

Table 7. Non-Indigenous intrastate and interstate migration rates (per thousand) for capital cities and rest of State, 1991–96

Region	Intrastate migration			Interstate migration		
	In-	Out-	Net	In-	Out-	Net
Sydney	23.7	33.9	-10.2	26.3	30.8	-4.5
Rest New South Wales	55.7	38.9	16.8	46.2	60.1	-13.9
Melbourne	23.6	25.1	-1.5	24.9	41.2	-16.3
Rest Victoria	62.9	59.3	3.6	32.5	60.1	-27.6
Brisbane	62.9	61.7	1.2	79.2	36.9	42.3
Rest Queensland	53.7	54.7	-1.0	108.8	48.2	60.6
Adelaide	37.2	31.9	5.3	39.5	54.0	-14.5
Rest South Australia	88.9	103.5	-14.6	40.6	52.1	-11.5
Perth	48.6	43.0	5.6	44.8	33.0	11.8
Rest Western Australia	125.5	141.9	-16.4	52.7	41.9	10.8
Hobart	58.8	40.6	18.2	58.6	75.8	-17.2
Rest Tasmania	28.5	41.3	-12.8	60.1	72.6	-12.5
Darwin	55.6	61.0	-5.4	271.5	265.4	6.1
Rest Northern Territory	81.2	74.0	7.2	298.8	311.4	-12.6
Canberra	n.a.	n.a.	n.a.	168.8	167.4	1.4
Total capital cities	32.9	35.1	-2.2	41.6	42.9	-1.3
Total non-metropolitan	62.4	58.4	4.0	62.5	57.9	4.6

Note: n.a.= not applicable.

In-, out- and net rates are derived from arrivals, departures and net movement for each region divided by the mean intercensal usual resident population in each region expressed as parts per thousand.

Source: 1996 ABS Census of Population and Housing (unpublished data).

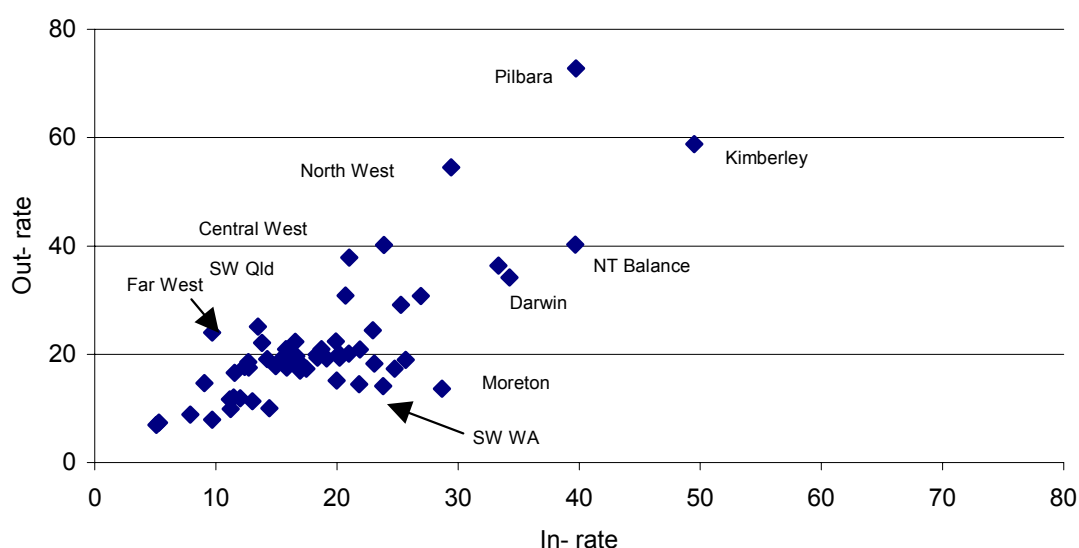
Regional patterns of migration

The broad sweep of net movement between capital cities and the rest of the nation reveals something of a structural break at the aggregate level between the Indigenous population and other Australians. On balance, the former are still engaged in migration to large cities while the latter continue to decentralise. This, of course, is a simplification. Cities such as Brisbane, Perth and Canberra continue to attract population while much of the metropolitan exodus has occurred out of Sydney and Melbourne. In addition, non-metropolitan gains are confined mostly to the north and west of the continent and to the peripheries of the capital cities and adjacent coastal regions. Further complexity is added to this pattern as the scale is reduced to the regional (SD) level of analysis.

As an approach to simplifying this complexity, it seems reasonable to expect an inverse correlation between in- and out-migration rates across the set of SDs. This is based on the commonsense notion advanced by Plane and Rogerson (1994: 100) that regions with high in-migration rates, which are

therefore clearly attractive to migrants, would be the least likely to lose population and therefore display low out-migration rates. In fact, as Plane and Rogerson (1994: 101–5) demonstrate, the empirical evidence from western nations reveals the opposite form of relationship—one where a positive correlation between in- and out-migration rates pertains. In other words, regions that most attract migrants are also the most likely to lose them.

Figure 7. Non-Indigenous regional in- and out-migration rates, 1991–96



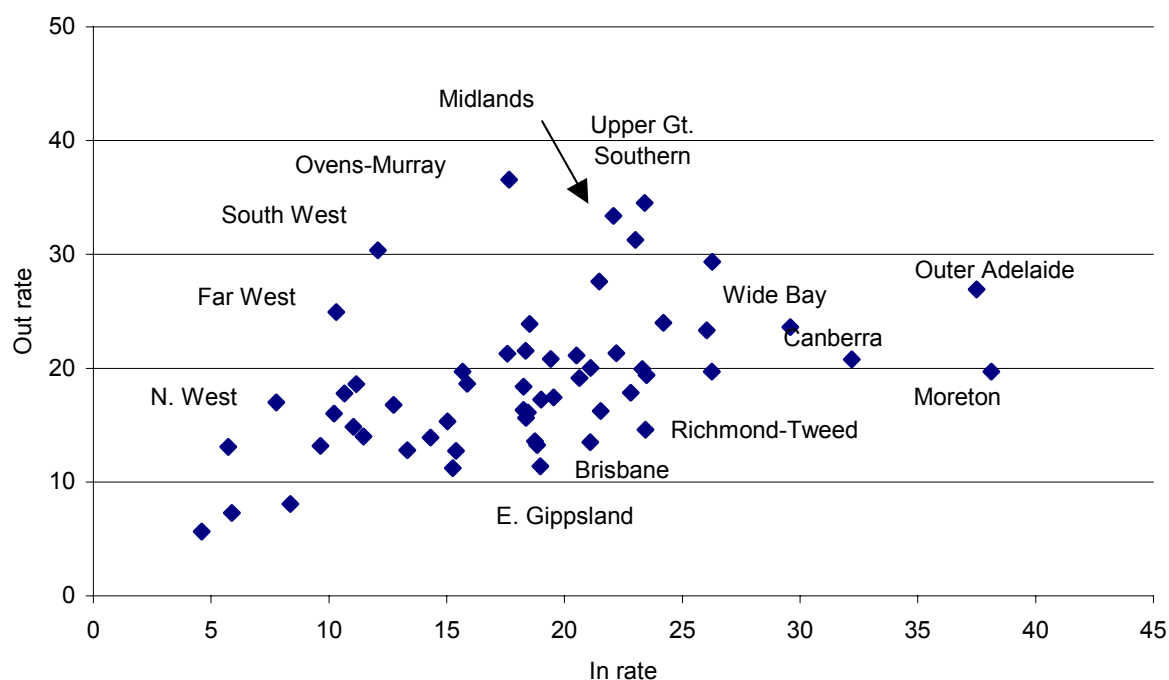
Source: 1996 ABS Census of Population and Housing (unpublished data).

This, indeed, is the case for the non-Indigenous population of Australia. As illustrated in Figure 7, a strong positive relationship is evident between in- and out-rates for the non-Indigenous population ($R^2 = 0.62$) with many regions close to the diagonal indicating that the rates are equivalent. Regions located to the right of the diagonal have higher in- than out-rates (reflecting net migration gains) and those to the left of the diagonal have higher out- than in-rates (resulting in net losses through migration). While most regions cluster around average rates and are close to the diagonal, there are obvious outliers that have above average mobility rates either for inflows or for outflows. Thus, many remote northern regions have both high in- and out-rates. In the Northern Territory these cancel each other out, but in the Kimberley, the Pilbara, the regions of western Queensland, and the Far West of New South Wales out-rates clearly exceed in-rates.

At the other extreme, mostly in regions close to major cities (Moreton and Wide Bay–Burnett near Brisbane, Mid-North Coast near Sydney, Outer Adelaide and South West near Perth), in-rates tend to exceed out-rates leading to a substantial population gains. Overall, the key point is that for the non-

Indigenous population, aggregate migration streams to most regions are closely balanced by counter streams of equivalent magnitude and the redistribution of population that is occurring is due to asymmetric flows between a comparatively small number of regions.

Figure 8. Indigenous regional in- and out-migration rates, 1991–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

For the Indigenous population, the relationship between in- and out-rates is much weaker ($R^2 = 0.22$) (Figure 8). This suggests that redistribution of the Indigenous population involves interaction between a larger number of regions as indicated by the wider scatter around the diagonal and the clear outliers. Some of these match the non-Indigenous pattern (South West and North West Queensland, Far West New South Wales) indicating country regions that are clearly unattractive (high out-rates relative to in-rates), but additional regions emerge in this category including Midlands and Upper Great Southern in Western Australia, and Ovens–Murray in Victoria.

Also in line with the non-Indigenous pattern, regions in proximity to metropolitan cities (Moreton, as well as Outer Adelaide, Richmond–Tweed, Canberra and East Gippsland) are obviously attractive to migrants (high in-rates relative to out-rates). One exception is the South West SD in Western Australia which displays high in-rates relative to out-rates for the non-Indigenous population but the opposite for the Indigenous population.

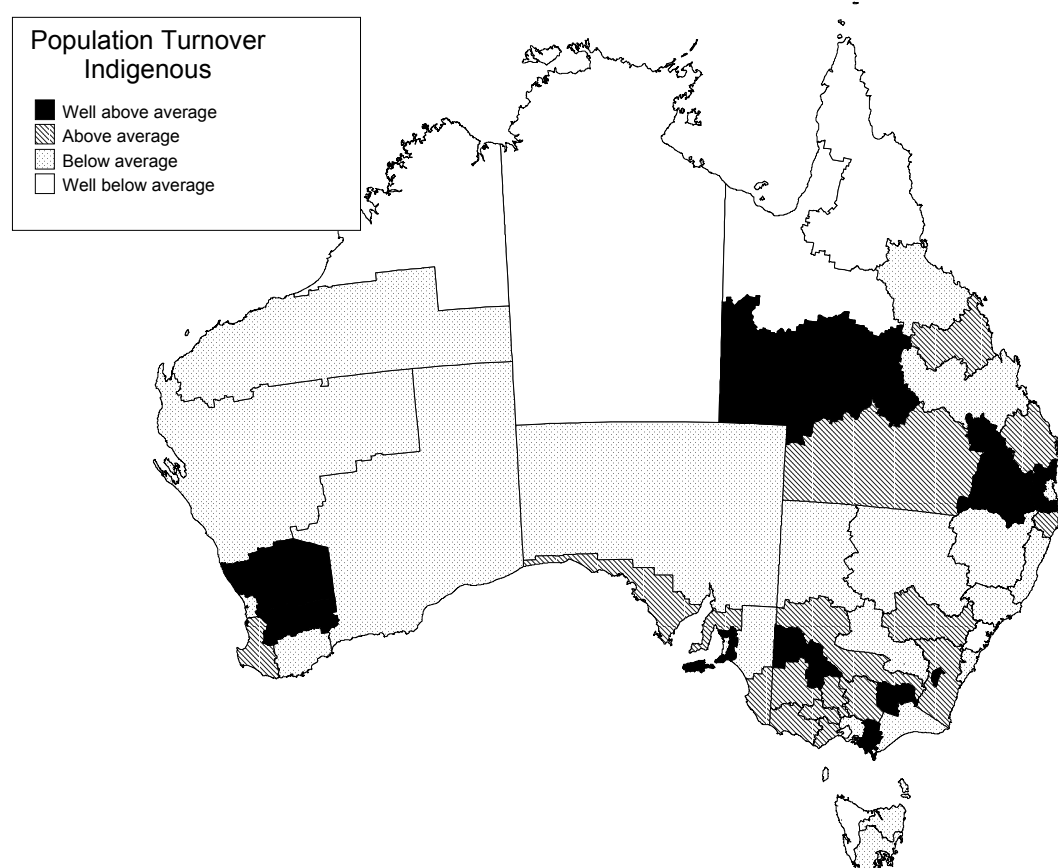
Population turnover

An underlying weakness of cross-sectional studies is an inability to track the changing socioeconomic status of individuals over time. For the Indigenous population, this difficulty is particularly acute because of substantial additions to the population due to new identification (Ross 1999).

At the regional level, this problem can be compounded by high rates of population turnover. For example, intercensal increase in a region's average income level and a decline in unemployment may be interpreted as an improvement in the situation of the original population, whereas it might simply reflect the movement out of low-income unemployed members of the original population combined with movement in of new higher-income groups. Indeed, mostly because of inter-regional mobility, the population of any region at two points in time is literally not the same population.

One measure of the degree to which mobility may contribute to such population instability is provided by the gross migration (or population turnover) rate which expresses movers out of each region together with movers in as parts per thousand of the region's mid-period population. The regional distribution of turnover rates is shown for the Indigenous population in Figure 9 and for the rest of the population in Figure 10.

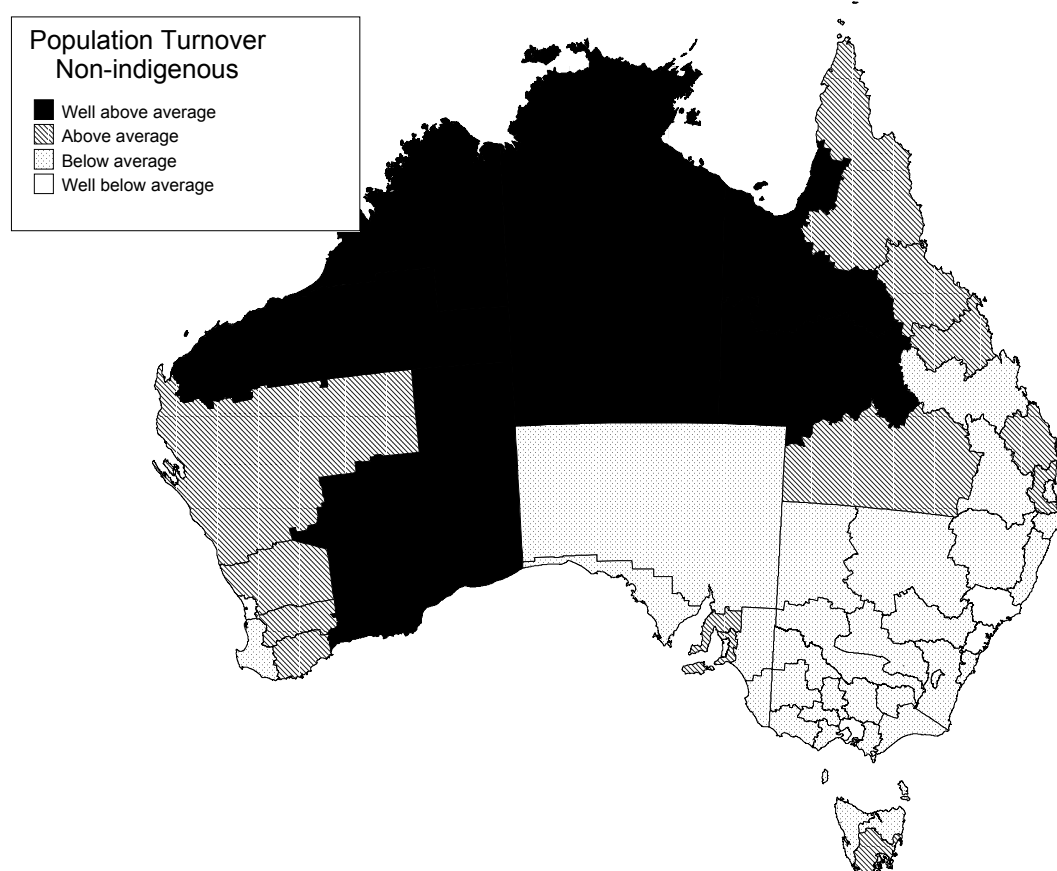
For additional information on the magnitude of Indigenous population turnover, each SD is ranked in Table 8 according to their position above (very high) or below (very low) one standard deviation from the mean rate of 373.0 per thousand.

Figure 9. Indigenous regional population turnover rates, 1991–96

Source: 1996 ABS Census of Population and Housing (unpublished data).

It appears that regions with very high Indigenous population turnover, involving half or more of the region's population, are located in proximity to the major growth cities of Brisbane and Perth as well as close to Melbourne and Adelaide, with Outer Adelaide recording the highest Indigenous turnover rate of all SDs (644.0). In addition, the Indigenous populations of Canberra and Darwin also recorded relatively high rates of turnover, even compared to the rest of the population in these typically migrant cities. For example, the rate of turnover of the Indigenous population of Canberra was 1.5 times that of the rest of the population. At the other extreme, very low Indigenous population turnover is a feature of much of the remote north (with Northern Territory Balance recording the lowest turnover) as well as Tasmania and the two major metropolitan cities.

This is an interesting mix because of the very different spatial scales involved—low turnover might be expected in remote northern regions because of their vast size but clearly factors other than spatial scale are important judging by the low rates in regions of Tasmania and in Sydney and Melbourne.

Figure 10. Non-Indigenous regional population turnover rates, 1991–96

Source: 1996 ABS Census of Population and Housing (unpublished data).

Table 8. Rank distribution of Indigenous regional population turnover rates, 1991–96

Very high (479.0–644.0)	High (369.0–459.0)	Low (262.0–366.0)	Very low (102.0–261.0)
Outer Adelaide, Upper Great Southern, Moreton, Central West (QLD), Midlands, Mallee, Ovens–Murray, Darling Downs, Canberra, Darwin, Gippsland, South East	Wide Bay–Burnett, South Eastern (NSW), Murray, South West (WA), South West (QLD), Central Highlands, Yorke and Lower North, Mackay, Wimmera, Goulburn, Loddon, Central West (NSW), Richmond–Tweed, Eyre, Barwon	Central, Murray Lands, Murrumbidgee, Far West, Adelaide, Brisbane, Northern (QLD), Southern (TAS), Fitzroy, Mid-North Coast, Perth, East Gippsland, South Eastern (WA), Lower Great Southern, Pilbara, Northern (NSW), Greater Hobart, Illawarra, Hunter, North Western	Northern (TAS), Northern (SA), Melbourne, North West, Sydney, Mersey–Lyell, Far North, Kimberley, NT Balance

Source: 1996 ABS Census of Population and Housing (unpublished data).

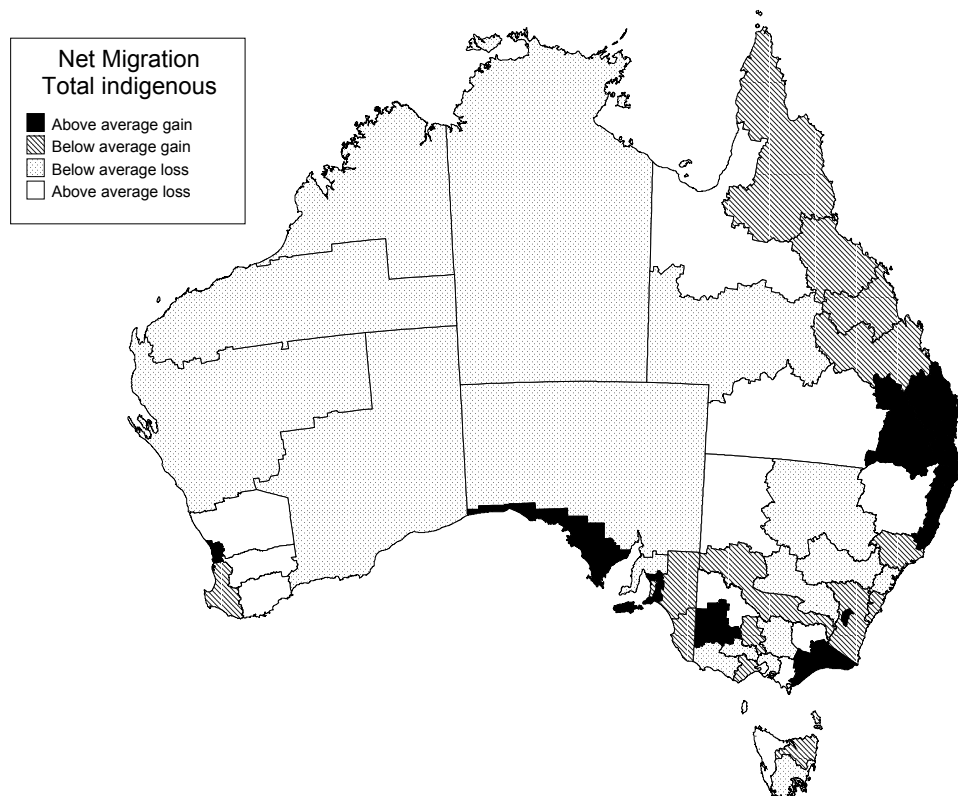
Once again, the key spatial contrast with the rest of the population is evident on a north-south axis with very high rates of non-Indigenous population turnover in the remoter parts of the country and relative stability reported elsewhere. Consequently, throughout much of non-metropolitan New South Wales and Victoria, and even in south-east Queensland, regional Indigenous populations are much more volatile than the rest of the population with substantially higher interregional exchange of population.

Net migration

As far as the contribution of mobility to regional population change is concerned, the key indicator is provided by the balance of migration flows and whether this results in net migration gain or loss. For the population as a whole, it has long been observed that different regions of Australia serve to attract and repel population according to an aggregate pattern of circular interregional flows over the life course in response to changing needs for education, training, employment and housing (Rowland 1979; Jarvie 1989; Bell 1995). Aside from an obvious net migration shift to the north from the south of the continent over the past 30 years, the remarkable feature has been the limited impact of migration in effecting change in population distribution—a paradox well summarised in Rowland's (1979: 9–12) depiction of the settlement system as being in 'dynamic equilibrium'.

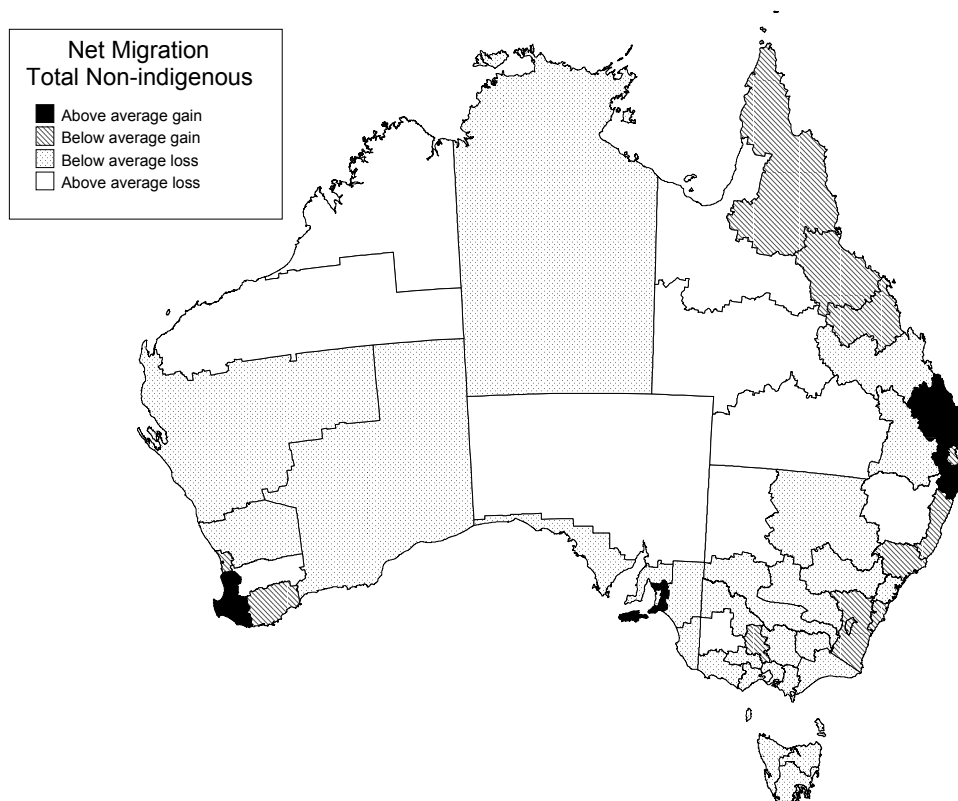
For the Indigenous population, on the other hand, it has long been observed that a process of gradual urbanisation is under way and that this is manifest in a shift in population distribution counter to the general trend with an increased focus on the south and east of the continent. While this redistribution is undeniable the question is, how much of the shift is due to net migration and how much does it reflect change in the propensity of individuals to identify in statistical collections as Indigenous?

To begin to answer this, Figures 11 and 12 show the regions with above average net gain and loss for the Indigenous and non-Indigenous populations, respectively. Examination of the two figures reveals a number of similarities and contrasts. First of all, the pattern of net gains in coastal areas within the hinterlands of metropolitan centres in the eastern States and near Perth in the west, coupled with net losses in many inland areas (especially in Far West and Northern New South Wales and the Upper Great Southern region of Western Australia), is common to both populations. Taken together with the shared losses from Sydney and Melbourne and the net gains to Perth and Brisbane, this suggests that common processes of centralisation into certain cities, counter urbanisation effecting many metropolitan hinterlands and exodus from many of the remoter regions, are instrumental in redistributing both populations.

Figure 11. Indigenous regional net migration rates, 1991–96

Source: 1996 ABS Census of Population and Housing (unpublished data).

On the other hand, the patterns of inland depopulation are more varied. For example, unlike the Indigenous population, the most significant net losses of non-Indigenous population are recorded from remote regions of the country, including the Kimberley and Pilbara regions of Western Australia, the Far North of South Australia and the Central West of Queensland. It should also be noted that many of the net losses shown for the Indigenous population in remote areas (such as the Northern Territory and the Kimberley) are, in fact, very close to net migration balance. Greater variation in the pattern of Indigenous net gains and losses is also evident in the south-east and south-west of the continent. For example, net gains are recorded for the Indigenous population in a line from East Gippsland and South East New South Wales, through the Murrumbidgee and Murray regions of New South Wales and into adjacent regions of South Australia. For the rest of the population, this is a band of net migration loss. By contrast, in the south-west of the country, relatively high levels of Indigenous net migration loss stand out in the Lower Great Southern and Midlands regions of Western Australia.

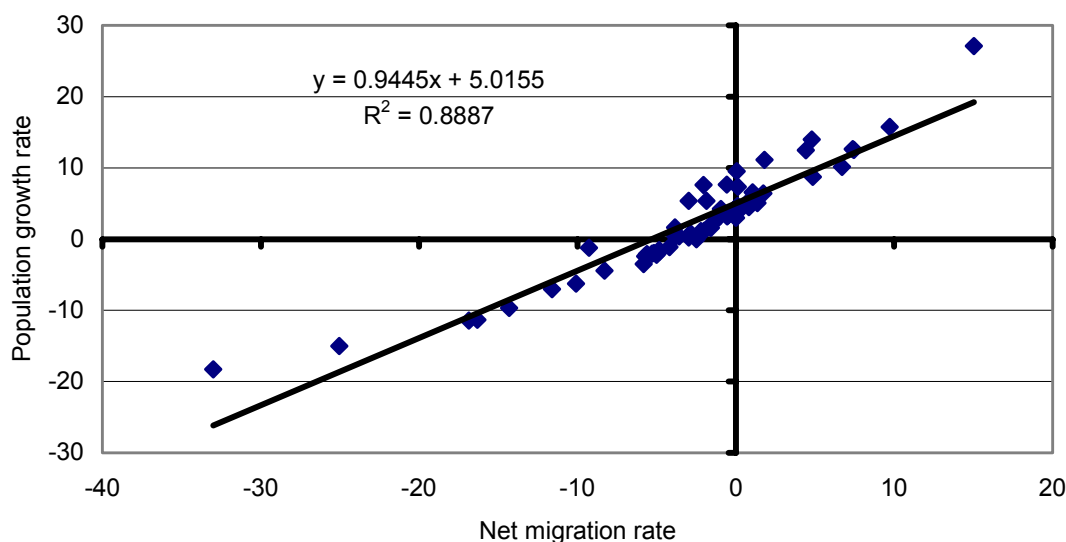
Figure 12. Non-Indigenous regional net migration rates, 1991–96

Source: 1996 ABS Census of Population and Housing (unpublished data).

Net migration and regional population growth

As might be expected, a strong positive relationship exists among the non-Indigenous population between regional net migration gain and regional population growth. This is clearly illustrated in Figure 13 that charts growth in the population net of natural increase. Put simply, regions that experience growth in population do so largely because of net gains from migration. Conversely, those experiencing decline do so mostly because of net migration losses. While the form of this relationship still holds, the association for the Indigenous population is much weaker (Figure 14) with many regions experiencing population growth (substantial at times) far above expectation given their net migration rate. This is underlined by the fact that some regions display high population growth despite experiencing negative net migration. Overall, this low association can be traced to non-demographic factors in population growth, mostly an increased propensity for individuals to identify as Indigenous in the census.

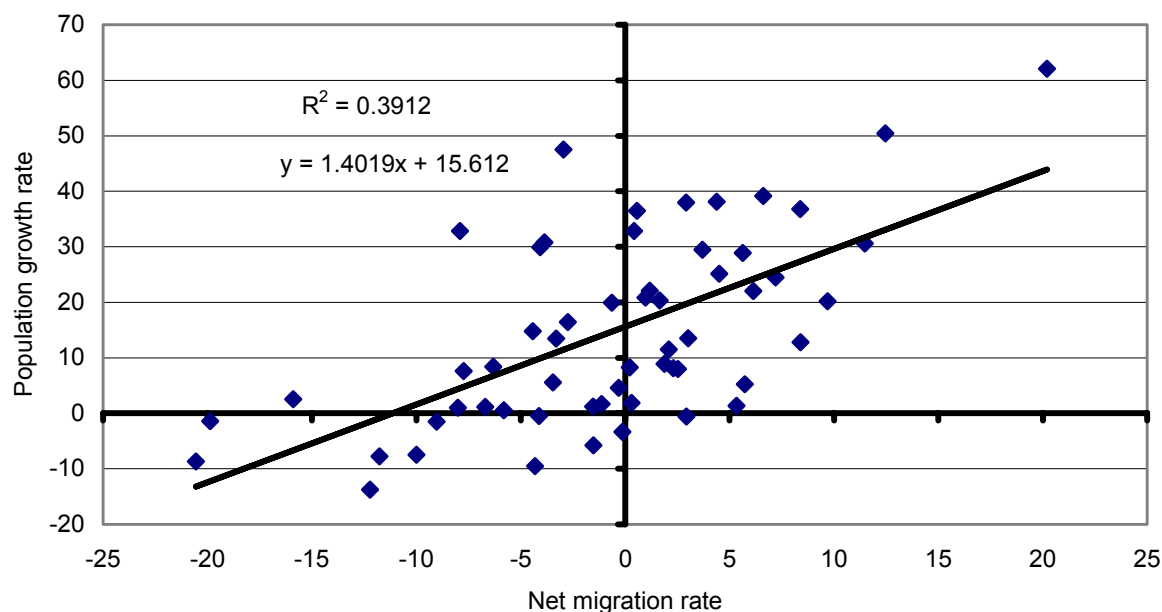
Figure 13. Relationship between non-Indigenous regional population growth and net migration, 1991–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

Accordingly, the data points in Figure 14 can be grouped into regions where net migration is a very poor indicator of population growth and those where population growth is close to expectation on the basis of net migration. Prominent among the former are regions which have high population growth rates despite experiencing net migration loss. These include Sydney, Central New South Wales, Melbourne, Mersey-Lyell and Southern Tasmania. Also included are regions where population growth rates far exceed net migration gain such as Moreton, Brisbane, Darling Downs, Mid-North Coast New South Wales, Hunter, Illawarra, Canberra and Hobart. Regions that more or less conform to expectations are found mostly in remoter parts of the country, especially in the north. These include the Pilbara and Kimberley regions of Western Australia, Darwin, Northern Territory Balance, North West and Far North Queensland, Far North and Eyre in South Australia, the Wimmera region in Victoria and Northern New South Wales. Also within this category are a few regions in more closely settled parts of the country such as Midlands and Upper Great Southern in Western Australia and Goulburn in Victoria. To this extent, the disjunction between net migration rates and population growth rates provides a rough measure of the relative regional impact of non-demographic population change and to assist in identifying this, the actual gap in-rates is presented for each SD in Appendix Table A2.

Figure 14. Relationship between Indigenous regional population growth and net migration, 1991–96

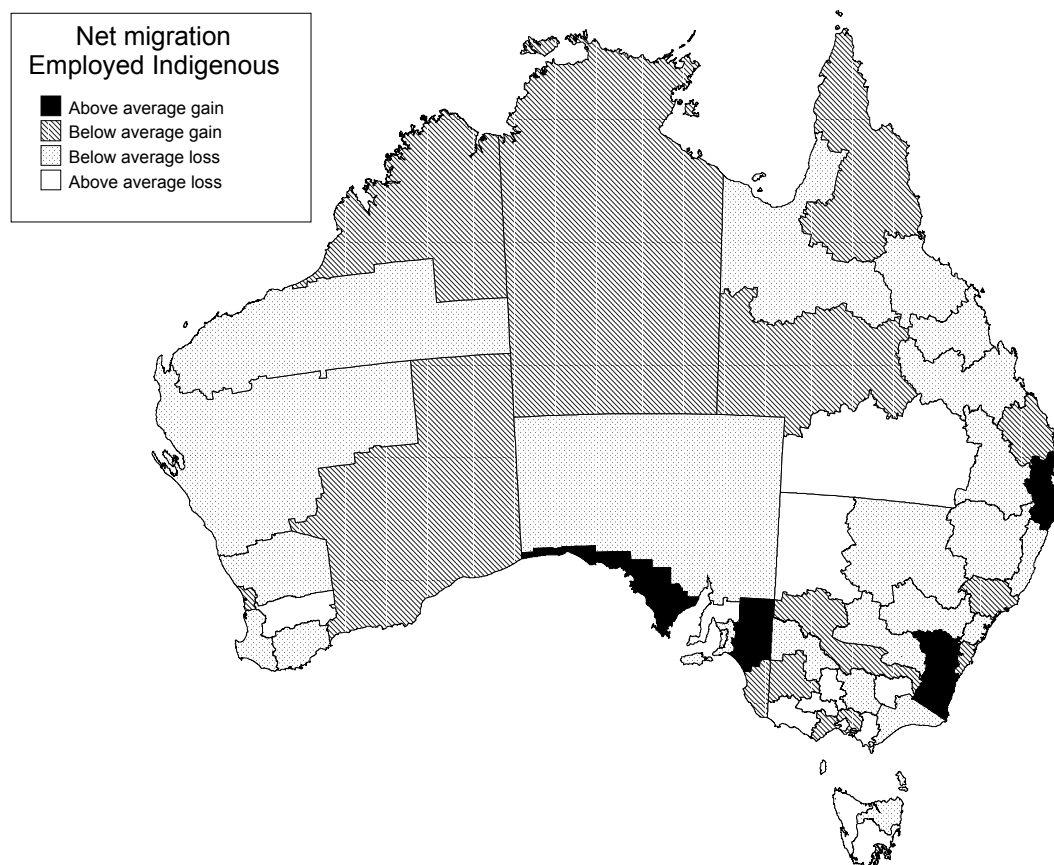


Source: 1996 ABS Census of Population and Housing (unpublished data).

Net migration of employed persons

Another dimension to the pattern of net migration is provided by an analysis of redistribution among employed persons. This has implications for policy deliberation by providing a proxy measure of prevailing economic conditions and the collective response. Viewing this in terms of a model of spatial redistribution, it essentially addresses the issue of whether migration is employment-led and whether Indigenous people show the same signs of responsiveness to labour market opportunities as the rest of the population. Of course, census data do not actually provide an answer to this as the employment status of individuals at the time of moving within the year prior to the census count, is not known. Nor is it known whether such movement was associated with the fact of being employed or not. Strictly speaking, the data simply refer to the net migration of individuals who indicated at the 1996 Census that they were employed. Nonetheless, for this latter group, interesting patterns of net migration emerge and are shown for the Indigenous and non-Indigenous employed in Figures 15 and 16, respectively.

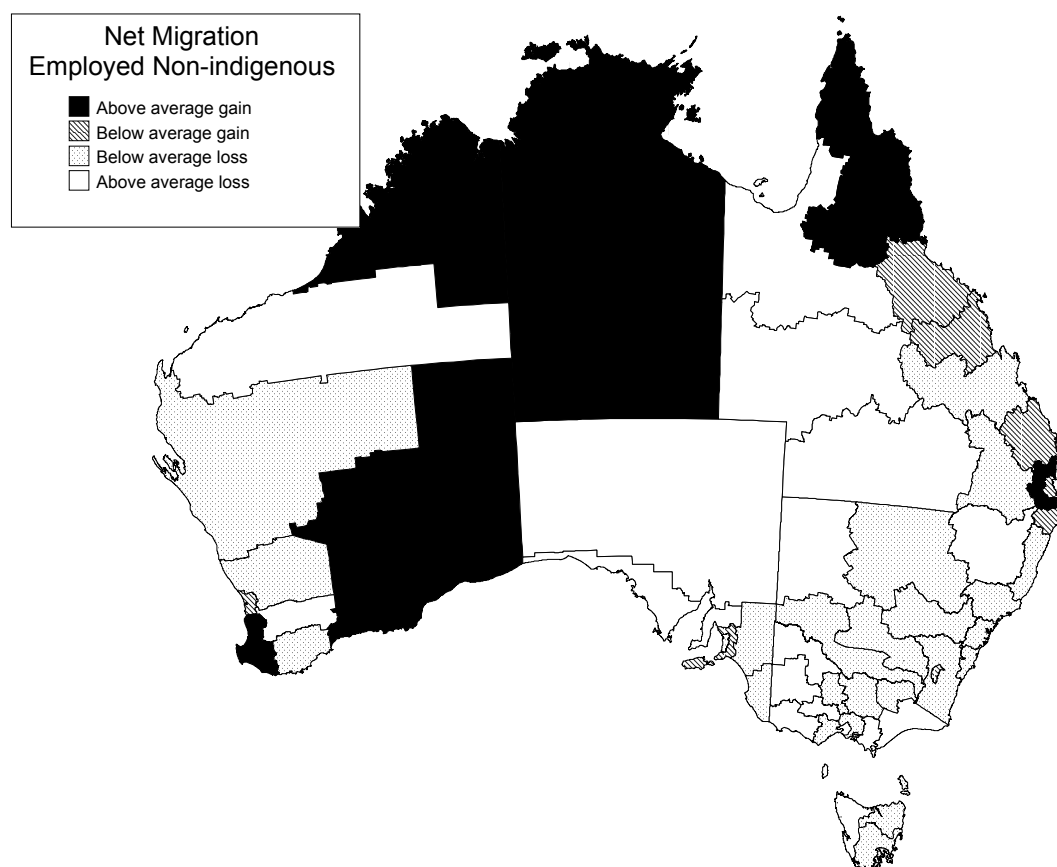
Figure 15. Indigenous regional net migration rates: employed persons, 1991–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

The immediate point of interest is the strikingly similar pattern of net migration gain of employed persons across many parts of remote and northern Australia. This pattern is especially prominent for the non-Indigenous population and reflects the long-distance relocation of individuals, mostly from southern States to northern regions, associated with employment in mining, tourism, community service and government industries including the re-deployment of defence personnel (Bell 1995). For the Indigenous population, little is known about the contributory factors but it may be that net gains are tied to the prevalence of Indigenous-specific service delivery arrangements in many of these same regions and an associated demand for Indigenous labour. However, in other remote regions, including much of western Queensland, Northern and Far West New South Wales, the Far North of South Australia, the Pilbara and central regions of Western Australia, a common pattern of exodus among employed persons is observed. Of course, the spatial scale in these remote regions is very coarse and there is no doubt that much greater variation, including net losses, would emerge at lower levels of analysis.

Figure 16. Non-Indigenous regional net migration rates: employed persons, 1991–96



Source: 1996 ABS Census of Population and Housing (unpublished data).

In the rest of the country considerable variety is evident in the pattern of net rates. Apart from South East Queensland, where net gains of the employed are common to both groups, substantial contrast between the Indigenous and non-Indigenous pattern of redistribution appears. For example, in New South Wales, net migration gains of Indigenous employed people are found in the Hunter, Illawarra, South East, Murrumbidgee and Murray regions extending into the Murray Lands and South East regions of South Australia (similar to the pattern of overall net migration), while for the non-Indigenous employed, these are all areas of net migration loss. The same occurs in the Eyre region of South Australia and in western regions of Victoria. By contrast, the South West region of Western Australia recorded a net loss of Indigenous employed people but a substantial net gain of the non-Indigenous employed.

Policy implications

The extent of Indigenous population movement revealed by census-derived indicators of internal migration, in addition to the frequent short-term

displacement of Indigenous people which is not captured by this analysis (Taylor 1998), raises many issues for public policy that are difficult to prescribe but essential to contemplate. Two broad sets of issues emerge. First, what do relatively high Indigenous propensities to move and higher levels of repeat mobility imply for program delivery? Second, what are the likely consequences of migration for the future distribution of the Indigenous population?

With regard to the first of these, the results from census analysis confirm evidence increasingly available from other sources that the regular mobility of many Indigenous people has a significant impact on the level and nature of their interaction with mainstream institutions. For example, by contributing to greater breaching of social security provisions (Sanders 1999), by reducing rates of school attendance (Northern Territory Department of Education 1999) and by constraining opportunity for favourable employment outcomes (Hunter, Gray and Jones 1999). At the same time, it is unclear whether mobility is more a cause or a symptom of this situation.

Whatever the specifics, if almost one-third of Indigenous people change their residence each year (higher still among children and young adults) then the consequences for participation and performance in education, training and subsequent engagement with the labour market seem worthy of consideration. One aspect of this mobility that has not been explored is the age composition of interregional migration flows. Certainly in those regions identified as having high population turnover there would seem to be an urgent need to examine which groups in the population are most involved and if any association exists with other social indicators. An obvious question here, for example, would be whether, and in what way, mobility affects educational outcomes. Also of relevance would be questions regarding home ownership and whether frequent movement is either a cause or an effect of low reported levels.

Of course, many regions, especially in northern Australia, that record low census-based rates of movement do experience high mobility. To that extent, the data presented here provide a less than adequate guide to the regional significance of mobility in the daily lives of Indigenous people. At the same time the fact of high mobility in remote regions is well known (if only partially measured) while census-based rates do serve to uncover regions of major demographic upheaval. For example, it is noted that regions with the highest population turnover are also often those where shifts in the propensity to identify as Indigenous contribute most to population growth.

The Moreton region on the outskirts of Brisbane which sits within the South East Queensland ATSIC Regional Council Area and encompasses the area from Gold Coast through Toowoomba to Noosa would be a case in point. What are the implications for planning service delivery in this region when it is clear that the population profiled using 1996 Census data would by now, in all likelihood, have been added to by newly identifying Indigenous people with numerous movers out of the region replaced by numerous movers in? We know, for example, that around 40 per cent of recent population growth was due to

change in the propensity to identify. Of those who declared Indigenous status in 1996, 75 per cent had changed residence since 1991, 33 per cent changed residence each year, and there was an almost 60 per cent turnover of the population in the five-year period since 1991. In all probability, in a region such as this, by the time planning processes emerge out of data analysis, the intended targets of policy would have changed.

This is just one example, and the analysis above highlights many more. What is required in such regions to achieve greater predictability in the estimation of future policy needs is a detailed examination of which groups contribute most to population movement and their effect on the demographic structure and socioeconomic status of the regional population, and (where possible) a better understanding of the factors contributing to Indigenous identification. There is an individual dimension to consider as well in terms of the role that successive relocations play in affecting socioeconomic outcomes. As yet, though, aside from the DEWRSB longitudinal survey of Indigenous job seekers (Hunter, Gray and Jones 1999), little data exist to examine this issue.

This uncertainty presented by high mobility extends into more general areas of policy response. For example, many components of social and economic program delivery attach a timeframe to their implementation. Job Network regulations provide one such instance whereby a continual six-month placement in work of agency clients is required before fees for placement are released. This is similar to the Wage Assistance eligibility criteria under the new Indigenous Employment Policy as is the system of cash bonuses to CDEP schemes contingent on the transfer of scheme participants into mainstream work for a minimum six-month period. In both these cases high mobility levels may render compliance by agencies more difficult. Another example is provided by Centrelink services which operate according to a variety of cycles—the most common being fortnightly—but the system of payments, assessments and placements is often thwarted by the residential instability of many clients (Sanders 1999). In this context, the very high rates of mobility observed among the Indigenous unemployed should be noted. Finally, the ABS and other agencies, such as the Department of Family and Community Services, have plans for extending sample surveys to better capture Indigenous characteristics. If the experience of the DEWRSB longitudinal survey of Indigenous job seekers is any measure, serious thought needs to be given in the planning phase to the effects that high mobility can have on successful access to the selected sample (Hunter, Gray and Jones 1999).

As for the impact of migration on spatial redistribution of the population, it is clear that shifts in the propensity of individuals to declare Indigenous status on census forms has had by far the greater effect. Nonetheless, underneath this, there are indications that net migration does impact on regional patterns of growth. At the broadest scale, this contributes to the growth of population in the south and east of the continent and in city regions (the question of movement to urban areas more generally has not been examined here). As for the capital city component, there is persistent movement into Perth, Adelaide, Brisbane,

Canberra and Darwin while on the other hand, Sydney and Melbourne continue to lose people. Previous (now dated) analyses have suggested that net gains into capital cities variously reflect relative access by Indigenous people to favourable State housing programs (Gray 1989), the chain effect of movement through social networks (Gale and Wundersitz 1982) and better access to high-order services such as hospitals (Coulehan 1995). But why in these contexts the two main metropolitan centres should steadily lose population is unknown, while the contemporary situation in general remains largely unexplored.

Away from the cities, it does seem that particular regions are especially attractive to Indigenous migrants while others are not, certainly more so than among the rest of the population for whom movement in and out of regions is closer to equilibrium. Important policy issues might arise if special focus was afforded these regions (such as South East Queensland on the positive side and Far West New South Wales on the negative side) in an attempt to isolate those factors which serve to attract and repel. Within this, though, elements do emerge of the pattern of migration observed for the general population and this points to the likelihood of a further shift in the balance of Indigenous population distribution towards metropolitan fringes and coastal regions away from the interior. The main exception here would seem to be the line of inland regions of net migration gain between the south-east of New South Wales and Adelaide.

Of course, this analysis portrays the population of much of northern and the remoter parts of Australia as relatively immobile and immune to redistribution. This is deceptive and merely a product of the data and the manner of its classification. At the same time, it means that description of movement in remote regions requires other and more composite sources of information including from field-based surveys (Altman 1987; Taylor 1988; Young and Doohan 1989; Hoogenraad 1993; Coulehan 1995; Altman, Gillespie and Palmer 1998) and administrative data (Taylor 1999).

Bringing all of the above points together, two broad concerns arise which are to do with the implications of mobility for measurement of outcomes. First, there is the question of appropriate denominators for the estimation of rates in the population, for example, school enrolment rates, morbidity rates and employment rates. Allied to this is estimation of demand levels for services. Difficulties in the establishment of these presented by the shifting propensity to identify as Indigenous in different statistical contexts have already been outlined, but added to this now is the extra dimension of population turnover and what effect this has on the definition of 'populations at risk'. Secondly, though related to the above, are the implications for the work of the Commonwealth Grants Commission in developing indices of relative disadvantage for the purposes of revenue allocation in Indigenous affairs (Searle 1998). The indication from census analysis of internal migration is that by the time such indices are developed many regions may well have changed their characteristics.

Appendix

Figure A1. Statistical Divisions of Australia, 1996



Source: Australian Bureau of Statistics 1996.

Table A1. Indigenous intrastate and interstate movers by capital city and rest of State and Territory, 1991–96

Region	Intrastate movers			Interstate movers		
	In	Out	Net	In	Out	Net
Sydney	1,919	2,589	-670	1,063	1,486	-423
Rest New South Wales	2,589	1,919	670	2,035	3,260	-1,225
Melbourne	452	576	-124	650	769	-119
Rest Victoria	576	452	124	819	1,168	-349
Brisbane	2,229	1,738	491	1,670	754	916
Rest Queensland	1,738	2,229	-491	3,413	2,242	1,171
Adelaide	641	590	51	813	711	102
Rest South Australia	590	641	-51	619	601	18
Perth	1,933	1,372	561	772	527	245
Rest Western Australia	1,372	1,933	-561	781	866	-85
Hobart	429	333	96	162	259	-97
Rest Tasmania	333	429	-96	262	458	-196
Darwin	903	623	280	727	819	-92
Rest Northern Territory	623	903	-280	1,026	1,113	-87
Canberra	na	na	na	748	545	203
Total capital cities	8,506	7,821	685	6,605	5,870	735
Total non-metropolitan	7,821	8,506	-685	8,955	9,708	-753

Source: 1996 ABS Census of Population and Housing (unpublished data).

Table A2. Net migration rates and population growth rates by SD, 1991–96

	Net rate	Growth 1991–96		Net rate	Growth 1991–96
Moreton SD	20.2	62.1	Barwon SD	2.3	8.2
Canberra SD	12.5	50.4	Northern (QLD) SD	2.5	8.0
Southern (TAS) SD	-2.9	47.5	Northern (NSW) SD	-7.7	7.6
Darling Downs SD	6.6	39.2	Western District SD	-3.5	5.6
Hunter SD	4.4	38.1	Eyre SD	5.7	5.2
Illawarra SD	2.9	38.0	South Eastern (WA) SD	-0.3	4.6
Brisbane SD	8.4	36.8	Far West SD	-15.9	2.5
Northern (TAS) SD	0.6	36.5	Far North SD	0.3	1.9
Mersey–Lyell SD	-7.9	32.9	NT Balance SD	-1.1	1.6
Greater Hobart SD	0.4	32.8	Wimmera SD	5.3	1.4
Sydney SD	-3.9	30.8	Goulburn SD	-1.5	1.2
Outer Adelaide SD	11.5	30.6	Gippsland SD	-6.7	1.1
Central West (NSW) SD	-4.1	29.9	Lower Great South'n SD	-8.0	1.0
Murray SD	3.7	29.5	Central Highlands SD	-5.8	0.6
Mid-North Coast SD	5.6	28.9	Northern (SA) SD	-4.1	-0.5
South West (WA) SD	4.5	25.2	Darwin SD	2.9	-0.6
Wide Bay–Burnett SD	7.2	24.5	South West (QLD) SD	-19.9	-1.4
Mackay SD	1.2	22.1	Mallee SD	-9.0	-1.5
Perth SD	6.1	22.1	Central SD	-0.1	-3.3
South Eastern (NSW) SD	1.0	20.8	Kimberley SD	-1.5	-5.8
Loddon SD	1.6	20.3	North West SD	-10.0	-7.4
Richmond–Tweed SD	9.7	20.2	Upper Great South'n SD	-11.8	-7.7
Yorke & Lower North SD	-0.6	20.0	Ovens–Murray SD	-20.6	-8.6
Melbourne SD	-2.7	16.4	Pilbara SD	-4.3	-9.5
Murrumbidgee SD	-4.4	14.8	Midlands SD	-12.2	-13.7
Fitzroy SD	3.0	13.5			
Central West (QLD) SD	-3.3	13.5			
East Gippsland SD	8.4	12.8			
Adelaide SD	2.1	11.5			
Murray Lands SD	1.9	9.0			
North Western SD	-6.3	8.4			

Source: 1996 ABS Census of Population and Housing (unpublished data).

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