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Paper 9
Mobility

Dr Nicholas Biddle and Mr Francis Markham
nicholas.biddle@anu.edu.au

Centre for Aboriginal
Economic Policy Research
Research School of
Social Sciences
ANU College of Arts and
Social Sciences

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In July 2012, the Australian Bureau of Statistics began releasing data from the 2011 Census of Population and Housing. One of the more important results contained in the release was the fact that the number of people who identified as being Aboriginal and/or Torres Strait Islander (Indigenous) had increased by 20.5 per cent since the 2006 Census. There were also significant changes in the characteristics of the Indigenous population across a number of key variables like language spoken at home, housing, education and other socioeconomic variables. In this series, authors from the Centre for Aboriginal Economic Policy Research (CAEPR) document the changing composition and distribution of a range of Indigenous outcomes. The analysis in the series was funded by the Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) through the Strategic Research Project as well as FaHCSIA and State/Territory governments through the Indigenous Populations Project.

The opinions expressed in the papers in this series are those of the authors alone and should not be attributed to CAEPR, FaHCSIA or any other government departments.

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Abstract

The aim of this paper is to provide an updated description of the migration patterns of Indigenous Australians over the last intercensal period and to compare these with previous patterns, as well as those from the non-Indigenous population. Indigenous Australians are a highly mobile population. They were substantially more likely to be away from their place of usual residence on the night of the census and more likely to make permanent moves over the five years leading up to the 2011 Census. In addition, Indigenous Australians are more likely to make moves that involve a change in location type. Indigenous mobility appears to have had the effect of causing a structural realignment of the Indigenous population from relatively remote parts of the country to more urban ones. After controlling for a range of other characteristics, Indigenous Australians who changed their area of usual residence were more likely to move to a large regional town (and to a lesser extent a city area or remote town) than to a small regional town, regional rural area, Indigenous town or remote dispersed settlement.

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List of acronyms

AIGC	Australian Indigenous Geographic Classification
ANU	Australian National University
CAEPR	Centre for Aboriginal Economic Policy Research
FaHCSIA	Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs
IARE	Indigenous Area
LSIC	Longitudinal Study of Indigenous Children
RSD	Remote Service Delivery
TGT	(Northern) Territory Growth Town
UCL	Urban Centre and Locality (classification)

Introduction and overview

One of the complicating factors for the delivery of government policy and services is that while infrastructure is relatively fixed and immobile, people move on a temporary basis throughout the day and across the year, and on a more permanent basis from one year to the next. According to the most recent (2011) Census, around 1.0 million Australians (or 4.8% of the population) were counted as being away from their place of usual residence on census night. Furthermore, around 6.7 million Australians (or 37.7% of the population aged five years and over who were living in Australia in 2006) changed their place of usual residence between the 2006 and 2011 Censuses. Some of this temporary and permanent mobility is likely to be over relatively short distances—across suburbs or within cities. Other moves will be of much greater distance and could include relocation across State or Territory boundaries and/or from one location or remoteness type to another.

In one of the more consistent findings of census-based analyses, it has long been recognised that Indigenous Australians change their place of usual residence more often than the non-Indigenous population (Taylor 2006). Around 6.9 per cent of Indigenous Australians were away from their place of usual residence on the night of the 2011 Census, compared to 4.4 per cent of non-Indigenous Australians. There is less of a difference in five-yearly migration rates, with 43.7 per cent of Indigenous Australians (who were in Australia on the night of the 2006 Census) changing usual residence between 2006 and 2011, compared to 37.7 per cent of non-Indigenous Australians.

Many factors influence peoples decision to change their place of usual residence, including by comparing the characteristics of the area in which they live and the characteristics of other potential areas of residence. In the economics literature (Harris & Todaro 1970) this human capital approach assumes that individuals or families make the decision to migrate after comparing the benefits of moving (higher incomes, more pleasant climate/conditions, location of family and friends) with the financial and social costs. In the broader migration literature (Greenwood 1997), the modified gravity model has also provided useful insights at the population level by highlighting the effect of distance between the source and potential destination areas, and the respective composition of the two populations. However, there are also a range of factors specific to the Indigenous population that either enhance or reduce the motivation to move (Taylor 2006), including ceremonial activities and filial obligations.

In addition to the effects that population mobility can have on the individual (which are at least to a certain extent taken into account by those making the migration decision), it can also impact on those service providers and agencies that attempt to meet the service delivery needs of the population. Quite justifiably, these effects are less likely to be taken into account by those who decide to move usual residence. However, a large inflow of people into an area on either a permanent, temporary or seasonal basis can put a strain on the available resources (Taylor & Westbury 2012). Furthermore, geographic mobility, whatever the distance or duration, can make it difficult for service providers to keep track of their clients, ensure that the appropriate level of services is given and maintain a continuity of service between providers (Queensland Department of Local Government, Planning, Sport and Recreation 2006).

Controlling Indigenous mobility is no longer seen as achievable nor appropriate (Prout 2008). Rather, the most suitable policy response is to adapt the way in which services are provided to the reality of the Indigenous population dynamics. While examples of innovatively flexible service delivery already exist (e.g. the shared electronic health record in northern and central Australia), future endeavours are likely to be much more effective if tailored to suit the mobility characteristics of the population in question. Thus, good quality data and information is required. Four types of information can be utilised to help understand the patterns and dynamics of population change—qualitative data, cross-sectional and/or longitudinal survey data, administrative data, and census data.

Census data in particular has four benefits which make it a useful source of information regarding population mobility. First, the Census is comprehensive, and makes migration information available for all people about whom a questionnaire was completed, meaning that estimates can be made that are nationally representative. Second, the large number of respondents allows for estimates to be made for relatively small geographic areas for small population subgroups like Indigenous Australians. Third, the demographic and socioeconomic information available in the census allows for further disaggregation. Fourth, the census is conducted every five years and uses a consistent set of questions, which allow for comparisons of changing mobility patterns through time.

Nevertheless, any census-based analysis of mobility is subject to considerable constraints. Unlike qualitative data and some survey data, the census does not allow for a detailed understanding of the richness of the migration experience. For example, the census does not contain any information regarding the reason for migration, or even the number of moves over the intercensal period. Related to this, because the census is not an Indigenous-specific survey or collection, some concepts like place of usual residence and family type which have been developed for the total Australian population consisting conceptually of largely sedentary and bounded families do not have relevance for some Indigenous Australians (Morphy 2007). Finally, the census is a snapshot available once every five years, which means that—unlike with some administrative data—it is not possible to look at patterns of mobility over a day, a week, a season or a year.

Despite these limitations, the census when interpreted alongside other data sources, can help to sketch the outlines of the patterns of Indigenous mobility in ways that may help to inform the design of service-delivery and other policy. The aim of this paper is to provide up-to-date evidence of census-based mobility patterns, how these vary across time, place and other characteristics, and how they compare to the patterns of the non-Indigenous population. The first section of results looks at broad national patterns of temporary and permanent mobility and considers whether, after controlling for the changing age structure of the Indigenous population, Indigenous Australians are more or less likely to move than the non-Indigenous population, and whether they are more likely to move now than they were in 2006.

The second section of results in the paper uses a structural classification of areas first developed in Taylor and Biddle (2008) to describe the geographic patterns of Indigenous migration between 2006 and 2011. The analysis in this section will look at the broad types of areas that Indigenous Australians moved from and to and how this compares to population change for the non-Indigenous population. The final section of results utilises a much smaller level of geography (the Indigenous Area) to consider some of the more localised correlates of Indigenous population mobility. The final section of the paper provides some concluding comments and discussion of the implications of the results.

Indigenous short- and long-term mobility

The Indigenous Australian population is highly mobile. Or at least, that is the commonly held view. There is some truth in this—Indigenous Australians were more likely to be away from their place of usual residence on the night of the 2011 census than the non-Indigenous population, and more likely to have changed that usual residence in the five years leading up to the census. However, as with many assumptions about a whole population subgroup, the reality is much more complex. In many ways there is as much variation within the Indigenous population as there is between Indigenous and non-Indigenous Australians.

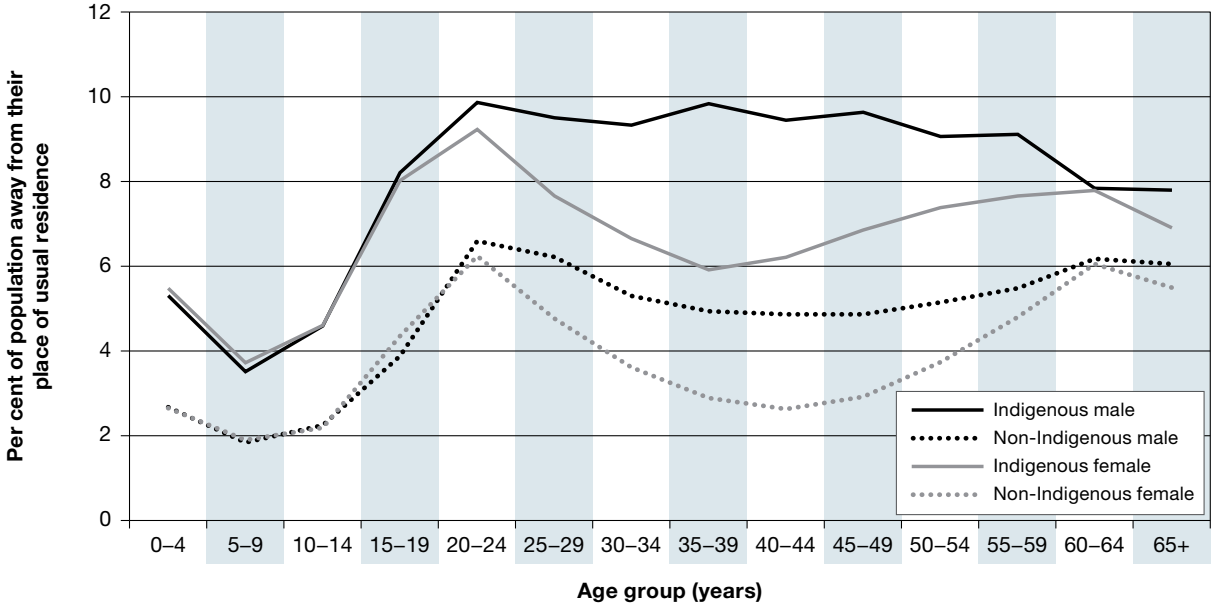
One source of variation within the Indigenous population is by age and sex. This is demonstrated in Figures 1 and 2 which show short- and long-term rates of mobility respectively by five-year age cohorts for Indigenous and non-Indigenous men and women.

There are three points to note from Figure 1. First, there is a distinct lifecycle pattern to temporary mobility. For all four population groups, rates start off low for the population aged 0–4 years, then decline even further during the compulsory school years (those aged 5–14). Rates of temporary mobility then increase substantially, reaching a peak during the early to mid-twenties. Amongst the Indigenous population, for example, 9.5 per cent of males and females (combined) were away from their place of usual residence on the night of the census.

Beyond the mid-twenties, the second key finding from Figure 1 becomes apparent—divergence by gender. While rates of temporary mobility stay reasonably high for Indigenous males (and to a lesser extent, non-Indigenous males), there is a substantial decline in temporary mobility for Indigenous and non-Indigenous females. By the 35–39-year age group, only 5.9 per cent of Indigenous females were away from their place of usual residence. For non-Indigenous females, a low of 2.6 per cent is reached in the 40–44-year age group. Given that the census is carried out on a Tuesday during school term, the two most obvious reasons for this gender-specific decline are that females are less likely to be employed than males (and hence away from home for work) and are more likely to have caring responsibilities for children (Yap & Biddle 2012).

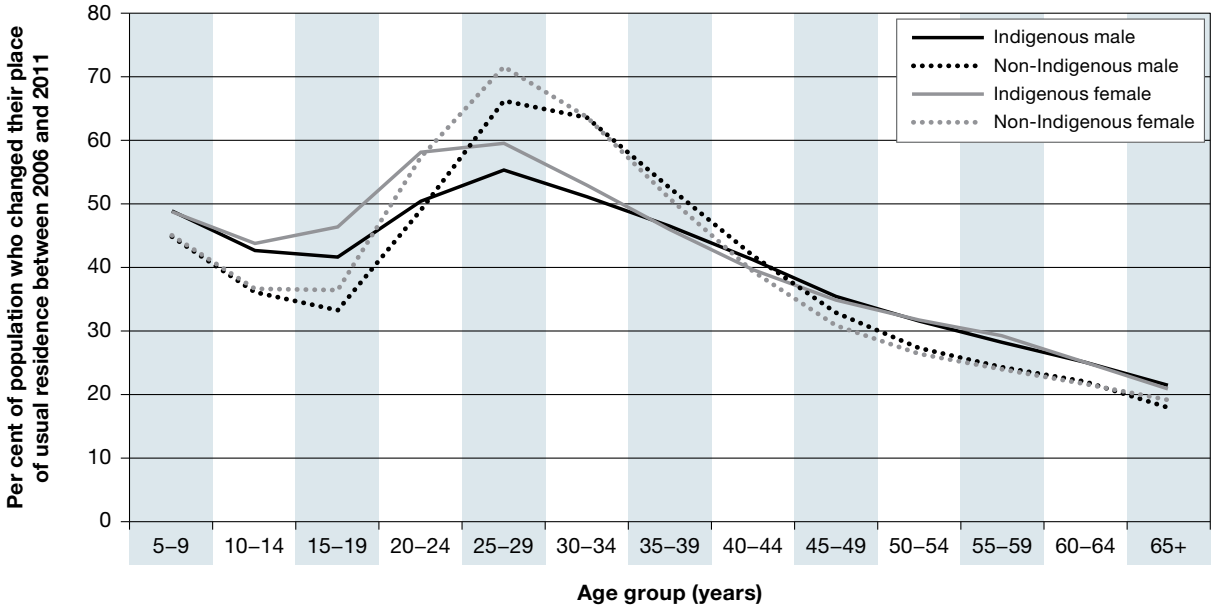
Figure 1 also demonstrates that at every point on the age distribution, Indigenous males and females are more likely to be away from their place of usual residence than their non-Indigenous counterparts. This result holds even when using more detailed econometric analysis of individual-level data (Biddle & Yap 2010), highlighting the fact that temporary mobility is a key feature of Indigenous demography.

FIGURE 1. Percentage of population away from their place of usual residence on the night of the census, by Indigenous status and sex, 2011



Source: Customised calculations based on the 2011 Census.

FIGURE 2. Percentage of population who changed their place of usual residence between 2006 and 2011, by Indigenous status



Source: Customised calculations based on the 2011 Census.
Note: Excludes those who were overseas either temporarily or permanently on the night of the 2006 Census.

Nationally, not only are Indigenous Australians more likely to be away from their place of usual residence on the night of the census, they are also more likely to change where they live over a given time period (permanent migration). However, over this longer period of time, the differences between Indigenous and non-Indigenous Australians is much smaller, with 43.7 per cent of Indigenous Australians changing usual residence between 2006 and 2011 compared to 37.7 per cent of non-Indigenous Australians. Figure 2 (which excludes those who were overseas on the night of the 2006 Census) demonstrates that these Australian averages mask considerable variation by age and sex.

All four population subgroups follow a similar pattern across the lifecourse. Migration rates start off high in the age group of 5–9 years and then decline through the compulsory school years. Rates then increase, reaching a peak in the group aged 25–29 years. There is then a decline across the rest of the lifecourse, with migration rates for all four groups falling below 25 per cent for those 65 years and over.

While the patterns are similar, there are differences in levels by Indigenous status and by sex. In terms of Indigenous status, the Indigenous population has higher rates of migration for those younger than 20 and older than 45. During the peak migration ages, however, rates are often higher for the non-Indigenous population, with the highest rate of migration across all groups occurring in the group of non-Indigenous females aged 25–29 years (71.5%). By sex, there are very similar rates of migration for those aged 14 years and under and for those aged 35 years and over. During the peak migration years, however, both Indigenous and non-Indigenous females have higher rates of migration than their male counterparts.

Given this variation in migration across the lifecourse, an obvious question is to what extent the very different age structures documented in Biddle (2012b) explain the differences in migration rates. We can answer this through a relatively simple age standardisation. Similar to age standardisation of disease rates (Ahmad et al. 2000), age standardisation of migration rates uses the proportion of the Indigenous population in each five-year age group as the basis of the calculations, but weights each by the share of the non-Indigenous population in that age group as opposed to the Indigenous population when calculating national percentages.

With regards to temporary mobility, because the peak migration years occur towards the middle of the age distribution, the relatively young Indigenous age profile is actually having a dampening effect on overall migration rates. Putting this another way, if Indigenous Australians had the same age distribution as the non-Indigenous population, then 8.1 per cent of Indigenous males would have been away from their place of usual residence on the night of the census (compared to the actual rate of 7.4%). For Indigenous females, the age-standardised rate was 6.7 per cent compared to the non-standardised rate of 6.4 per cent. These age-standardised rates are both 1.7 times as high as the respective non-Indigenous rates—4.8 per cent for non-Indigenous males and 4.0 per cent for non-Indigenous females.

Because the peak long-term migration years occur at a point in the age distribution where Indigenous Australians are disproportionately represented, age-standardising rates of long-term migration have the effect of narrowing the gap between Indigenous and non-Indigenous Australians. Specifically, if Indigenous males had the same distribution as their non-Indigenous counterparts, then 38.4 per cent would have changed usual residence over the five years leading up to the 2011 Census. This is substantially lower than the non-standardised rate of 42.9 per cent. A similar reduction in rates was found for Indigenous females who would have had a long-term migration rate of 40.0 per cent if they had the same age distribution as non-Indigenous females, compared to the non-standardised rate of 44.4 per cent. These rates are only slightly higher than the non-Indigenous rates of 37.5 per cent for males and 37.8 per cent for females, showing that a large part of the reason for why Indigenous Australians are more likely to move over a five-year period is that they are more likely to be in those age groups that have relatively high rates of long-term mobility.

The short-term mobility rates for Indigenous Australians discussed earlier have stayed reasonably consistent over the last intercensal period. In 2006, 7.2 per cent of Indigenous males were away from their place of usual residence, compared to 7.4 per cent of Indigenous males in 2011. For Indigenous females, the rate increased by even less—from 6.3 per cent in 2006 to 6.4 per cent in 2011. Furthermore, there is even less of a gap over the five years when age is held constant.

Compared to the relatively stable rates of short-term mobility between 2006 and 2011, there was a reasonably large decline in long-term mobility. Between 2001 and 2006, 45.5 per cent of Indigenous males changed their place of usual residence, compared to 43.0 per cent of Indigenous males between 2006 and 2011. For females, the rate fell from 47.2 per cent to 44.4 per cent over the two intercensal periods. It is true that some of this reduction was due to an aging of the Indigenous population over the period. However, even within a given age group, Indigenous males and females were for the most part less likely to have moved.

Indigenous population change and migration by location type

Mobility can occur over relatively short distances, within the same neighbourhood, suburb or town, or over much larger distances. The latter type of move is likely to have a much greater impact on an individual's social networks, as well as the specific commercial and government service providers that an individual accesses. If the move is across location type (e.g. from a remote area to a small regional town), then the quantum and quality of services is also likely to change.

Taylor and Biddle (2008) introduced a new structural classification of Indigenous Areas in order to facilitate the analysis of such moves across location types. This structural classification took into account the level of remoteness of the Indigenous Area, the size of the urban centre that the Indigenous Area was located in, and for some areas, the proportion of that urban centre that identifies as being Indigenous. Originally, there were eight location types based on the 2006 Australian Indigenous Geographic Classification (AIGC). However, it was not possible to accurately maintain the Town Camp grouping for 2011. The following table therefore outlines a seven-category structural classification of the 410 Indigenous Areas in the 2011 AIGC. To keep this classification consistent through time, the groupings are based on 2011 boundaries, but the remoteness, urban size and Indigenous share of the 2006 usual resident population.

Using this structural classification, Table 2 outlines a range of characteristics based on the 2006 and 2011 Census counts. Reading from left to right, the table gives the number of areas; the 2011 Indigenous and non-Indigenous population counts; the change in these counts between 2006 and 2011; and the share of the population in that location type in 2006 and 2011 who identified as being Indigenous. The final row of the table gives the same data for all Indigenous Areas that are included in the structural classification. These are slightly different from the national figures because those who did not state their place of usual residence in the relevant census were not able to be included in the analysis. It should also be noted that these figures do not include an adjustment for census undercount and exclude those whose Indigenous status was not stated on their census questionnaire.

There are three main points to note from Table 2. First, in 2011 most Indigenous Australians counted in the census lived in city areas or large regional towns. Together these two location types contained 62.2 per cent of the Indigenous population count. While this was lower than the 88.3 per cent of the non-Indigenous population who lived in these location types, it is still quite clear that the Indigenous population is a predominantly urban population. The second thing to note from Table 2 is that these first two location types had the fastest growth over the last intercensal period, both growing by more than a quarter over five years—a very rapid population increase by any standard.

TABLE 1. Names and definitions of structural classification of Indigenous Areas (IAREs)

Location type	Definition
City areas	IAREs within urban centres with a population greater than 100,000.
Large regional towns	IAREs where the Indigenous population is predominantly resident in urban centres of between 10,000 and 100,000.
Small regional towns and localities	IAREs where the Indigenous population is predominantly resident in urban centres of between 1,000 and 10,000, or in rural localities of between 200 and 1,000 listed in the Urban Centre and Locality (UCL) classification.
Regional rural areas	IAREs where the Indigenous population is predominantly resident in dispersed locations in regional Australia that are not listed as rural localities in the UCL classification.
Remote towns	IAREs where the Indigenous population is predominantly resident in urban centres in remote Australia.
Indigenous towns	IAREs where the Indigenous population is predominantly resident in urban centres and localities in remote Australia that have predominantly Indigenous populations.
Remote dispersed settlements	IAREs where the Indigenous population is predominantly resident in the balance of small dispersed settlement in remote Australia.

Source: Taylor and Biddle 2008.

TABLE 2. Distribution of Indigenous and non-Indigenous change in population count by location type, 2006–11

		2011 population counts		2006 to 2011 change		Share of population Indigenous	
Location type	Number of areas	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	2006	2011
City areas	96	194,339	14,058,968	26.2	9.7	1.2	1.4
Large regional towns	76	144,850	3,471,653	25.3	8.0	3.5	4.0
Small regional towns and localities	91	77,641	1,542,286	18.4	4.2	4.2	4.8
Regional rural areas	26	15,161	506,378	20.7	8.0	2.6	2.9
Remote towns	38	38,636	219,053	10.0	9.0	14.9	15.0
Indigenous towns	50	54,865	12,499	7.6	22.8	83.4	81.4
Remote dispersed settlements	33	20,082	48,166	2.7	21.9	33.1	29.4
All areas	410	545,574	19,859,003	20.3	9.0	2.4	2.7

Source: Customised calculations based on the 2011 Census.

The third and final thing to note from Table 2 is that the non-Indigenous population in Indigenous towns and remote dispersed settlements grew quite substantially over the last intercensal period. While the non-Indigenous population in these location types is still miniscule as a proportion of the total non-Indigenous population (0.3% compared to 13.7% for the Indigenous population), these last two location types are the only ones in which the Indigenous share of that location type declined. In remote dispersed settlements—the location type that is most closely associated with the 'Australian outback'—less than three out of every 10 people counted in the 2011 Census were Indigenous.

There are seven ways in which the populations counted in these areas might change through time. The first of these, boundary changes, are controlled for as much as possible by using a 2006-based structural classification and population-weighted concordances to convert 2006 data into 2011 areas. The next two sources of population change are births and deaths in an area, with natural population increase the excess of the former over the latter. Deaths are difficult to measure at the local level, especially in the absence of updated life tables for the Indigenous population. Births, on the other hand, can be proxied by the number of children aged 0–4 years in the area.

The fourth source of population change is international migration into those location types. For the Indigenous population, this is likely to be quite small, and balanced by Indigenous Australians temporarily leaving the country. For the non-Indigenous population, on the other hand, net positive international migration is the main source of continued population growth for many areas.

The fifth source of population change for a location type comes from a person changing the way they respond to the Indigenous status question on the census. This involves someone identifying as Indigenous or non-Indigenous in one census and then the opposite in a subsequent census or collection. Due to the lack of longitudinal data in Australia which contains multiple questions on Indigenous status, we actually know very little about the level and causes of this ethnic mobility. In the most detailed study to date in Australia, Hunter and Ayyar (2011) have shown that for a particular population subgroup—those who have been arrested more than once in New South Wales—changes in reported Indigenous status are quite high. Given the rapid growth in the Indigenous population at the national level between 2006 and 2011, it is quite likely that such ethnic mobility also occurred over the last intercensal period.

The sixth source of population change at the local level is what I have labelled statistical ethnic migration. In contrast to the more traditionally defined ethnic mobility, statistical ethnic mobility involves individuals maintaining their own internal identity, but being recorded differently in different collections. This could be because they did not answer the Indigenous status question at either the start or end of the period (item non-response); because they were missed entirely from one of the collections (non-response); or because they were coded incorrectly by themselves, by someone else filling out the form, or by the statistical agency collecting the data. In the case of Australia, changes to the Indigenous Enumeration Strategy in 2011 may have played a role in reducing both types of non-response, thereby increasing statistical ethnic mobility.

TABLE 3. Migration rates for location types, Indigenous and non-Indigenous Australians, 2006–11

	Indigenous			Non-Indigenous		
Location type	**Inward**	**Outward**	**Net**	**Inward**	**Outward**	**Net**
City areas	8.1	7.7	0.4	3.4	4.2	–0.7
Large regional towns	15.6	12.0	3.6	15.5	13.1	2.4
Small regional towns and localities	16.3	17.7	–1.4	18.3	17.8	0.5
Regional rural areas	26.6	26.0	0.6	23.9	20.8	3.1
Remote towns	24.8	27.3	–2.5	30.4	33.3	–3.0
Indigenous towns	16.8	21.7	–4.9	59.3	60.4	–1.1
Remote dispersed settlements	45.8	49.3	–3.5	49.2	43.9	5.3

Source: Customised calculations based on the 2011 Census.

The seventh and final source of population change is residential mobility. That is, an individual identifying one area, region or location type as their place of usual residence at one point in time, but physically changing their area, region or location type of usual residence over the subsequent period. The previous six points have highlighted how such residential mobility is only one of a number of ways in which a geographic area's Indigenous (and non-Indigenous) population can change. However, for most services (apart from those associated specifically with births and deaths) residential mobility is likely to have the greatest impact on demand.

Between 2006 and 2011, 15.4 per cent of Indigenous Australians changed their location type, as did 7.7 per cent of non-Indigenous Australians. Keeping in mind that 43.7 per cent of Indigenous Australians changed their place of usual residence between 2006 and 2011, alongside 37.7 per cent of non-Indigenous Australians, these location type results show two things. First, only a small proportion of Indigenous Australians who changed their usual residence changed location type (35.2%). The second point though is that this percentage is substantially higher than for the non-Indigenous population (20.4%), showing that a much higher proportion of moves made by Indigenous Australians involved moves across location types and therefore were more likely to have an impact on the level and types of services available.

Table 3 shows that this migration had the effect of redistributing the Indigenous and non-Indigenous population across location types over the last intercensal period. The table contains three rates, each calculated separately for Indigenous and non-Indigenous Australians and for the seven location types. The rates are defined as follows:

- **Inward:** The number of people who moved into that location type between 2006 and 2011 as a percentage of the 2006 base population.
- **Outward:** The number of people who moved out of that location type between 2006 and 2011 as a percentage of the 2006 base population.
- **Net:** The difference between inward and outward migration.

Results presented in Table 3 for the Indigenous population equate to a certain extent with the population change data presented in Table 2. The three location types that experienced the greatest increase in population between 2006 and 2011 in Table 2 (city areas, large regional towns, and regional rural areas) were also those that recorded a net positive inward migration. The size of this net migration was much smaller than the size of the population change, however, showing that there were many other factors influencing population change over the period. Nonetheless, the results presented in Table 3 indicate a definite migration from remote parts of the country to non-remote parts.

The other important point to note from Table 3 is that for the Indigenous, and to a greater extent non-Indigenous population, there was a much higher rate of population turnover in more remote parts of the country. Nearly one out of every two Indigenous Australians who was living in a remote dispersed settlement in 2006 was no longer living there in 2011. For the non-Indigenous population, around three out of every five people who were living in an Indigenous town in 2006 were no longer living in one in

TABLE 4. Share of 2006 Indigenous migrant population by 2011 destination

Location type in 2006	Location type in 2011: City areas	Large regional towns	Small regional towns & localities	Regional rural areas	Remote towns	Indigenous towns	Remote dispersed settlements
City areas		52.6	26.0	8.1	10.0	1.8	1.4
Large regional towns	43.1		34.1	7.2	9.9	2.9	2.7
Small regional towns and localities	30.8	49.7		9.1	8.3	1.4	0.7
Regional rural areas	27.2	36.9	31.0		3.8	0.6	0.5
Remote towns	17.7	23.8	13.4	2.3		18.7	24.1
Indigenous towns	6.4	14.8	3.2	0.7	21.9		53.0
Remote dispersed settlements	3.9	5.7	1.5	0.3	27.1	61.4	

Source: Customised calculations based on the 2011 Census.

TABLE 5. Share of 2006 non-Indigenous migrant population by 2011 destination

Location type in 2006	Location type in 2011: City areas	Large regional towns	Small regional towns & localities	Regional rural areas	Remote towns	Indigenous towns	Remote dispersed settlements
City areas		58.7	24.6	10.5	4.6	0.4	1.3
Large regional towns	62.7		24.4	7.7	3.8	0.3	1.1
Small regional towns and localities	41.5	45.1		8.1	4.2	0.3	0.7
Regional rural areas	37.9	36.7	22.5		2.2	0.2	0.6
Remote towns	35.1	31.8	19.1	4.2		2.6	7.1
Indigenous towns	17.1	24.3	13.1	3.2	27.5		14.7
Remote dispersed settlements	24.5	26.0	11.7	3.5	28.5	5.8	

Source: Customised calculations based on the 2011 Census.

TABLE 6. Source location type for those Indigenous Australians who moved between 2006 and 2011

		Location type in 2011						
		City areas	Large regional towns	Small regional towns & localities	Regional rural areas	Remote towns	Indigenous towns	Remote dispersed settlements
Location type in 2006	City areas		36.7	30.4	29.8	14.7	2.8	2.1
	Large regional towns	45.2		43.9	29.4	16.0	4.9	4.4
	Small regional towns and localities	27.3	32.4		31.4	11.4	1.9	0.9
	Regional rural areas	6.9	6.8	9.6		1.5	0.3	0.2
	Remote towns	12.6	12.4	11.7	6.4		21.4	26.5
	Indigenous towns	5.2	8.7	3.2	2.1	27.2		65.9
	Remote dispersed settlements	2.7	2.9	1.2	0.9	29.2	68.7	

Source: Customised calculations based on the 2011 Census.

TABLE 7. Source location type for those non-Indigenous Australians who moved between 2006 and 2011

		Location type in 2011						
		City areas	Large regional towns	Small regional towns & localities	Regional rural areas	Remote towns	Indigenous towns	Remote dispersed settlements
Location type in 2006	City areas		63.2	48.4	49.5	40.6	26.6	35.1
	Large regional towns	59.9		37.6	28.4	26.3	20.0	22.7
	Small regional towns and localities	25.0	24.0		18. 9	18.2	11.9	9.7
	Regional rural areas	8.5	7.3	8.2		3.5	2.8	2.8
	Remote towns	5.3	4.3	4.7	2.5		24.5	24.2
	Indigenous towns	0.3	0.4	0.4	0.2	3.3		5.5
	Remote dispersed settlements	1.0	0.9	0.8	0.5	8.2	14.2	

Source: Customised calculations based on the 2011 Census.

2011. A large proportion of the population who left these areas were replaced by others who moved into them, leading to only a small net outward migration rate. This notwithstanding, the high level of population churn is likely to present a number of difficulties for service providers and others living in the area.

Spatial redistribution of the Indigenous population

This population churn has effects on other location types, depending on where the person moves to. This is especially the case when the health, demographic and socioeconomic characteristics of those who move into an area do not match those who were there already. The potential effect of this is highlighted in Tables 4 and 5, which give the percentage of the Indigenous and non-Indigenous population (respectively) who lived in a particular location type in 2006 but not in 2011, by the location type they lived in as of 2011. To help interpret the tables, it is worth noting that the numbers sum to 100 across the rows. That is, the first row of the table for the Indigenous population shows that 52.6 per cent of those who left the city area location type after 2006 were in a large regional town in 2011, 26.0 per cent in a small regional town or locality and so on.

The results presented in Table 4 show that most Indigenous Australians who changed their location type between 2006 and 2011 end up in an area that is relatively similar in the location type hierarchy. It has already been mentioned that more than half of those who left the city area location type between 2006 and 2011 ended up in a large regional town. A further quarter of the population who left ended up in a smaller regional town. This broad pattern was also true at the opposite end of the remoteness hierarchy. Around 53.0 per cent of those who left the Indigenous town location type ended up in a remote dispersed settlement, whereas 61.4 per cent of those who left a remote dispersed settlement moved in the opposite direction.

While the above pattern was true for those non-Indigenous Australians who moved out of the city area, large regional town and small regional town location types, it was not the case for those who left more remote parts of the country. Unlike Indigenous Australians who did so, the majority of those non-Indigenous Australians who left the remote town, Indigenous town or remote dispersed settlement location types after 2006 ended up in city areas, large regional towns or small regional towns. This further highlights that for the majority of the non-Indigenous population in remote parts of the country, this is a temporary experience with a return to non-remote parts of the country highly likely over the short to medium term.

In understanding the spatial redistribution of the Indigenous population, it is not only important to know where people who left a particular location type are moving to, but also the source of migrants into a particular location type. This is particularly relevant for service providers in these destination location types, as the types of services demanded by the incoming internal migrants might differ quite substantially depending on where they are coming from. This is demonstrated in Tables 7 and 8, which give the percentage share of the Indigenous and non-Indigenous population (respectively) who left each location type between 2006 and 2011 by the location type of their eventual destination.

Unlike the numbers presented in Tables 5 and 6, those in Tables 7 and 8 sum to 100 down the columns. For example, the first column of the table for the Indigenous population shows that of those that moved into a city area between 2006 and 2011, 45.2 per cent came from a large regional town. A further 27.3 per cent came from a small regional town or locality, and so on.

The results presented in Table 6 confirm that the vast majority of Indigenous Australians who move from another location type into a city area, large regional town, small regional town and locality or a regional rural areas are coming from other non-remote parts of the country. That is not to say that migration from remote parts of the country to non-remote ones is insignificant. Indeed, 20.6 per cent and 24.1 per cent of those Indigenous Australians who moved into city areas and large regional towns respectively came from remote parts of the country. Nonetheless, the results show that for service providers in non-remote areas, the majority of new clients will be from similar location types.

The geographic determinants of Indigenous migration

The previous two sections demonstrated a structural reallocation of the Indigenous population across the country. Much of this change was across a relatively small distance along the location type hierarchy—for example, from city areas to large regional towns or from remote dispersed settlements to Indigenous towns. Furthermore, movement from one location type to the other was usually matched by a large amount of movement in the opposite direction. Nonetheless, between the 2006 and 2011 Censuses, there was a small but significant net migration from remote to non-remote parts of the country.

Not all moves, however, resulted in a change in location type. Of those Indigenous Australians who changed usual residence, 64.8 per cent moved within the same area or to another area within the same location type. Although these structurally smaller moves are likely to have less of an effect on those who move than more substantial ones, they are important nonetheless. Furthermore, such moves demonstrate some form of dissatisfaction with the residences or areas in which the person was living at the start of the period.

Understanding the reasons and motivations for these short- and long-distance moves is difficult in the absence of good quality longitudinal datasets. With cross-sectional datasets like the census, it is possible to identify the outcomes (like education, employment, housing, income, etc.) of individuals who do and do not move at the end of the period only. However, the very process of migration is likely to change these outcomes significantly (otherwise far fewer people would actually move).

As far as the authors are aware, the only published paper that utilises longitudinal data to look at the determinants of Indigenous migration is Biddle (2012a). Using data from the Longitudinal Study of Indigenous Children (LSIC), the author found four main results for the determinants of the migration of Indigenous carers and their children. These are:

> First, those carers of Indigenous children who changed usual residence in the year leading up to Wave 1 of the LSIC were more likely to change usual residence again in the year (or so) that followed. Second, the older the carer, the lower the probability of moving, reflecting the lifecourse patterns of mobility. Third, those who lived in mixed Indigenous and non-Indigenous households had higher levels of mobility than those who lived in Indigenous-only households. The fourth main insight was that the characteristics of one's dwelling seem to be more important factors in explaining population movement than the characteristics of the area in which one lives (Biddle 2012a: 141).

The main limitation of the analysis presented in Biddle (2012a) was that the data in the LSIC is limited to Indigenous carers and their children. As was shown earlier in this paper, this is a point in the lifecourse where levels of mobility are relatively low. Furthermore, because of the relatively small sample size of the LSIC and design of the sample, it was not possible for Biddle (2012a) to include detailed geographic information on the determinants of Indigenous mobility. The analysis presented in the remainder of this section provides complementary information to that presented in Biddle (2012a) by analysing the geographic factors associated with moving out of a region, as well as the factors associated with a particular choice of destination for those who did move.

Both sets of analysis presented in this section use Indigenous Areas as the unit of analysis via a regression approach. For the first set of analysis, the dependent variable is the outward migration rate for each area which, as mentioned before, is defined as the number of people who moved out of a particular area between 2006 and 2011, expressed as a percentage of the 2006 base population. There are four sets of explanatory variables included in the model:

- The surface area of the Indigenous Area (in square kilometres);
- The location type and state in which the area is located with the omitted categories being a city area in New South Wales;
- Whether or not at least 10 per cent of the usual resident population of the Indigenous Area lived in either a Northern Territory Growth Town (TGT) or a Remote Service Delivery (RSD) area; and
- The socioeconomic status of the Indigenous usual residents of the area in 2006.

The last set of variables is based on the Index of Relative Indigenous Socioeconomic Outcomes first outlined in Biddle (2009). This index ranked all 531 Indigenous Areas in 2006, based on nine input variables related to employment, education, income and housing. For this paper, I combined this with the 408 Indigenous Areas in the 2011 AIGC, based on a population-weighted concordance. The first socioeconomic variable in the model is the percentile rank for that Indigenous Area, with 1 being the most advantaged areas and 100 the most disadvantaged.

The second socioeconomic variable in the model is based on the weighted average percentile ranking of surrounding Indigenous Areas, with weights based on a standard distance decay function ($1/d^2$), where d is the distance between the centre of that Indigenous Area and the centre of all other Indigenous Areas. In essence, those areas which are close by have the highest weight, with the weight diminishing fairly rapidly the further the areas are away from each other. We then subtract the area's ranking from that of the surrounding areas to get the difference in socioeconomic percentile rank in 2006 with surrounding areas. Higher values mean the area is relatively disadvantaged compared to surrounding ones.

TABLE 8. Factors associated with Indigenous outward migration, 2006–11

Explanatory variables	Coefficients
Surface area ('000 km^2)	–0.05***
Large regional towns	–8.34***
Small regional towns and localities	–5.11*
Regional rural areas	2.20
Remote towns	3.19
Indigenous towns	16.73***
Remote dispersed settlements	28.16***
Victoria	–3.97
Queensland	3.59
South Australia	–4.28
Western Australia	3.63
Tasmania	–3.70
Northern Territory	10.10***
Australian Capital Territory	–11.41
Significant percentage of area a TGT or RSD area	–10.71**
Socioeconomic percentile rank in 2006	0.35***
Difference in socioeconomic percentile rank in 2006 with surrounding area	–0.40***
Constant	16.42***
Adjusted R-Squared	0.5750
Number of observations	408

Source: Customised calculations based on the 2011 Census.
Note: Variables for which the coefficient is statistically significant at the 1% level of significance are labelled ***; those statistically significant at the 5% level of significance only are labelled **, whereas those statistically significant at the 10% level of significance only are labelled *.

Results from the analysis of outward migration are given in Table 8. Coefficients can be interpreted as the difference in the outward migration rate (expressed as a percentage) from a one-unit increase in the explanatory variable (for the continuous variables), or for that category of area compared to the omitted category (for binary variables). Variables for which the coefficient is statistically significant at the 1% level of significance are labelled ***; those statistically significant at the 5% level of significance only are labelled **, whereas those statistically significant at the 10% level of significance only are labelled *.

Looking at each section of results in turn, Indigenous Australians who lived in locations with large surface areas were less likely to leave the area between 2006 and 2011. This is not surprising, as there is greater scope to move within rather than outside these areas. However, it is important to keep in mind that the rest of the results in the table hold after controlling for this factor. Compared to city areas, Indigenous Areas classified as large regional towns—and to a lesser extent, small regional towns and localities—had a lower rate of outward migration. At the other end of the remoteness type hierarchy, however, Indigenous Australians were much more likely to move out of Indigenous towns and remote dispersed settlements.

An interesting and policy-relevant finding from Table 8 is that areas which had a significant number of usual residents living in TGT or RSD areas had a lower outward migration rate than those that did not. It is difficult to attribute area-level results to the effect of specific policy changes, as there are likely to be many other unobservable characteristics of these TGTs or RSDs. In particular, as TGTs and RSDs tend to be assigned to larger Indigenous settlements in their region, the decreased outward net migration might be the result of a 'regional centre'

TABLE 9. Factors associated with Indigenous choice of destination, 2006–11

Explanatory variables	Coefficients
Share of Indigenous population living in destination	0.5948***
Source and destination areas contiguous	9.3926***
Distance between centroids of source and destination area populations (km)	–0.0950***
Source and destination areas in a different location type	–0.0706***
Source and destination areas in a different State/Territory	–0.5124***
Large regional towns	0.0427***
Small regional towns and localities	–0.0481***
Regional rural areas	–0.0872***
Remote towns	–0.0197
Indigenous towns	–0.0187
Remote dispersed settlements	–0.0768***
Victoria	0.1558***
Queensland	0.1308***
South Australia	0.1975***
Western Australia	0.2762***
Tasmania	0.2083***
Northern Territory	0.2558***
Australian Capital Territory	0.1785***
Significant percentage of destination area a TGT or RSD area	–0.0255
Difference in socioeconomic percentile rank in between source and destination area	–0.0003**
Constant	0.5145***
Adjusted R-Squared	0.2652
Number of observations	165,243

Source: Customised calculations based on the 2011 Census.
Note: Variables for which the coefficient is statistically significant at the 1% level of significance are labelled ***; those statistically significant at the 5% level of significance only are labelled **, whereas those statistically significant at the 10% level of significance only are labelled *.

effect which is uncontrolled for in the model. However, it is important to keep in mind that these results hold after controlling for location type, surface areas and socioeconomic status, providing some support for the suggestion that such policy interventions reduce the incentive to leave an area.

The final set of results in Table 8 examine the relationship between outward migration and the socioeconomic status of an area and its surrounds. The first result in this final part of the table shows that those areas which are relatively disadvantaged have a higher outward migration than those that are relatively advantaged. This makes sense, as people are likely to be induced to move away from relatively disadvantaged areas, assuming they have the means to do so. This may explain why those areas that are disadvantaged relative to surrounding areas have a lower outward migration rate than those that are more advantaged. There are larger social and financial costs of moving a relatively large distance as well as to an area with a very different social and economic environment. If surrounding areas are relatively advantaged compared to where a person is moving from, then they are also likely to be more expensive, reducing the incentive to move to these areas or at all.

This last result highlights the fact that when making the migration decision, a person needs to consider not only the characteristics of the area which they would potentially leave, but also the characteristics of potential destination areas. In this paper, we consider this second decision separately by looking at the factors associated with the choice of destination. Using a regression style of analysis once again and focusing on those who moved out of an IARE, the dependent variable for this second set of analysis is the proportion of those people who moved into one of the other IAREs in the sample.[1] This is calculated for each of the IAREs, resulting in a sample size of 165,243 pairs of IAREs. In addition to the national level estimates, a separate estimate is undertaken for those who moved out of an Indigenous Area in each of the seven location types.

The explanatory variables are consistent across all models. The first variable is the percentage of the total Indigenous population who lived in a particular Indigenous Area at the time of the 2006 Census. This is included to capture the strong possibility that people will be drawn to areas which have a large Indigenous population at the start of the period. The next four variables capture the spatial relationship between the source and the destination areas through distance, whether they are contiguous, whether they are in a different State or not and whether they are in a different location type or not. The next two sets of variables capture the location type and the State or Territory of the destination area, with major cities in New South Wales being the omitted category. This is followed by a variable capturing whether the destination area has a significant population that is part of an RSD or a TGT area. The final variable captures difference in socioeconomic outcomes in 2006 as measured using the summary indicator introduced in Biddle (2009). A positive value for this last variable indicates that the destination area had more favourable socioeconomic outcomes than the source area.

The results for the first three variables in Table 9 confirm previous analysis of migration patterns for both the Indigenous population and more generally. Specifically, those who left their area of usual residence between 2006 and 2011 were more likely to move to an area with a large existing Indigenous population, to an area that was contiguous with the one that they moved from, and to an area which was close by. Having controlled for these characteristics, it is interesting to note that Indigenous Australians were less likely to move to areas that were in a different location type or in a different jurisdiction. This is potentially driven by the fact that the types of services and social interactions vary across location types and jurisdictions. In a federal system like Australia, there is an administrative cost for the individual in changing the State or Territory in which they live. School systems are different, as are hospital systems. Furthermore, those on waiting lists for particular services might need to forfeit their place on these lists if they leave an area.

The next set of results in Table 9 show that Indigenous Australians who changed their place of usual residence were more likely to move to an area in a large regional town than they were to move to an area in a major city. Given Indigenous Australians were less likely to have moved out of these location types (as shown in Table 8), the clear implication of this is that migration over the last intercensal period led to a significant increase in the Indigenous population living in Australia's large regional towns. On the other hand, Indigenous Australians were less likely to have moved to small regional towns or regional rural areas, as well as remote dispersed settlements. Compared to the base case of New South Wales, Indigenous Australians were more likely to have moved to all other jurisdictions. Those with the greatest inflow of migrants were the Northern Territory and Western Australia, followed by South Australia and Tasmania.

The last two results in the table show that at the national level, there was a negligible association between the presence of an RSD or TGT area and choice of destination, and a very small (but still significant) association between the relative socioeconomic status of the destination area. Results presented in Tables 10 and 11 show that these last national-level conclusions did not hold for Indigenous Australians who moved out of every location type.

Reading across the first few rows of Tables 10 and 11, there were some differences in the magnitude of the association between choice of destination and the demographic/geographic relationships between the source and destination areas, depending on where the person moved from. For example, it would appear that the distance between the source area and the potential destination area (as well as the two being in different jurisdictions) had a much bigger association in more remote parts of the country than it did in non-remote areas. An Indigenous person who moved out of a remote area was more likely to move to another area that was reasonably close by and was in the same jurisdiction than someone who moved out of a non-remote area. This is potentially driven by the fact that those who move out of remote areas tend to be more reliant on government services and have fewer economic resources, both of

1. To test for robustness, a separate analysis was undertaken using the number of people who moved between the source and destination areas as the dependent variable. This was estimated assuming a negative binomial model, with the total number of people who moved out of the source area as an exposure variable. Although the size of the estimated coefficients varied using this alternative specification, the statistical significance of the individual variables did not.

TABLE 10. Factors associated with Indigenous choice of destination for those who moved out of non-remote areas, 2006–11

	Source location type			
Explanatory variables	**City areas**	**Large regional towns**	**Small regional towns**	**Regional rural areas**
Share of Indigenous population living in destination	0.6311***	0.6534***	0.6956***	0.9609***
Source and destination areas contiguous	11.1267***	7.3423***	8.3711***	9.8110***
Distance between centroids of source and destination area populations (km)	–0.0576***	–0.0975***	–0.1136***	–0.0995***
Source and destination areas in a different State/Territory	–0.4734***	–0.5517***	–0.4183***	–0.3781***
Large regional towns	–0.1471***	0.1067***	0.1798***	0.1375*
Small regional towns and localities	–0.1423***	–0.0356	–0.0097	–0.0460
Regional rural areas	–0.1534***	–0.0705*	–0.1032**	–0.2638**
Remote towns	–0.1514***	–0.0769**	–0.1048**	–0.1020
Indigenous towns	–0.1790***	–0.1929***	–0.0899*	–0.0751
Remote dispersed settlements	–0.1901***	–0.2163***	–0.0657	–0.0749
Victoria	0.1514***	0.2172***	0.2067***	0.0951
Queensland	0.1320***	0.2176***	0.2519***	0.0312
South Australia	0.2140***	0.2535***	0.2489***	0.2689***
Western Australia	0.2481***	0.3857***	0.3828***	0.2791***
Tasmania	0.1094**	0.3346***	0.2515***	0.6700***
Northern Territory	0.2763***	0.3835***	0.3166***	0.2223**
Australian Capital Territory	0.1831**	0.2329**	0.3697***	0.0734
Significant percentage of destination area a TGT or RSD area	–0.0735*	–0.0938**	–0.0337	–0.0984
Difference in socioeconomic percentile rank in between source and destination area	0.0000	0.0002	0.0003	0.0010
Constant	0.4424***	0.4592***	0.2787***	0.2442**
Adjusted R-Squared	0.4346	0.2798	0.2496	0.2465
Number of observations	38,976	30,856	36,946	10,151

Source: Customised calculations based on the 2011 Census.
Note: Variables for which the coefficient is statistically significant at the 1% level of significance are labelled ***; those statistically significant at the 5% level of significance only are labelled **, whereas those statistically significant at the 10% level of significance only are labelled *.

which make the costs involved with longer moves more burdensome. The lack of affordable and efficient public transport in remote areas may also play a part in increasing the friction of distance for these migrants.

Given the focus of the estimations in Tables 10 and 11 were on those who moved out of a particular location type, it was not necessary to include a variable for whether or not the source and destination areas were in a different location type. Keeping this in mind when looking at the location type variables in the model, it is not surprising that those who moved out of a major city were less likely to move to all other location types. It was interesting to find, however, that those who moved out of city areas did not seem to show a relative preference for large regional towns. This is in contrast to those who moved out of large regional towns, small regional towns, regional rural areas and remote towns. Those who moved out of Indigenous towns were most likely to move to other Indigenous towns, and least likely to move to remote dispersed settlements.

TABLE 11. Factors associated with Indigenous choice of destination for those who moved out of remote areas, 2006–11

	Source location type		
Explanatory variables	**Remote towns**	**Indigenous towns**	**Remote dispersed settlements**
Share of Indigenous population living in destination	0.3731***	0.4295***	0.1796**
Source and destination areas contiguous	7.4743***	14.1028***	9.7305***
Distance between centroids of source and destination area populations (km)	–0.0929***	–0.2898***	–0.1598***
Source and destination areas in a different State/Territory	–0.6963***	–0.6792***	–0.6093***
Large regional towns	0.1836***	–0.0046	–0.0099
Small regional towns and localities	–0.0079	–0.0116	0.0261
Regional rural areas	–0.0665	–0.0153	0.0393
Remote towns	0.0879	0.0961	0.1806*
Indigenous towns	0.1560*	0.1984**	–0.0564
Remote dispersed settlements	0.1362*	–0.2331**	–0.2923**
Victoria	0.0800	0.1305**	0.0191
Queensland	0.0222	–0.1661***	–0.1305**
South Australia	0.2049***	–0.0370	–0.1133
Western Australia	0.1944***	0.0001	–0.0729
Tasmania	0.0868	0.1989*	0.0568
Northern Territory	–0.0114	–0.2438***	–0.0723
Australian Capital Territory	0.0895	0.0721	0.0006
Significant percentage of destination area a TGT or RSD area	–0.0125	–0.0894	0.3824***
Difference in socioeconomic percentile rank in between source and destination area	–0.0009	0.0007	–0.0007
Constant	0.6829***	1.2780***	0.8940***
Adjusted R-Squared	0.2017	0.2268	0.2341
Number of observations	14,616	20,300	13,398

Source: Customised calculations based on the 2011 Census.
Note: Variables for which the coefficient is statistically significant at the 1% level of significance are labelled ***; those statistically significant at the 5% level of significance only are labelled **, whereas those statistically significant at the 10% level of significance only are labelled *.

Interestingly, those who moved out of regional rural areas or remote dispersed settlements were more likely to move to other location types, highlighting the migration-driven urbanisation over the last intercensal period.

The final result of interest in Tables 10 and 11 is the association with the presence of an RSD area or TGT in the area and the choice of that area as the destination of an Indigenous migrant. Those who moved out of a major city or large regional town were less likely to move to those areas, potentially reflecting the fact that the additional services in these areas would still not have brought them up to the level of services provided in the most urbanised parts of the country. Those who moved out of remote dispersed settlements, on the other hand, were significantly and substantially more likely to move to such areas. While it is risky to ascribe causation to results from such cross-sectional analysis, this last result gives some support to the view that the additional services in these areas in between the two censuses has made them more attractive as a place to live for some Indigenous Australians.

Concluding comments

The aim of this paper was to provide an updated description of the migration patterns of Indigenous Australians over the last intercensal period and to compare these with previous patterns, as well as those from the non-Indigenous population. One of the main conclusions from the paper was a reinforcement of the fact that Indigenous Australians are a highly mobile population. They were substantially more likely to be away from their place of usual residence on the night of the census, with that difference widening once the age structure of the Indigenous population is taken into account. Although the difference isn't as large and is partly driven by the relatively young age structure of the Indigenous population, it is also true that Indigenous Australians were more likely to make permanent moves over the five years leading up to the 2011 Census.

Not all moves are equal, however. Permanent moves that cross area boundaries or involve changes in location type more likely to have impacts on the people and organisations in the source and destination areas. Another important finding from the paper, therefore, was that Indigenous Australians are more likely to make moves that involve a change in location type. Non-Indigenous Australians, on the other hand, are more likely to move from one city area to another, or from one large regional area to another.

Although it was only one of seven possible causes of population change for a local area, Indigenous mobility did have the effect of causing a structural realignment of the Indigenous population from relatively remote parts of the country to more urban ones. After controlling for a range of other characteristics, Indigenous Australians who changed their area of usual residence were more likely to move to a large regional town (and to a lesser extent a city area or remote town) than to a small regional town, regional rural area, Indigenous town or remote dispersed settlement. Indeed, the Indigenous share of the population in these last two location types actually declined between 2006 and 2011, as Indigenous Australians left and non-Indigenous Australians moved in—most likely to provide government services or to work in mining and related activities.

The census is limited in what we can say about the determinants of migration and mobility. There is no information, for example, on movement for family responsibilities—that is, moving to be close to family and friends, or to provide care for family members (grandchildren, persons with a disability). Furthermore, analysis in Biddle (2012a) showed that the characteristics of the houses in which Indigenous carers and their children lived had a strong impact on the migration decision. Nonetheless, the analysis presented in this paper was able to look at the area level characteristics that are associated with the migration decision.

With regards to these area characteristics, there appears to be some support for the proposition that government policy can have subtle but noticeable effects on population mobility. According to the FaHCSIA website,[2] RSD areas are the beneficiaries of 'a commitment by governments to work with Indigenous communities to improve the delivery of services to 29 priority remote communities across the Northern Territory, Western Australia, Queensland, New South Wales and South Australia'. There was a similar motivation for the designation of the Northern Territory's TGTs, albeit with a focus on one jurisdiction only.

It would appear that the designation of such areas was associated with a decline in the number of Indigenous people who wanted to leave such areas, as well as an inflow of people into the areas from remote dispersed settlements. This may not be a causal relationship, as people may have moved to these areas anyhow. Indeed, such population growth was one of the reasons for those areas being chosen in the first place. Furthermore, it remains to be seen whether such place-based policies will have an effect or even an association with socioeconomic status, particularly as those who move into the areas may have lower levels of financial and human capital, thereby lowering the average socioeconomic outcomes in the area. Nonetheless, the results presented in this paper give qualified support for the notion that such place-based policies have led to an increased motivation for Indigenous Australians to live in such areas.

2. See <http://www.fahcsia.gov.au/our-responsibilities/indigenous-australians/programs-services/remote-service-delivery>.

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Centre for Aboriginal Economic Policy Research
The Australian National University
Acton ACT 0200 Australia
T 61 2 6125 8206
F 61 2 6125 9730
http://caepr.anu.edu.au/publications/censuspapers.php