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Home ownership transitions and Indigenous Australians

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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% since the 2006 Census. There were also significant changes in the characteristics of the Indigenous population across a number of key variables, including 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 is funded by the Australian Government Department of the Prime Minister and Cabinet (PM&C) and formerly by the then Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) through the Strategic Research Project, as well as PM&C/FaHCSIA and state and territory governments through the Indigenous Population Project.

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Contents

Abstract

This report uses the recently released Australian Census Longitudinal Dataset to examine transitions into and out of home ownership from 2006 to 2011 among the Indigenous population.

Although home ownership may not fit with everyone's aspirations and circumstances, analysis previously undertaken by the Centre for Aboriginal Economic Policy Research identified that Indigenous adults and children who lived in a home that was owned or being purchased by the household had improved outcomes across a range of wellbeing measures.

This report shows that, for the Indigenous population, higher levels of income and education were positively associated with the transition into home ownership, after controlling for a range of other characteristics. Those living in a private rental in 2006 were more likely to become an owner/purchaser in 2011 than those in community rental.

A key finding is that Indigenous adults living in regional areas who were not home owners or purchasers in 2006 were no more likely than those living in major cities to have moved into home ownership by 2011. In contrast, in the Australian adult population as a whole, those living in regional areas were significantly more likely than those living in major cities to move into home ownership between 2006 and 2011. Given that around 40% of the Indigenous population lives in regional areas, this finding merits further investigation.

Acronyms

ABS	Australian Bureau of Statistics
ACLD	Australian Census Longitudinal Dataset
ANU	The Australian National University
CAEPR	Centre for Aboriginal Economic Policy Research

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Introduction and overview

Analysis of Indigenous demographic and socioeconomic change has been hamstrung by a lack of longitudinal data that are representative of the diversity of the Aboriginal and Torres Strait Islander population, and that includes information across all age cohorts. Home ownership is one area for which transitions have been underresearched.

Available cross-sectional datasets support analyses of differences between Indigenous and non-Indigenous Australians in rates of home ownership and tenure type, as well as the geographic and demographic distribution of those rates. Such analyses can identify characteristics associated with home ownership among the Indigenous population (e.g. employment or living in a mixed Indigenous/non-Indigenous household). However, with cross-sectional data, it is extremely difficult to know whether certain characteristics predict home ownership or whether home ownership predicts those characteristics.

Repeated cross-sections of data give a reasonable picture of net changes over time in the characteristics of a population. For example, the unemployment rate is one barometer of changes in population-wide employment circumstances over time. However, change over time in the headline unemployment rate reveals little about underlying changes in individual circumstances, which might include:

- moving from unemployment into permanent employment
- churning into and out of employment and unemployment
- remaining unemployed long term.

Similarly, information about changes over time in home ownership obtained from repeated cross-sectional datasets reveals little about underlying individual transitions between different forms of housing tenure.

This uncertainty about the predictors of change is magnified by the fact that the Indigenous population is self-identified (or identified by someone else in the household) and, between 2006 and 2011, changing Indigenous identification contributed a net increase to Indigenous population growth, as measured by the Australian census (Biddle & Crawford 2015). For example, when comparing population outcomes in 2011 with 2006, we do not know the extent to which those identified as being Indigenous in 2011 are the same people (accounting for births and deaths) as those identified as being Indigenous in 2006. Changes in identification might be driving any observed change in population outcomes, resulting in misleading conclusions about whether outcomes really are improving or getting worse for individuals.

We therefore know very little about what characteristics predict the probability of an individual Indigenous Australian transitioning from another tenure type to home ownership, or vice versa. To gain a better understanding of individual changes, information for the same individuals over a period of time – that is, longitudinal data – is needed. Although causal inference is still impossible without some exogenous variation, longitudinal data get us much closer to potential causal pathways, as we can identify explanatory factors or characteristics that are present before the outcome of interest occurs. Longitudinal information could also help to address the problem of identification change because, even if people change identification, groups comprising the same individuals over time can be analysed.

One relatively new and promising source of data that may shed light on changing outcomes is the Australian Census Longitudinal Dataset (ACLD), released by the Australian Bureau of Statistics (ABS) in late 2013. According to the ABS (2013:4), 'a sample of almost one million records from the 2006 Census (wave 1) was brought together with corresponding records from the 2011 Census (wave 2) to form the largest longitudinal dataset in Australia'.

To produce the ACLD, 5% of records from the 2006 Census were linked probabilistically with available data from the 2011 Census based on the most likely match, given observed characteristics. Because this linking was done without knowing the individual's exact name and address, a minority of linked pairs will not, in reality, be the same individual. This needs to be kept in mind when making conclusions based on the data. However, for the first time in Australia, we have a large dataset with information on a person's Indigenous status, and their socioeconomic and demographic characteristics, at more than one point in time (in both 2006 and 2011).

The aim of this paper is to use both aggregate and individual (unit record) data from the ACLD to analyse the patterns, determinants and outcomes of change through time in the Indigenous population. Specifically, we consider the following:

- How many Indigenous people transitioned from not being home owners in 2006 to home ownership in 2011?

- What were the characteristics in 2006 that were significantly associated with the transition to home ownership in the ensuing five years?

- How many Indigenous people who were home owners in 2006 were also home owners five years later?

- What were the characteristics in 2006 that were significantly associated with being in home ownership at both points in time?

Before presenting a summary of the answers to these research questions, the next section outlines the extant literature on home ownership.

Home ownership transitions – literature review

Analysis undertaken by the Centre for Aboriginal Economic Policy Research for the Indigenous Population Project identified that Indigenous adults and children who live in a home that is owned or being purchased by the household have improved outcomes across a range of wellbeing measures (Biddle 2011). There are, however, a number of financial and locational barriers to Indigenous Australians undertaking such large investments.

There is a large and growing body of statistical resources relating to the question of home ownership, but relatively few quantitative analyses of the determinants of home ownership. In particular, there is a lack of multivariate analyses that could identify the relative significance of different factors for the Indigenous and non-Indigenous populations, while controlling for differences in the demographic and socioeconomic characteristics of the two populations.

International overview

The international literature identifies different types of factors associated with home ownership (Gabriel & Rosenthal 2005, Hilber 2007, Andrews & Sánchez 2011, Lerbs & Oberst 2014). These are outlined below.

1. Lifecourse, demographic and socioeconomic factors

- Home ownership increased with age, household size and disposable income; was associated with household structure; and was lower among immigrant or minority households (Gabriel & Rosenthal 2005, Andrews & Sánchez 2011).

- Stable, full-time employment was positively associated with home ownership (Gabriel & Rosenthal 2005).

- Poor health was negatively associated with home ownership (Gabriel & Rosenthal 2005).

Gabriel and Rosenthal (2005) attributed most of the increase in home ownership in the United States during the 1990s to demographic and economic attributes of the population. Other studies note that demographic and socioeconomic factors, while important, do not entirely explain increases in home ownership over time (Andrews & Sánchez 2011) or cross-country differences (Hilber 2007).

2. Neighbourhood or location characteristics

- Regional employment levels were associated with home ownership (Lerbs & Oberst 2014).

- Characteristics such as the level of noise, crime, vandalism and pollution were negatively associated with the proportion of owner-occupied to renter-occupied dwellings, 'consistent with the proposition that single owner-occupiers prefer to purchase their homes in better (and arguably less risky) neighbourhoods' (Hilber 2007:24).

3. Composition of the housing stock

Results from studies looking at cross-country differences within Europe (Hilber 2007) and regional differences within Germany (Lerbs & Oberst 2014) suggest that certain types of dwelling (e.g. single-family detached house) are more attractive to potential home owners than high-density housing, and regions with a greater share of high-density housing have lower home ownership rates.

4. Price of housing (absolute, relative to income, relative to renting)

Affordability of home ownership (price to income ratio) and the price of home ownership relative to renting (the main housing alternative) are also identified as important determinants of home ownership (Gabriel & Rosenthal 2005, Hilber 2007, Lerbs & Oberst 2014).

5. Mortgage financing

The evidence about the impacts of mortgage financing on home ownership is mixed. Andrews and Sánchez (2011) find that relaxing of deposit requirements increases home ownership, whereas Halket and Vasudev (2014) find that

removing the deposit requirement does not make home ownership much more attractive.

6. Discrimination

There is evidence from both experimental and observational data that individuals from minority racial and ethnic backgrounds are charged a higher purchasing amount and have less, or more expensive, access to finance than the majority population (Bayer et al. 2012).

Key findings for Australia

Factors associated with entry into home ownership

Yates (2011) reviews long-term trends in, and drivers of, home ownership in Australia. She categorises the factors explaining declining home ownership among younger households as social and demographic; economic and institutional; housing markets; and housing and other policies.

1. Demographic factors and lifecourse transitions

- Home ownership increases with age, and population ageing puts upwards pressure on the rate of home ownership (Mudd et al. 2001, Kryger 2009, Andrews & Sánchez 2011).
- Formal marriage is one of the most significant factors associated with home ownership (Baxter & McDonald 2004).
- Beer and Faulkner (2009) found that having children is an important driver to enter home purchase, whereas Baxter and McDonald (2004) found that having children delayed home purchase, and the more children, the longer the delay.
- Delays in family formation accounted for slight declines in home ownership among the under-35-year-olds until around 2000 (Baxter & McDonald 2004), a finding broadly supported by Flatau et al. (2004) and Yates (2011). It is also argued that, although demographic and social change accounts for much of the change in home ownership, declining affordability (especially recently) has also played a role (Flood & Baker 2010, Yates 2011).
- Changes in household composition have acted to reduce home ownership rates because of an increasing share of single-head households (Mudd et al. 2001, Kryger 2009, Andrews & Sánchez 2011, Yates 2011). Declining home ownership among lone parent families was also found (Mudd et al. 2001).
- Disability and poor health are barriers to home ownership (Beer & Faulkner 2009).

2. Labour force status

- Full-time employment is positively associated with home ownership (Baxter & McDonald 2004).

3. Income, housing markets, housing stock and housing affordability

- There is a positive association between higher income and home ownership (Productivity Commission 2004, Beer & Faulkner 2009, AIHW 2015).
- Yates (2011) argues that a simultaneous increase in single adult households and dual-income households in younger age groups, and liberalised lending practices, have increased housing demand from high-income households, which has raised house prices and squeezed out lower income households.
- Cost of home ownership relative to renting is a determinant of entry into home ownership, with Beer and Faulkner (2009) showing that the rate of entry into home ownership among 18–34-year-olds fell as the cost of home purchase increased relative to renting.
- Higher household growth than population growth, increased urbanisation, housing shortages and increased densification are key housing market factors, with young people possibly choosing to rent in central locations close to employment rather than buying (Yates 2011) and affordable housing retreating 'to the metropolitan periphery' (Phillips 2011).
- Flood and Baker (2010) found that regional differences are small and becoming less significant, but – when disaggregated by age – regional differences do become significant.

4. Housing and other policies

- Housing subsidies (adding to demand and pressure on house prices), higher education fees and debt (reducing access to home ownership for younger households), and employer superannuation (reducing incentive to invest in home ownership and possibly ability to save) may have had effects on entry into home ownership (Yates 2011).

Factors associated with losing one's home

- Relationship breakdown is one of the most significant factors associated with moving from home ownership to rental accommodation (Beer & Faulkner 2009). For older Australians, other factors associated with moving from home ownership to rental accommodation included to be closer to family or services, and disability or sickness.

- Acquiring a disability is also associated with exiting home ownership (Beer & Faulkner 2009).

Indigenous differences in attitudes and opportunities for home ownership

When considering the factors that potentially influence home ownership for the Indigenous population, there are two main perspectives. First, the Indigenous population may be affected in the same way by many of the same factors that affect the whole Australian population, but could be disproportionately affected because of the distribution of those factors. Second, there may be different factors affecting the rate of Indigenous home ownership, or the same factors may have a different scale or direction of association.

The Indigenous population is younger, more likely to live in regional or (especially) remote areas, has lower employment rates, is overrepresented at the lower end of the income distribution and has a higher disability rate than the non-Indigenous population. Indigenous families have children at a younger age and have larger families than do non-Indigenous Australians. In the general population, many of these factors are negatively associated with home ownership.

Different factors potentially affecting the Indigenous population include:

- the impacts of dislocation from traditional country

- extended kinship networks and living arrangements, and housing supply in remote areas (Beer & Faulkner 2009)

- the number living on communally owned or controlled land (SCRGSP 2003, 2005)

- more complex household structures (ABS 2006).

Factors associated with entry into home ownership for Indigenous Australians

The home ownership rate for Indigenous households (those with at least one Indigenous usual resident) increased from 32% in 2001 to 36% in 2006 and 37% in 2011, compared with 69% in 2011 for non-Indigenous Australians. However, the percentage of Indigenous people living in owned homes was smaller than the percentage of Indigenous households living in owned homes, because of the larger household sizes (on average) of those living in social housing (AIHW 2014). Despite a narrowing of the gap between home ownership rates of Indigenous and non-Indigenous households from 2001 to 2011 (AIHW 2014), Indigenous housing pathways are still dominated by rental, not ownership (Birdsall-Jones & Christensen 2007).

Remoteness and location

Indigenous home ownership rates are higher in nonremote areas (ABS 2006, AIHW 2014), but increased for all 'remoteness' categories (major cities, inner regional, outer regional, remote, very remote) between 2006 and 2011 (AIHW 2014). Flood and Baker (2010) speculated the increase in Indigenous home ownership in remote areas may be because of Indigenous home lending and increased availability of housing finance in remote areas, as well as the loss of rental housing through the selling-off of government employee housing and the decline in company towns.

Another locational factor particularly affecting Indigenous Australians is that many live on community-titled land, especially in remote areas, where individual home ownership is more difficult to access (Beer & Faulkner 2009, AIHW 2014).

The issues of residential and geographical mobility are also discussed in the literature. Recent analysis has shown that higher levels of residential mobility among the Indigenous compared with the non-Indigenous population are explained by other factors including age, mobility history and housing tenure, with those living in private rental much more likely to move in the following five-year period (Biddle & Crawford 2015). Again, based on a very small Indigenous sample, Beer and Faulkner (2009) identified some of the main reasons given by their (generally urban) respondents for moving house, which included to improve the home or location, for employment or study, and eviction or affordability issues. Birdsall-Jones and Christensen (2007:1) note that 'signal aspects of contemporary Indigenous ways of living, namely mobility, localism, regionalism and the operation of kinship related behaviour … cry out for investigation in relation to Indigenous housing policy and practice'. Elsewhere, it is noted that Indigenous people

express a desire for stability of residence while maintaining practices of visiting kin involving spatial mobility (AHURI 2008), supporting a need for better understanding of the interaction of residential mobility and stability of regional affiliations.

Household composition and household size

Indigenous home owners were more likely to be families with children under 15 (64%) than non-Indigenous home owners (44% were families with children under 15). The percentage of Indigenous home owners who were single was much smaller (1.4%) than the corresponding percentage of non-Indigenous home owners (5.9%) (ABS 2006). These results may reflect increased access to home ownership for Indigenous people in recent decades, and the different age and fertility profiles of the Indigenous and non-Indigenous populations.

Indigenous kinship structures and interactions are important to housing tenure choices, where – for example – private rental housing provided more space for visiting kinfolk (Birdsall-Jones & Christensen 2007).

Housing stock

Based on an analysis of Indigenous households in Western Australia from the 2001 Census, Birdsall-Jones and Christensen (2007) found that the percentages of Indigenous and non-Indigenous Australians living in each dwelling type (e.g. detached house, townhouse, flat, apartment) were similar, and that for each dwelling type (except for a varied 'other' category), Indigenous Australians were less likely to be home owners or purchasers than their non-Indigenous counterparts. However, Indigenous people living in separate or detached houses were much more likely to be home owners than those living in other types of dwellings, whereas these differences were much less pronounced among the non-Indigenous population.

Socioeconomic factors

The Indigenous home ownership rate increased with increasing socioeconomic status (AIHW 2014).

Attitudes

Recent qualitative and quantitative studies have highlighted some other issues relevant to the housing choices of Indigenous Australians:

- A greater proportion of Indigenous households considered home purchase or ownership to be a major risk, compared with non-Indigenous respondents (Beer & Faulkner 2009).
- Indigenous people value stability in their housing, but housing is sometimes inappropriate for their needs (Beer & Faulkner 2009).
- A common reason for home purchase was to provide for children's future – rent was viewed by some as wasted, especially if a similar amount to home loan repayments. Unaffordability of home purchase was a commonly expressed concern (Beer & Faulkner 2009).
- Indigenous Australians most commonly reported family as being the most influential factor in housing decisions, unlike non-Indigenous Australians, who most commonly reported financial and partnership status (Beer & Faulkner 2009).
- Indigenous Australians had higher levels of dissatisfaction with their housing than non-Indigenous Australians (Biddle 2011), but tended to evaluate the same housing conditions more generously than the Australian-born non-Indigenous population, perhaps owing to lower aspirations or expectations (Tomaszewski & Perales 2014).

Identification change

Between 2006 and 2011, there was a large number of people who were previously not identified as being Indigenous whose identification changed to Indigenous (Biddle 2012, Biddle & Crawford 2015). Although there was also identification change in the opposite direction, in net terms, the Indigenous population increased above and beyond that which would be suggested by births and deaths alone. Biddle and Crawford (2015) also found that those who were 'newly identified' as being Indigenous had higher socioeconomic status and were more likley to live in urban areas than those who were identified as Indigenous in both periods. This identification change might therefore be increasing the measured rate of home ownership, even if individual Indigenous Australians are no more (or less) likely to be living in an owner-occupied dwelling during the period.

Factors associated with losing one's home for the Indigenous population

Factors associated with moving from home ownership to rental housing, for Indigenous Australians, included relationship breakdown, loss of employment causing inability to meet payments, and the need to relocate for work (Beer & Faulkner 2009).

Home ownership transitions – descriptive analysis

The literature review illustrates that many of the same factors associated with home ownership in the general population apply to the Indigenous population. However, they can be expected to have differential effects because of the different distribution of these factors in the Indigenous population (e.g. a larger proportion of the Indigenous population having a low income). But there are also different factors that affect the Indigenous population – for example, kinship structures and interactions, and housing supply in remote areas.

All the evidence presented in the previous section (apart from the data on identification change and the relationship between tenure and mobility) is based on cross-sectional or qualitative data. In this section, we begin our analysis of the ACLD (the first longitudinal analysis of home ownership, to the authors' knowledge) by presenting a set of weighted, descriptive analyses.

It is important to note that information about housing tenure from the census is collected in relation to whether the dwelling is owned, being rented and so on, and that information about the housing tenure of individuals therefore relates to whether they are living in a dwelling that is owned, rented and so on, and not whether they are the owner, mortgagee and so on. Many of those in the youngest age group in 2006 – those aged 18–24 years – are likely to have moved out of the parental home (which, in many cases, would be owned or being purchased) by 2011, to live on their own, or to share with a partner or others in rented accommodation.

Table 1 shows that 33% of Indigenous people and 74% of non-Indigenous people aged 18 years and older in 2006 were living in a dwelling that was owned outright or with a mortgage, and the percentages among those aged 18 years and older in 2011 were very similar. These cross-sectional differences are reasonably well established. However, using the ACLD, we can also look at transitions.

As the Australian literature attests, higher levels of income are positively associated with home ownership. Fig. 1 shows the percentages of those aged 18 years and older not living in a dwelling owned outright in 2006, and who were living in such a dwelling in 2011. This illustrates that the greatest disparity is in the lowest income category. Nearly half of Indigenous Australians aged 18 years and older were in this category, compared with about one-quarter of non-Indigenous Australians.

TABLE 1. **Housing tenure of persons aged 18 years and older in 2006 and 2011, by Indigenous status 2006 (weighted to the total population)**

	2006		2011	
Home ownership and Indigenous status	Number	Per cent	Number	Per cent
Indigenous (2006)				
Living in a dwelling owned outright or with a mortgage	90 200	33	120 900	34
Not living in a dwelling owned outright or with a mortgage	185 400	67	233 800	66
Total	**275 600**	**100**	**354 700**	**100**
Non-Indigenous (2006)				
Living in a dwelling owned outright or with a mortgage	10 178 100	74	1 213 000	75
Not living in a dwelling owned outright or with a mortgage	3 488 600	26	3 641 700	25
Total	**13 666 700**	**100**	**4 854 700**	**100**

Source: Customised calculations using the ACLD 2006–11

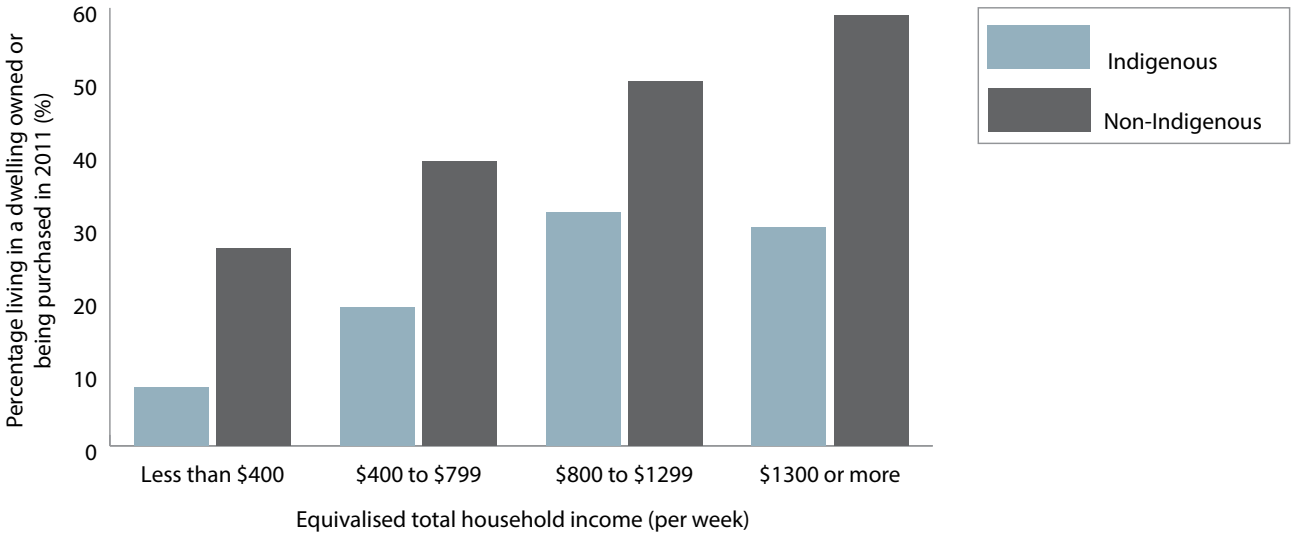
Table 2 shows that, of those Indigenous Australians who weren't living in a dwelling owned outright or with a mortgage in 2006, 14% had transitioned into such a dwelling between 2006 and 2011. For the corresponding non-Indigenous population, on the other hand, the figure was 40%, a much higher transition rate. Looking at the bottom half of Table 2, 23% of the Indigenous population living in a dwelling owned outright or with a mortgage were no longer in such a dwelling in 2011. For the corresponding non-Indigenous population, however, only 11% made such a transition.

TABLE 2. **Housing tenure transitions from 2006 to 2011 of persons aged 18 years and older in 2006, by Indigenous status 2006 (weighted to the total population)**

Home ownership and Indigenous status, 2006	Not living in a dwelling owned outright or with a mortgage, 2011	Living in a dwelling owned outright or with a mortgage, 2011
Not living in a dwelling owned outright or with a mortgage		
Indigenous – number	151 100	23 700
Indigenous – per cent	86	14
Non-Indigenous – number	1 999 100	1 359 900
Non-Indigenous – per cent	60	40
Living in a dwelling owned outright or with a mortgage		
Indigenous – number	19 800	66 600
Indigenous – per cent	23	77
Non-Indigenous – number	1 086 400	8 706 200
Non-Indigenous – per cent	11	89

Source: Customised calculations using the ACLD 2006–11

FIG. 1. **Transitions from 2006 to 2011 into home ownership of persons aged 18 years and older not living a dwelling owned or being purchased in 2006, by Indigenous status 2006 and equivalised household income (weighted to the total population)**



Source: Customised calculations using the ACLD 2006–11

Home ownership transitions – modelling

Based on the descriptive data alone, it would appear that Indigenous Australians are much less likely to transition into home ownership and much more likely to transition out of it. These differences are substantial and statistically significant. But this broad analysis does not illustrate how many of these differences can be attributed to differences in demographic and other characteristics. For example, home ownership rates tend to increase with age, but the Indigenous population is younger than the non-Indigenous population. There are also stark differences in the educational, employment and income profiles of the two populations.

To better understand how particular factors are associated with home ownership, multivariate analyses were conducted to examine determinants of home ownership identified from the literature review. A series of regression models was produced with these determinants introduced progressively. Table 3 presents the different profiles of the Indigenous and non-Indigenous populations aged 18 years and older in terms of these characteristics, as well as the profiles according to the same characteristics of those who transitioned into home ownership between 2006 and 2011.

The first set of models examines factors associated with the transition into home ownership (broadly speaking) during a five-year period among those aged 18 years and older. Specifically, these analyses focus on those who were not living in a dwelling that was owned outright or being purchased in 2006, but, by 2011, were living in a dwelling that was owned or being purchased.

Table 4 presents a set of four models for the total Australian sample aged 18 and older in 2006, and another set for the Indigenous sample aged 18 and older in 2006. Model 1 includes basic demographics as at 2006: whether partnered and, if so, whether one or both partners were Indigenous; broad remoteness categories; gender; and age. Model 2 adds the following variables (also at 2006): whether there were children under 15 years old in the household; whether completed Year 12; and number of employed people aged 15 and older in the household (none, one, two or more). Model 3 adds housing tenure in 2006 (living in private rental accommodation, living in other accommodation), and whether changed usual residence in the five years before 2006. Finally, model 4 adds equivalised household income in 2006 (lower 25% Australia-wide, middle 50%, upper 25%) and rental costs in 2006 (lower 25% Australia-wide, middle 50%, upper 25%). Appendix 1 provides more detailed information about how these variables were constructed.

Results are presented as marginal effects, which is the difference in predicted probability of the outcome occurring while holding all else constant. It should also be noted that the total sample is much larger than the Indigenous sample. In larger samples, even variables with relatively small effects can be found to be statistically significant. The focus, therefore, is as much on the scale of the marginal effect as on the statistical significance (although the latter is also important in terms of precision).

Starting with findings for the total population, and leaving aside the Indigenous-status variables for now, model 1 shows that, compared with those in the 25–34-year-old age group, those aged 18–24 not living in an owned home were less likely to move into home ownership, whereas older people were increasingly less likely to move into home ownership with increasing age.

Model 2 illustrates the association with education and employment, controlling for the demographics introduced in model 1. It shows that completion of Year 12 is positively associated with home ownership. Compared with the base case of one employed person aged 15 or more in the household, those living in jobless households in 2006 were significantly less likely to have moved into an owned dwelling by 2011, whereas those in households with two or more employed people aged 15 or more in the household in 2006 were significantly more likely to have moved into an owned dwelling.

In model 3, we show that tenure types other than public housing (the base case) have a significant and substantial association with moving into home ownership. It is also interesting to note that, after controlling for the other variables in the model, those who changed their usual residence in the year before 2006 were more likely to transition into home ownership between 2006 and 2011.

Model 4 includes variables that capture both income and rental costs in 2006. Not surprisingly, those with lower incomes were less likely to move into home ownership in 2011 and those with higher incomes were more likely to move into home ownership. After controlling for income, those who had been paying lower rents in 2006 were more likely to move into home ownership, while the outcome for those paying higher rents was not significantly different from those paying middle-range rents.

Information about both housing costs and income was included because it is difficult to assess the effect of housing costs without taking information about income into account. For households with two high-income earners, higher housing costs are less likely to be a barrier to home ownership, whereas for those with lower household incomes, housing costs in the middle range may be unaffordable. The other important factor is the effect of regional housing markets. Home ownership may be unaffordable for someone living in a major city with a certain level of household income, but affordable for someone with the same level of household income living in a regional area. We investigated this by adding a variable that measured the percentage of purchasing households in an area with mortgage costs in the top 25%

TABLE 3. **Profiles of Indigenous and non-Indigenous Australians aged 18 years and older, and those who transitioned into home ownership from 2006 to 2011 – individual, area and household factors**

	Population aged 18 years and older (%)		Transitioned into home ownership 2006–11 (%)	
Factor	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Gender 2006				
Male	45	49	46	50
Female	56	51	54	50
Age 2006				
18–24 years	22	13	24	19
25–34 years	26	19	34	35
35–44 years	24	20	24	22
45–54 years	16	19	12	13
55 years and older	12	29	6	11
Remoteness areas (usual residence) 2006				
Major cities	32	71	41	73
Regional	42	28	43	24
Remote	26	2	16	2
Highest year of school completed 2006				
Had completed Year 12 or equivalent	25	51	34	64
Had not completed Year 12 or equivalent	75	49	65	36
Usual address one year ago indicator 2006				
Same address one year ago as in 2001	79	84	63	61
Different address one year ago	21	16	37	39
Number of children aged 0–14 in household 2006				
No dependent children	38	62	40	55
One or more dependent children	62	38	60	45
Number of employed persons in household 2006				
No employed persons	28	20	21	12
One employed person	28	27	33	34
Two or more employed persons	44	53	46	54
Tenure and landlord type 2006				
Owned outright	10	35	na	na
Owned with a mortgage	23	40	na	na
Private rental	22	20	61	84
Public rental	40	3	29	5
Other tenure type	5	3	10	11
Equivalised total (weekly) household income of household where person was enumerated 2006				
Less than $400 (lower 25%)	49	24	35	22
$401–999 (middle 50%)	40	49	49	48
More than $1000 (upper 25%)	11	27	15	30
Mortgage repayment (weekly) 2006				
Less than $231 (lower 25%)	41	31	na	na
$231–460 (middle 50%)	45	45	na	na
More than $460 (upper 25%)	14	24	na	na
Rent (weekly) 2006				
Less than $150 (lower 25%)	62	24	34	18
$151–274 (middle 50%)	31	49	51	49
More than $275 (upper 25%)	7	27	15	33

na = not applicable
Source: Customised calculations using the ACLD 2006–11

in Australia – a higher percentage indicating more expensive areas. This analysis showed that the probability of moving into home ownership, among those who were not owners or buyers in 2006, significantly decreased with each unit increase in the percentage of purchasing households in the area whose mortgage costs were in the top 25% in Australia.

The most important findings from the analysis of the total population for the purposes of this paper, however, relate to the difference between Indigenous and non-Indigenous Australians. Among those in the non-Indigenous sample, couples where both partners were non-Indigenous were significantly more likely to transition into home ownership than single people. However, the home ownership outcomes of non-Indigenous respondents with an Indigenous partner were not significantly different from those of single non-Indigenous people.

Indigenous people – even those who were partnered – were significantly less likely than a single non-Indigenous person to move into home ownership.

Although the size of the marginal effects related to Indigenous status and partnering decline as more variables are added to the model, most remain significant. This suggests that other characteristics explain some, but not all, of the differences. Taking the four models together, therefore, we can conclude that demographic, geographic and socioeconomic variables available in the ACLD explain some, but not all, of the differences between the two populations.

Among the Indigenous sample, the factors with the largest marginal effects on the probability of moving into home ownership between 2006 and 2011 were living in a private rental in 2006, having an equivalised household income in the top 25% Australia-wide, and having changed usual residence between 2005 and 2006. Having a non-Indigenous partner was also positively associated with moving into home ownership.

Among the total Australian sample, living in a regional area had a significant positive association with the transition into home ownership (compared with those living in major cities), but for the Indigenous sample, there was no such positive association. This has substantial implications, given that, in 2006, 41% of the Indigenous population aged 18 years and older lived in regional Australia. Looking back at Table 3, we can see that 41% of Indigenous people aged 18 years and older who transitioned into home ownership lived in major cities, although just 32% of all Indigenous Australians aged 18 years and older lived in major cities. In contrast, for the non-Indigenous population, the percentage living in major cities that transitioned into home ownership (73%) more closely aligns with the percentage of the non-Indigenous population aged 18 years and older living in major cities (71%). The negative marginal effect associated with living in a remote area is larger (though not significant at the 5% level because of the smaller sample size) for the Indigenous sample than the non-Indigenous sample.

Among the Indigenous sample, employment appears to have less of an association with the move into home ownership. The association between having more than one employed person aged 15 and older in the household and the move into home ownership is smaller than for the total population (and insignificant).

Looking at the variables that were significant for the Indigenous sample after controlling for the other factors included in model 4, there are some other differences from the total sample. A change of address between 2005 and 2006 was positively associated with a move into home ownership between 2006 and 2011 for both samples, but the association was larger for the Indigenous sample.

Similarly, having a lower income had a larger negative association for the Indigenous sample, whereas having a higher income had a smaller positive association. These results may be, at least partly, explained by different distributions of the Indigenous and total samples within the broad income categories used in the analysis. Another possible explanation is that low-income Indigenous Australians may have lower accumulated wealth than low-income non-Indigenous Australians, because of greater intergenerational poverty.

Finally, for the Indigenous sample, those paying rent at either the upper or the lower end of the spectrum were less likely to move into home ownership (though not significant for higher rents). In contrast, in the total population, those paying lower rents were more likely to move into home ownership. This suggests that, among the total population, lower rent payments enable people to acquire the resources to move into home ownership, but this does not apply to the Indigenous population. This may be because even relatively low rental costs generally represent a greater percentage of household income for the Indigenous population. Given the way the data are categorised in the available dataset, it is not possible to calculate a precise cost to income ratio. Although the broad income and housing cost variables used in the analysis presented here are crude measures, they do yield some results suggestive of further investigation.

TABLE 4. **Marginal effects on the probability of transition from not living in a dwelling owned or being purchased, into a dwelling owned or being purchased, from 2006 to 2011**

	Total sample				Indigenous sample			
Explanatory variables	**M1 (sig.)**	**M2 (sig.)**	**M3 (sig.)**	**M4 (sig.)**	**M1 (sig.)**	**M2 (sig.)**	**M3 (sig.)**	**M4 (sig.)**
Unpartnered Indigenous	–0.260 (***)	–0.185 (***)	–0.080 (***)	–0.079 (***)	na	na	na	na
Partnered, both Indigenous	–0.347 (***)	–0.271 (***)	–0.122 (***)	–0.106 (***)	–0.078 (***)	–0.067 (**)	–0.038 (**)	–0.027 (ns)
Non-Indigenous with Indigenous partner	–0.057 (**)	–0.012 (ns)	0.003 (ns)	0.007 (ns)	na	na	na	na
Indigenous with non-Indigenous partner	–0.130 (***)	–0.082 (***)	–0.039 (**)	–0.038 (**)	0.114 (***)	0.109 (***)	0.046 (**)	0.044 (*)
Partnered, both non-Indigenous	0.080 (***)	0.084 (***)	0.052 (***)	0.051 (***)	na	na	na	na
Living in a regional area	0.014 (***)	0.029 (***)	0.011 (***)	0.016 (***)	–0.040 (*)	–0.024 (ns)	–0.012 (ns)	–0.003 (ns)
Living in a remote area	0.019 (*)	0.014 (ns)	0.004 (ns)	–0.004 (ns)	–0.132 (***)	–0.122 (***)	–0.046 (**)	–0.034 (ns)
Female	–0.025 (***)	–0.010 (***)	–0.005 (**)	–0.004 (*)	–0.041 (**)	–0.026 (ns)	–0.016 (ns)	–0.005 (ns)
Aged 18–24 years	–0.044 (***)	–0.048 (***)	–0.034 (***)	–0.016 (***)	–0.027 (ns)	–0.034 (ns)	–0.028 (*)	–0.026 (ns)
Aged 35–44 years	–0.057 (***)	–0.023 (***)	–0.009 (**)	–0.009 (**)	–0.027 (ns)	–0.009 (ns)	0.003 (ns)	–0.004 (ns)
Aged 45–54 years	–0.108 (***)	–0.077 (***)	–0.037 (***)	–0.034 (***)	–0.065 (**)	–0.066 (*)	–0.026 (ns)	–0.036 (ns)
Aged 55 years and older	–0.191 (***)	–0.129 (***)	–0.069 (***)	–0.065 (***)	–0.108 (***)	–0.101 (**)	–0.047 (*)	–0.051 (ns)
Children aged under 15 in the household	na	–0.025 (***)	–0.013 (***)	0.009 (**)	na	–0.061 (***)	–0.023 (*)	–0.006 (ns)
Completed Year 12	na	0.095 (***)	0.058 (***)	0.047 (***)	na	0.107 (***)	0.057 (***)	0.043 (*)
No employed persons aged 15 and older in the household	na	–0.114 (***)	–0.054 (***)	–0.034 (***)	na	–0.063 (**)	–0.027 (*)	–0.013 (ns)
Two or more employed persons aged 15 years and older in the household	na	0.051 (***)	0.035 (***)	0.019 (***)	na	0.034 (ns)	0.023 (ns)	0.007 (ns)
Living in a dwelling being privately rented	na	na	0.179 (***)	0.163 (***)	na	na	0.139 (***)	0.124 (***)
Living in a dwelling with another tenure type	na	na	0.234 (***)	0.176 (***)	na	na	0.092 (***)	0.050 (ns)
Changed address between 2005 and 2006	na	na	0.039 (***)	0.037 (***)	na	na	0.054 (***)	0.055 (**)
Lower 25% for equivalised household income	na	na	na	–0.037 (***)	na	na	na	–0.066 (***)
Upper 25% for equivalised household income	na	na	na	0.081 (***)	na	na	na	0.075 (*)
Lower 25% of rental costs (less than $150 per week)	na	na	na	0.013 (***)	na	na	na	–0.037 (*)
Upper 25% of rental costs ($275 or more per week)	na	na	na	–0.001 (***)	na	na	na	–0.023 (ns)
Predicted probability of base case	0.441	0.353	0.172	0.164	0.242	0.233	0.119	0.155
Sample size	130 814	120 248	11 997	104 834	4 293	3 789	3 759	3 131

* = coefficients statistically significant only at the 5% level of significance; ** = coefficients statistically significant only at the 1% level of significance; *** = coefficients statistically significant at the 0.1% level of significance; na = not applicable; ns = not significant at the 5% level of significance; sig. = significance

Notes: The base-case individual for all models for the total sample was a unpartnered non-Indigenous male living in a major city, aged 25–34. For model 2, the base case is further defined as having no children aged under 15 in the household, had not completed Year 12, and one person aged 15 and older was employed. For model 3, the base case is further defined as living in public housing, and had not changed address between 2005 and 2006. For model 4, the base case is further defined as having an equivalised household income in the middle 50% of the income distribution Australia-wide, and rental costs in the middle 50% of the distribution Australia wide. The models for the Indigenous sample corresponded to those for the total sample, except that the base case was an unpartnered Indigenous male living in a major city, aged 25–34 and the categories for 'non-Indigenous with Indigenous partner' and 'partnered, both non-Indigenous' do not apply.

Source: Customised calculations using the ACLD 2006–11

Next, we present factors associated with the probability of remaining in home ownership (Table 5). Again, a set of four models for the total Australian sample aged 18 and older in 2006, and corresponding models for the Indigenous sample, are presented. As before, model 1 includes basic demographics (as at 2006): whether partnered and, if so, whether one or both partners were Indigenous; broad remoteness categories; gender; and age. Model 2 adds the following variables (also at 2006): whether there were children under 15 in the household, whether completed Year 12, and number of employed people aged 15 and older in the household (none, one, two or more). Model 3 includes whether the house is owned as opposed to being purchased, as well as whether the person changed usual residence in the five years before 2006. Finally, model 4 adds equivalised household income in 2006 (lower 25% Australia-wide, middle 50%, upper 25%) and mortgage costs in 2006 (lower 25% Australia-wide, middle 50%, upper 25%).

Compared with those in the 25–34-year-old age group, those aged 18–24 years who had been living in an owned home in 2006 (in many cases, this is likely to have been the parental home) were less likely to be living in an owned dwelling in 2011, likely reflecting the move out of the parental home into other accommodation. Otherwise, the likelihood of remaining in home ownership increased with age, a pattern that may be explained by a combination of many factors, including historical differences in house prices, access to housing finance and divorce rates experienced by those in different age cohorts. Notably, living in a regional or remote area had a significant negative association with the probability of being in home ownership in both 2006 and 2011. One potential explanation for this that should be explored in future analysis is the effect of migration to major cities – people who may have been able to afford to buy a home in a regional or remote area may move into rental accommodation, even if temporarily, when they move to a major city with associated greater housing costs.

Having changed address of usual residence between 2005 and 2006 had a significant negative association with being in home ownership in 2011 (for those who were in home ownership in 2006). Such changes of address can be within the smaller local area or to a different region.

Those who were in the process of buying their home in 2006 were less likely to be in home ownership in 2011 than those who owned their homes outright in 2006. This could be because of a range of factors, ranging from changes in housing tenure (whether short term or long term) associated with moving to a new area for work, to relative precarity of tenure among those with fewer financial resources.

The inclusion of household income and housing costs in model 4 shows that those with lower incomes were more likely to move out of home ownership by 2011, while those with higher incomes were more likely to remain in home ownership in 2011. Compared with those who already owned their homes outright in 2006, those with any level of mortgage costs were less likely to be in home ownership in 2011, but the marginal effect of mortgage costs increased as the level of mortgage costs increased.

Moving now to the Indigenous variables, compared with the base case (unpartnered non-Indigenous Australians), unpartnered Indigenous people who had been living in a dwelling owned or being purchased in 2006 were significantly less likely to be living in a dwelling owned (or being purchased) in 2011. Among Indigenous people with an Indigenous partner who were living in a dwelling owned or being purchased in 2006, the probability of being in the same situation in 2011 was not significantly different from single non-Indigenous people. Those in mixed partnerships were more likely to have remained in home ownership compared to the base case, but had a lower probability than non-Indigenous Australians with a non-Indigenous partner. Therefore, even controlling for other characteristics, Indigenous Australians are less likely to stay in an owner-occupied dwelling than non-Indigenous Australians.

Once again, in the models for the Indigenous sample, most of the variables generally tend to have similar associations with being in home ownership in 2011, among those who were in home ownership in 2006. Being aged 55 and older has a larger positive association with the probability of remaining in home ownership for the Indigenous population, possibly because of the lower average life expectancy of the Indigenous population. A relatively smaller proportion of the Indigenous population are in age groups in which many older people in the general population move from their own home into some form of aged care.

Another difference between the Indigenous sample and the total sample is that having children aged under 15 in the household has a significant positive association with remaining in home ownership in 2011 for the Indigenous population, compared with no significant association for the total sample, despite the much larger sample size.

TABLE 5. **Factors associated with the probability of being in a dwelling owned or being purchased in both 2006 and 2011**

	Total sample				Indigenous sample			
Explanatory variables	**M1 (sig.)**	**M2 (sig.)**	**M3 (sig.)**	**M4 (sig.)**	**M1 (sig.)**	**M2 (sig.)**	**M3 (sig.)**	**M4 (sig.)**
Unpartnered Indigenous	–0.098 (***)	–0.082 (***)	–0.067 (***)	–0.075 (***)	na	na	na	na
Partnered, both Indigenous	–0.038 (ns)	–0.032 (ns)	–0.023 (ns)	–0.024 (ns)	0.066 (*)	0.040 (ns)	0.038 (ns)	0.043 (ns)
Non-Indigenous with Indigenous partner	0.041 (**)	0.037 (**)	0.038 (***)	0.048 (***)	na	na	na	na
Indigenous with non-Indigenous partner	0.047 (***)	0.046 (***)	0.046 (***)	0.045 (***)	0.125 (***)	0.099 (***)	0.095 (***)	0.101 (***)
Partnered, both non-Indigenous	0.075 (***)	0.070 (***)	0.063 (***)	0.066 (***)	na	na	na	na
Living in a regional area	–0.034 (***)	–0.032 (***)	–0.027 (***)	–0.030 (***)	–0.066 (**)	–0.066 (**)	–0.064 (**)	–0.063(*)
Living in a remote area	–0.080 (***)	–0.067 (***)	–0.063 (***)	–0.073 (***)	–0.181 (***)	–0.160 (***)	–0.154 (***)	–0.173 (***)
Female	0.011 (***)	0.011 (***)	0.010 (***)	0.010 (***)	–0.026 (ns)	–0.030 (ns)	–0.026 (ns)	–0.030 (ns)
Aged 18–24 years	–0.102 (***)	–0.103 (***)	–0.099 (***)	–0.100 (***)	–0.131 (***)	–0.137 (***)	–0.137 (***)	–0.114 (**)
Aged 35–44 years	0.074 (***)	0.074 (***)	0.057 (***)	0.057 (***)	0.061 (*)	0.060 (*)	0.050 (*)	0.038 (ns)
Aged 45–54 years	0.114 (***)	0.111 (***)	0.084 (***)	0.083 (***)	0.104 (***)	0.122 (***)	0.105 (***)	0.096 (**)
Aged 55 years and older	0.133 (***)	0.131 (***)	0.096 (***)	0.097 (***)	0.151 (***)	0.164 (***)	0.144 (***)	0.145 (***)
Children aged under 15 in household	na	–0.008 (***)	–0.005 (***)	–0.003 (ns)	na	0.036 (ns)	0.031 (ns)	0.055 (*)
Completed Year 12	na	0.008 (***)	0.007 (***)	0.007 (***)	na	0.012 (ns)	0.014 (ns)	–0.010 (ns)
No employed persons aged 15 and older in household	na	–0.023 (***)	–0.029 (***)	–0.019 (***)	na	–0.092 (*)	–0.086 (*)	–0.055 (ns)
Two or more employed persons aged 15 and older in household	na	–0.011 (***)	–0.009 (***)	–0.010 (***)	na	–0.002 (ns)	–0.002 (ns)	0.008 (ns)
Changed address between 2005 and 2006	na	na	–0.062 (***)	–0.059 (***)	na	na	–0.078 (**)	–0.071 (*)
Home buyer	na	na	–0.042 (***)	na	na	na	–0.004 (ns)	na
Home buyer – lower 25% of mortgage costs	na	na	na	–0.016 (***)	na	na	na	–0.028 (ns)
Home buyer – middle 50% of mortgage costs	na	na	na	–0.039 (***)	na	na	na	–0.011 (ns)
Home buyer – upper 25% of mortgage costs	na	na	na	–0.066 (***)	na	na	na	–0.051 (ns)
Lowest 25% for equivalised household income	na	na	na	–0.015 (***)	na	na	na	–0.010 (ns)
Highest 25% for equivalised household income	na	na	na	0.007 (***)	na	na	na	0.036 (ns)
Predicted probability of base case	0.799	0.808	0.849	0.846	0.761	0.772	0.793	0.783
Sample size	416 496	393 681	392 029	355 013	2 489	2 296	2 280	2 013

* = coefficients statistically significant only at the 5% level of significance; ** = coefficients statistically significant only at the 1% level of significance; *** = coefficients statistically significant at the 0.1% level of significance; na = not applicable; ns = not significant at the 5% level of significance; sig. = significance

Notes: The base-case individual for all models for the total sample was an unpartnered non-Indigenous male living in a major city, aged 25–34. For model 2, the base case is further defined as having no children aged under 15 in the household, had not completed Year 12, and one person aged 15 and older in the household was employed. For model 3, the base case is further defined as had not changed address between 2005 and 2006, had an equivalised household income in the middle 50% of the income distribution Australia-wide, and owned their house outright in 2006. For model 4, the base case is further defined as having an equivalised household income in the middle 50% of the income distribution Australia-wide. The models for the Indigenous sample corresponded to those for the total sample, except that the base case was an unpartnered Indigenous male living in a major city, aged 25–34, and the categories for 'non-Indigenous with Indigenous partner' and 'partnered, both non-Indigenous' do not apply.

Source: Customised calculations using the ACLD 2006–11

Summary and concluding comments

As far as the authors are aware, this is the first analysis of transitions into and out of home ownership for the Indigenous Australian population. Although the results presented and discussed in this paper do not in any way imply that home ownership should be regarded as the most desirable tenure type for everyone, home ownership is associated with higher subjective wellbeing for the Indigenous population, and is a clear way to generate wealth.

The analysis using the ACLD is, in many ways, stronger than the cross-sectional analysis available in the existing literature. Even with an extensive range of controls, Indigenous Australians are significantly and substantially less likely to transition into home ownership and significantly more likely to transition out of it.

There was important variation within the Indigenous population (including by the Indigenous status of their partner). Income was important (not surprisingly), but so was education while controlling for income and employment. Importantly, those in a private rental were more likely to purchase their own home than those in community rental.

Despite lower housing prices in regional markets, Indigenous adults living in regional areas who were not home owners or purchasers in 2006 were no more likely than their counterparts living in major cities to have moved into home ownership by 2011. This contrasts with the total Australian adult population, for whom living in a regional area was a significant positive predictor of home ownership in 2011 among those who were not home owners or purchasers in 2006. This finding merits further investigation, given that around 40% of the Indigenous population lives in regional areas.

The data used in the analysis do not allow us to comment on what may be causing some of these differences. The results are likely to be driven, in part, by the lack of accumulation of family wealth, highlighting the intergenerational causes of wealth accumulation. We do not know, however, whether there are differences in attitudes and preferences between Indigenous Australians or within the Indigenous population. We also do not know whether the results indicate some form of discrimination in the housing or financial markets (as has been shown for other ethnic or racial minorities). What we can say, however, is that if governments see increasing home ownership among the Indigenous population as a worthwhile goal, then the results support a focused set of policies or programs (that should be evaluated for effectiveness) and some targeting within the Indigenous population. The report of a recent audit into the Indigenous Home Ownership program (ANAO 2016) highlights some of the challenges of ensuring that such programs continue to meet their objectives in the context of changing circumstances in the wider economic environment.

Appendix 1 Detailed information about coding of variables used in the analyses

TABLE A1. **Recoding of census variables to derive variables used in the analyses**

Variables used in models of transition into home ownership	
Original census variable and categories	**Derived variable used in analysis (codes of original variable in parentheses; base-case category in bold)**
Dependent variable – 2011	
Tenure type	Whether living in a dwelling that is owned or being purchased
1 Owned outright	1 = Living in a dwelling that is owned or being purchased (1–2)
2 Owned with a mortgage (includes being purchased under a rent/buy scheme)	0 = Not living in a dwelling that is owned or being purchased (3–4)
3 Rented (includes being occupied rent free)	. = excluded from analysis (97–99)
4 Other tenure type (includes being occupied under a life tenure scheme)	
97 Not stated	
98 Not applicable	
99 Unlinked record	
Not applicable comprises nonprivate dwellings; unoccupied private dwellings; and migratory, offshore and shipping areas.	
Explanatory variables – 2006	
Tenure and landlord type	Whether living in a dwelling being privately rented
1 Owned outright	1 = Living in a dwelling being privately rented (3, 5)
2 Owned with a mortgage	0 = Not living in a dwelling being privately rented (1–2, 4, 6–9)
3 Rented: real estate agent	. = excluded from analysis (97–99)
4 Rented: state or territory housing authority	
5 Rented: person not in same household	Whether living in public rental housing
6 Rented: housing cooperative, community or church group	1 = Living in public rental housing (4, 6) – omitted category
7 Rented: other landlord type	0 = Not living in public rental housing (1–2, 3, 5, 7–9)
8 Rented: landlord type not stated	. = excluded from analysis (97–99)
9 Other tenure type	
97 Tenure type not stated	Whether has other tenure type
98 Tenure type not applicable	1 = Living in a dwelling with another tenure type (7–9)
99 Unlinked record	0 = Not living in a dwelling with another tenure type (1–6)
	. = excluded from analysis (97–99)
Not applicable comprises nonprivate dwellings; unoccupied private dwellings; and migratory, offshore and shipping areas.	
Analyses were conducted for those not living in dwellings that were owned or being purchased in 2006 (i.e. tenure and landlord type codes 1–2, while included in variable derivations, were excluded from the underlying sample for the models).	

continued

TABLE A1. *continued*

Variables used in models of transition into home ownership	
Original census variable and categories	**Derived variable used in analysis (codes of original variable in parentheses; base-case category in bold)**
Explanatory variables – 2006	
Indigenous status 1 Non-Indigenous 2 Aboriginal 3 Torres Strait Islander 4 Both Aboriginal and Torres Strait Islander 97 Not stated 99 Unlinked record	Indigenous status recoded as: 1 = Indigenous (2–4) 0 = Non-Indigenous (1) . = excluded from analysis (97, 99)
Indigenous status of spouse 1 Non-Indigenous 2 Aboriginal and/or Torres Strait Islander 97 Not stated 98 Not applicable 99 Unlinked record	Indigenous status of spouse recoded as: 0 = Not partnered (98) 1 = Non-Indigenous spouse (1) 2 = Indigenous spouse (2) . = excluded from analysis (97, 99)
Not applicable comprises persons whose spouse or partner is temporarily absent; or who do not have relationship status of husband, wife or partner.	Whether single Indigenous 1 = Single Indigenous (Indigenous status of spouse recode = 0 and Indigenous status recode = 1) 0 = Not single and/or non-Indigenous (Indigenous status of spouse recode = 1–2 and/or Indigenous status recode = 0) . = excluded from analysis (Indigenous status or Indigenous status of spouse = 97, 99)
	Whether single non-Indigenous 1 = Single non-Indigenous (Indigenous status of spouse recode = 0 and Indigenous status recode = 0) – omitted category 0 = Not single and/or Indigenous (Indigenous status of spouse recode = 1–2 and/or Indigenous status recode = 1) . = excluded from analysis (Indigenous status or Indigenous status of spouse = 97, 99)
	Whether Indigenous with Indigenous partner 1 = Indigenous with Indigenous partner (Indigenous status recode = 1 and Indigenous status of spouse recode = 2) 0 = Not so – non-Indigenous, and/or single or non-Indigenous partner (Indigenous status recode = 0 and/or Indigenous status of spouse recode = 0–1) . = excluded from analysis (Indigenous status or Indigenous status of spouse = 97, 99)
	Whether non-Indigenous with Indigenous partner 1 = Non-Indigenous with Indigenous partner (Indigenous status recode = 0 and Indigenous status of spouse recode = 2) 0 = Not so – Indigenous, and/or single or non-Indigenous partner (Indigenous status recode = 1 and/or Indigenous status of spouse recode = 0–1) . = excluded from analysis (Indigenous status or Indigenous status of spouse = 97, 99)
	Whether Indigenous with non-Indigenous partner 1 = Indigenous with non-Indigenous partner (Indigenous status recode = 1 and Indigenous status of spouse recode = 1) 0 = Not so – non-Indigenous, and/or single or non-Indigenous partner (Indigenous status recode = 0 and/or Indigenous status of spouse recode = 0, 2) . = excluded from analysis (Indigenous status or Indigenous status of spouse = 97, 99)
	Whether non-Indigenous with non-Indigenous partner 1 = Non-Indigenous with non-Indigenous partner (Indigenous status recode = 0 and Indigenous status of spouse recode = 1) 0 = Not so – Indigenous, and/or single or Indigenous partner (Indigenous status recode = 1 and/or Indigenous status of spouse recode = 0, 2) . = excluded from analysis (Indigenous status or Indigenous status of spouse = 97, 99)

continued

TABLE A1. *continued*

Variables used in models of transition into home ownership	
Original census variable and categories	**Derived variable used in analysis (codes of original variable in parentheses; base-case category in bold)**
Explanatory variables – 2006	
Sex 1 Male 2 Female 99 Unlinked record	Gender 1 = Female 0 = Male – omitted category . = excluded from analysis (99)
Age 0–114 continuous 115 115 years and over 999 Unlinked record	Whether aged 18–24 1 = 18–24 years (18–24) 0 = Not 18–24 years (25–115) . = excluded from analysis (0–17, 999) Whether aged 25–34 1 = 25–34 years (25–34) – omitted category 0 = Not 25–34 years (18–24, 35–115) . = excluded from analysis (0–17, 999) Whether aged 35–44 1 = 35–44 years (35–44) 0 = Not 35–44 years (18–34, 45–115) . = excluded from analysis (0–17, 999) Whether aged 45–54 1 = 45–54 years (45–54) 0 = Not 45–54 years (18–44, 55–115) . = excluded from analysis (0–17, 999) Whether aged 55 and older 1 = 55 years and older (55–115) 0 = Not 55 years and older (18–54) . = excluded from analysis (0–17, 999)
Age of youngest person in household 1 0–4 years 2 59 years 3 10–14 years 4 15–19 years 5 20–24 years 6 25–29 years 7 30–34 years 8 35–39 years 9 40–44 years 10 45–49 years 11 50–54 years 12 55–59 years 13 60–64 years 14 65–69 years 15 70–74 years 16 75–79 years 17 80–84 years 18 85 years and older 998 Not applicable 999 Unlinked record Not applicable comprises persons who are visitors to the dwelling on Census night; persons usually resident in other nonclassifiable households; persons enumerated in nonprivate dwellings; and persons enumerated in migratory, offshore and shipping areas.	Whether any children aged under 15 in household 1 = Children aged under 15 in household (0–3) 0 = No children aged under 15 in household (4–18) – omitted category . = excluded from analysis (998, 999)

continued

TABLE A1. *continued*

Variables used in models of transition into home ownership	
Original census variable and categories	**Derived variable used in analysis (codes of original variable in parentheses; base-case category in bold)**
Explanatory variables – 2006	
Highest year of school completed 1 Year 12 or equivalent 2 Year 11 or equivalent 3 Year 10 or equivalent 4 Year 9 or equivalent 5 Year 8 or below 6 Did not go to school 97 Not stated 98 Not applicable 99 Unlinked record Not applicable comprises persons aged under 15 years.	Whether completed Year 12 1 = Completed Year 12 (1) 0 = Had not completed Year 12 (2–6) – omitted category . = excluded from analysis (97–99)
Number of employed usually resident persons in household as stated 0 No employed persons 1 One employed person 2 Two employed persons 3 Three employed persons 4 Four or more employed persons 97 All persons did not state labour force status 98 Not applicable 99 Unlinked record Not applicable comprises persons who are visitors to the dwelling on census night; persons usually resident in other nonclassifiable households; persons enumerated in nonprivate dwellings; and persons enumerated in migratory, offshore and shipping areas.	Number of employed persons in the household recoded as: 0 = None in the household employed (0) 1 = One in the household employed (1) 2 = Two or more in the household employed (2–4) . = excluded from analysis (97–99) Above variables then recoded: Whether none in the household employed 1 = None employed (0) 0 = One or more employed (1–2) . = excluded from analysis (.) Whether one in the household employed 1 = One employed (1) – omitted category 0 = None, or two or more, employed (0, 2) . = excluded from analysis (.) Whether two or more in the household employed 1 = Two or more employed (2) 0 = None or one employed (0–1) . = excluded from analysis (.)
Usual address one year ago indicator 1 Same as in 2006 2 Elsewhere in Australia 3 Overseas in 2005 97 Not stated 98 Not applicable 99 Unlinked record Not applicable comprises persons aged under one year.	Whether changed address between 2005 and 2006 0 = Did not change address (1) – omitted category 1 = Changed address (2–3) . = excluded from analysis (97–99)

continued

TABLE A1. ***continued***

Variables used in models of transition into home ownership	
Original census variable and categories	**Derived variable used in analysis (codes of original variable in parentheses; base-case category in bold)**
Explanatory variables – 2006	
Equivalised total household income (weekly) of household in which person was enumerated (annual income in brackets) 1 Negative income 2 Nil income 3 $1–149 ($1–7799) 4 $150–249 ($7800–12 999) 5 $250–399 ($13 000–20 799) 6 $400–599 ($20 800–31 199) 7 $600–799 ($31 200–41 599) 8 $800–999 ($41 600–51 999) 9 $1000–1299 ($52 000–67 599) 10 $1300–1599 ($67 600–83 199) 11 $1600–1999 ($83 200–103 999) 12 $2000 or more ($104 000 or more) 13 Partial income stated 997 All incomes not stated 998 Not applicable 999 Unlinked record Not applicable comprises persons who are visitors to the dwelling on census night; persons usually resident in other nonclassifiable households; persons enumerated in nonprivate dwellings; and persons enumerated in migratory, offshore and shipping areas.	Equivalised weekly household income (categories represent approximately lower 25%, middle 50% and upper 25%) Whether had a low equivalised weekly household income (less than $400 per week) 1 = Had a low equivalised weekly household income (1–5) 0 = Did not have a low equivalised weekly household income (6–12) . = excluded from analysis (13, 997–999) Whether had a medium equivalised weekly household income ($400 to less than $1000 per week) 1 = Had a medium equivalised weekly household income (6–8) – omitted category 0 = Did not have a medium equivalised weekly household income (1–5, 9–12) . = excluded from analysis (13, 997–999) Whether had a high equivalised weekly household income ($1000 or more per week) 1 = Had a high equivalised weekly household income (9–12) 0 = Did not have a high equivalised weekly household income (1–8) . = excluded from analysis (13, 997–999)
Rent (weekly) ranges 1 Nil payments 2 $1–74 3 $75–99 4 $100–124 5 $125–149 6 $150–174 7 $175–199 8 $200–224 9 $225–249 10 $250–274 11 $275–299 12 $300–324 13 $325–349 14 $350–374 15 $375–399 16 $400–424 17 $425–449 18 $450–549 19 $550–649 20 $650 and over 997 Not stated 998 Not applicable 999 Unlinked record Not applicable comprises persons enumerated in occupied private dwellings with tenure type: owned outright, owned with a mortgage, other and not stated; persons enumerated in nonprivate dwellings; and persons enumerated in migratory, offshore and shipping areas.	Rental costs (categories represent approximately lower 25%, middle 50% and upper 25%) Whether paid low weekly rent (<$150 per week) 1 = Paid low weekly rent (1–5) 0 = Did not pay low weekly rent (6–20) . = excluded from analysis (997–999) Whether paid medium weekly rent ($150–274 per week) 1 = Paid medium weekly rent (6–10) – omitted category 0 = Did not pay medium weekly rent (1–5, 11–20) . = excluded from analysis (997–999) Whether paid high weekly rent (>$275 per week) 1 = Paid high weekly rent (11–20) 0 = Did not pay high weekly rent (1–10) . = excluded from analysis (997–999)

continued

TABLE A1. ***continued***

Variables used in models of transition into home ownership	
Original census variable and categories	**Derived variable used in analysis (codes of original variable in parentheses; base-case category in bold)**
Explanatory variables – 2006	
Mortgage repayments (monthly) ranges 1 Nil repayments 2 $1–149 3 $150–299 4 $300–449 5 $450–599 6 $600–799 7 $800–999 8 $1000–1199 9 $1200–1399 10 $1400–1599 11 $1600–1799 12 $1800–1999 13 $2000–2199 14 $2200–2399 15 $2400–2599 16 $2600–2999 17 $3000–3999 18 $4000–4999 19 $5000 and over 997 Not stated 998 Not applicable 999 Unlinked record Not applicable comprises persons enumerated in occupied private dwellings with tenure type: owned outright, rented, other and not stated; persons enumerated in nonprivate dwellings; and persons enumerated in migratory, offshore and shipping areas.	Mortgage repayments (categories represent approximately lower 25%, middle 50% and upper 25%) Whether low monthly mortgage repayment (<$999 per month) 1 = Paid low monthly mortgage repayment (1–7) 0 = Did not pay low monthly mortgage repayment (8–19) . = excluded from analysis (997–999) Whether medium monthly mortgage repayment ($1000–1999 per month) 1 = Paid medium monthly mortgage repayment (8–12) – omitted category 0 = Did not pay medium monthly mortgage repayment (1–7, 13–19) . = excluded from analysis (997–999) Whether high monthly mortgage repayment ($2000 or more per month) 1 = Paid high monthly mortgage repayment (13–19) 0 = Did not pay high monthly mortgage repayment (1–12) . = excluded from analysis (997–999)
Owner-with-mortgage dwellings with monthly mortgage repayments in the highest 25% in Australia, as a percentage of all owner-with-mortgage dwellings in each area.	See Table A2.

TABLE A2. **Owner-with-mortgage dwellings with monthly mortgage repayments in the highest 25% in Australia, as a percentage of all owner-with-mortgage dwellings in each area**

Jurisdiction	Indigenous region	Percentage
New South Wales	Dubbo	13
	Northeastern New South Wales	13
	Northwestern New South Wales	7
	New South Wales Central and North Coast	21
	Riverina–Orange	14
	Southeastern New South Wales and Jervis Bay	21
	Sydney–Wollongong	44
Victoria	Melbourne	23
	Victoria excluding Melbourne	11
Queensland	Brisbane	24
	Cairns–Atherton	16
	Cape York	16
	Mt Isa	18
	Rockhampton	11
	Toowoomba–Roma	10
	Torres Strait	0
	Townsville–Mackay	16
South Australia	Adelaide	12
	Port Augusta	5
	Port Lincoln–Ceduna	8
Western Australia	Broome	25
	Geraldton	11
	Kalgoorlie	11
	Kununurra	23
	Perth	21
	South Hedland	19
	Southwestern Western Australia	13
	West Kimberley	10
Tasmania		9
Northern Territory	Alice Springs	12
	Apatula	0
	Darwin	20
	Jabiru–Tiwi	0
	Katherine	8
	Nhulunbuy	32
	Tennant Creek	14
Australian Capital Territory		28
Australia		**24**

Source: Customised calculations using the ACLD 2006–11

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