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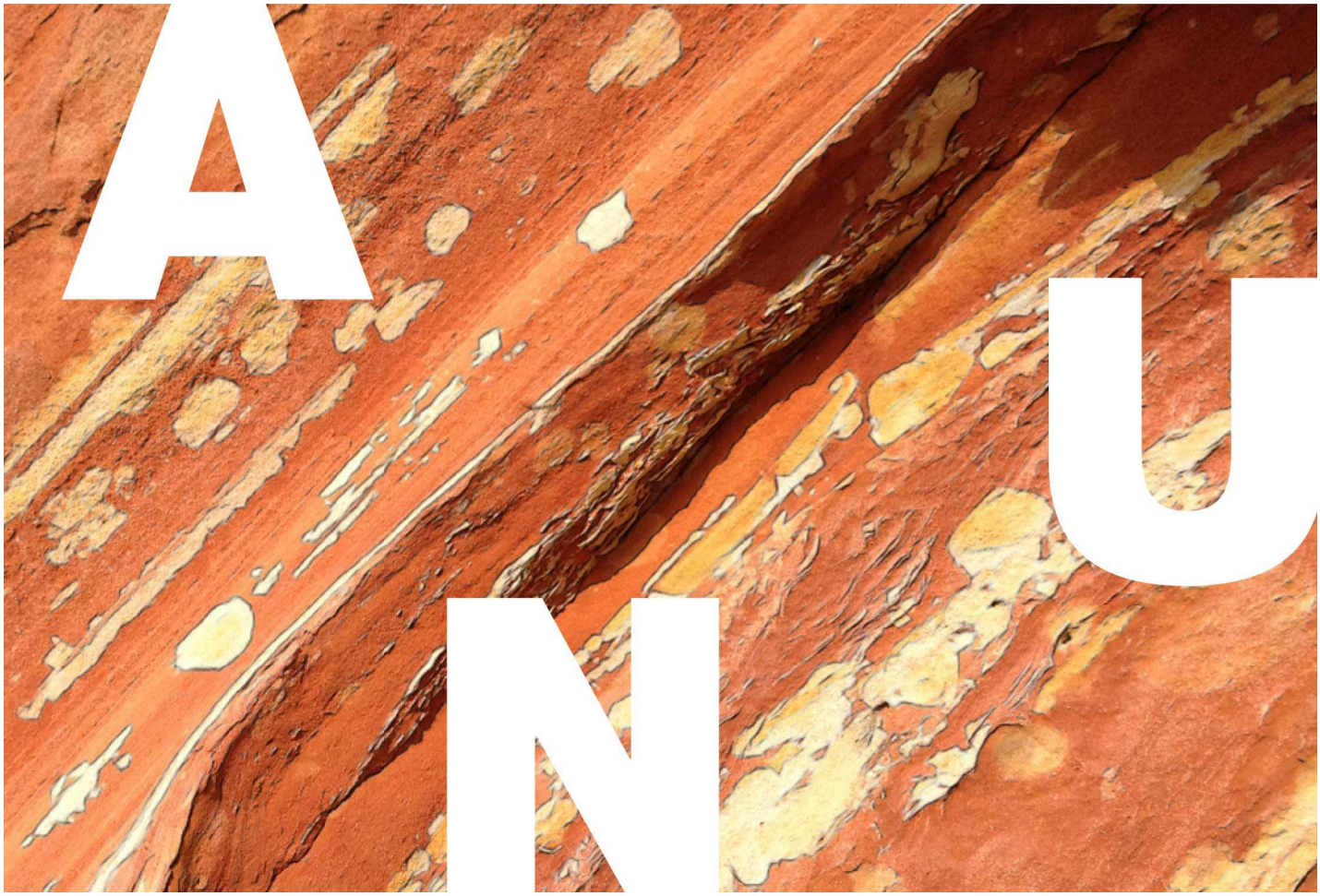

UNDERSTANDING ABORIGINAL IDENTIFICATION IN NSW: EVIDENCE FROM THE AUSTRALIAN CENSUS LONGITUDINAL DATASET

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

CAEPR TOPICAL ISSUE NO. 2/2015

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August 2015

Understanding Aboriginal identification in NSW: evidence from the Australian Census Longitudinal Dataset

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Acknowledgments

The analysis presented in this paper was funded by Aboriginal Affairs, NSW Department of Education. The views expressed in this paper are those of the author and may not reflect those of Aboriginal Affairs or the New South Wales Government.

Acronyms

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

Introduction

In 2011, around 670 000 Aboriginal and Torres Strait Islanders were estimated to be living in Australia, making up around 3.0% of the total Australian population. Around 208 000 of this Indigenous population[1] was living in New South Wales (NSW), accounting for 31.1% of the total Indigenous population and 2.9% of the state's population. NSW has far and away the largest Indigenous population in the country.

Not only is the Indigenous population of NSW the largest in the country, it is one of the fastest growing. In the 2011 Census, of the additional Indigenous Australians counted, 28.9% lived in NSW. Only Victoria and the Australian Capital Territory had a faster growth rate in their respective census counts.

This population growth was not driven by migration from other states or territories, as demonstrated by migration data from the census. As a percentage of the population living in NSW in 2006, an additional 1.4% of Indigenous Australians left the state between 2006 and 2011 than came in. That is, there was net internal migration out of the state rather than into the state.

One contribution to growth in the state was an excess of births over deaths during the period. In 2011, 26 010 Indigenous children aged 0–4 years were living in NSW. This is much larger than the number of deaths recorded in the same period: 3099 between 2007 and 2011. Even after taking into account an undercount of deaths due to Indigenous status not being recorded in deaths records, a large natural increase occurred between 2006 and 2011. This growth is likely to be made up of births of Indigenous children to Indigenous mothers, as well as a sizeable number of births of Indigenous children to non-Indigenous mothers and Indigenous fathers (Biddle 2013).

A final contribution to growth over the period is likely to be those people who were identified as being Indigenous in 2011 but not in 2006. This includes people who changed the way in which they view their own status, known in some contexts as ethnic mobility (Guimond 2006) or identity change. However, this population increase could also include people whose own identity did not change, but whose status is recorded differently across census collections as a result of changes in census practices or different people filling out the census form on the person's behalf. We might refer to this as identification (as opposed to identity) change or statistical ethnic mobility. Such change is likely to include a sizeable number of people who were missed entirely from the 2006 Census or whose Indigenous status was 'not stated'.

As will be shown in this paper, there is also a sizeable number of people whose identification changed from Indigenous in 2006 to non-Indigenous or not stated in 2011. However, in net terms, ethnic mobility and statistical ethnic mobility can significantly bolster the standard sources of population increase.

Understanding the growth of the Indigenous population of particular states and territories is important for planning purposes. Since there are a number of Indigenous-specific programs administered by state and territory governments or by the Australian Government in a particular jurisdiction, it is important to know how many people are in each state or territory at a particular point in time and how many there are likely to be in the future.

A second reason for understanding population growth is for evaluating government programs and the achievement of state-level socioeconomic and health targets. If a sizeable number of people have a different Indigenous identification in one year compared with another (or one census compared with another), then it is very hard to know the extent to which observed changes in outcomes are driven by the newly identified Indigenous population having different characteristics from the population originally identified as being Indigenous. Without knowing this, measured change may be incorrectly attributed to improving outcomes for individuals.

Despite this net increase in identification being a driver of population change in previous intercensal periods, until now there was no way to analyse the characteristics of people whose identification did and did not change. Most analysis of Indigenous outcomes has been based on cross-sectional censuses or sample surveys (such as the National Aboriginal and Torres Strait Islander Social Survey [NATSISS]), with outcomes for individuals recorded at only one point in time. Indigenous Australians have historically made up only a small proportion of the available longitudinal datasets, especially for specific states and territories. Furthermore, in all the longitudinal datasets that have been available, an individual's Indigenous status has been constrained to remain constant across years.

Fortunately, a new dataset released in late 2013—the Australian Census Longitudinal Dataset (ACLD)—opens up the possibility for analysis of the changing Indigenous population. This dataset, which contains census records from 2006 probabilistically linked to census records from 2011, has three vital characteristics for analysis

of identification change and the effect on measured Indigenous outcomes:

- a large sample with a significant number of Indigenous Australians (roughly 5% of the population from the 2006 Census)
- demographic and socioeconomic outcomes measured in a consistent way between 2006 and 2011
- Indigenous status recorded independently in 2006 and 2011.

Biddle and Crawford (2015) provide more details on the dataset and analyse the total Australian Indigenous population. The aim of this paper was to investigate the demographic characteristics of the NSW populations that were identified as being Indigenous in **either** the 2006 Census or the 2011 Census.

The next section of the paper introduces the ACLD and discusses some of the limitations of the data. This is followed by a discussion of the geographic, demographic and socioeconomic characteristics of the population, broken down by Indigenous status in 2006 and 2011. The final section discusses the implications of the analysis.

1 The Australians Census Longitudinal Dataset

The ACLD was released by the Australian Bureau of Statistics (ABS) in late 2013. According to the ABS (ABS 2013), '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'. In essence, 5% of records from the 2006 Census are linked probabilistically, based on the most likely match given observed characteristics, with available data from the 2011 Census.

According to the ABS (ABS 2013), the process involved:

- standardisation (ensuring the two datasets are coded in a consistent way)
- blocking (restricting comparisons to those where matches are highly likely to be found)
- record pair comparison (linking records over 12 rounds, with observations that were not linked with another observation in one round available to be linked in subsequent rounds)
- clerical review (ABS staff visually checking the veracity of the matches for individual records).

In total, the ACLD contains 260 711 records of people whose place of usual residence in 2011 was in NSW. This makes up 32.6% of the total sample, very similar to the 32.3% of Australia's estimated resident population that lived in NSW at the time.

The census question used to identify whether a person is Indigenous or not has been the same in the past two censuses. In both 2006 and 2011, people filling out the household census form were asked the following about each individual in the household—'Is the person of Aboriginal or Torres Strait Islander origin?' Three options were given for the response: No; Yes, Aboriginal; or Yes, Torres Strait Islander. Instructions on the form also indicated that 'For persons of both Aboriginal and Torres Strait Islander origin, mark both "Yes" boxes'.

In total, 4762 linked pairs are in the ACLD, indicating people who were identified as being Indigenous in 2011 and who lived in NSW. This makes up 32.0% of the total Indigenous sample, slightly higher than the share of the Indigenous estimated resident population that lived in the state. Although this is a slight overrepresentation within the Australian Indigenous sample, Indigenous Australians were underrepresented in the total NSW sample, making up 2.0% of people in the ACLD whose usual residence in 2011 was NSW.

The ABS (ABS 2013) provides a list of linking and blocking variables used in the linking process. Indigenous status was used as a blocking variable for rounds 1 to 5 and round 7, as a linking variable for round 6 and rounds 9 to 12, and not at all for round 8. The use of Indigenous status as a blocking variable has the potential to underestimate the number of linked pairs with Indigenous status recorded differently in 2006 and 2011. Furthermore, as the linking was done without the individual's exact name and address, a minority of linked pairs will not be the same individual. Although it is not possible with the data available to control for these two limitations in the analysis, they need to be kept in mind when making conclusions based on the data.

For the remainder of the paper, I use the population weights assigned by the ABS, which are an estimate of how many people in the total population each individual in the sample represents. These weights were, according to the ABS (ABS 2013), benchmarked to the population that was the scope of both the 2006 and 2011 censuses (i.e. born in 2006, still alive in 2011, and did not migrate into or out of Australia during the period), and based on four components: the design weight, undercoverage adjustment, missed link adjustment and population benchmarking.

2 Geographic distribution of the Indigenous sample in the ACLD

In the 2006 Census, across Australia around 561 000 people were identified as being Indigenous. Of these, around 93.1% (522 000) were also identified as being Indigenous in 2011. I label this group the **always-identified** component of the ACLD. This leaves about 6.9% of the 2006 Indigenous population (about 39 000 people) who were identified as being non-Indigenous or who did not have their Indigenous status stated in 2006. I label this group the **formerly identified** component.

Leaving aside the roughly 18 000 000 individuals who were either non-Indigenous or not stated in both census years (the **never identified**), this leaves roughly 64 000 individuals who changed their status from non-Indigenous (or not stated) to Indigenous in 2011. This **newly identified** population has been the subject of much policy and academic discussion and is, in many ways, the focus of this paper.

Table 1 summarises the estimated size of these four population groups in Australia, the NSW population (as of 2011) and the non-NSW population.

Focusing on the ever-identified group as being of most relevance for policy deliberations in the context of this paper, there are two main findings shown in Table 1. First, there was a much larger group (proportionally) in NSW that were not identified as being Indigenous in 2006 but were in 2011 (0.5%). This newly identified group made up 14.7% of the state's population who identified as being Indigenous in either census. Perhaps even more interestingly, the NSW newly identified population (28 578) makes up almost half (44.7%) of the total Australian newly identified population (64 004).

The second thing to note is that, although there was a net inflow into the Indigenous population, a large number of people changed their Indigenous status in the opposite direction. This 'identification churn' is as important for policy as are the net flows.

Changes in Indigenous status through time are clearly geographically based—NSW had a higher percentage of both the formerly identified and the newly identified population. However, there is also variation in the NSW Indigenous population when the area in which people lived in 2011 is considered (Fig. 1). Areas are categorised based on the standard remoteness structure constructed by the ABS: major cities, inner regional areas, outer regional areas, remote, and very remote.

Results show a much greater level of 'identification churn' of the NSW Indigenous population in more settled parts of the state than in outer regional and remote areas (Fig. 1). This was true for both the newly and formerly identified population.

For the newly identified population, there seem to be two clusters of areas. People who lived in major cities and inner regional areas in 2011 were most likely to have changed their status from non-Indigenous (or not stated) to Indigenous during the 2006–11 intercensal period. People in outer regional, remote and very remote areas had substantially lower rates of change in identification.

TABLE 1. ACLD population estimates in 2006 and 2011, by state and Indigenous status

Population	Identification	Non-NSW	NSW	Australia
Estimate	Never identified	12 203 874	5 796 018	17 999 961
	Newly identified	35 366	28 578	64 004
	Formerly identified	26 320	12 638	38 931
	Always identified	369 265	152 894	522 167
As % of total	Never identified	96.6	96.8	96.6
	Newly identified	0.3	0.5	0.3
	Formerly identified	0.2	0.2	0.2
	Always identified	2.9	2.6	2.8
As % of ever identified	Newly identified	8.2	14.7	10.2
	Formerly identified	6.1	6.5	6.2
	Always identified	85.7	78.8	83.5

Source: Australian Bureau of Statistics, using customised calculations from the 2006–11 Australian Census Longitudinal Dataset

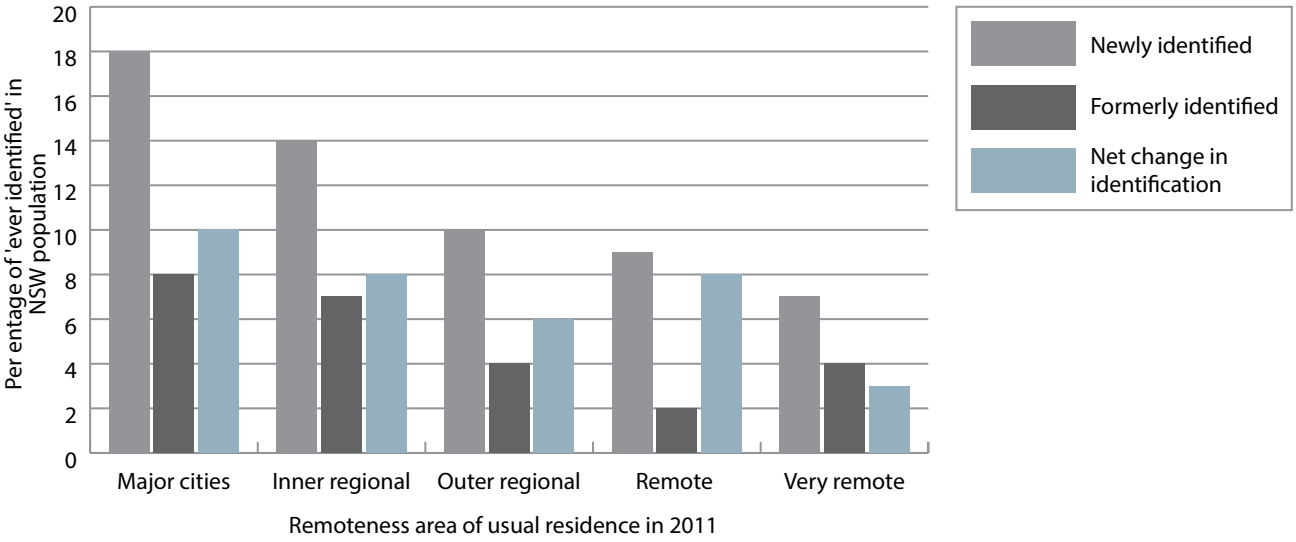
The populations in major cities also have the highest rates of net change in identification. Not surprisingly, it is in the more settled parts of the state where the Indigenous population of NSW grew the fastest over the last intercensal period (Biddle 2012).

3 Demographic distribution of the Indigenous sample in the ACLD

Growth in the Indigenous population of NSW between 2006 and 2011 was not consistent across age groups. Biddle (2012) showed that, although the fastest rate of growth in the Indigenous population during this time was among the relatively old (aged 55 plus), the unexplained growth in the population was highest among the young. This was true for both NSW and Australia. However, a mixed pattern of identification change was evident in 2006 in NSW by age and sex (Fig. 2).

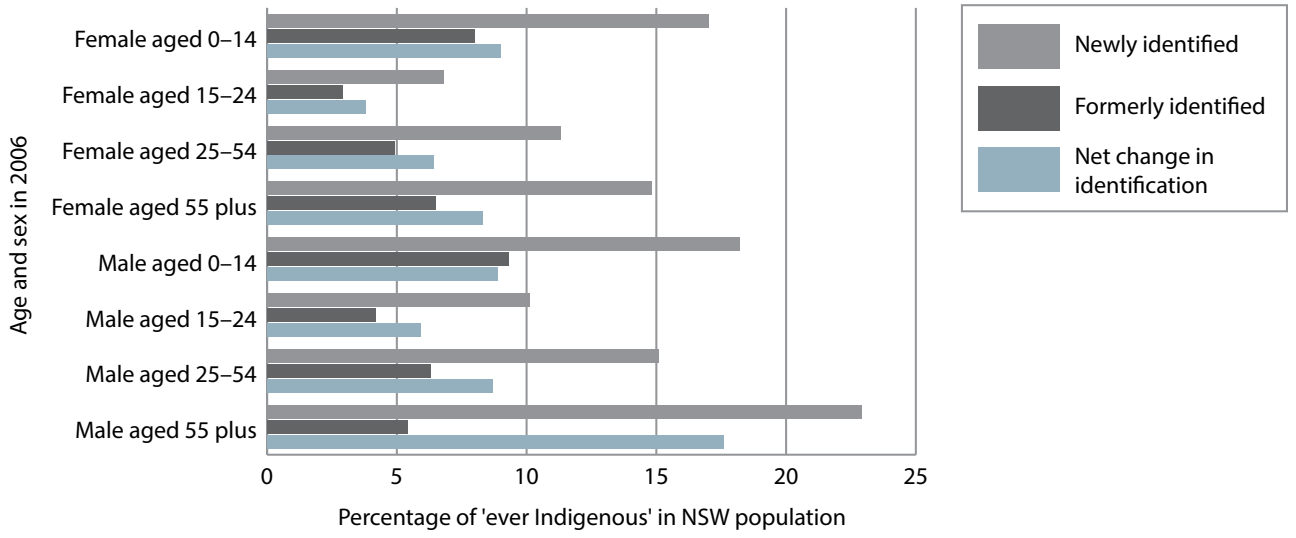
Four age categories are used: 0–14-year-olds (those who are likely to have the census filled out for them), 15–24-year-olds (those likely to leave the family home over the next five-year period), 25–54-year-olds (those

FIG. 1. Percentage of the ever identified NSW population that were newly identified or formerly identified, by remoteness classification in 2011



Source: Australian Bureau of Statistics, using customised calculations from the 2006–11 Australian Census Longitudinal Dataset

FIG. 2. Percentage of the ever identified NSW population that were newly identified or formerly identified, by age group and sex in 2006



Source: Australian Bureau of Statistics, using customised calculations from the 2006–11 Australian Census Longitudinal Dataset

of prime working age and with families) and those aged 55 plus (approaching or beyond retirement age).

For the youngest age group, there are very few differences by sex, which is not surprising because this group is most likely to have had the census form filled out on their behalf. Beyond this age group, however, there appears to be a higher rate of identification change for males, both in absolute terms (identification churn) and in net terms.

The male sample aged 55 years and over was relatively small, leading to considerable uncertainty around the estimate for that group. However, until standard errors for the ACLD are made available by the ABS, these are the best estimates that we have. What the results show is a very high rate of net change in identification for this group.

4 Socioeconomic status and changes in identification

One of the reasons to analyse the ACLD is to consider how identification change might have influenced measured change in socioeconomic status between 2006 and 2011. If people who are newly identified as being Indigenous in 2011 had different outcomes from people who were identified as Indigenous in 2006, then measured change in socioeconomic status may be explained by this identification change, rather than any improvements in outcomes for individual Indigenous Australians in NSW.

Table 2 summarises the socioeconomic status of the 2011 NSW population, based on their Indigenous identification in 2006 and 2011. Seven outcomes are considered, all measured in 2006 and all calculated for those aged 15–59 in 2006. Two outcomes are based on a person's labour force status (percentage employed and, of those employed, percentage employed as a manager or professional), four for education (percentage that completed Year 12 and percentage by post-school qualification) and three for personal income (percentage with income of less than $400 per week, of $400 to less than $1000 per week, and of $1000 per week or more).

The highest employment rate (72%) was among the never identified, and the lowest (48%) was among the always identified. At 62%, the employment rate for the newly identified was 10 percentage points below that for the never identified but 14 percentage points higher than that for the always identified. The formerly identified group also fell somewhere in between, with an employment rate of 58%. The employment rates for the two groups whose Indigenous status had changed were more similar to each other than to either of the other groups.

People whose identification changed from being non-Indigenous (or not stated) to Indigenous were much more likely to be employed than people who were identified as being Indigenous in both periods. This has implications for our assessment of government targets. Measured change in employment rates between 2006 and 2011 was likely to be inflated, in part by a substitution into the Indigenous population of people who were already more employable (as measured by their employment status in 2006).

Over one-third (35.8%) of the employed never-identified population were managers and professionals, the largest percentage across Indigenous status groups. The newly identified group, with 21.0% managers and professionals, had an occupational profile more similar

TABLE 2. Socioeconomic status in 2006 in NSW, by change in Indigenous status between 2006 and 2011

Socioeconomic outcome	Never identified	Newly identified	Formerly identified	Always identified
Employed	72.0	62.1	58.0	48.5
Employed as manager or professional (for those employed)	35.8	21.0	25.9	19.4
Completed high school	55.6	26.5	30.8	24.0
Bachelor degree or above	25.3	7.1	11.6	7.4
Other post-school qualification	33.1	28.1	47.2	25.3
No post-school qualification	41.6	62.8	42.1	67.2
Low income (less than $400 per week)	37.9	42.8	45.1	59.1
Medium income ($400 to less than $1000 per week)	36.8	40.7	34.0	31.6
High income ($1000 or more per week)	25.2	16.4	20.8	9.3

to that of the always identified (19.4%) than the formerly identified (25.9%).

In terms of education, the never-identified group is distinctly different from the other three Indigenous status groups, at least in terms of high-school completion. In this group, 55.6% had completed Year 12 or equivalent, more than double the corresponding percentage for the newly and the always identified, and almost double that for the formerly identified.

The never-identified group has a distinctly higher percentage of people who had attained a bachelor degree or higher, more than double that of any other group. The newly identified group has an educational profile much more similar to that of the always identified, with around 7% in each group having attained a bachelor degree or above. Among the formerly identified group, interestingly, the percentage without any post-school qualification is the same as for the identified group (around 42% in both cases), but the percentage with qualifications other than a bachelor degree is much higher among the formerly identified (47.2%) than the never identified (33.1%).

The never-identified group had the highest percentage of the population in the top income bracket in 2006, followed by the formerly identified and then the newly identified. In terms of low income, the formerly identified had a slightly higher percentage of the population than the newly identified. What is also important, however, is that the always-identified group appears to have a much lower income than the other three population groups, highlighting once again the strong potential for identification change to have artificially increased measured improvements in socioeconomic status of the Indigenous population of NSW between 2006 and 2011.

Summary and concluding comments

Whether or not a person is identified as being Indigenous is not fixed through time—identification may change because an individual's own view or understanding of their ancestry and identification may change. Even if a person's own view remains constant, the way in which they are identified by others filling out a census form might be different in different years, or they may be missed from the collection in one year entirely.

Results summarised here showed that a large 'churn' occurred between 2006 and 2011 in the NSW Indigenous population—changing from being identified as non-Indigenous to Indigenous and changing from being identified as Indigenous to non-Indigenous. However, in net terms, a greater number of people were newly identified than formerly identified. Furthermore, NSW recorded one of the highest levels of net change. This undoubtedly contributed to the very rapid growth in the Indigenous population over the period for Australia as a whole, but for NSW in particular.

This identification change has implications beyond explaining observed growth. If there were differences by socioeconomic status in the population identified as Indigenous in either census, this may lead to observed changes, on average, that do not reflect changes in outcomes for individual Indigenous Australians living in NSW. The results presented in this paper show that identification change is likely to have overstated any socioeconomic improvements rather than understated them. Specifically, compared with the always identified, people who are newly identified have higher rates of employment, higher levels of education and higher income. The inflow of this population into the overall Indigenous population of NSW will have the effect of increasing measured socioeconomic outcomes, even if the outcomes of individual Indigenous Australians do not change.

The ACLD can also be useful for predictive purposes. Although it is not clear whether the circumstances observed between 2006 and 2011 will be replicated over future census periods, there may be structural drivers of identification change that can be used to project the future population. With the size of the population, this will also give estimates of demographic and geographic composition (with additional assumptions).

The ACLD is a very rich source of data for understanding the Indigenous population of NSW. These data will be further enhanced when individual data are analysed in detail. For example, individual-level data allow researchers to test whether socioeconomic status is a predictor of identification change, controlling for demography and geography. In addition, the data should ideally be interpreted in conjunction with other data sources, including qualitative information. Nonetheless, the results presented here highlight that, to know your policy options and outcomes, you need to know your population.

Notes

1. The census count of Indigenous Australians in NSW was made up of 164 612 Aboriginal Australians, 4767 Torres Strait Islanders and 3242 people who identified as both Aboriginal and Torres Strait Islander. Although policy in NSW is usually framed around the Aboriginal population or specific Aboriginal communities, it is not possible to separately identify the Aboriginal population from the rest of the Indigenous population in population estimates in the analysis in this paper, and hence the total Indigenous population of the state is used. This decision also reflects the fact that the majority of Australian Government targets are constructed for the Aboriginal and Torres Strait Islander population together rather than separately.

References

ABS (2013). *Australian Census Longitudinal Dataset, methodology and quality assessment, 2006–2011*, ABS cat. no. 2080.5, Australian Bureau of Statistics, Canberra.

Biddle N (2012). *Population and age structure*, Census Paper 5, CAEPR Indigenous Population Project 2011, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

—— (2013). *Population projections*, Census Paper 14, CAEPR Indigenous Population Project 2011, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

—— & Crawford H (2015). *The changing Aboriginal and Torres Strait Islander population: evidence from the 2006–11 Australian Census Longitudinal Dataset*, Census Paper 18, CAEPR Indigenous Population Project 2011, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Guimond E (2006). Ethnic mobility and the demographic growth of Canada's Aboriginal populations from 1986 to 1996. In: Bélanger A (ed.), *Report on the demographic situation in Canada: 1998–1999,* Statistics Canada, Ottawa, 187–200.

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