PEOPLE AND PLACE

Copyright notice

For further information contact:
Centre for Population and Urban Research
PO Box 11A
Monash University VIC 3800
Australia
Phone (+61 3) 9905 2965
Fax (+61 3) 9905 2993
email: <bronwen.perry@arts.monash.edu.au>

MONASH University

SAME SUBURBS, DIFFERENT WORLDS: COMPARING INDIGENOUS AND NON-INDIGENOUS OUTCOMES IN CITY SUBURBS AND LARGE REGIONAL TOWNS

Nicholas Biddle

At the national level there is a gap between the socio-economic circumstances of Indigenous and non-Indigenous Australians. Some readers may imagine that this gap can be explained by the poor circumstances of the minority of the Indigenous population who live in remote areas (25.4 per cent). The author dispels this hypothesis. Using the principal components analysis approach he examines the socio -economic circumstances of Indigenous Australians in urban areas (that is cities and large regional towns). He finds that in all cases Indigenous Australians in urban areas are worse off than are non-Indigenous Australians

INTRODUCTION AND OVERVIEW

Indigenous Australians on average suffer substantial economic and social disadvantage. Altman, Biddle and Hunter[1] showed that, in 2006, Indigenous Australians were 3.06 times as likely to be unemployed, 0.41 times as likely to own their own home and had a median personal income that was only 0.58 times as high as the non-Indigenous population. In other data from the most recent (2006) census, only 23.9 per cent of the Indigenous population aged 15 years and over had completed high school, slightly less than half the rate for the non-Indigenous population (49.7 per cent). More than three-quarters (76.3 per cent) of the Indigenous population aged 15 years and over had not completed either a degree or trade qualification, 1.41 times the rate for the non-Indigenous population (54.1 per cent).

In his *Apology to Australia's Indigenous Peoples*,[2] the Prime Minister Kevin Rudd resolved to 'set concrete targets for the future' in order to close the gap between Indigenous and non-Indigenous Australians across a range of indicators relating to key policy concerns. These have been formalised through the Council of Australia Governments (CoAG) through six key targets around health, education and employment. Although such targets are set at the national, state or territory level, many of the programs aimed at improving Indigenous outcomes are delivered at the local or community level. For example, on 21 April 2009 the Commonwealth Indigenous Affairs Minister, Jenny Macklin, identified 26 remote communities and towns that would be targeted as priority locations across Australia.[3]

In order to effectively allocate scarce resources, it is important that those areas with the greatest level of need be identified. In a recent analysis of the distribution of Indigenous socioeconomic outcomes, Biddle[4] showed that the areas with the greatest level of disadvantage in terms of employment, education, housing and income were in remote parts of the country. As Indigenous Australians make up 27.1 per cent of remote and very remote Australia compared to 2.5 per cent nationally,[5] one could reasonably ask whether the main reason for there being a large gap between Indigenous and non-Indigenous Australians in terms of measured outcomes is the respective geographical distribution of the populations.

If living in remote Australia was the main cause of Indigenous socioeconomic disadvantage, then the policy response that would follow would most likely consist of encouraging the population to move to urban centres either through incentives or

by removing services from remote Australia. On the other hand, if there were large gaps in outcomes between Indigenous and non-Indigenous Australians in all or at least most locations across Australia then the policy prescription would be very different. Under this scenario, a large-scale movement of remote Indigenous Australians to regional and urban parts of the country would not have a substantial impact on the gap between the Indigenous and non-Indigenous population. There may or may not be benefits for an individual Indigenous person or family that moves from a remote to a non-remote area, though there would obviously be a need to equip those who did move with the requisite skills and training to compete in urban labour markets. However there are unlikely to be any benefits for the roughly three quarters of the Indigenous population who already live in cities or regional areas.

The aim of this paper is to identify the level of socioeconomic disparity between the urban Indigenous and non-Indigenous population in a given location. The analysis focuses on urban areas for two reasons. Firstly, because the concept and measurement of advantage or disadvantage used in the paper is less applicable in remote Australia, especially when comparing Indigenous and non-Indigenous Australians. This is because of very different labour markets (in part because of the existence of the Community Development and Employment Projects [CDEP] scheme) as well as different land tenure arrangements and hence housing markets. The second reason to focus on urban Australia is that Indigenous affairs policy and discussion often overlook the situation of the urban population. Hence an understanding of the disparity at a small area level will go some way to redress this balance. The next section outlines the methodology used, followed by the results from the analysis, and a short summary and conclusion.

ESTIMATION METHODOLOGY AND OUTCOME VARIABLES

The underlying concept used to summarise advantage/disadvantage in this paper is an individual's potential and actual access to economic resources. As the focus of the paper is comparisons between the Indigenous and non-Indigenous populations, it is important that the variables used to capture advantage/disadvantage have a similar relationship to the underlying concept in all areas in the analysis. The analysis in this paper therefore focuses on city areas and large regional towns labelled as 'urban Australia' for convenience in the remainder of this paper.

Using the location type classification introduced in Taylor and Biddle,[6] this led to a sample of 235 Indigenous Areas (IAREs) in urban Australia. Reflecting the geographic distribution of the populations, these areas captured 58.0 per cent of the 2006 census count that identified as being Indigenous in 2006 and 85.9 per cent of the non-Indigenous census count.

Using the above concept of disadvantage, it was necessary for the variables being used to be comparable and available in both the 2001 and the 2006 census. Furthermore, to avoid spurious results, it was also important for each of the variables to measure slightly different aspects of socioeconomic advantage/disadvantage and not be linearly related to other input variables. Given these two criteria, Table 1 contains the nine variables that were identified as being suitable as well as the average values for the Indigenous population across the 235 urban IAREs in the sample for 2001 and 2006. All nine variables are calculated as percentages and calculated at the individual level. To make comparisons easier, they have been set up to measure positive aspects of access to economic resources.

As can be seen in Table 1, the Indigenous Australian population has substantially worse outcomes than the non-Indigenous

population for all nine variables used to construct the index. Already it is clear that there is a large gap between the Indigenous and non-Indigenous populations in urban Australia, just as there is nationally.

To construct a single index that summarises the above measures of socio-economic advantage, the empirical results presented in this paper are based on a principal components analysis (PCA). PCA is a statistical technique that turns a set of variables into the same number of uncorrelated components or dimensions. These components are ordered such that the first component explains the largest amount of variation across the original variables, the second component the next largest amount and so on. The components are constructed as a linear combination of the original variables using a component score that is calculated based on a correlation matrix of the original variables.[7]

One of the implications of using PCA is that the component scores that are produced are highly contingent on the underlying data and the resultant correlation matrix. This means that even when using the same set of variables, a PCA for the same population in different years or different populations in the same year may result in quite different scores for each variable. For this reason, a PCA of Indigenous and non-Indigenous Australians separately (as was done in Biddle 2009)[8] would not allow one to identify the gap between the two populations. For this reason, in this paper the Indigenous and non-Indigenous observations are pooled, resulting in a PCA with 470 observations in each census year. This allows the outcomes of the Indigenous population in a given area to be compared with the outcomes of all other IAREs in urban Australia, the non-Indigenous population of the same area, and the non-Indigenous population of all other urban IAREs.

After undertaking the analysis on the pooled sample, the first component from the PCA was found to explain over 70 per cent of the variation across the nine aspects of access to economic resources listed in Table

Table 1: Average values for variables used to capture access to economic resources and correlation with the retained component (Eigenvector)—235 urban Indigenous areas

	Indigenous average		Non-Indigenous average		Eigenvector	
Variable	2001	2006	2001	2006	2001	2006
Employed*	44.0	47.8	58.9	62.0	0.353	0.349
Employed as a manager or professional*	8.2	9.0	14.9	16.2	0.346	0.339
Employed full-time in the private sector*	18.8	21.1	31.3	33.3	0.339	0.336
Completed Year 12*	24.9	29.7	40.5	47.2	0.342	0.348
Completed a qualification*	22.8	29.0	38.1	44.4	0.380	0.375
15–24 year olds attending an educational institution	40.1	39.9	51.4	51.3	0.266	0.281
Individual income above half the Australian median*	65.9	62.6	74.0	72.0	0.339	0.349
Lives in a house that is owned or being purchased	31.3	31.9	66.6	66.4	0.296	0.301
Lives in a house with at least one bedroom per usual resident	47.6	51.1	64.1	67.2	0.325	0.312

Note: *Calculated for those aged 15 years and over.

1. In other words, a single summary index captures most of the variation by IARE across the three measures of employment, the three measures of education, the two measures of housing and the one measure of individual income. Keeping in mind that the components are ordered by the amount of variation in the individual variables that they explain, the finding that the second of the nine components explains only 10 per cent of the variation in the individual variables (which in technical terms implies an eigenvalue of less than one)[9] is a further argument for using a single index only.

A single index was therefore calculated for the Indigenous and non-Indigenous population of each Indigenous Area (470 observations in total for each year). These were then ranked and grouped into percentiles ranging from 0 for the observation with the most favourable socioeconomic outcomes to 99 for the observation with the least favourable outcomes. The contribution each of the nine individual variables made to this index is indicated by the last two columns of Table 1, which show the correlation between the individual variables and the retained first component, known as 'eigenvectors'. These eigenvectors all had the expected positive sign, that is higher values for that individual variable indicated a more advantaged area, and all were close to or above 0.3 (a common cut-off for PCA).[10]

RESULTS: COMPARING INDIGENOUS AND NON-INDIGENOUS SUBURBS AND TOWNS

In order to identify the gap between the two populations, the percentile rank for Indigenous Australians in a particular area (from the pooled sample) is compared with the corresponding rank for the non-Indigenous population in the area. If Indigenous Australians in an area have similar outcomes to the non-Indigenous population (across the nine socioeconomic variables) then they will be in roughly the same percentile. If their outcomes are more favourable they will rank

Table 2: Indigenous and non-Indigenous average percentile rank by state/territory —Urban Indigenous Areas

State/territory	Number of areas	Average percentile rank 2006		Average gap 2006	Average change in rank— Indigenous 2001 to 2006
		Indigenous	Non-Indigenous		
New South Wales	83	73	32	42	3
Victoria	36	64	26	39	2
Queensland	45	70	27	43	-5
South Australia	17	76	32	44	0
Western Australia	29	80	21	59	-1
Tasmania	7	63	33	30	0
Northern Territory	15	79	15	64	1
Australia Capital Territory	3	44	4	41	-2
Australia (total)	235	72	27	45	0

Source: Author's calculations using the 2001 and 2006 censuses.
Notes: A higher number for the average percentile rank implies a poorer outcome. For example on average Indigenous people in NSW in 2006 were in the 73rd percentile, clustering towards the lowest quartile of the distribution.

higher, and if they have worse outcomes they will rank lower. Table 2 summarises the distribution of socio-economic outcomes in 2006 through the average Indigenous and non-Indigenous rank by State/Territory and the average gap between the ranks for the two populations. The final column gives the average change in rank for the Indigenous population between the results for 2006 and those for 2001 (not included in the table but available upon request).

Percentile ranks for the Indigenous and non-Indigenous population in all 235 Indigenous Areas are available from the author upon request, including the rankings for 2001 that the final column is based on.

On average, across all city areas and large regional towns in the pooled sample, the observations for the Indigenous population are ranked in the 72nd percentile, whereas the observations for the non-Indigenous population are ranked in the 27th percentile. While this indicates a reasonably high level of relative disadvantage, the observed standard deviation of 18 percentile places shows that there is substantial variation within urban Australia in terms of the socioeconomic outcomes of the Indigenous population. Urban areas in Western Australia, the Northern Territory and, to a lesser extent, South Australia had worse outcomes on average than did Australia as a whole, whereas those in the Australian Capital Territory, Tasmania and Victoria had better outcomes.

On average, the non-Indigenous observations rank in the 27th percentile. Looking at the difference between the Indigenous and non-Indigenous percentile rank in the same area, the Indigenous population is on average 45 percentile places lower than the corresponding non-Indigenous population.

These results confirm that the level of disadvantage of Indigenous Australians found at the national level is replicated within urban areas. That is, Indigenous disadvantage cannot be explained by the fact that Indigenous Australians are more likely to live in remote towns or outstations, as, even within the same suburb or large regional town, Indigenous Australians fare relatively poorly in terms of employment, education, income and housing.

As shown in Figure 1, there is no area out of the 235 in the sample for which the Indigenous population is in the same percentile (or higher) as the corresponding non-Indigenous population. Specifically, the percentile rank for the Indigenous population in an area is plotted on the horizontal axis with the percentile rank for the corresponding non-Indigenous population on the vertical axis. The dark line represents the (hypothetical) situation where Indigenous and non-Indigenous Australians in the region have the same percentile rank.

Although all the dots are below the line of equality, there is still a positive relationship between the percentile rank of Indigenous Australians in an area and the percentile rank of the non-Indigenous population. With a correlation of 0.665, city areas or large regional towns where Indigenous Australians are doing relatively poorly or relatively well are also those where non-Indigenous Australians are doing the same.

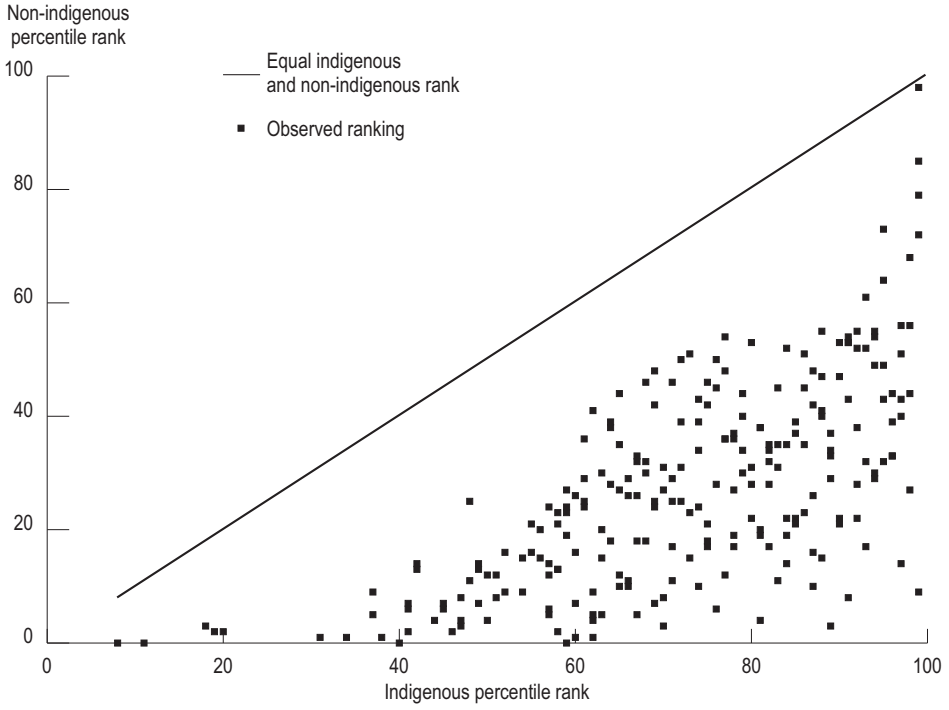
There are some areas where the percentile rank of the Indigenous population is quite similar to that of the non-Indigenous population. For example, at the top right of the graph, the Indigenous population of the Indigenous Area of Campbelltown-Airds is ranked in the 99th or lowest percentile. Similarly, the non-Indigenous population is ranked in the 98th or second lowest quintile. Clearly, both the Indigenous and non-Indigenous population of this part of Sydney are doing relatively poorly in terms of employment, education, income and housing. At the opposite end of the distribution, the non-Indigenous populations of Woollahra/Waverley and Lower North Sydney are in the most advantaged quartile. While slightly

worse off than the non-Indigenous population, the Indigenous population in these areas is not that far behind, with ranks in the eighth and 11th percentiles respectively.

For every urban area where the Indigenous and non-Indigenous populations have similar outcomes (as far as the index is concerned), there are many more where the two populations are quite divergent in their outcomes. The most extreme case is the Indigenous Area of Coconut Grove/ Ludmilla in Darwin, where the Indigenous population is ranked in the 99th percentile while the non-Indigenous population is ranked in the ninth. Other examples of large differences include Darwin/Inner Suburbs (89th and third percentiles), Kalgoorlie/ Boulder (97th and 14th) and Fremantle/East Fremantle (91st and eighth).

Given that the current focus in Indigenous affairs policy is 'closing the gap', it is worth considering the extent to which the outcomes of Indigenous Australians in urban areas in 2006 were different to those of the Indigenous population in the same area in 2001. This will show the extent to which the outcomes of a particular area or group of areas improved or worsened relative to all other areas over the last intercensal period. As shown in Table 2, there was no deterioration on average at the national level for the Indigenous population with the Indigenous population in urban areas in Queensland having slightly better outcomes than in 2001 but Indigenous Australians in urban areas in New South Wales having slightly worse outcomes.

Figure 1: Indigenous socioeconomic percentile rank compared to non-Indigenous socioeconomic rank, 2006 urban Indigenous Areas



Source: Author's calculations using the 2006 census.

Although the average change across the two census years was zero for the Indigenous population, there were 101 IAREs for which the Indigenous population ranked higher in 2006 than the corresponding population did in 2001 and 115 areas that ranked lower. That is, the national average masks substantial churn at the area level. The areas with the greatest improvement in rank over the period were Yarra (in Melbourne), Emerald and Hervey Bey (in the Rockhampton Region) as well as Kalamunda and Bassendean (in Perth). Those with the greatest deterioration in relative position were Hunters Hill/Ryde and Campbelltown–South-West (in Sydney) as well as Wodonga and Warrnambool (in Non-Metropolitan Victoria).

For the non-Indigenous population, there were 102 areas that had a higher rank in 2006 than the corresponding population in 2001 compared to 91 that had a worse ranking. Taken together, compared to the rest of the Indigenous and non-Indigenous urban population, there were more areas for which the Indigenous population had worse outcomes in 2006 than 2001.

SUMMARY AND IMPLICATIONS

This paper used a summary index approach to separately rank the socio-economic outcomes of Indigenous and non-Indigenous Australians in 235 metropolitan and regional areas across Australia based on their employment, education, housing and income characteristics in 2001 and 2006. Doing so yielded the important finding that there was not a single town, suburb or city area in urban Australia for which the Indigenous population had more favourable outcomes than the non-Indigenous population. Further work would need to be carried out on different types of geographic areas to confirm whether this holds for larger levels of geography (for example labour markets) or for smaller classifications (for example neighbourhoods). However, Indigenous areas are of a similar size to the types of areas at which policy is delivered.

In some areas the difference between the Indigenous and non-Indigenous population was reasonably small. For example, in Campbelltown-Airds both the Indigenous and non-Indigenous population ranked relatively poorly. At the other end of the distribution, Indigenous and non-Indigenous Australians both had relatively favourable outcomes in Woollahra/Waverley and Lower North Sydney. These areas, however, were exceptions to the general pattern. On average the Indigenous population in an area ranked 45 percentile places (out of 100) below the non-Indigenous population in the same area. While there was stability at the national level between the 2001 and 2006 censuses, more often than not the gap in relative outcomes widened at the local level over the last intercensal period.

The implications of these results are threefold. Firstly, the socioeconomic disparities identified nationally are not exclusively the result of Indigenous Australians being more likely to live in remote and very remote Australia. Secondly, significant inroads in the disparity between the outcomes of urban Indigenous and non-Indigenous Australians will need to be made in order for there to be any chance of meeting CoAG's 'closing the gap' targets. Finally, the substantial variation in outcomes within urban Australia points to a potential role for targeting policy and programs towards specific suburbs and towns.

References

1 J. C. Altman, N. Biddle and B. H. Hunter, 'How realistic are the prospects for "closing the gaps" in socioeconomic outcomes for Indigenous Australians?', Centre for Aboriginal Economic Policy Research, *Discussion Paper no. 287*, 2008

2 K. Rudd, *Apology to Australia's Indigenous Peoples*, <http://www.pm.gov.au/media/speech/2008/speech_0073.cfm> 2008

3 J. Macklin, *Speech to the John Curtin Institute of Public Policy*—21 April 2009, <http://www.jennymacklin.fahcsia.gov.au/internet/jennymacklin.nsf/content/john_curtis_21april09> 2009

4 N. Biddle, 'Ranking regions: Revisiting an index of relative indigenous socioeconomic outcomes', Centre for Aboriginal Economic Policy Research, *Working Paper no. 50*, 2009

5 *Population Characteristics: Aboriginal and Torres Strait Islander Australians, 2006,* Catalogue no. 4713.0, Australian Bureau of Statistics, Canberra, 2008

6 J. Taylor and N. Biddle, 'Locations of Indigenous population change: What can we say?', Centre for Aboriginal Economic Policy Research, *Working Paper no. 43*, 2008

7 R. B. Darlington, Factor Analysis <http://www.psych.cornell.edu/Darlington/factor.htm> 1997

8 Biddle, 2009, op. cit.

9 Darlington, 1997, op. cit.

10 ibid.