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Gender Gaps in Indigenous Socioeconomic Outcomes: Australian Regional Comparisons and International Possibilities

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Abstract
International literature clearly demonstrates the potential for gender-based inequalities to constrain development processes. In the United Nations Development Programme Gender-related Development Index, Australia ranks in the top five across 177 countries, suggesting that the loss of human development due to gender inequality is minor. However, such analysis has not been systematically applied to the Indigenous Australian population, at least in a quantitative sense. Using the 2006 Australian Census, this paper provides an analysis across three dimensions of socioeconomic disparity: Indigeneity, gender, and geography. This paper also explores the development of a similar gender-related index as a tool to enable a relative ranking of the performance of Indigenous males and females at the regional level across a set of socioeconomic outcomes. The initial findings suggest that although there is a substantial development gap between Indigenous and non-Indigenous Australians, the development loss from gender-related inequality for Indigenous Australians is relatively small. Higher life expectancy and education attainment for Indigenous females balances out their slightly lower earnings to a large extent. At the regional level, Indigenous females tend to fare better than Indigenous males for the set of indicators chosen; and, this is particularly true in capital cities.

Keywords
gender-based analysis, Indigenous, Australia, socioeconomic, life expectancy, educational attainment, income, Human Development Index

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Gender Gaps in Indigenous Socioeconomic Outcomes: Australian Regional Comparisons

Introduction and Background

In many developing countries, gender disparity in the achievement of education and employment outcomes tends to hinder economic growth and improvements in the socioeconomic outcomes of the population (World Bank 2001, 2003). The recognition of the role that gender can play is evident through the third Millennium Development Goal, which is explicitly focused on promoting gender equality and empowering women, in terms of educational attainment (United Nations Secretariat 2008). The importance of considering gender has also led the United Nations Development Programme (UNDP) to extend its Human Development Index (HDI) to better capture the gender dimension of development through its Gender-related Development Index (GDI) (UNDP 1995). The UNDP produces the HDI and GDI for 177 countries in their annual reporting of human development to rank countries based on achievements in life expectancy, adult literacy, school enrolments and earnings, with the latter noting differences in gender achievements across the aforementioned components.

In 2008, an HDI score of 0.962 placed Australia third amongst the 177 countries considered. Australia also ranked second based on the GDI score (UNDP 2008). This suggests that, relative to other countries and at the national level, there is relatively little development loss in Australia due to gender-based inequality, at least in the three components that are used to construct the index. However, the HDI and GDI scores mask large disparities within countries that go beyond gender-related disparities. Similar to New Zealand, Canada and the United States, Australia has a high ranking on the HDI, yet an Indigenous population with a substantially lower life expectancy, lower literacy and education enrolment rates and lower employment. Cooke et al. (2007) calculated an HDI score for Indigenous Australians for 2000–01 that would give the

population a rank of 103, analogous to a medium human development country (and a gap of 0.184 in favour of the non-Indigenous population).

The evidence concerning the disadvantaged circumstances faced by the Indigenous population is well documented in Australia (Altman 2000; Altman, Biddle & Hunter 2008; Daly & Hawke 1994; SCRGSP 2005, 2007). However, the gender differences within the Indigenous community have received far less attention, despite the fact that in many parts of the world Indigenous women are among the most marginalised groups, suffering discrimination on the basis of both their sex and ethnicity (Banda & Chinkin 2004).

In Canada, on the other hand, the HDI and GDI has been adapted for the Registered Indian population with the results suggesting that women are outperforming men in knowledge acquisition, but still falling behind in the income component. This finding is true across all age groups with relative improvements in the outcomes of women over time due to rising educational attainment (Guimond & Cooke 2008; Cooke 2007). The GDI has also been replicated at the regional level for the total population in Australia (Basu & Basu 2005), with the authors finding that, with the exception of New South Wales, men outperformed women in the relevant indicators across the remaining seven States and territories. The differences were not, however, consistently large.

Gender-based research for the Indigenous population in Australia tends to be anthropological or historical in its focus (White 1974; Bell 1983; Merlan 1988). In general, what the literature shows is a complex evolution of gender roles and relationships over time. In particular, the traditional role of men as providers has been affected as power relations change following contact with settler Australia (Hamilton, 1975). The main debate has revolved around

the shift from men to women as key economic providers as dependence on transfer payments from the state has supplemented customary economic activity.

McCormack (2006) observes Indigenous men in one particular remote community have been displaced, losing their role as the provider and surrendering their hunter-gather lifestyle, while women have taken over the role of provider with the introduction of the welfare economy. However, Merlan (1988) citing Altman (1982) observed that women's gathering roles in remote areas have declined greatly since the introduction of staple carbohydrates, while men's hunting productivity has been vastly enhanced by the introduction of appropriate technology. Notwithstanding whether the evolution of gender roles have benefitted one gender or the other, it is clear that the gender roles and relationships have evolved.

One factor that underpins or at least is related to the changing roles of Indigenous men and women is the much greater level of education participation and attainment amongst the latter. In the mid-1990s, a greater proportion of Indigenous males than females had either completed high school or had a post-school qualification (ABS 1995). As shown later in this paper, by the time of the 2006 Australian Census this situation had been reversed with Indigenous females having an educational advantage over their male counterparts. This has had the effect of substantially altering the relative development options available to the two groups.

The results presented in Basu & Basu (2005) point to a third dimension of socioeconomic difference within a country, namely geography. While the authors focused on State-by-State comparisons for the total population only, there is consistent evidence within Australia of substantial variation of socioeconomic outcomes of the Indigenous population not only by Region, but also by city, town, suburb, and even community. Using a 'location type' classification and analysing data from the 2006 Census, Biddle (2009) found that Indigenous

socioeconomic disadvantage was highest in remote parts of Australia including remote towns, but especially town camps[1] and remote dispersed settlements. Indigenous Australians in city areas, in contrast, had the most advantaged outcomes, with those in regional towns falling somewhere in-between.

The main aim of this paper is to provide an analysis across all three dimensions of socioeconomic disparity within Australia: Indigeneity, gender and geography. International literature clearly demonstrates the potential for gender-based inequalities to constrain development processes. It has been shown that male and female children who grow up in unequal societies have worse health outcomes and are less likely to undertake schooling, than those where males and females have a similar status (UNICEF 2006). Such insights have not been systematically applied to the Indigenous Australian population, at least in a quantitative sense. However, much policy is designed (or at least implemented) at the local or regional level, so it is important to identify the types of areas where Indigenous males are doing relatively well compared to their female counterparts and, importantly, the types of areas where the reverse is true.

A further aim of the paper is to outline a set of methodologies that will enable cross-national comparisons, especially between countries with similar institutions and, importantly, data collection strategies (for example Australia, Canada, New Zealand, and the United States). We begin the analysis by calculating an HDI and GDI score for Indigenous and non-Indigenous Australians. Due to data limitations around life expectancy, this analysis is restricted to the Australian Indigenous and non-Indigenous populations in aggregate, as well as the four jurisdictions with the largest Indigenous populations (New South Wales, Queensland, Western Australia, and the Northern Territory). Because it is not possible to calculate a GDI for lower

levels of geography, in the section that follows we propose a Gender-Related Index for Indigenous Australians (GRIFIA), which we estimate for 37 Indigenous Regions in Australia.[2] The final section of the paper provides some concluding comments and suggestions for future research.

For all the analysis presented in this paper the main data source is the 2006 Australian Census of Population and Housing[3]. In addition, we use life expectancy estimates from the Australian Bureau of Statistics (ABS 2009) based on data for the 2005 to 2007 period. We focus on those respondents who identify as being Indigenous (Aboriginal, Torres Strait Islander or both) and make comparisons with those respondents identifying as non-Indigenous. Those who do not state their Indigenous status are excluded from the analysis.[4]

Human Development and Gender-Related Development Indices for Indigenous Australians

Due to its relative simplicity, the HDI and related GDI have been very useful in making cross-country and within-country comparisons of various populations. Both indices summarise levels of development across three dimensions: life expectancy at birth; knowledge and education; and, standard of living. While the HDI was developed first, the two indices are linked through an inequality aversion parameter. As a number of the indicators used by the UNDP are not available for population sub-groups (for example Gross Domestic Product per capita) or on the 2006 Australian Census, the first step in calculating the HDI and GDI is to identify proxies. We do so as follows:

- Life expectancy index – Life expectancy at birth (LE) from ABS (2009).
- Education index – Comprised of Adult literacy (AL) proxied by the per cent of the population aged 15 years and over who have completed Year 10 or higher and Gross Enrolment (GE) proxied by the per cent of the population aged 15 to 24 years old

attending education. To create the Education Index (EI), AL is weighted by 2/3 and GE by 1/3.

- Standard of living – Median income (MINC) for those employed.

The next step in calculating the GDI and HDI is to establish a set of unit-free indices for each of the dimensions that range from zero to one. This is done by subtracting the minimum value for the variable from the observed value, and then dividing by the maximum value minus the minimum value. This is done separately for males and females as follows:

$$UF\_LE_{male} = \frac{LE_{male} - 22.5}{82.5 - 22.5}$$
$$UF\_LE_{female} = \frac{LE_{female} - 27.5}{87.5 - 27.5}$$
$$UF\_EI = \frac{2}{3}\frac{AL - 0}{100 - 0} + \frac{1}{3}\frac{GE - 0}{100 - 0}$$
$$UF\_MINC = \frac{MINC - 0}{1000 - 0}$$

The third step in calculating the HDI and GDI is to calculate an Equally Distributed Index (EDI) for each of the dimensions. Using life expectancy as an example, and letting the male, female and total population for the particular subgroup be pop_{male}, pop_{female} and pop_{total} respectively, the formula EDI for both the HDI and GDI can be expressed using the following formula:

$$EDI\_LE(\varepsilon) = \left(\frac{pop_{male}}{pop_{total}} \left(UF\_LE_{male}\right)^{1-\varepsilon} + \frac{pop_{female}}{pop_{total}} \left(UF\_LE_{female}\right)^{1-\varepsilon} \right)^{\frac{1}{1-\varepsilon}}$$

With no aversion to inequality $(\varepsilon = 0)$, the EDI is simply the arithmetic mean of the male and female values and equates to the HDI. With a mild aversion to inequality by gender $(\varepsilon = 2)$, the EDI equates to the harmonic mean of the male and female values and equates to the GDI.

The fourth step in calculating the HDI and GDI is to take an unweighted average of each of the EDIs. To put the results into context, the final step for this paper is to scale all the HDIs and GDIs such that the HDI for the Australian non-Indigenous population is equal to the value calculated by the UNDP for Australia (0.965 in 2006).

Using the above methodology, the following table summarises the estimated HDI and GDI scores for Australia and the four jurisdictions separately for the Indigenous and non-Indigenous population. That is, he larger the gap between the GDI and HDI, the greater the development loss due to inequality between genders.

Table 1. Human Development Indices and Gender Development Indices for Indigenous and non-Indigenous Australians, 2006

	Indigenous			**Non-Indigenous**		
Jurisdiction	HDI	GDI	Gap	HDI	GDI	Gap
Australia	0.737	0.735	0.002	0.965	0.956	0.009
New South Wales	0.773	0.771	0.002	0.974	0.966	0.008
Queensland	0.761	0.759	0.002	0.95	0.941	0.01
Western Australia	0.712	0.71	0.002	0.987	0.97	0.017
Northern Territory	0.53	0.527	0.003	0.998	0.991	0.006

Source: Customised calculations from the 2006 Census and ABS (2009).

At the national level, the Indigenous population had an HDI score of 0.737, a remarkably similar gap against the non-Indigenous population to that found by Cooke et al. (2007) using previous data. While the results are not strictly comparable due to the necessary use of proxy variable, it is interesting that in 2006 an HDI value of 0.737 would equate to a country rank of 105th, slightly higher than the Syrian Arab Republic and the Occupied Palestinian Territories, but slightly lower than Fiji and Sri Lanka.

The non-Indigenous population living in Western Australia and the Northern Territory had the highest HDI scores across the four States, reflecting in part the mining sector in those two jurisdictions and the advantageous terms of trade at the time of the 2006 Census. On the other hand, the Indigenous population living in New South Wales and Queensland had the highest HDI scores, with the greatest disparity between the two populations in the Northern Territory. Looking at the Northern Territory Indigenous population, an HDI score of 0.530 equates to a ranking of 145th, equivalent to Nepal and slightly above Sudan and Bangladesh.

The gap between the non-Indigenous GDI and HDI for Australia was quite small (0.009), replicating the findings in UNDP (2008) and indicating a relatively high level of gender equality for the non-Indigenous population. However, the gap between the GDI and HDI for the Indigenous population was only 0.002, suggesting even lower gender-based inequality across the three dimensions considered in the index.

Traditionally, a gap between the GDI and HDI has been taken to demonstrate poor outcomes of females relative to males. This reflects the particular social and economic structure of the medium and least developed countries that the UNDP focuses much of its analysis on. However, as shown in Table 2 below, the gap between the Indigenous HDI and GDI is an indication of the relatively disadvantaged position of Indigenous males compared to Indigenous

females in the dimensions covered. In this table, the components of the GDI and HDI are presented separately for Indigenous males and females and by jurisdiction.

Table 2. Development indicators for Indigenous males and females, 2006

	Life expectancy[a]		Literacy proxy[b]		Enrolment proxy[b]		GDP proxy[b]	
	(yrs)		(%)		(%)		($)	
Jurisdiction	Male	Female	Male	Female	Male	Female	Male	Female
Australia	67.2	72.9	64.4	68.2	29.1	32.4	565.3	477.8
New South Wales	69.9	75	64	67.3	33	36.7	616.5	506.5
Queensland	68.3	73.6	70.9	75.3	29.2	33.5	565.2	472.8
Western Australia	65	70.4	68.5	73.1	24.4	25.2	529.1	448.6
Northern Territory	61.5	69.2	38.8	41.4	15.9	17.3	268.1	352.8

Source: a. ABS (2009).

b. Customised calculations from the 2006 Census.

As can be seen from Table 2, for all jurisdictions, males have lower life expectancy, lower literacy (proxied by Year 10 completion) and lower levels of education participation. At the national level, employed females have slightly lower median income than employed males,

partly reflecting their greater incidence of part-time employment. In the Northern Territory, however, employed females had a higher median income than employed males.

A Gender-Related Index for Indigenous Australians

One of the key findings from Table 1 was the apparently small development loss from gender-related inequality for the Indigenous Australian population relative to both the non-Indigenous population and other countries internationally (UNDP 2008). Furthermore, the gender disparity that does exist is mainly due to lower life expectancy and education attendance/attainment for males relative to females. However, two of the criticisms of the GDI are that the conclusions hold true only for the three dimensions included in the index and that it masks substantial variation within countries. The true level of gender-related inequality may be much greater than that suggested by the GDI.

Over the remainder of this paper an alternative Gender-Related Index for Indigenous Australians (GRIFIA) is constructed with a greater range of input variables and at a more disaggregated level of geography. The variables considered for inclusion in the index[5] are listed in Table 3 alongside the average values for Indigenous males and females across Australia in 2006 with the Indigenous Region boundaries and labels given in Figure 1.

Variables used to construct the Table 3. GRIFIA

Variable	Males (%)[a]	Females (%)[a]	Ratio[b]
Year 12 as highest year of schooling	17.99	20.56	0.88
Did not go to school	3.71	3.37	1.1

Degree as non-school qualifications	2.54	4.5	0.56
Children engaged in preschool	51.19	48.8	1.05
Managerial or professional occupation	13.7	20.01	0.68
Employment to population percentage	51.18	40.41	1.27
Core activity restriction	2.16	2.17	1
Individual income less than $250 per week	52.77	49.19	1.07
Individual income more than $1000 per week	9.59	4.89	1.96

Notes: a. Standard deviations in parentheses.

b. A ratio greater than 1 = males are more likely to report that characteristic; a ratio less than 1 = females are more likely to report that characteristic.

Source: Authors' calculations using the ABS Census of Population and Housing 2006.

Fig. 1. Indigenous Region structure, 2006

Applying a similar methodology to that used by the ABS (2006) in the construction of Socio-Economic Indexes for Areas (SEIFA) indices and by Biddle (2009) for the Indigenous population as a whole, this study summarises the variables of interest using Principal Component

Analysis (PCA). The analysis presented in this paper uses Indigenous Regions as the unit of analysis, with the per cent of the population reporting each of the characteristics used to construct a correlation matrix. PCA is then applied to summarise the set of variables into a single index.

Two versions of the GRIFIA were created. The first involves creating two separate indices, one for males and one for females. This first index, GRIFIA(I), shows how the distribution of Indigenous males and females differs across Indigenous Regions. The second index, GRIFIA(II), involves pooling both Indigenous males and females together to create a single ranking that allows the outcomes of Indigenous males in a particular Region to be compared to their female counterparts.

For both indices, the first component of the PCA is used to rank the Indigenous Region.[6] The loading that is used to construct this rank is the correlation between the component and the variable for each Region. The sign of the loading indicates whether the variable contributes positively or negatively to regional outcomes, with the size of the loading (absolute value) indicating the strength of the correlation. If that strength is low it means the component is not highly correlated with the variable, suggesting the removal of the variable will not affect the overall explanatory power of the model. Variables which had a loading in absolute value of less than 0.3 were removed. It should be kept in mind that this is an area-based analysis and not an individual-based analysis. There is likely to be substantial diversity across individuals within Regions.

Table 4 outlines the loadings on the first component from each of the PCAs. The final line of the table gives the percentage of the total variation across all the retained variables explained by this component.

Table 4. Loadings and eigenvalues for the GRIFIA

	GRIFIA(I)		GRIFIA(II)
Variable	**Males**	**Females**	**Males and females**
Employment to population	0.23	0.35	0.22
Year 12 completion	0.43	0.41	0.45
Degree or equivalent qualifications	0.4	0.42	0.42
Managers and professionals	0.36	0.3	0.31
Did not attend schooling	-0.36	-0.33	-0.38
Individual income less than $250 per week	-0.43	-0.41	-0.45
Individual income more than $1000 per week	0.44	0.39	0.33
Variance explained	0.62	0.68	0.57

Note: Preschool enrolment, core activity restriction and private sector employment were excluded from the PCA as their loadings were less than 0.30. The employment to population percentages were maintained for the male index as well as the index for males and females together to maintain consistency with the female index, where it had a value greater than 0.3.

Source: Authors' calculations using the ABS Census of Population and Housing 2006.

The first component explains about 62 per cent of the variation in Indigenous males and 68 per cent of the variation in Indigenous females (Table 4). Of the variables in the model, for both Indigenous males and females separately, and in the pooled dataset, education as denoted by completing Year 12 and possessing a degree qualification had the highest positive correlation with the GRIFIA, whereas individual income of less than $1,000 per month had highest negative correlation. For Indigenous females, possessing a degree qualification was also the most dominant factor contributing to the rank of the Indigenous Regions.

After undertaking the PCA, Indigenous Regions are ranked from 1–37 for the relative ranking (GRIFIA(I)) and 1–74 for the absolute ranking (GRIFIA(II) – combining males and females). For both indices, a ranking of 1 refers to the Region with the most favourable outcomes. The difference between the rankings for Indigenous males and females is also calculated. For the relative rankings, a negative difference means that Indigenous males in that Region are at a more favourable part of the distribution than Indigenous females. A positive difference of course means the opposite. For the absolute ranking, the difference indicates the extent to which males rank worse when compared directly to Indigenous females in the area (rather than just by distribution).

Table 5. Relative and absolute ranking for Indigenous outcomes across Indigenous Regions (GRIFIA), 2006

	Relative rank[a]		Absolute rank[a]		Difference	
Indigenous Region	**Males**	**Females**	**Males**	**Females**	**Relative**	**Absolute**
Queanbeyan	12	9	29	15	3	14

Bourke	27	26	52	46	1	6
Coffs Harbour	14	13	31	20	1	11
Sydney	3	3	7	5	0	2
Tamworth	23	24	49	41	-1	8
Wagga Wagga	20	20	43	36	0	7
Dubbo	21	22	47	37	-1	10
Melbourne	2	2	3	4	0	-1
Non-Met. Victoria	13	16	28	27	-3	1
Brisbane	4	4	6	8	0	-2
Cairns	15	11	30	17	4	13
Mt Isa	19	23	39	42	-4	-3
Cape York	28	28	56	53	0	3
Rockhampton	11	15	25	26	-4	-1
Roma	16	17	33	32	-1	1
Torres Strait	6	7	14	10	-1	4
Townsville	10	14	22	21	-4	1
Adelaide	9	8	23	12	1	11
Ceduna	26	18	54	34	8	20
Port Augusta	30	31	61	59	-1	2
Perth	5	5	11	9	0	2
Broome	24	12	50	24	12	26
Kununurra	31	32	64	62	-1	2
Narrogin	18	21	38	40	-3	-2

South Hedland	17	27	35	55	-10	-20
Derby	32	29	65	60	3	5
Kalgoorlie	25	30	51	57	-5	-6
Geraldton	22	25	48	45	-3	3
Tasmania	8	10	18	19	-2	-1
Alice Springs	29	19	58	44	10	14
Jabiru	33	35	68	66	-2	2
Katherine	34	33	69	63	1	6
Apatula	37	37	74	71	0	3
Nhulunbuy	36	36	73	70	0	3
Tennant Creek	35	34	72	67	1	5
Darwin	7	6	16	13	1	3
ACT	1	1	2	1	0	1

Note: a. Indigenous Regions are ranked from 1–37 for the relative ranking and 1–74 for the absolute ranking (combining males and females), with 1 having on average the most favourable outcomes.

Source: Authors' calculations using the ABS Census of Population and Housing 2006.

Reading across the first line of results in Table 5, we can see, for example, that relative to Indigenous males in other Indigenous Regions, those in Queanbeyan rank 12th out of 37. Relative to others, however, those Indigenous females located in Queanbeyan ranked 9th. When outcomes for Indigenous males and Indigenous females in Queanbeyan are aggregated together, however, Indigenous males rank 29th out of the 74 observations and Indigenous females 15th.

In terms of the relative ranking, the results suggest that Indigenous males and females in the capital cities have the most favourable outcomes, with Indigenous males and Indigenous females ranked at the top of the distribution of their respective group. The main variables driving this are the high Year 12 completions and the high proportion of the population with degree qualifications in these cities.

In the capital cities, there is very little difference in the relative ranking of males compared to females. However, the regions where Indigenous males rank relatively poorly compared to the distribution of Indigenous females are Broome, Alice Springs, and Ceduna. In these areas, Indigenous males tend neither to have completed Year 12, nor have a degree qualification – two components that are dominant factors in explaining the index for both males and females. At the other end of the spectrum, Indigenous males are faring relatively well in South Hedland, Kalgoorlie, Mount Isa, Rockhampton, and Townsville. In these places, there is higher male employment to population percentages, compared to Indigenous males in other Regions.

For the pooled ranking, Indigenous males and females living in capital cities also have the most favourable outcomes, with the exception of Indigenous males in Adelaide. Indigenous males appear to be faring better than Indigenous females in Kalgoorlie and South Hedland. This is largely driven by more Indigenous males than females being employed in these areas. There is also a higher proportion of Indigenous males earning more than $1000 per week and a lower proportion of Indigenous males compared to Indigenous females earning less than $250 per week.

The pooled ranking also suggests that Indigenous females are better off than Indigenous males in Cairns, Dubbo, and Wagga Wagga. This is a consequence of much fewer Indigenous

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males having degree qualifications (or higher), especially in Dubbo and Cairns, as well as fewer Indigenous males completing Year 12 compared to Indigenous females in these regions.

It is also evident that Indigenous males and females living in the central and northern part of Australia tend to fall into the fourth quartile (including Katherine, Apatula, Kunnunurra, and Tennant Creek). This is mainly a result of lower educational attainment and a higher proportion of Indigenous males and females earning less than $250 per week. Those Indigenous males and females in capital cities, in contrast, both tend to rank in the top quartile. Ultimately, what this shows is that, while gender differences are important, the outcomes of the Indigenous population as a whole cannot be ignored.

Summary and Implications

Socioeconomic disparities across three dimensions in Australia (Indigeneity, gender, and geography) are clearly evident in this paper. Firstly, the lower HDI scores for the Indigenous population reflect a large gap at the national level in education attainment, life expectancy, and income level. While the non-Indigenous population was ranked in the top few countries worldwide, a score of 0.737 would indicate Indigenous Australians have similar human development levels to Fiji and Sri Lanka.

There are, however, variations across the different jurisdictions. While the HDI scores vary only marginally between the four jurisdictions for the non-Indigenous population, the HDI score for the Indigenous population living in New South Wales are 0.207 higher than that of those living in the Northern Territory. The gap in socioeconomic outcomes between the Indigenous and non-Indigenous population is also widest in the Northern Territory.

The gender differences within the two populations are also highlighted across the range of demographic and socioeconomic variables. The gap between the GDI and HDI reflects the

loss of human development from gender-related inequality. The smaller gap between the HDI and GDI for the Indigenous population suggests that there was small development loss from gender-related inequality relative to the non-Indigenous population using these indicators. Yet, the lived reality of the population and the diversity of individual experiences may suggest otherwise. The GDI and HDI only consider three aspects of the gender differences between the two populations. One of the beauties of the HDI and the GDI is their simplicity and, while a more encompassing index with a greater range of input variables may tell a different story, it is important to first establish the results using these two widely used and understood indices.

One of the major limitations of the analysis in this paper is that the ranking holds true only for the set of variables used to create the indices. If a different set of variables were included, a different picture might emerge. For example, in this paper, the education component of the index was the dominant factor. As a result, the better performance of Indigenous females as measured by education indicators placed Indigenous women higher in the rankings compared to Indigenous males. Future work will consider the distribution of Indigenous male and female outcomes across a much wider range of indicators.

Notwithstanding such limitations, the methodology employed in this paper, while relatively simple, provides a useful starting point for the development of international, cross-country comparisons of Indigenous males and females. Furthermore, the results highlight the importance of looking at, within country variation, a finding that should be considered in other settings.

The most obvious set of analyses would be across the four large, English-speaking settler countries – Australia, Canada, New Zealand, and the United States. While the Indigenous populations of these countries have very different characteristics and histories of colonisation,

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the institutional alignment across the countries opens up a number of interesting questions. Furthermore, a similar data collection strategy (especially with regards to their respective censuses) means that any differences identified are likely to be real, rather than driven by methodological variation. The development loss from Indigenous disadvantage in these countries has been shown to be consistently large. The extent to which this is being driven by gender inequality is a research question of ongoing policy relevance.

Notes

1. Town camps are generally special purpose lease areas within remote urban centres that are designated as Aboriginal community living areas. They have a very large Indigenous population (in proportionate terms) alongside little or no infrastructure or amenities.

2. The Indigenous Region classification is the least disaggregated level of geography in the Australian Indigenous Geographic Classification (AIGC) system created by the Australian Bureau of Statistics (ABS).

3. While the census remains the key source of data for comparisons between the Indigenous and non-Indigenous populations of Australia, the substantial undercount discussed by Taylor and Biddle (2008) should be kept in mind when interpreting results. In particular, Morphy (2008) shows that the individuals most likely to be missed by the census are highly mobile, young Indigenous males. This means that the observed educational advantage of Indigenous females may be even larger than suggested by standard census outputs.

4. There are a number of differences between the Australian Census and other collections internationally that should be kept in mind when interpreting the results. First, there is no short-form and long-form questionnaire with all respondents essentially being asked the same set of questions. While this boosts the available sample size, the drawback is a more limited set of questions available for analysis. Second, Indigenous status on the Australian Census is completely self-identified.

5. While life expectancy is an important indicator, at present the best available information on life expectancy from the ABS is experimental and is only available at the national or State level. Instead, the percentage of the population with a core activity restriction is used as a proxy for poor health. Core activity restriction refers to those people needing assistance in one or more of

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the three core activity areas of self care, mobility, and communication (because of a long-term health condition, disability, or old age).

6. The first component of the PCA explained the largest amount of variation in the original variables (68%) and therefore is used as the index. While the eigenvalue for the second component was greater than 1, the common cut-off used in PCA (Darlington 1997), the difference was substantial enough between the first and second components to justify the use of only one component.

References

Altman, J.C. 1982 "Hunter-Gatherers and the State: The Economic Anthropology of the Gunwinggu of Northern Australia". PhD Thesis, Australian National University.

_____. 2000. "The economic status of Indigenous Australians." *CAEPR Discussion Paper No. 193*. Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University.

_____, N. Biddle and B.H. Hunter. 2008. "How realistic are the prospects for 'closing the gaps' in socioeconomic outcomes for Indigenous Australians?" *CAEPR Discussion Paper No. 287*. Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University.

Indian and Northern Affairs Canada. (2008). "Evaluation of the Implementation of INAC's Gender-Based Analysis Policy." Ottawa: INAC Audit and Evaluation Sector. **http://www.ainc-inac.gc.ca/ai/arp/aev/pubs/ev/gba/gbaflm09-eng.asp**.

Australian Bureau of Statistics (ABS). 1995. *National Aboriginal and Torres Strait Islander Survey: Detailed Findings.* Cat. No. 4190.0. Canberra: ABS.

_____**.** 2006. *Socio-Economic Indexes for Areas (SEIFA) – Technical Paper*. Cat. no. 2039.0.55.001. Canberra: ABS.

_____**.** 2009. *Experimental Life Tables for Aboriginal and Torres Strait Islander Australians, 2005–2007*. Cat. no. 3302.0.0. Canberra: ABS.

Banda, F. and C. Chinkin. 2004. *Gender, Minorities and Indigenous Peoples*. London: Minority Rights Group International.

Basu, S. and P. Basu. 2005. "Regional disparity in Australia: Analysis of gender development index." *International Review of Business Research Papers* 1(2):56–66.

Bell, D. 1983. *Daughters of the Dreaming.* Melbourne: McPhee Gribble and Sydney: George Allen & Unwin.

Biddle, N. 2009. "Ranking regions: Revisiting an index of relative Indigenous socioeconomic outcomes." *CAEPR Working Paper No. 50*. Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University.

Cooke, M. 2007. "Using the UNDP Indices to Examine Gender Equality and Well-Being." In *Aboriginal Well-Being: Canada's Continuing Challenge*, edited by J.P. White, N. Spence, and D. Beavon. Toronto: Thompson Educational Publishers.

_____, F. Mitrou, D. Lawrence, E. Guimond, and D. Beavon. 2007. "Indigenous well-being in four countries: An application of the UNDP's Human Development Index to Indigenous Peoples in Australia, Canada, New Zealand and the United States." *BMC International Health and Human Rights,* 7(9).

Daly, A. and A. Hawke. 1994. "The impact of the welfare state on the economic status of Indigenous Australian women." *CAEPR Discussion Paper No. 65*. Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University.

Darlington, R.B. 1997. "Factor Analysis." viewed 21 April 2008, **http://www.psych.cornell.edu/Darlington/factor.htm**.

Guimond, E. and M. Cooke. 2008. "The Current Well-Being of Registered Indian Youth: concerns for the future?" *Horizons* 10(1). Ottawa: Policy Research Initiative.

Hamilton, A. 1975. "Aboriginal women: The means of Production." In J. Mercer (ed.) *The Other Half.* Harmondsworth: Penguin. Pp. 167 – 179.

McCormack, D. 2006. “The Substance of Australia’s First Men.” Presentation to the National Mental Health and Homeless Advisory Committee of St. Vincent De Paul Society, Darwin.

Merlan, F. 1988. “Gender in Aboriginal social life: A review.” In R.M. Berndt and R. Tonkinson (eds.) *Social Anthropology and Australian Aboriginal Studies: A Contemporary Overview*. Canberra: Aboriginal Studies Press. Pp. 15–77

Morphy, F. (2008). *Agency, contingency and census process: Observations of the 2006 Indigenous Enumeration Strategy in remote Aboriginal Australia*. *CAEPR Research Monograph No. 28*. Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University.

Steering Committee for the Review of Government Service Provision (SCRGSP). 2005. *Overcoming Indigenous Disadvantage: Key Indicators 2005*. Canberra: Productivity Commission.

Taylor, J. and Biddle, N. 2008. “Locations of Indigenous Population Change: What can we say.” *CAEPR Working Paper No. 43*. Canberra: Centre for Aboriginal Economic Policy Research, The Australian National University.

_____**.** 2007. *Overcoming Indigenous Disadvantage: Key Indicators 2007*. Canberra: Productivity Commission.

United Nations Development Programme (UNDP). 1995. *Human Development Report 1995, Gender and Human Development*. New York: UNDP.

_____**.** 2008. *Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in a Divided World*. New York: UNDP.

United Nations Children's Fund (UNICEF). 2006. *The State of the World's Children 2007: Women and children—The double dividend of gender equality*. New York: UNICEF.

United Nations Secretariat. 2008. *The Millennium Development Goals Report 2008*. New York: United Nations.

World Bank. 2001. *Engendering Development: Through Gender Equality in Rights, Resources and Voice*. *A World Bank Policy Research Report*. Washington DC: The World Bank; and, UK: Oxford University Press.

_____**.** 2003. *Gender Inequality and the Millennium Development Goals*. Washington DC: Gender and Development Group, The World Bank.

White, I. 1974. "Aboriginal Women's Status: A paradox resolved." In F. Gale (ed.) *Woman's Role in Aboriginal Society*. Canberra: Australian Institute of Aboriginal Studies.