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A regional analysis of Indigenous participation in the Western Australian labour market

N. Biddle and J. Taylor

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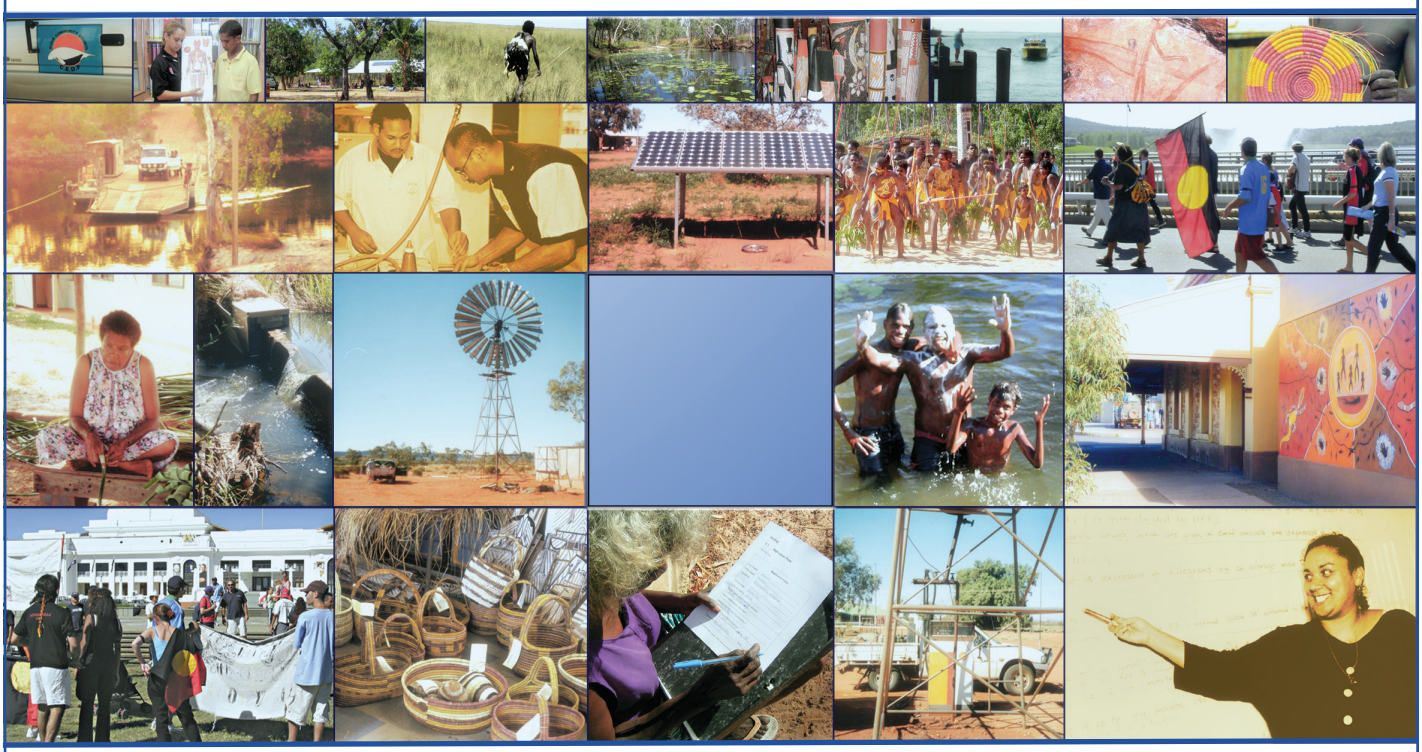

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ABSTRACT

Western Australia sits poised to reap huge benefits from a super-cycle of resource exploitation. Labour demand is at an all-time high and challenges in securing an adequate labour supply are already evident. It is ironic then, that the very people whose land base is exploited to generate much of this wealth, who are often located in regions of high labour demand, and who have sizeable cohorts moving into working-age groups, are so poorly situated to share in the benefits of economic growth for want of adequate capacities to participate.

The recent release of 2006 Census data provides the basis for an update of the economic position of Indigenous people across different regions of Western Australia. This paper focuses on recent change in the fortunes of Indigenous people in the labour market and analyses these alongside changes in other population, social and economic outcomes. The findings show a continuation of regional diversity in outcomes with regions away from the south west faring worst, although overall there is little evidence of a closing of the gaps in key indicators. The indications are that strategies aimed at overcoming Indigenous disadvantage in the labour market will need to address structural issues at different formative stages in the life cycle, as well as assume a broad scope for economic inclusion and participation to cope with the growing need for employment from an expanding Indigenous working-age population in very diverse locational settings.

Keywords: Employment, Western Australia, Census, Regional Analysis.

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BACKGROUND

Since its formation in 1990, CAEPR has produced a series of research papers tracking progress in the relative economic status of Indigenous people in Western Australia and in some of its regions (Taylor 1998, 2004, 2006, Taylor & Roach 1994, Taylor & Scambary 2005). Viewed in sequence, findings at the State level have indicated a steady rise since the 1980s in the Indigenous employment rate and a decline in the unemployment rate, with slight improvement in labour force participation. However, while tracking positively, all of these indicators have remained substantially below equivalent rates for the State's non-Indigenous population despite a long-term trend towards a closing of the gap, at least until recently. The worrying sign in recent years is that although absolute Indigenous labour force status has continued to improve, the relative gap in key indicators has stalled or even reversed. While regional expression of these trends varies somewhat, the evidence indicates that in remote regions, such as the Kimberley and Pilbara, both long-term and recent trends have been less favourable, especially when the ameliorating effect on labour force statistics of Community Development Employment Projects (CDEP) program participation is excluded.

CDEP:
Community
Development
Employment
Projects

Ultimately, of course, employment is a means to income and asset accumulation. While success here will be influenced by changing rates of employment, also of importance is the composition of employment in terms of occupational status and hours worked. What is significant to note is that improvements in labour force status appear to have had little impact on income relativities between Indigenous and non-Indigenous adults in Western Australia, which have remained firmly apart—not least in terms of income gained from employment. This has two consequences. First, it means that Indigenous people have not shared equally in the economic benefits of recent boom conditions in Western Australia, and in fact have fallen behind. Second, it means that the structural reliance of Indigenous people on state transfers for income has remained largely unaltered.

At the commencement of the twenty-first century, Western Australia sits poised to reap huge benefits from a super-cycle of resource exploitation. Labour demand is at an all-time high and challenges in securing an adequate labour supply are already evident. It is ironic then, that the very people whose land base is exploited to generate much of this wealth, who are often located in regions of high labour demand, and who have sizeable cohorts moving into working-age groups, are so poorly situated to share in the benefits of economic growth for want of adequate capacities to participate. To the extent that this fundamental contradiction and dilemma forms the basis for increasingly urgent discussions between Government and Indigenous and industry stakeholders, the aim of this paper is to make available the latest statistical information and analysis.

Census-derived social indicators continue to provide the most comprehensive and inclusive statistical basis for assessing change in the economic status of Indigenous people relative to that of other Australians. By way of inference, they also provide a means to assess likely aggregate impacts of Indigenous economic policy. The recent release of 2006 Census data provides the basis for an update of the economic position of Indigenous people in Western Australia and, in accordance with the aims of the Western Australian Government's Indigenous Jobs Forum, this paper focuses on recent change in the fortunes of Indigenous people in the Western Australian labour market. In particular, consideration is given to the current composition of demand for labour as displayed by occupational, industry and industry sector characteristics, and to key indicators of labour supply as indicated by select human capital characteristics. Since location provides an important input to labour demand and supply, the analysis is conducted at a within-State regional scale, although an attempt is made to contextualise the situation in Western Australia using comparison with the rest of Australia where appropriate.

Table 1. Selected characteristics of Indigenous Australians or Indigenous households by state of usual residence, 2006

Variable	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Population ('000s)	139	30	128	26	59	17	54	4	455
Unemployment rate (% labour force)	19.3	15.7	13.1	16.0	14.3	13.7	14.4	11.2	15.6
Labour force participation rate (% adults)	51.2	53.4	56.2	48.0	49.3	58.6	38.9	68.4	51.2
Employment to population ratio (% adults)	41.3	45.0	48.9	40.4	42.3	50.5	33.3	60.8	43.2
Private-sector employment (% adults)	33.7	39.1	35.0	30.4	32.5	43.2	19.2	34.8	32.8
Median income – Individual	296	332	318	263	254	323	215	514	278
Median income – Indigenous households	727	763	899	673	787	775	837	1,221	791
Home owner or purchasing (% Indigenous households)	37.8	42.3	35.9	35.9	32.5	54.1	20.0	42.4	35.9
Average number of persons per bedroom	1.2	1.2	1.3	1.2	1.3	1.2	1.8	1.1	1.3
Household size (Persons in Indigenous households)	3.2	3.0	3.5	3.2	3.5	3.0	4.5	3.0	3.4
Never attended school (% adults)	1.1	2.0	1.4	2.4	3.5	0.7	8.5	0.5	2.5
Completed Year 10 or higher (% adults)	65.7	69.5	73.2	69.3	70.9	75.0	40.2	81.5	66.4
Completed Year 12 (% adults)	21.2	26.0	28.7	19.6	19.4	20.8	10.1	43.0	22.2
Post-school qualification (% adults)	26.4	30.6	24.4	23.7	19.8	28.3	13.1	39.7	23.8
Degree or higher (% adults)	5.0	6.7	4.2	4.1	3.7	4.5	1.8	16.8	4.4

Source: ABS Census of Population and Housing.

Table 2. Ratio of selected characteristics (Indigenous/Non-Indigenous) by state of usual residence, 2006

Variable	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Per cent of population Indigenous	2.25	0.65	3.47	1.77	**3.21**	3.70	30.42	1.25	2.43
Unemployment rate (% labour force)	3.39	2.96	2.91	3.14	**3.97**	2.17	5.54	3.39	3.06
Labour force participation rate (% adults)	0.82	0.84	0.86	0.78	**0.74**	0.98	0.49	0.94	0.80
Employment to population ratio (% adults)	0.70	0.75	0.78	0.69	**0.66**	0.90	0.43	0.87	0.71
Private-sector employment (% adults)	0.65	0.75	0.65	0.61	**0.59**	0.94	0.59	0.82	0.63
Median income – Individual	0.64	0.73	0.66	0.60	**0.50**	0.80	0.30	0.71	0.59
Median income – Households	0.70	0.75	0.87	0.76	**0.73**	0.97	0.63	0.81	0.77
Home owner or purchasing (% households)	0.54	0.57	0.50	0.50	**0.45**	0.73	0.36	0.61	0.51
Average number of persons per bedroom	1.09	1.09	1.18	1.09	**1.18**	1.09	1.64	1.00	1.18
Household size (Persons in households)	1.23	1.15	1.35	1.33	**1.40**	1.25	1.80	1.15	1.31
Never attended school (% adults)	0.94	1.64	2.93	2.92	**5.41**	2.01	12.97	1.20	2.68
Completed Year 10 or higher (% adults)	0.79	0.85	0.86	0.83	**0.80**	0.93	0.45	0.89	0.79
Completed Year 12 (% adults)	0.44	0.53	0.62	0.46	**0.40**	0.59	0.21	0.64	0.47
Post-school qualification (% adults)	0.55	0.67	0.56	0.57	**0.43**	0.69	0.25	0.69	0.52
Degree or higher (% adults)	0.26	0.34	0.27	0.27	**0.22**	0.32	0.09	0.50	0.24

Source: ABS Census of Population and Housing.

WESTERN AUSTRALIA IN NATIONAL CONTEXT

Before examining in detail the outcomes in 2006 for Indigenous and non-Indigenous populations in Western Australia, Tables 1 and 2 consider these in a national context by comparing select social indicators across all states and territories. Table 1 presents outcomes for the Indigenous population across a number of employment, income, housing and education variables. These results are either for Indigenous individuals or Indigenous households (that is, those households that contain at least one Indigenous Australian). Equivalent results for the non-Indigenous population are presented in Appendix A, Table A1. The ratios between Indigenous and non-Indigenous results are shown in Table 2.

According to the first row of Table 1, which shows the number of Indigenous people who were counted as having their usual residence in that state on the night of the Census, the Western Australian Indigenous population count was the third highest in Australia at 59,000. This made up about 13 per cent of the total Indigenous population counted in Australia in 2006. According to Table 2, it represented roughly 3.2 per cent of the total Western Australian population.

The unemployment rate for the Indigenous population in Western Australia at 14.3 per cent is more than a percentage point lower than the Indigenous national average. When this is expressed relative to the non-Indigenous population, however, only the Northern Territory has a greater disparity. As will be discussed in more detail later, the unemployment rate does not completely capture all aspects of the labour market outcomes of Indigenous Australians. In particular, it does not make a distinction between CDEP and other employment, nor does it capture discouraged jobseekers or underemployment. For this reason, three other measures of labour force participation are presented.

The labour force participation rate and the employment to population ratio of the Western Australian Indigenous population are both lower than the national average. This represents a significant disengagement from the labour market that becomes more apparent when the buoyant overall labour market in Western Australia is taken into account using the relative rates in Table 2. Furthermore, the Western Australian Indigenous population has one of the lowest rates of participation in the private sector labour market, reflecting to some extent the high rate of CDEP employment in a number of areas.

Reflecting this low Indigenous labour market participation, Indigenous median individual income in Western Australia is low in both relative and absolute terms by national standards. This is less the case for household income, however this is largely explained by the relatively high median number of people per household indicated by the appropriate ratio in Table 2. The Western Australian Indigenous population also fares poorly across the other household level variables representing home ownership and overcrowding.

Finally, looking at education completion amongst all states and territories, the Western Australian Indigenous population has the second highest proportion of the population who never attended school, plus the second lowest proportion who have completed Year 12, a qualification (which includes degrees, diplomas and certificates) or a degree. However, the proportion who had completed Year 10 or higher (which includes those who have also completed Year 12) was higher in absolute terms than in New South Wales, Victoria and South Australia, though still lower relative to the non-Indigenous population.

The clear message from Tables 1 and 2 is that Indigenous people in Western Australia fall substantially behind many Indigenous people elsewhere in Australia, both in absolute terms and in terms of key outcomes relative to co-resident non-Indigenous populations. Indeed, only the Northern Territory Indigenous population generally has worse outcomes. As will be shown in the remainder of this paper, however, the Western Australian Indigenous population is quite diverse and a number of the outcomes presented in the above tables vary considerably across the State. Before presenting this analysis, the following section looks in a little more detail at the data and geography deployed.

METHODOLOGICAL ISSUES: DATA AND GEOGRAPHY

The main data source for the analysis in this paper is the August 2006 Census of Population and Housing, with comparisons made to the 2001 Census. The Census asks whether individuals are of Aboriginal origin, Torres Strait Islander origin, or both. For present purposes, those who answered 'yes' to any of these are classed as being Indigenous, while those who answered 'no' are classed as being non-Indigenous and those who did not provide an answer are excluded from the analysis.

It should be noted that while census data have their advantages, there are substantial flaws as well. Leaving aside questions regarding the cultural appropriateness of many of the data for representing the circumstances of many Indigenous peoples the main difficulty relates to the accuracy of counts.

Basically, on census night the Australian Bureau of Statistics (ABS) attempts to count all Australians. In August 2006, 1.96 million people were captured as residents of Western Australia and 58,711 of these indicated an Indigenous status. However, these do not constitute the final census figures since the ABS acknowledges that it never succeeds in counting everyone. Accordingly, a follow-up survey of 1 per cent of all households (the Post-Enumeration Survey (PES)) is conducted a month after each census to derive an estimate of numbers missed. With these estimates to hand, the ABS then adjusts its original counts (inevitably upward) to produce final estimates of the population. For Indigenous population estimates (Estimated Resident Population (ERP)), it is also assumed that some of those (127,327 in Western Australia) who did not indicate an Indigenous status on the census form are Indigenous people. To account for these, a pro rata share of the total non-response group is allocated accordingly. By combining these calculations official estimates of the Indigenous population are produced and these are used for important public policy purposes such as fiscal allocations of Goods and Services Tax (GST) revenue, calculation of service needs, and so on.

What is important to note, is that up until the last census the PES had never been conducted in remote Indigenous communities. As a consequence, the rate at which people in such places were missed by the census had simply been assumed to be the same as in non-remote areas. On this basis, previous census rounds have applied a blanket estimate of around 6 per cent undercount for remote areas.

After the last census, however, the PES was conducted in remote communities for the first time and it revealed what had long been suspected—that the undercount of Indigenous people in such places is significant and much higher than the level historically provided for by ABS methods.

The outcomes are staggering for a rich, developed state. In Western Australia, where the undercount was found to be greatest, it was estimated at 24 per cent. Put simply, one out of every four Indigenous people resident in Western Australia is estimated to have been overlooked by the 2006 Census. The next highest rate was in the Northern Territory at 19 per cent. By applying these post-censal adjustments, the Indigenous ERP for Western Australia was found to be much higher than the raw census count—77,928 compared to 58,711. Ideally, this figure would be used in the present analysis, except for two problems.

First, translating these net undercount rates into precise numbers is difficult because they are based on a sample survey. Accordingly, they have an error rate attached to them. For example, the 95 per cent confidence interval around the Western Australian Indigenous ERP of 77,928 ranges from 66,000 to 88,000, producing a large range of feasible values. Second, even if there was more certainty, the Indigenous ERP is not yet available by age and sex and so no values are to hand for the population of working age, nor are they available below the State level. Consequently, for population levels in the analysis we are compelled to use census counts only.

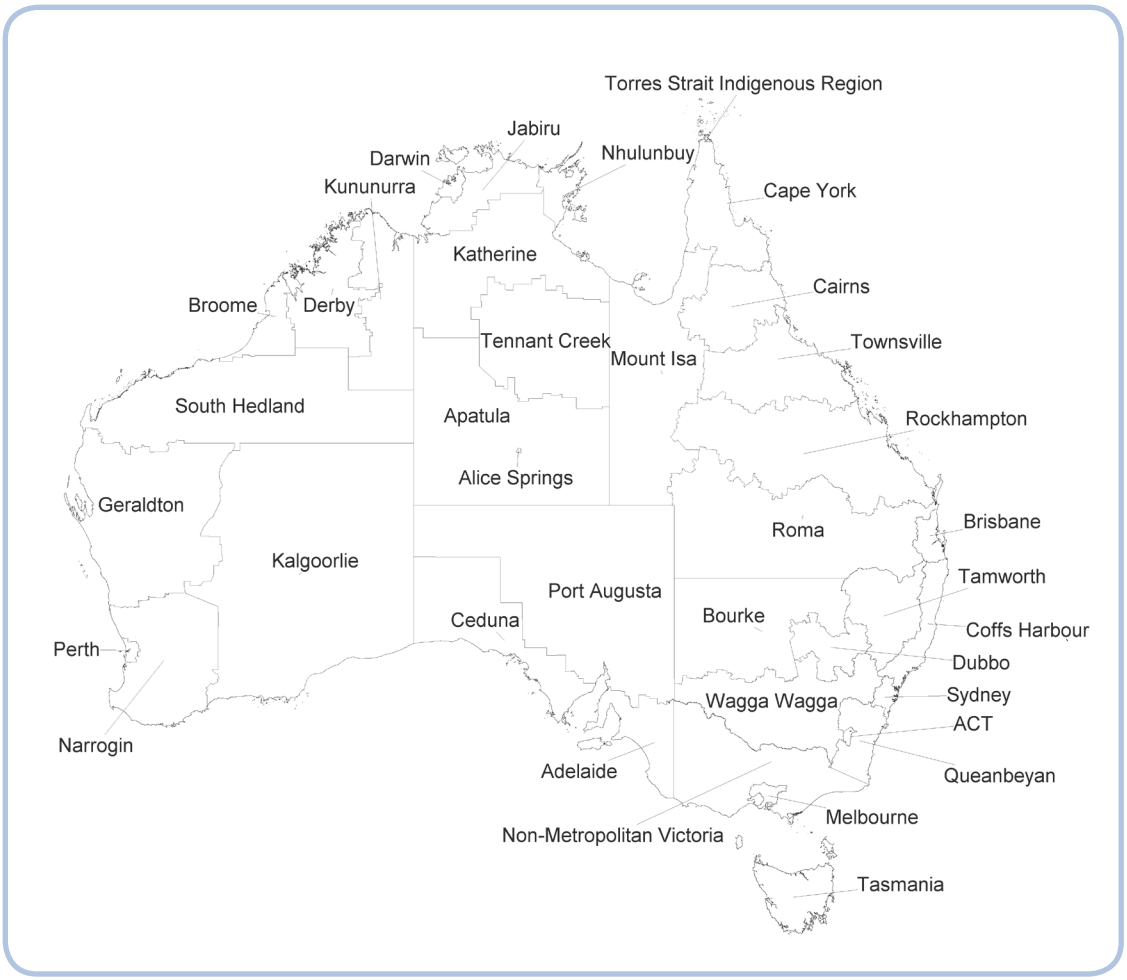
ABS: Australian Bureau of Statistics

PES: Post-Enumeration Survey

ERP: Estimated Resident Population

GST: Goods and Services Tax

Fig. 1. ABS Indigenous Region structure, 2006



Source: ABS 2007:72.

In the meantime, all is not lost, as the approach taken in this report is to view the census as a very large sample survey, with the key output being population rates rather than population levels. So while there is the potential to understate the number of people in a given area or with a particular characteristic, using ratios should ensure that comparison between regions and between Indigenous and non-Indigenous outcomes are internally consistent. That is, assuming the net undercount is distributed evenly across socioeconomic characteristics, both the numerator and the denominator will be affected to the same extent. Hence any rates that are calculated will be the most accurate estimate given the currently available information.

ATSIC: Aboriginal and Torres Strait Islander Commission

For the most part, the analysis is presented at the ABS Indigenous Region level as shown in Fig. 1. For the 2006 Census, there were 37 Indigenous Regions across Australia of which eight were in Western Australia. These are based loosely on the Aboriginal and Torres Strait Islander Commission (ATSIC) Regions that were used for the 2001 and earlier Censuses; however the current structure has been changed to reflect new administrative arrangements and population structure. The major difference between 2001 and 2006 in Western Australia was that the ATSIC Region of Warburton was split and included in expanded South Hedland and Kalgoorlie Indigenous Regions.

Table 3. Population change for Western Australian Indigenous Regions, by Indigenous status, 2001–06

	Indigenous			Non-Indigenous			Per cent Indigenous		
Indigenous Region	2001 ('000)	2006 ('000)	Change (%)	2001 ('000)	2006 ('000)	Change (%)	2001 (%)	2006 (%)	Change (%)
Perth	18.0	21.3	18.6	1,197.9	1,335.6	11.5	1.5	1.6	6.3
Broome	4.0	3.6	-11.6	7.3	7.6	4.8	35.5	31.7	-10.6
Kununurra	4.5	4.3	-4.6	4.0	3.8	-5.3	53.3	53.5	0.3
Narrogin	9.2	8.5	-8.5	346.4	300.4	-13.3	2.6	2.7	5.3
South Hedland	5.6	5.7	0.3	29.0	30.4	4.9	16.3	15.7	-3.7
Derby	4.6	4.4	-4.1	2.3	2.1	-9.4	66.8	68.0	1.9
Kalgoorlie	5.2	5.2	0.0	45.1	42.7	-5.3	10.4	10.9	5.0
Geraldton	5.7	5.5	-3.2	48.2	45.0	-6.7	10.5	10.9	3.4
Western Australia	56.8	58.5	3.0	1,680.2	1,767.6	5.2	3.3	3.2	-2.0
Rest of Australia	343.9	388.5	12.9	15,656.9	16,392.9	4.7	2.1	2.3	7.7

Source: ABS Census of Population and Housing.

POPULATION SIZE AND COMPOSITION

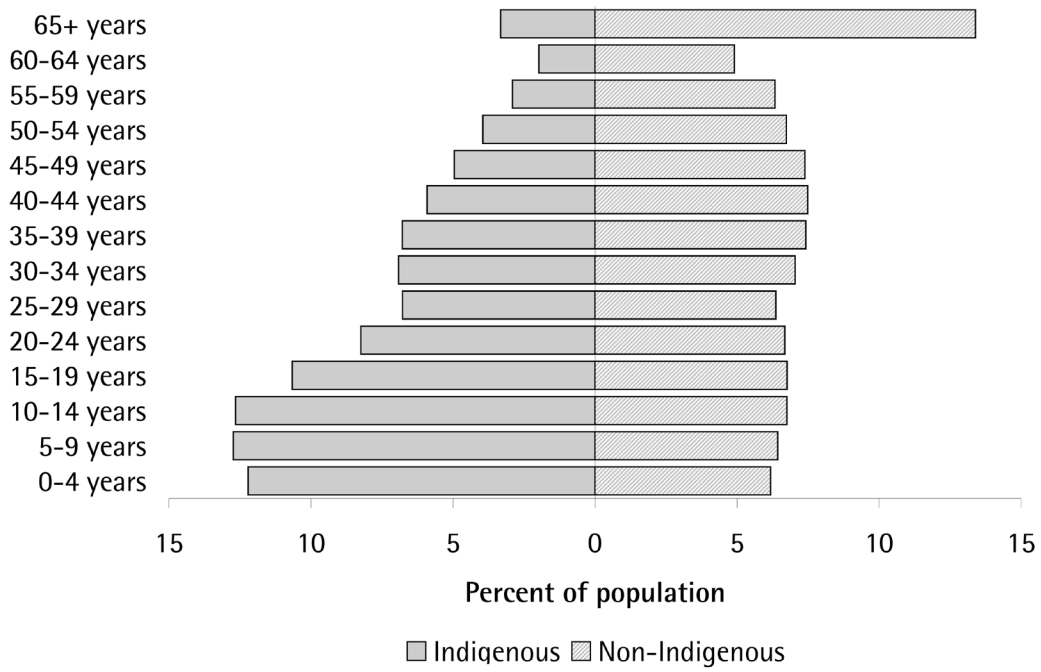
Before looking at employment and other socioeconomic characteristics, it is important to have an understanding of how the Indigenous population is distributed across the state in absolute terms and relative to the non-Indigenous population. Table 3 shows the Indigenous and non-Indigenous population counts for each Indigenous Region at the 2001 and 2006 censuses and the proportional change in each region, together with change in the Indigenous proportion of each region's population.

The Indigenous Region that has the largest Indigenous and non-Indigenous population is Perth (which includes surrounding areas like Fremantle). In addition, this is the Indigenous Region that has had the largest growth in population between 2001 and 2006, with the count of both the Indigenous and non-Indigenous populations increasing much faster than the rest of the State and the rest of Australia. However, while Perth has the highest number of Indigenous people, it has the lowest proportion of the population who identified as being Indigenous—1.6 per cent in 2006. The surrounding region of Narrogin also has a low percentage of the population who identify as being Indigenous, albeit one which is slightly higher than the percentage for the rest of Australia.

Compared to these two regions, the remainder of Western Australia has a much higher proportion of the population who identify as being Indigenous. Indeed, the Indigenous share of total population in Derby is more than two-thirds, while in Kununurra it is more than half. According to these census count data only two of the eight Western Australian Indigenous Regions experienced a decline in the percentage of the population who identify as being Indigenous—Broome and South Hedland.

The four main reasons why populations in each region change over time are births, deaths, international migration and internal migration. Deaths are difficult to capture using census data, and international migration has only a small impact on the Indigenous population (though it obviously impacts on the

Fig. 2. Population pyramid for Western Australian Indigenous and non-Indigenous population, 2006



Source: ABS Census of Population and Housing.

non-Indigenous population). However, Fig. 2 demonstrates one reason why the Indigenous population is generally growing faster than the non-Indigenous population in most regions in Western Australia, namely the continued existence of high Indigenous fertility compared to an ageing non-Indigenous population. This 'population pyramid' shows the proportion of the Western Australian Indigenous and non-Indigenous population in five-year age ranges in 2006.

Fig. 2 shows that the Indigenous population in Western Australia is substantially younger than the non-Indigenous population (the figure for all of Australia has a similar shape). Over 10 per cent of the population is aged 0–4 years, explaining a large part of the increase in the population in the State between 2001 and 2006. Fig. 2 also shows that, for the Indigenous population, there is a relatively high percentage of the population aged 5–24. It is during these ages that people obtain the majority of their formal education and where they are most dependent on either their family or the government for income and other support. This has implications for the current provision of services in education and certain aspects of health, as well as for the number of Indigenous Australians who will be entering the labour market in the next five to ten years.

Just as there is variation in the distribution of the population by region in Western Australia, there is also geographic variation in age profile. So, while the profile relative to the non-Indigenous population follows the same general pattern outlined in Fig. 2, there are some differences across the eight Indigenous Regions. These differences will be important when thinking about the implications of the employment and education results presented in subsequent sections of this paper and are summarised in Table 4.

Table 4. Indigenous population by age group for Western Australian Indigenous Regions, 2001 and 2006

	Age 0–14		Age 15–24		Age 25–54		Age 55+	
Indigenous Region	2001 (%)	2006 (%)	2001 (%)	2006 (%)	2001 (%)	2006 (%)	2001 (%)	2006 (%)
Perth	40.3	37.4	19.3	20.3	35.5	35.9	5.0	6.4
Broome	37.6	34.0	19.3	19.8	35.8	38.6	7.3	7.7
Kununurra	38.5	36.7	19.7	19.3	33.3	35.2	8.4	8.8
Narrogin	43.3	41.0	16.4	16.9	35.0	34.1	5.3	8.0
South Hedland	35.8	33.6	17.2	18.4	39.4	39.2	7.7	8.8
Derby	37.7	35.6	18.1	19.4	34.8	35.7	9.4	9.3
Kalgoorlie	36.4	35.2	18.1	19.2	37.6	36.8	7.9	8.8
Geraldton	41.1	37.7	16.2	16.6	35.3	36.1	7.4	9.6
Western Australia	39.5	37.0	18.1	19.0	35.7	36.1	6.6	7.9
Rest of Australia	39.5	37.8	18.3	18.9	35.5	35.1	6.7	8.3

Source: ABS Census of Population and Housing.

Table 5. Inward, outward and net internal migration for Western Australian Indigenous Regions by Indigenous status, 2001-06

	Indigenous			Non-Indigenous		
Indigenous Region	Outward (%)	Inward (%)	Net (%)	Outward (%)	Inward (%)	Net (%)
Perth	14.1	18.5	4.3	7.6	7.7	0.1
Broome	21.2	12.9	-8.3	49.4	43.6	-5.8
Kununurra	14.2	9.5	-4.7	53.0	40.8	-12.2
Narrogin	19.7	18.1	-1.6	15.3	17.7	2.3
South Hedland	17.6	18.7	1.1	49.4	40.9	-8.5
Derby	14.8	9.2	-5.6	55.1	37.1	-18.0
Kalgoorlie	17.0	14.4	-2.6	32.3	23.1	-9.2
Geraldton	19.6	17.0	-2.6	23.2	18.4	-4.8
Rest of Australia (unweighted)	13.4	12.6	-0.8	26.2	21.7	-4.5

Source: ABS Census of Population and Housing.

In 2006, the Indigenous Region with the highest proportion of the population aged under 15 years was Narrogin, where this group makes up 41 per cent of the Indigenous population. Given that Narrogin also has a high proportion of the population aged 55 and over, the population who are roughly of working-age in this region is quite low at a little over half of the population. Compared to this, around 58 per cent of the population in both Broome and South Hedland are aged 15–54 years. This implies a relatively low age-dependency ratio, but also means that there is potential for a relatively large pool of people of working age to remain not employed if labour demand and supply are poorly matched.

Between 2001 and 2006, the proportion of the Indigenous population aged 0–14 years decreased, with the magnitude of the decrease being reasonably consistent across the Indigenous Regions of Western Australia. Much of this decrease was made up for by increases in the population aged 55 years and over, however, there were also increases in the working-age population, especially in Broome, Kununurra and Derby.

INTERNAL MIGRATION

Net internal migration refers to the difference between the number of people who move into a region from other parts of Australia minus the number of people who move out of the region to another part of Australia. While net internal migration shows the balance of people moving in and out of a region, there are likely to be quite different implications for regions depending on the relative size of the two components. For example, the demographic composition of a region that has low net migration (that is a balance of inward and outward migration) but high turnover is more likely to change compared to a region with low net migration but low turnover.

Table 5 presents the net internal migration rate, as well as inward and outward internal migration rates, for each of the Western Australian Indigenous Regions for Indigenous and non-Indigenous populations. The rates are expressed as a percentage of the applicable population[1] in 2001 with the final line of the table giving the unweighted average for the internal migration rates across the other 31 Indigenous Regions in Australia.

Of the eight Western Australian Indigenous Regions, only Perth (4.3%) and South Hedland (1.1%) had a positive net internal migration rate for the Indigenous population. The remaining six regions all had more people leaving the region between 2001 and 2006 than arriving, with Broome (-8.3%), Derby (-5.6%) and Kununurra (-4.7%) having the greatest magnitude of people leaving on balance. Looking at the first two columns, however, a few of the regions with negative net internal migration rates (Geraldton, Narrogin and to a lesser extent Kalgoorlie) experienced a reasonably large rate of inward internal migration. However, this was more than made up for by a high rate of outward internal migration.

For the non-Indigenous population, Narrogin was the only Indigenous Region that had a positive net migration rate, apart from Perth where the rate was practically zero. Compared to this, Derby (-18.0%) and Kununurra (-12.2%) both had net internal migration rates in double digits with Kalgoorlie (-9.2%), South Hedland (-8.5%) and Geraldton (-4.8%) all losing a larger per cent of the non-Indigenous population to internal migration than the Indigenous population. Indeed, Broome is the only region where on balance more Indigenous people than non-Indigenous people left the region in the preceding five years, explaining why that was the region in Table 3 that was found to have the largest decrease in the Indigenous share of total population.

Inward and outward internal migration rates were generally much higher for non-Indigenous populations. The only exceptions to this were Perth and Narrogin. This shows that there was substantial non-Indigenous turnover, with many people changing their region of residence between 2001 and 2006. For example, in Derby, Broome, Kununurra and South Hedland, more than or close to half of the applicable usual resident population in 2001 had left the region by 2006.

Just as there are differences in the rates of migration into and out of Indigenous Regions in Western Australia between the Indigenous and non-Indigenous populations, there are also differences in where people are moving from and to. This is demonstrated in Table 6, which lists the most common destination and source regions for those individuals who migrated out of or into each region. To be classified as a 'common' destination or source, a region must make up at least 10 per cent of the population who moved out or in, with the regions ranked by the size of the contribution.

Table 6. Most common source and destination regions for Western Australian Indigenous Regions by Indigenous status, 2001–06

	Indigenous		Non-Indigenous	
Indigenous Region	Destination	Source	Destination	Source
Perth	Narrogin Geraldton	Narrogin Geraldton South Hedland Broome Kalgoorlie	Narrogin Melbourne	Narrogin Sydney
Broome	Perth Derby Darwin	Perth Derby Kununurra	Perth Narrogin	Perth Narrogin
Kununurra	Derby Perth Katherine Broome	Derby Broome	Perth Narrogin	Perth Narrogin
Narrogin	Perth	Perth	Perth	Perth
South Hedland	Perth Geraldton Narrogin	Geraldton Perth Narrogin Kalgoorlie	Perth Narrogin	Perth Narrogin
Derby	Kununurra Perth Broome	Kununurra Broome	Perth Narrogin	Perth Narrogin
Kalgoorlie	Perth South Hedland Narrogin	Perth Geraldton	Perth Narrogin	Perth Narrogin
Geraldton	Perth South Hedland Narrogin	Perth South Hedland	Perth Narrogin	Perth Narrogin

Source: ABS Census of Population and Housing.

The most obvious finding from Table 6 is that for the vast majority of regions, Perth and Narrogin (in that order) were the most common sources and destinations for non-Indigenous migrants. For Perth, most of these moved to or from Narrogin, with a smaller percentage (though still greater than 10%) moving to Melbourne or from Sydney.

Perth, and to a lesser extent Narrogin, were also common destination and source regions for the Indigenous internal migrants. However, there were also a large number of moves into and out of other Western Australian Indigenous Regions. For example, Derby was the most common destination and source region for internal migrants out of and into Kununurra with the reverse also being true. Interestingly, for the Indigenous population there were also two common destinations across the State border. Of the Indigenous population who moved out of Broome, more than 10 per cent went to Darwin and of those who moved out of Kununurra, more than 10 per cent went to neighbouring Katherine.

Table 7. Median weekly income for the Indigenous and non-Indigenous population by employment status for Western Australian Indigenous Regions, 2001 and 2006[a]

	Indigenous				Non-Indigenous			
	Not employed		Employed		Not employed		Employed	
Indigenous Region	2001	2006	2001	2006	2001	2006	2001	2006
Perth	210	200	610	630	211	208	689	758
Broome	214	205	232	366	218	216	742	800
Kununurra	210	202	236	248	198	207	765	875
Narrogin	213	207	459	507	214	220	600	660
South Hedland	209	203	454	588	87	81	1,008	1,177
Derby	207	207	225	227	216	203	775	862
Kalgoorlie	194	199	301	316	195	186	766	871
Geraldton	215	216	461	520	213	214	618	679
Western Australia	209	204	410	485	211	210	675	748
Rest of Australia	207	202	512	525	216	212	686	720

Note: a. In $2006.

Source: ABS Census of Population and Housing.

This section has shown that for all Indigenous Regions in Western Australia, apart from Broome and South Hedland, there was an increase in the count of the population who identified as being Indigenous between 2001 and 2006. The relatively high fertility rate reflected in Fig. 2 and Table 4 was an explanation for some of this general increase, as was the difference in internal migration rates.

A number of the demographic changes revealed here are likely to be related to changes in labour market outcomes. All else being equal, relative employment conditions are likely to have an impact on whether someone chooses to change their region of residence and where they move to (Biddle & Hunter 2006). Alternatively, areas with large population increases or declines, especially of working-age population, are likely to experience either an increase in labour supply or a decrease in labour demand respectively. These issues are explored in the following section.

LABOUR FORCE STATUS

One of the major determinants of socioeconomic status is whether or not an individual is employed and, for those who are, what type of job they hold. These indicators will be explored in due course. Beforehand, it is worth demonstrating the economic impact of labour force status. This is revealed in Table 7, which shows the median income for Indigenous and non-Indigenous Australians who are employed and not employed.

There are three important aspects of Table 7. The first of these is the large difference between the income of the employed and the non-employed population. This is much higher for the non-Indigenous population compared to the Indigenous population. For most regions, and for Western Australia as a whole, the Indigenous population that is not employed has a median income that is roughly equivalent to that of the non-Indigenous population. For the employed population in 2006 however, the difference is quite large (up to $635 per week in Derby).

Table 8. Unemployment rates and change for Western Australian Indigenous Regions, by Indigenous status, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Perth	26.5	16.2	-38.9	7.3	3.5	-52.1	3.64	4.61	26.6
Broome	9.9	10.6	7.1	4.3	2.3	-46.5	2.27	4.70	107.0
Kununurra	8.6	8.4	-2.3	2.1	1.7	-19.0	4.02	4.95	23.1
Narrogin	23.4	18.1	-22.6	7.7	3.8	-50.6	3.06	4.72	54.2
South Hedland	15.2	16.6	9.2	3.6	2.0	-44.4	4.26	8.37	96.5
Derby	5.2	4.1	-21.2	2.9	2.4	-17.2	1.82	1.69	-7.1
Kalgoorlie	14.4	11.5	-20.1	5.3	3.2	-39.6	2.71	3.64	34.3
Geraldton	23.8	18.1	-23.9	8.1	4.4	-45.7	2.94	4.13	40.5
Western Australia	18.7	14.2	-24.1	7.2	3.5	-51.4	2.59	4.02	55.2
Rest of Australia	19.9	15.7	-21.1	7.1	5.2	-26.8	2.80	3.02	7.9

Source: ABS Census of Population and Housing.

The example of Derby highlights a second important point, the difference in income across regions, especially for those who are employed. For the Indigenous population in 2006, median income for those employed ranges from under $250 per week in Derby and Kununurra to $630 per week in Perth. For the corresponding non-Indigenous population, on the other hand, median income ranges from $660 per week in Narrogin to $1,177 per week in South Hedland. Furthermore, Table 7 shows that these regional differences are not consistent between the Indigenous and non-Indigenous population. For example, Derby, South Hedland, Kununurra, and Kalgoorlie all have a high median income for the non-Indigenous employed, but a middle or low ranked income for the Indigenous employed. Clearly, this reflects variation in the occupational, and to some extent industry, composition of employment.

The final point to note is the change in income between 2001 and 2006. For those who are not employed, there has been a small decline in median income (keeping in mind that the 2001 figure is adjusted using the Consumer Price Index (CPI)). For those who are employed, however, there have been large increases in median income for both the Indigenous and non-Indigenous population. Indeed, for Western Australia as a whole, the median income for the employed Indigenous population has grown faster than that for the non-Indigenous population, pointing to some closure in the income gap for this group.

CPI: Consumer Price Index

Clearly, employment is one of the key predictors of access to economic resources in Western Australia. Furthermore, Indigenous adults who have managed to obtain employment have closed some of the gap with the rest of the population, though their income is still less than two-thirds of the latter.

Turning now to examine Indigenous and non-Indigenous labour force status, we establish three standard indicators of labour force status as well as change between 2001 and 2006.

- The *employment/population ratio*, representing the percentage of persons aged 15 years and over who indicated in the census that they were in employment for at least one hour (either in CDEP or in mainstream work) during the week prior to enumeration.

Table 9. Labour force participation rates and change for Western Australian Indigenous Regions, by Indigenous status, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Perth	51.2	51.1	-0.2	65.2	67.7	3.8	0.78	0.75	-3.8
Broome	56.5	54.1	-4.2	80.5	81.5	1.2	0.70	0.66	-5.7
Kununurra	50.1	50.8	1.4	84.5	86.6	2.5	0.59	0.59	0.0
Narrogin	53.1	53.6	0.9	63.6	63.6	0.0	0.84	0.84	0.0
South Hedland	50.7	53.1	4.7	83.0	84.7	2.0	0.61	0.63	3.3
Derby	62.5	62.0	-0.8	82.5	84.2	2.1	0.76	0.74	-2.6
Kalgoorlie	51.0	53.4	4.7	75.2	76.7	2.0	0.68	0.70	2.9
Geraldton	48.7	50.7	4.1	67.2	67.8	0.9	0.72	0.75	4.2
Western Australia	52.4	52.8	0.8	65.6	67.6	3.0	0.80	0.78	-2.5
Rest of Australia	52.1	54.8	5.2	63.2	64.7	2.4	0.82	0.85	3.7

Source: ABS Census of Population and Housing.

- The *unemployment rate*, expressing those who indicated that they were not in employment but had actively looked for work during the four weeks prior to enumeration, as a percentage of those aged 15 years and over who were in the labour force (employed and unemployed).
- The *labour force participation rate*, representing persons in the labour force as a percentage of those of working age.

Table 8 shows that four of the eight Indigenous Regions had an Indigenous unemployment rate above that for Indigenous people elsewhere in Australia, with Geraldton and Narrogin having the highest rates at 18.1 per cent. Of the remaining regions, Derby had an Indigenous unemployment rate at 4.1 per cent that was below even the average of the rest of Australia for the non-Indigenous population. Kununurra also had an Indigenous unemployment rate that was in single digits. In each case, these low rates reflect substantial participation in CDEP.

As shown in Appendix A, Table A1, the non-Indigenous population in Western Australia has an unemployment rate that is below the national average. Although there is some variation, all of the eight regions had a non-Indigenous unemployment rate that was below that of the rest of Australia. Given the buoyant labour market conditions that these figures reflect, it is not surprising that a number of regions had a relatively low unemployment rate for the Indigenous population. However, when the Indigenous unemployment rate is expressed as a ratio of the non-Indigenous rate, Derby was the only region below that of the rest of Australia, although this reflects the heavy involvement of Indigenous workers in CDEP in the Kimberley. In South Hedland, where labour demand has risen considerably since 2001, the unemployment rate for the Indigenous population was more than eight times the rate for the non-Indigenous population.

The key finding from Table 8 is the fact that the Indigenous/non-Indigenous gap in unemployment rates widened substantially between 2001 and 2006 in the State as a whole and in all regions with the exception of Derby. So, despite improvements in the Indigenous unemployment rate, such has been the overall demand for labour in recent years that others in the labour force have been able to respond more favourably, and as a consequence non-Indigenous unemployment rates have fallen more precipitously.

Table 10. Employment to population ratios and change for Western Australian Indigenous Regions, by Indigenous status, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Perth	37.6	42.8	13.8	60.5	65.4	8.1	0.62	0.66	6.5
Broome	50.9	48.3	-5.1	77.0	79.6	3.4	0.66	0.61	-7.6
Kununurra	45.8	46.6	1.7	82.7	85.2	3.0	0.55	0.55	0.0
Narrogin	40.7	43.9	7.9	58.7	61.1	4.1	0.69	0.72	4.3
South Hedland	43.1	44.3	2.8	80.1	83.0	3.6	0.54	0.53	-1.9
Derby	59.2	59.4	0.3	80.1	82.1	2.5	0.74	0.72	-2.7
Kalgoorlie	43.7	47.3	8.2	71.2	74.3	4.4	0.61	0.64	4.9
Geraldton	37.1	41.6	12.1	61.8	64.8	4.9	0.60	0.64	6.7
Western Australia	42.6	45.4	6.6	60.9	65.3	7.2	0.70	0.70	0.0
Rest of Australia	41.7	46.2	10.8	58.8	61.4	4.4	0.71	0.75	5.6

Source: ABS Census of Population and Housing.

While the unemployment rate is an important indicator of labour market constraints, there are a number of reasons why it provides only a limited measure of labour force utilisation. This is because it focuses only on those who are actively seeking employment and who are able to commence work if they were offered a job. Consequently, those who have given up looking for work (discouraged jobseekers) are excluded from the calculation of the unemployment rate, as are those who are unable to work. Among the reasons why people may not be able to work are poor health (for themselves or someone they have to care for), studying full-time, or raising children.

These two aspects of lack of engagement with the labour market are taken into account in the labour force participation rate (Table 9). The labour force participation rate expresses those who are either employed or unemployed as a percentage of the total population aged 15 years and over. A low labour force participation rate is an indication of a relatively large number of people in the area who have either given up looking for employment or who would not be able to commence employment if they were offered a job. Once again, figures are provided for 2001 and 2006 for the Indigenous population, the non-Indigenous population and the ratio between the two.

In 2006 Derby was the only region that had a labour force participation rate that was higher than that for the rest of Australia when looking at the Indigenous population. In all other regions almost half of the Indigenous adult population were not in the labour force. Derby was also the region that was shown to have one of the highest proportions of the population aged 55 years and over in Table 4, which tends to discount a more youthful age structure as a factor in high participation. In fact, rather than demographic factors contributing to this, it is more likely to reflect administrative factors in the sense that people who might otherwise be outside of the labour force are drawn into the workforce by virtue of participation in CDEP. In 2006 as many as 50 per cent of adults in the Derby region were employed in CDEP (Taylor 2006), and the relative absence or presence of CDEP in each region is likely to be the key factor in contributing to participation rates, especially in remoter regions of the State. The point here is that without CDEP, participation rates would be lower still.

Table 11. Census counts and adjusted counts for Indigenous population aged 15 years and over not employed for Western Australian Indigenous Regions, 2006

	Census count			Adjusted Census count		
Indigenous Region	Age 15–24	Age 25–54	Age 55+	Age 15–24	Age 25–54	Age 55+
Perth	2,752	3,937	958	3,624	5,184	1,261
Broome	393	632	194	517	832	255
Kununurra	472	690	305	621	909	402
Narrogin	865	1,443	496	1,139	1,901	653
South Hedland	653	1,059	379	859	1,395	498
Derby	338	507	310	445	667	409
Kalgoorlie	560	901	328	738	1,186	432
Geraldton	622	990	391	820	1,304	515
Western Australia total	6,656	10,160	3,362	8,764	13,378	4,427

Source: ABS Census of Population and Housing.

For the non-Indigenous population, labour force participation rates everywhere were substantially higher than Indigenous rates (especially in Broome, Kununurra, Derby and South Hedland), while for the most part (except in Narrogin) they were also markedly higher than in the rest of Australia. Consequently, the gap between Indigenous and non-Indigenous populations as indicated by the ratios in Table 9 is striking. In Kununurra region, for example, Indigenous participation was less than 60 per cent that of the rest of the population, and this in a region where labour demand is clearly very high. Similar large discrepancies in participation are recorded in other remote regions such as Broome and South Hedland. Once again, though, the key message is that overall Indigenous labour force participation has fallen behind in the economic boom conditions of recent years, even though the gap in some regions has closed.

In sum, Indigenous Regions in Western Australia for the most part display high Indigenous unemployment rates while labour force participation rates are universally low. As a consequence, employment rates are also very low, as indicated in Table 10.

In all regions, except for Derby where CDEP looms large, less than half of Indigenous adults were employed in 2006, with Geraldton, Perth, Narrogin and South Hedland also having a lower percentage than the rest of Australia. Once again, generally buoyant labour market conditions are reflected by the fact that non-Indigenous employment rates are higher in all regions (except Narrogin) than in the rest of Australia. Of particular note are the very high non-Indigenous rates in Broome, Kununurra, South Hedland, Derby and Kalgoorlie, as these produce very wide gaps in employment outcomes. Overall, the gap in employment rates has remained static, with the Indigenous rate at only 70 per cent of the non-Indigenous rate. It is noteworthy that despite Western Australia's favourable economic conditions, elsewhere in the country this gap in employment rates has narrowed from 0.71 to 0.75.

These sizeable and continuing gaps in employment rates produce a relatively large pool of under-utilised Indigenous labour in all regions of Western Australia. Table 11 provides an indication of the scale of the issue based on those who were unemployed, those not in the labour force, and a proportional allocation of those who did not state their employment status. Because the potential reasons and responses to this pool of people varies between those who are young (who may be studying, raising children or have not

developed appropriate skills) and the old (who may have retired, have poor health or whose skills may be outdated) this count is provided for three age groups—those aged 15–24, those aged 25–54, and those aged 55 years and over.

The second set of numbers in Table 11 adjusts the Census count for the net undercount discussed earlier. As there is no information currently available on the age or geographic distribution of the undercount within Western Australia, the rate for Western Australia as a whole is used for all regions and age groups. The final row of the table provides the total estimated number of people aged 15 years and over not employed for all of Western Australia.

Adding the last three columns together, it is estimated that as of August 2006 there were 26,569 Indigenous adults in Western Australia who were not employed. Over one-third of these live in Perth alone and if we add Narrogin, more than half of the population not employed are resident in the south-west of the state. Also, half of the non-employed are of prime working age (25–54 years), and their exclusion from the workforce is likely to reflect a combination of demand constraints in particular regions due to labour market segmentation, and supply constraints more or less across the board due to the low levels of Indigenous human capital that have been allowed to accumulate.

EMPLOYMENT CHARACTERISTICS

The previous section considered all of those employed as a homogenous group. However, there is substantial difference in types of employment both across Indigenous Regions and between the Indigenous and non-Indigenous populations. Furthermore, these differences influence a number of the outcomes of employment, including income and job security. One of the biggest factors contributing to this variation is that Indigenous employment has shown a relative tendency to be concentrated in government and community organisation sectors (Rowse 2002), and therefore relatively excluded from the private sector.

This reliance for employment outcomes on the Indigenous community organisation sector is significant, not only for its growth over the past three decades, but also for the fact that employment levels in Indigenous community organisations have invariably been counter to economic cycles as they depend more on government funding regimes and the flow of localised private sector monies, not least based around such initiatives as mining agreements. This dependence creates interesting and contrasting scenarios for future Indigenous employment. On the one hand, employment in the Indigenous community organisation sector via government funding is likely to decline in the future as CDEP employment, in particular, is eroded. On the other hand, the potential for such employment via agreements with the mining sector, in particular, would seem to be enhanced alongside company pursuit of a social licence to operate. Unfortunately, data regarding this important labour market sector are either scarce or dated, although it is worth noting that according to the 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS) in some regions (such as Derby) this was as high as 56 per cent.

NATSIS: National Aboriginal and Torres Strait Islander Survey

A key element of this Indigenous community sector has been CDEP. At the time of the 2001 Census, CDEP accounted for an estimated 64 per cent of all Indigenous employment in Western Australia, with a total of 8,872 participants. Since that time, participant numbers have remained more or less constant, with a slight decline from 8,872 to 8,788 at the time of the 2006 Census. Consequently, the rate of CDEP employment has declined over the past five years, however this may not have occurred evenly across the state.

STEP: Structured Training and Employment

Since 2006, administrative changes to the program have seen a winding back in urban centres with a shift in emphasis from providing basic employment outcomes to providing training via Structured Training and Employment (STEP) brokerage services. Nonetheless, in terms of understanding 2006 Census-based Indigenous labour force statistics, information on CDEP remains vital. Unfortunately, in recent years

Table 12. Sector of employment for Western Australian Indigenous Regions, by Indigenous status, 2006

Indigenous Region	Indigenous Comm. (%)	Indigenous State (%)	Indigenous Local (%)	Indigenous Private (%)	Non-Indigenous Private	Ratio Private
Perth	6.1	14.8	1.4	77.7	85.1	0.91
Broome	2.9	10.6	11.3	75.3	83.4	0.90
Kununurra	1.1	6.4	26.1	66.4	80.9	0.82
Narrogin	2.2	12.6	3.6	81.6	87.6	0.93
South Hedland	0.8	13.7	7.9	77.5	87.0	0.89
Derby	0.6	5.6	25.8	68.1	73.4	0.93
Kalgoorlie	1.3	9.1	22.0	67.5	88.3	0.77
Geraldton	2.3	13.7	7.5	76.5	84.3	0.91
Western Australia	3.1	11.9	9.8	75.1	85.6	0.88
Rest of Australia	4.4	11.9	9.7	74.0	85.5	0.87

Source: ABS Census of Population and Housing.

DEWR: Department of Employment and Workplace Relations

public access to detailed official data regarding CDEP has become inversely related to its importance for policy analysis—a trend that has intensified since responsibility for the program shifted to the federal Department of Employment and Workplace Relations (DEWR). The census does not provide a solution to this data inadequacy, as information on CDEP employment is only captured on Special Indigenous Census Forms that are only deployed in discrete Indigenous communities, mostly in remote areas, thus preventing a full picture of CDEP participation across and within all regions. Nationally, only around half of the total number of CDEP participants are captured by the census.

Information on CDEP is important because of its association with distinct labour market outcomes. For example, as we have seen, in some regions, and especially in the Kimberley, it can be the predominant form of Indigenous employment (Taylor 2006). The CDEP program also provides mostly part-time work (Hunter 2004). According to Biddle and Webster (2007), those in CDEP employment are much more likely to work 16-20 hours than those in non-CDEP employment. Indeed, over half of the population employed in the CDEP scheme report this range of hours per week, compared to 5.7 per cent for male non-CDEP workers and 13.9 per cent for female non-CDEP workers. It is also often associated with labour intensive, mostly low skilled, work in regions and locations where alternative employment opportunities for Indigenous people are limited. Finally, it reflects, or at least it used to reflect, community priorities for defining work.

Across Western Australia, then, Indigenous workers are less likely than non-Indigenous workers to be engaged in private sector employment. While Table 12 shows that this is the case across all Western Australian regions as well as in the rest of Australia, it should be noted that this Indigenous private sector employment contains an unknown component of CDEP employment given the nature of ABS classifications in 2006. This makes precise determination of levels and relativities in industry sector categories rather difficult.

However, Table 12 also shows that there is variation across these regions, with relatively low Indigenous private sector employment rates in Kununurra, Derby and Kalgoorlie, and a relatively high rate in Narrogin. The high rates of local government employment in regions with low Indigenous private sector employment

Table 13. Indigenous workers employed full-time by sector of employment for Western Australian Indigenous Regions, 2006

Indigenous Region	Commonwealth (%)	State (%)	Local (%)	Private (%)	Total (%)
Perth	73.2	66.3	71.4	63.4	64.4
Broome	82.8	69.0	11.5	42.2	42.5
Kununurra	100.0	76.1	21.7	38.2	36.0
Narrogin	83.7	49.8	58.5	51.7	51.9
South Hedland	66.7	53.0	33.6	58.6	56.0
Derby	33.3	68.8	8.9	30.7	27.3
Kalgoorlie	100.0	40.0	9.0	46.7	38.6
Geraldton	46.4	61.3	41.9	56.0	54.6
Western Australia	73.8	60.8	21.2	53.0	51.1
Rest of Australia	74.8	65.4	39.9	57.7	57.3

Source: ABS Census of Population and Housing.

are also likely to reflect census classification of CDEP employment. The stand-out region is Kalgoorlie, which combines very high non-Indigenous private sector engagement with low Indigenous engagement, resulting in a notably low ratio.

Remembering that Table 10 showed that Derby, Broome, Kalgoorlie and Kununurra (in that order) had the highest employment to population ratios, Table 12 shows that these regions also had the highest relative employment in local government (most likely CDEP employment). For example, in both Kununurra and Derby, over one-quarter of the employed Indigenous population were employed in local government industries. The remaining four regions—those closest to Perth and the south-west of the State—all had relatively high rates of employment in the private sector. Not surprisingly, Perth had the highest rates of employment in both the Commonwealth and State governments, although State Government jobs also accounted for more than 10 per cent of Indigenous employment in Geraldton, South Hedland, Narrogin and Broome.

Thus, a large part of the variation in employment to population ratios revealed in Table 10 can be explained by variation in local government (mostly CDEP) employment. As mentioned, another aspect of CDEP employment is its part-time nature, and this influence also emerges in Table 13, which shows the proportion of the Indigenous workforce employed for 35 hours or more per week (classified by the ABS as being full-time) by sector of employment. This also provides some clue as to the extent of CDEP 'private' sector employment. When interpreting these results ,it is worth bearing in mind that 65.3 per cent of all workers in Western Australia were employed full-time in 2006.

From the final column we can see that the same four regions that displayed high employment to population ratios and high employment in the local government sector (Derby, Broome, Kalgoorlie and Kununurra) also had relatively low proportions of full-time employed. Apart from Narrogin, the other four Indigenous Regions all had rates that were close to or above the average for Indigenous workers in the rest of Australia.

Table 14. Indigenous employment-to-population ratios by sector of employment and hours worked for Western Australian Indigenous Regions, 2006

Indigenous Region	Emp/pop (%)	Full-time emp/pop (%)	Private emp/pop (%)	Full-time and private emp/pop (%)
Perth	42.8	24.6	30.5	18.9
Broome	48.3	18.1	32.8	13.9
Kununurra	46.6	14.5	27.0	10.3
Narrogin	43.9	20.3	32.3	16.6
South Hedland	44.3	22.3	31.5	18.1
Derby	59.4	15.2	38.4	11.9
Kalgoorlie	47.3	16.0	28.7	13.4
Geraldton	41.6	19.6	28.2	15.5
Western Australia	45.4	20.7	31.0	16.2
Rest of Australia	46.2	24.0	31.4	18.0

Source: ABS Census of Population and Housing.

Also, there is variation in the proportion of people who were employed full-time by industry sector. Table 12 showed that, outside of Perth, there was a relatively small proportion of people employed by the Commonwealth Government, and hence the estimates for the first column are likely to be quite variable. Nonetheless, in general terms, it appears that Commonwealth Government employment has a relatively high rate of full-time employment. The State government, which made up a larger proportion of the employed population, had a rate of full-time employment which was in general lower than in the Commonwealth Government sector, but still higher in all but Narrogin and South Hedland than for the total employed Indigenous population.

The third column of Table 13, indicating those in the local government sector, displays the most variation across Indigenous Regions. Over 70 per cent of Indigenous Australians in Perth who were employed by local governments worked 35 hours or more per week. Compared to this, the figures for Derby and Kalgoorlie were less than 10 per cent.

Tables 12 and 13 have shown a more complex picture of Indigenous employment across Indigenous Regions than was apparent in the results presented in Tables 8 to 10. That is, those areas which had relatively high employment to population ratios and relatively low unemployment rates have relatively low proportions of the employed population in either the private sector or in full-time employment. Clearly, part-time employment and government sector employment (both of which are highly concentrated in CDEP) explain a good deal of the variation in rates of employment.

This more complicated story is summarised in Table 14, which repeats the employment to population ratio from Table 10, but adds three other ratios that capture the type of employment that Indigenous Australians are unlikely to be engaged in. More specifically, the second column of the table gives the percentage of the population aged 15 years and over who are employed 35 hours or more per week (full-time), whereas the third column gives the percentage of the same population who were employed in the private sector. The final column combines these two aspects of employment and gives the percentage of the population

Table 15. Dissimilarity indices by occupation and industry classification for Western Australian Indigenous Regions, 2001 and 2006

	Occupation			Industry		
Indigenous Region	2001	2006 –old	2006 –new	2001	2006 –old	2006 –new
Perth	0.109	0.136	0.169	0.166	0.114	0.131
Broome	0.326	0.257	0.302	0.489	0.326	0.394
Kununurra	0.438	0.407	0.463	0.572	0.491	0.536
Narrogin	0.199	0.194	0.224	0.187	0.145	0.123
South Hedland	0.301	0.218	0.290	0.377	0.285	0.354
Derby	0.509	0.449	0.502	0.511	0.461	0.519
Kalgoorlie	0.334	0.310	0.359	0.473	0.410	0.442
Geraldton	0.236	0.237	0.265	0.298	0.234	0.270
Western Australia	0.256	0.224	0.287	0.313	0.252	0.280
Rest of Australia	0.193	0.176	0.227	0.219	0.174	0.197

Note: '2006–old' refers to the estimations on 2006 data using the old occupation and industry classifications whereas '2006–new' refers to the estimations on 2006 data using the new classifications.

Source: ABS Census of Population and Housing.

aged 15 years and over who are employed both full-time and in the private sector. In a sense, this column represents the percentage of the population who are fully engaged in the market economy.

According to the final column of Table 14, only Perth and South Hedland had a higher proportion of the population aged 15 years and over employed in both full-time and private sector employment than the rest of Australia. Derby on the other hand, which the first column of numbers shows had quite a high employment to population ratio, had a full-time/private sector employment to population ratio that was only about two-thirds of the figure for the rest of the Australia. Despite regional variation, these proportions for Indigenous people in full-time private sector employment are all very low compared to the figure of 54.6 per cent recorded for the non-Indigenous workforce in Western Australia.

This distillation of Indigenous labour force composition to its market economy base is highly significant in the context of deliberations regarding Indigenous employment outcomes and prospects. It reveals that the core business of government and many corporate policies aimed at encouraging and assisting Indigenous people into full-time private sector employment have a long way to go in all regions of Western Australia. A more detailed breakdown of these labour force status indicators is provided in Appendix C.

OCCUPATION AND INDUSTRY OF EMPLOYMENT

In the final analysis, employment is a means to personal income generation, with the amount generated determined largely by occupational status. In turn, the availability of particular occupations within a region is partly related to the industry mix of economic activities. Thus, the relative distribution of Indigenous and non-Indigenous employment by industry and occupational category is a vital feature of participation in the Western Australian labour market.

The difference between the occupations and industries that Indigenous and non-Indigenous workers are employed in can be summarised using a common statistical measure—the Index of Dissimilarity. While this index is often used to measure residential segregation, it can also be used to measure the extent to which two particular groups (in this case employed Indigenous and non-Indigenous Australians) who live in a given region are distributed differently across a common set of characteristics (in this case their occupation or industry category). The index ranges in value from 0 (the two groups have the same distribution), to 1 (the two groups are completely segregated, that is no Indigenous workers are employed in any of the occupations or industries that employ non-Indigenous workers). Values between these upper and lower bounds can be interpreted as the proportion of Indigenous workers who would have to change their occupation or industry of employment in order to achieve a distribution equivalent to that of non-Indigenous workers.[2]

In Table 15 there are three columns of Indices of Dissimilarity for both the occupation and industry classification. The first column is for 2001 data using the classification schemes that were used for that Census. The second column (2006—old) uses 2006 data under the same classification scheme. The third column uses both 2006 data and the current updated occupation and industry classifications

The key finding from the analysis of change in these indices since 2001 is that both occupational and industry segregation in the labour market has reduced. In other words, since 2001 Indigenous workers have managed to distribute themselves more evenly across the labour market.

According to Table 15, the Indigenous population employed in Perth had a distribution across the occupation categories that was very close to the non-Indigenous population and Narrogin had the closest distribution across the industry categories (though the index value for Perth was not that much higher). In all other regions, employment distributions displayed greater labour market segregation in terms of both occupational and industry spread. Interestingly, this segregation was also higher than in the rest of Australia, and notably so in regions like Kununurra, Derby and Kalgoorlie. In Derby for example, more than half of the Indigenous population would have to change their occupation or industry of employment to have the same distribution as the non-Indigenous population.

Clearly, the Indigenous and non-Indigenous populations are employed in quite different labour markets across Western Australia. Table 16 begins to examine these compositional differences by revealing the distribution of occupations, beginning with the percentage of the employed Indigenous population in each of the occupation categories, the corresponding non-Indigenous figure, and the ratio of the Indigenous to the non-Indigenous percentage.

The overwhelming pattern is one of under-representation of Indigenous workers in managerial, professional, sales and trade occupations, and their substantial over-representation in labouring jobs. While much of the latter arises from the ABS tendency to code CDEP workers as labourers and related workers, the contrasting distributions focussed on either end of the occupational scale provide one measure of the skills differential between Indigenous and non-Indigenous workers. Amongst managers, the disparity is lowest in Perth but highest in Kununurra and Derby. Amongst professionals, there are reasonably consistent ratios for six of the eight regions, with values between 0.61 and 0.73. Kununurra and Derby once again have the biggest difference.

For three of the occupation groups the ratios are quite different for different regions. For technicians and trades workers, the ratios are all less than 1, although in Perth and Narrogin the ratios are above 0.90. In Derby, Kununurra and Kalgoorlie however, the percentage of Indigenous workers in this occupational category is less than half that of the non-Indigenous population. The ratios for clerical and administrative workers are reasonably close to 1, apart from in South Hedland, Derby and Kalgoorlie where they are around 0.70. The category of machinery operator and driver is the one with perhaps the most variability across

Table 16. Indigenous, non-Indigenous and ratio of occupation of employment for Western Australian Indigenous Regions, 2006

Indigenous Region	Manager	Professional	Technician and trades worker	Commun. and personal service worker	Clerical and admin. worker	Sales worker	Machinery operator and driver	Labourer
Indigenous								
Perth	5.6	14.2	14.8	15.6	15.8	7.2	9.3	17.4
Broome	5.0	11.5	9.9	17.6	13.0	4.9	4.0	34.2
Kununurra	1.8	7.7	6.2	19.1	9.3	2.2	6.2	47.5
Narrogin	6.3	8.5	16.0	14.7	9.8	5.8	11.8	27.1
South Hedland	3.2	9.7	13.7	14.4	7.9	3.1	17.2	30.7
Derby	2.3	7.0	5.7	14.9	7.5	2.6	2.9	57.2
Kalgoorlie	5.3	8.4	8.5	16.3	8.3	4.5	10.4	38.2
Geraldton	4.5	9.8	12.9	18.2	12.1	3.7	10.9	27.9
Rest of Australia	6.0	12.0	12.6	16.0	13.3	7.4	8.4	24.2
Non-Indigenous								
Perth	11.5	21.0	16.2	9.2	16.0	10.0	6.4	9.8
Broome	15.0	18.7	18.0	11.0	12.9	8.6	5.2	10.6
Kununurra	18.4	19.1	14.7	8.2	11.8	6.3	9.5	12.1
Narrogin	18.8	12.3	17.7	8.0	11.1	9.0	8.8	14.4
South Hedland	9.8	13.8	24.8	6.8	12.0	6.1	15.2	11.4
Derby	15.5	21.9	16.1	9.2	11.0	5.6	8.1	12.6
Kalgoorlie	13.6	12.7	19.8	7.3	11.5	7.6	16.3	11.3
Geraldton	18.4	13.5	16.9	8.5	11.5	8.6	9.4	13.2
Rest of Australia	13.7	20.5	14.4	8.9	15.4	10.1	6.6	10.4
Ratio of Indigenous to non-Indigenous								
Perth	0.49	0.67	0.92	1.70	0.99	0.72	1.46	1.78
Broome	0.33	0.61	0.55	1.60	1.00	0.57	0.77	3.21
Kununurra	0.10	0.40	0.42	2.32	0.79	0.34	0.66	3.93
Narrogin	0.34	0.69	0.91	1.83	0.88	0.64	1.34	1.89
South Hedland	0.33	0.70	0.55	2.11	0.66	0.51	1.14	2.68
Derby	0.15	0.32	0.35	1.62	0.68	0.47	0.35	4.52
Kalgoorlie	0.39	0.67	0.43	2.23	0.72	0.59	0.63	3.39
Geraldton	0.24	0.73	0.76	2.15	1.05	0.43	1.16	2.11
Rest of Australia	0.44	0.59	0.88	1.81	0.86	0.73	1.27	2.33

Source: ABS Census of Population and Housing.

the regions. For the rest of Australia, there are higher proportions of Indigenous Australians employed in this category than non-Indigenous Australians. This is also the case in Perth, Narrogin, Geraldton and South Hedland. For the other four regions and especially Derby, however, the reverse is true with a higher percentage of non-Indigenous employees.

The main reason why Derby, Kununurra, Broome and Kalgoorlie have lower percentages in the aforementioned occupational categories is because of the very high percentage of the Indigenous population employed as labourers. In Derby, over half of the employed population are employed as labourers. This is four and a half times the percentage for the non-Indigenous population.

Table 17 presents similar results for the proportion of the Indigenous and non-Indigenous employed population in particular industries. The first row of the table uses abbreviated names for the industries with the full names given in Appendix Table A2. It should also be noted that, due to small numbers of people employed in them, the last four categories in Table 17 represent a combination of two or three industries. This is also made clear in Appendix B Table B1.

Two industries stand out as having a consistently lower percentage of Indigenous employment—agriculture, forestry and fishing; and media and financial services. As with some of the occupation categories, the disparities are highest in Derby, Kununurra, Kalgoorlie and Broome. However, there are substantial differences in industry of employment in all regions and across most industries. Of most interest here are the low ratios of Indigenous to non-Indigenous employment in mining in key regions such as Broome, Kununurra, South Hedland and Kalgoorlie. In Kalgoorlie for example, where almost one-fifth of non-Indigenous workers are employed in mining, the percentage for the Indigenous population is less than half of this. Aside from Perth, the important tourism-related industry category of accommodation and food services also shows major discrepancies in all regions. In fact, away from the Perth labour market, where Indigenous employment is most notably absent only from trades, media and financial services, and professional, scientific and technical services, all other regions reveal considerable segregation in industry of employment, with most Indigenous workers concentrated in administrative and support services, public administration and safety, education and training, health care and social assistance and the arts and recreation services, all of which is consistent with the relative distribution of employment by non-private sector activities as shown earlier.

WORK READINESS AND SOCIO-ECONOMIC OUTCOMES

We turn now to an examination of some of the potential factors that underlie the employment situation outlined above, as well as to consideration of some of the potential outcomes from employment. The discussion here takes its impetus from a recent analysis of factors statistically associated with the employment of Indigenous Australians at the national level (Biddle & Webster 2007). This found that lifecycle factors, education and health are important explanatory variables for whether or not Indigenous Australians are employed. For the most part we are restricted here to lifecycle characteristics available from census data, although some non-Census sources will also be drawn upon.

EDUCATION PARTICIPATION AND QUALIFICATIONS

Biddle and Webster (2007) have demonstrated that Indigenous Australians who had completed later years of high school and/or had gained post school qualifications were statistically more likely to be in the labour force, less likely to be unemployed, and less likely to be employed in CDEP as opposed to non-CDEP employment. However, as we shall see, Indigenous Australians are also much less likely to have achieved these educational milestones than the non-Indigenous population, which in part helps explain the poor employment outcomes presented so far. However, as before, there is substantial variation across Indigenous Regions in Western Australia in terms of education completion.

Table 17. Industry of employment for Western Australian Indigenous Regions, by Indigenous status, 2006

Indigenous Region	Agri., Forest., Fish.	Mining	Manu.	Accom., Food Services.	Trans., Post., Ware.	Prof., Sci, Tech.	Admin., Support. Services	Public Admin.	Edu., Train.	Health	Trade	Art., Other Services	Utilit., Const.	Media, Finance Services
Indigenous														
Perth	0.7	3.8	10.0	6.3	5.6	3.4	4.3	14.0	10.1	11.8	10.7	4.6	10.4	4.2
Broome	2.4	1.2	2.5	3.5	1.9	2.1	6.4	20.5	10.5	26.3	6.2	5.7	7.8	3.1
Kununurra	2.4	6.8	0.9	1.4	1.2	2.0	3.1	31.6	6.7	25.3	2.1	13.3	3.0	0.4
Narrogin	9.7	3.9	8.1	5.0	2.9	1.4	8.1	9.8	11.2	10.4	10.6	5.1	11.3	2.4
South Hedland	1.1	22.7	2.5	3.3	1.9	1.5	3.7	14.1	8.7	21.0	4.1	5.4	8.7	1.3
Derby	3.1	1.4	0.9	1.4	0.7	0.9	3.9	30.0	6.8	33.4	2.4	11.7	3.0	0.2
Kalgoorlie	1.8	9.8	2.6	3.8	2.1	2.3	3.4	27.3	9.4	17.8	5.0	9.0	4.4	1.3
Geraldton	6.1	5.4	4.4	4.0	3.6	2.7	5.4	14.9	13.3	18.4	6.7	4.2	8.6	2.2
Rest of Australia	3.2	1.6	8.2	7.0	4.3	2.4	3.8	17.9	8.7	15.0	11.1	5.0	8.3	3.4
Non-Indigenous														
Perth	0.8	3.2	10.1	5.9	4.3	7.7	3.4	6.7	8.0	11.0	16.2	5.4	10.2	7.2
Broome	4.4	2.2	4.1	12.3	7.8	3.0	3.6	8.4	9.1	9.3	14.2	5.3	11.2	5.1
Kununurra	9.8	8.7	4.9	7.3	6.5	1.9	3.5	9.5	10.4	9.8	12.3	4.7	7.7	2.9
Narrogin	13.8	3.6	10.5	6.2	3.8	3.2	2.5	5.3	7.3	8.5	14.8	4.4	11.8	4.3
South Hedland	1.2	29.3	4.9	5.7	5.0	2.2	3.7	5.7	7.1	5.6	10.4	3.2	12.3	3.6
Derby	8.3	8.1	3.0	5.0	5.0	1.6	2.5	9.5	12.5	17.0	10.9	4.9	8.8	2.7
Kalgoorlie	6.4	19.6	6.7	5.8	5.7	3.0	2.4	5.0	6.9	7.5	13.0	5.1	8.8	4.0
Geraldton	13.8	6.2	5.0	6.7	5.3	2.8	2.6	6.8	8.9	8.7	15.0	4.5	9.7	4.0
Rest of Australia	3.1	0.8	10.9	6.5	4.9	6.9	3.2	6.8	7.9	10.8	16.2	5.3	8.8	7.9
Ratio of Indigenous to non-Indigenous														
Perth	0.82	1.18	1.00	1.06	1.30	0.45	1.26	2.10	1.26	1.07	0.66	0.85	1.03	0.59
Broome	0.55	0.54	0.61	0.29	0.24	0.69	1.77	2.43	1.15	2.83	0.43	1.09	0.70	0.60
Kununurra	0.24	0.78	0.18	0.19	0.18	1.04	0.91	3.34	0.64	2.57	0.17	2.81	0.39	0.14
Narrogin	0.70	1.10	0.77	0.80	0.77	0.45	3.27	1.85	1.54	1.22	0.72	1.18	0.95	0.56
South Hedland	0.94	0.77	0.51	0.58	0.37	0.65	1.00	2.48	1.24	3.72	0.39	1.71	0.70	0.37
Derby	0.37	0.17	0.31	0.27	0.15	0.59	1.52	3.16	0.55	1.96	0.22	2.37	0.34	0.08
Kalgoorlie	0.29	0.50	0.39	0.65	0.38	0.77	1.40	5.47	1.36	2.39	0.38	1.78	0.50	0.33
Geraldton	0.44	0.88	0.88	0.60	0.67	0.97	2.06	2.18	1.49	2.12	0.45	0.93	0.89	0.56
Rest of Australia	1.01	1.90	0.76	1.07	0.88	0.35	1.17	2.65	1.11	1.40	0.68	0.95	0.93	0.44

Note: See Table B1 for full elaboration of industry of employment categories.

Source: ABS Census of Population and Housing.

Table 18. Highest year of school completed for Western Australian Indigenous Regions, by Indigenous status, 2006

	Indigenous			Non-Indigenous			Ratio
Indigenous Region	Year 12 (%)	Year 10–11 (%)	Year 9 or less (%)	Year 12 (%)	Year 10–11 (%)	Year 9 or less (%)	Year 12
Perth	25.8	52.8	21.3	51.8	37.3	11.0	0.50
Broome	24.3	53.0	22.7	49.5	42.2	8.3	0.49
Kununurra	12.2	46.4	41.4	47.5	42.7	9.9	0.26
Narrogin	16.4	59.0	24.6	35.9	48.5	15.6	0.46
South Hedland	15.8	48.9	35.3	43.3	48.6	8.1	0.36
Derby	16.1	42.9	41.0	47.6	40.6	11.9	0.34
Kalgoorlie	12.8	46.9	40.3	38.0	49.6	12.4	0.34
Geraldton	15.8	53.2	30.9	35.0	48.9	16.1	0.45
Western Australia	19.5	51.5	29.1	48.2	39.9	11.8	0.40
Rest of Australia	22.6	43.2	34.2	47.3	35.9	16.7	0.48

Source: ABS Census of Population and Housing.

The first set of results examines high-school education (Table 18). For both the Indigenous and non-Indigenous populations, the percentage of the population 15 years and over who had completed education is presented according to three categories: Year 12; Year 10 or 11; and Year 9 or less. These categories are significant since Biddle (2007) has shown that the employment (and income) benefits of completing Year 12 are high for Indigenous people, while completing Year 10 or 11 also improves a person's employment outcomes relative to those who do not.

The region with the highest proportion of Indigenous population completing Year 12 is Perth. Broome also had roughly one-quarter of the population attaining Year 12, however all other regions recorded quite low rates of completion (lower than the rest of the Australia). Perth and Broome also had relatively high rates of completion of Year 10 or 11, as did a few other regions, namely Narrogin and Geraldton. Of the other regions, more than 40 per cent of the Indigenous population of Kununurra, Derby and Kalgoorlie had not completed Year 10.

The final column of results focuses on the ratio of Indigenous to non-Indigenous Year 12 completions. These are low everywhere. Thus, the percentage of the Indigenous population that had completed Year 12 in Perth (which has the highest completion levels) was half that of the non-Indigenous population. Broome had a similar ratio, whereas in Kununurra, Derby, South Hedland and Kalgoorlie the ratios were much lower from one-third down to one-quarter. Clearly, these low levels of human capital mean that it is difficult for Indigenous people to compete with non-Indigenous for employment in many regions of Western Australia. This is further demonstrated in Table 19, which shows the percentage of population aged 15 years or over with non-school qualifications.

Qualification levels are reported according to three levels: degree (which includes those with post-graduate qualifications); diploma (which includes advanced diplomas); and certificate (which includes Levels I to IV). The final column for both Indigenous and non-Indigenous populations shows the percentage of each population with no qualification.

Table 19. Highest qualification completed for Western Australian Indigenous Regions, by Indigenous status, 2006

	Indigenous				Non-Indigenous			
Indigenous Region	Degree (%)	Diploma (%)	Cert. (%)	None (%)	Degree (%)	Diploma (%)	Cert. (%)	None (%)
Perth	6.7	3.7	15.2	74.4	19.2	9.3	19.6	51.8
Broome	3.1	3.6	15.2	78.1	18.4	9.4	27.0	45.2
Kununurra	1.3	1.8	9.2	87.7	20.7	7.8	25.6	45.9
Narrogin	2.6	2.6	15.2	79.7	9.9	7.2	22.3	60.6
South Hedland	1.9	1.8	13.4	82.8	13.6	7.1	31.4	47.9
Derby	1.3	1.5	9.1	88.1	20.8	10.2	25.4	43.6
Kalgoorlie	1.5	1.8	10.3	86.5	11.0	6.1	24.6	58.4
Geraldton	2.2	2.3	12.9	82.6	9.7	6.6	23.0	60.7
Western Australia	3.7	2.7	13.4	80.3	17.1	8.8	20.5	53.6
Rest of Australia	4.5	3.8	16.0	75.7	18.4	8.2	19.2	54.2

Source: ABS Census of Population and Housing.

Table 20. Educational institution attendance for Western Australian Indigenous Regions, by Indigenous status, 2006

	Indigenous			Non-Indigenous		
	Age 15–24		Age 25+	Age 15–24		Age 25+
Indigenous Region	School (%)	Non school (%)	Non school (%)	School (%)	Non school (%)	Non school (%)
Perth	23.8	13.0	7.5	22.6	31.1	5.2
Broome	17.1	9.8	5.1	14.2	15.7	6.3
Kununurra	10.5	4.4	1.6	11.8	7.3	4.8
Narrogin	19.8	8.8	6.8	27.4	14.4	3.2
South Hedland	18.1	6.0	3.4	18.0	12.0	4.7
Derby	9.3	3.4	2.7	7.2	10.6	4.1
Kalgoorlie	17.6	5.3	2.8	20.2	12.7	3.8
Geraldton	22.9	5.7	3.3	27.0	11.4	3.0
Western Australia	19.4	8.8	5.1	23.2	27.6	4.8
Rest of Australia	23.6	11.8	6.2	27.5	28.2	5.1

Source: ABS Census of Population and Housing.

Once again, Perth emerges as the region with the highest proportion of the population with all types of post-school qualifications. Hence, Perth is the only region where more than one-quarter of the Indigenous population has any form of qualification at all. For the most part, the proportion of Indigenous adults with no qualification is close to or well above 80 per cent. Interestingly, the distribution across regions in terms of qualifications is more varied for the non-Indigenous population.

Table 21. Indigenous and non-Indigenous population who have completed a qualification and/or Year 12 by labour force status for Western Australian Indigenous Regions, 2006

	Indigenous			Non-Indigenous		
Indigenous Region	Employed (%)	Unemployed (%)	NILF (%)	Employed (%)	Unemployed (%)	NILF (%)
Perth	56.0	30.6	23.3	74.8	61.8	49.7
Broome	48.4	34.8	21.7	74.2	58.1	55.2
Kununurra	26.9	22.5	11.5	70.6	51.2	55.9
Narrogin	40.2	21.9	18.1	61.8	44.8	39.4
South Hedland	38.2	14.8	14.3	69.0	50.6	50.0
Derby	28.1	40.7	13.3	71.6	65.1	53.0
Kalgoorlie	30.4	18.9	13.0	62.4	41.3	38.2
Geraldton	38.2	24.1	15.7	61.5	42.4	36.3
Western Australia	42.7	25.8	18.2	71.9	57.7	47.2
Rest of Australia	51.6	30.3	20.2	73.1	57.1	42.9

Note: NILF = not in the labour force.

Source: ABS Census of Population and Housing.

Clearly, a substantial gap exists in all regions in terms of post-school qualifications. In Geraldton, Narrogin, Kalgoorlie and Perth more than 50 per cent of the non-Indigenous population have no qualifications. The remaining four regions all have a relatively high percentage with qualifications, especially at the two ends of the distribution (degrees and certificates). In these regions, the Indigenous population experiences a double labour market disadvantage, especially in terms of competing for full-time, private sector employment, because not only do they have low rates of completion, they are also competing against a relatively highly qualified non-Indigenous population.

The polarisation of employment outcomes in Western Australia between Indigenous and non-Indigenous adults has many of its antecedents in relative educational status. While the historic reality is that many older Indigenous adults in remote regions of the State may never have attended school, current enrolment rates across compulsory school ages appear to be close to parity across the board. However, many Indigenous children enrolled do not attend school on a regular basis, and there is also a relative lack of progression through the school system to the crucial years of completion at Years 10 and 12.

In Table 20 an indication of proportions attending educational institutions beyond compulsory school age is provided. First of all, among young adults aged 15-24 years, Indigenous proportions attending school are not dissimilar to non-Indigenous in most regions. However, key differences emerge in respect of the proportions attending non-school-based educational institutions, with Indigenous attendance rates substantially lower in all regions. At older ages, over 25 years, the gaps in attendance appear less and in some regions such as Perth, Narrogin and Geraldton, higher proportions of Indigenous persons attend non-school institutions.

Table 22. Indigenous and non-Indigenous population with need for assistance by labour force status for Western Australian Indigenous Regions, 2006

	Indigenous			Non-Indigenous		
Indigenous Region	Employed (%)	Unemployed (%)	NILF (%)	Employed (%)	Unemployed (%)	NILF (%)
Perth	1.3	0.9	10.5	0.6	1.6	11.5
Broome	1.5	2.3	7.6	0.3	2.8	8.0
Kununurra	0.8	0.0	10.1	0.8	6.7	7.2
Narrogin	1.5	0.7	10.0	0.7	2.0	11.4
South Hedland	0.7	0.0	12.7	0.3	1.6	4.8
Derby	1.5	0.0	15.8	1.1	0.0	8.6
Kalgoorlie	1.7	0.0	10.2	0.4	1.2	9.9
Geraldton	0.9	1.1	10.9	0.6	1.5	10.3
Western Australia	1.3	0.7	10.8	0.6	1.7	11.3
Rest of Australia	1.3	1.9	12.0	0.6	1.6	12.8

Note: NILF = not in the labour force.

Source: ABS Census of Population and Housing.

Of course, the degree to which school and non-school attendance translates into qualifications is the key outcome from a labour market perspective. That such a relationship exists is clearly demonstrated in Table 21, which shows Indigenous and non-Indigenous adults in regions of Western Australia who have completed a qualification and/or Year 12 according to their labour force status.

For both populations, persons not in the labour force are far less likely to have completed schooling to Year 12 or to have acquired a post-school qualification than those in the labour force, with employed persons reporting the greatest level of educational outcomes. However, in line with their generally lower educational achievements, even Indigenous adults who are employed often have less educational background than non-Indigenous people who are not in the labour force. One important explanation for this is the level of Indigenous participation in CDEP, which provides an employment opportunity for individuals who might otherwise be unemployed or not in the labour force precisely by virtue of their low educational status.

HEALTH AND EMPLOYMENT OUTCOMES

A primary barrier to the enhanced participation of Indigenous people in the Western Australian labour market is poor health status and associated high morbidity and mortality. According to the ABS, life expectancy at birth for Indigenous males in the State is just 58 years, compared to 78 years for all males. The equivalent figures for females are 67 years and 83 years. The Epidemiology Branch of the Western Australia Department of Health has calculated life expectancy at birth for Indigenous males in some parts of the State at just 52 years (Pilbara Population Health Unit 2004: 5-21). According to the same source, the Indigenous population accounted for an average of 12 per cent of the West Pilbara population between 1997 and 2001, but for 44 per cent of all deaths.

By these facts alone, the chances of full and prolonged Indigenous participation in the workforce are clearly curtailed. For example, using national life tables based on 2001 census data, the chances that a newborn Indigenous male will reach workforce age (15 years) have been estimated at 97 per cent (Kinfu &t

Taylor 2002). For those who do reach workforce age, 19 per cent will be dead by the age of 45, and 25 per cent will not reach 50 years of age. Statistically, more than half of Indigenous males who reach age 15 have no chance of surviving to retirement age at 65 years. Thus, out of an average cohort of 100 Indigenous males aged 15, only 48 would still be alive by age 65 (Kinfu & Taylor 2002: 10). Similar, if not lower, survival probabilities are likely to apply in Western Australia. Equally telling, though, is the morbidity profile that underpins this high mortality. Here we observe the cumulative impact of progressive morbidity that can commence often prior to birth, persist through childhood, and become compounded in adult years. Allied to this are lifestyle factors associated with overcrowded dwellings, risk behaviour, low incomes, and poor nutrition. All this is well documented (ABS & AIHW 2005; Zubrick et al. 2004) and confirms the importance of social and economic determinants of Indigenous health outcomes.

Aside from survival analysis, census data provide little insight into the impacts of health on labour force participation. However, one new variable in the census opens a window into likely effects. In 2006 the census asked about needs for assistance due to disability and long-term conditions, and answers can be cross-classified by labour force status, as seen in Table 22.

For both Indigenous and non-Indigenous populations there is a clear relationship between being in or out of the labour force depending on whether an individual reports a disability or long term health condition. This difference is most marked between those in employment who have the lowest need for assistance and those not in the labour presumably, partly, because they do have a need for assistance for health reasons. For the most part, the degree to which Indigenous people who are not in the labour force report a need for assistance is higher than for their non-Indigenous counterparts, especially in regions such as Derby, South Hedland and to a lesser degree Kununurra. So, while this census variable provides only a limited window into the likely relationship between Indigenous health status and labour force status, it does give some indication of the role poor health plays in limiting labour market participation.

ENGAGEMENT WITH THE JUSTICE SYSTEM

NATSISS: National Aboriginal and Torres Strait Islander Social Survey

DoCS: Department of Corrective Services (Western Australia)

Interaction with the police, and subsequently with the courts and various custodial institutions, is a pervasive component of Indigenous social and economic life in Western Australia. In the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), an estimated 22 per cent of Indigenous people aged 15 years and over in Western Australia reported that they had been arrested by police in the previous five years and 26 per cent reported that they were a victim of physical or threatened violence in the previous 12 months. In the 1994 NATSIS, the primary reasons given for arrest included (in descending order) disorderly conduct, drink driving offences, assault, and outstanding warrants.

While the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) did not have comparative data for the non-Indigenous population in terms of arrest, a report by the Western Australian Department of Corrective Services (DoCS) (2007) showed the high concentration of the adult prison population that identified as being Aboriginal. In August 2006, there were 1,293 Aboriginal males in adult prisons and 131 Aboriginal females. This represented between 35 and 40 per cent of the respective total prison population which is substantially higher than the proportion in the general population presented earlier.

One link between recidivism and economic outcomes is the degree to which convictions and interaction with police, courts and prisons, reduce individual chances of participating successfully in the labour market, with Hunter and Borland (1999) finding a strong negative impact of arrest. Certainly, in industries that are safety-conscious (such as mining), prior conviction and any on-going substance misuse can be highly deleterious.

Accordingly, the summary statistics presented here allow for some estimate of the population for whom contact with the police and a criminal conviction might represent a barrier, or at least a brake, on labour market participation. Research on the factors underlying high arrest rates among Indigenous people and

the effect of these on employment prospects indicates that if governments are concerned about Indigenous social and economic wellbeing then a priority should be to ensure that they stay out of the criminal justice system in the first place (Hunter 2001; Hunter& Borland 1999). Clearly, in Western Australia, this has yet to be achieved as the statistics indicate high levels of recorded contact with police and subsequent conviction via the courts system. Furthermore, given that Hunter, Weatherburn and Snowball (2006) have noted a significant positive relationship between CDEP participation and low arrest rates, recent and proposed changes to the CDEP program may serve to exacerbate these high rates of arrest.

Among the factors that contribute to high arrest rates among Indigenous people, high unemployment (or lack of meaningful work) and poor educational achievement have been identified as the most prominent (Hunter 2001), although the effects of drugs and alcohol and a breakdown in adherence to rules of customary law are also factors that emerge from the findings of Pilbara-based research by the Law Reform Commission of Western Australia (Trees 2004). All of these prerequisites for high arrest rates are prominent among Indigenous people in Western Australia.

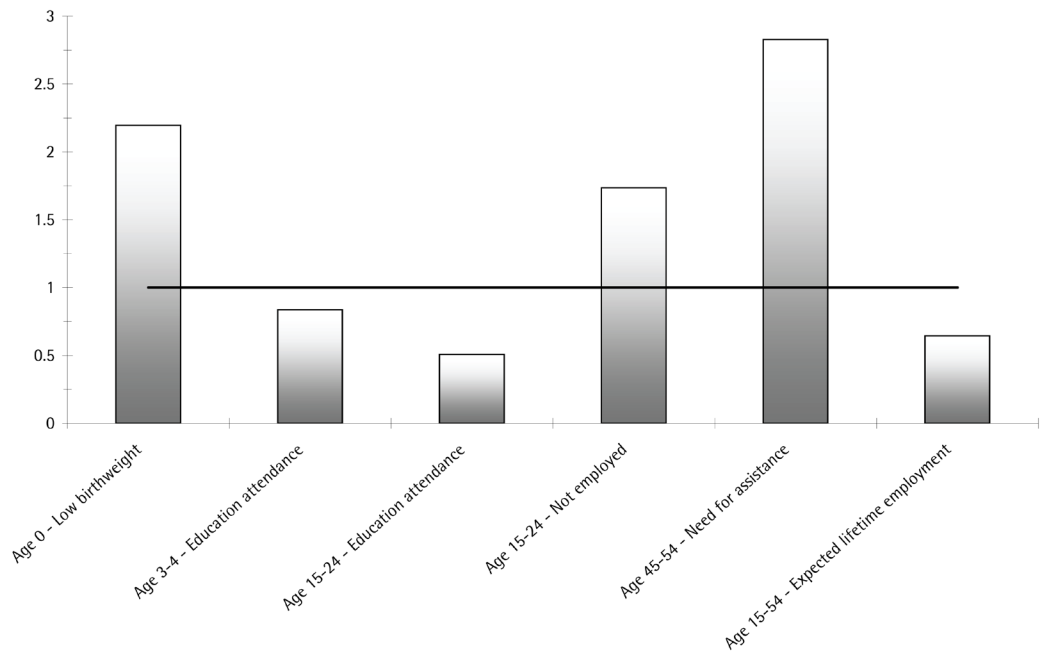
SUMMARY: PARTICIPATION, THE LIFE COURSE AND POLICY IMPLICATIONS

Despite unprecedented economic growth and associated demand for labour, Western Australia has a serious economic development problem—much of its Indigenous population remains overly-dependent on welfare, is structurally detached from the labour market, and ill-equipped to engage with it. This paper has shown that these indicators could worsen as a consequence of rapid growth in working-age population if recent trends in the rate of Indigenous job acquisition continue. For example, just to maintain the already low employment rate of 45 per cent State-wide will require additional jobs to be created at roughly the same rate as growth in the working-age population. Otherwise the employment rate will inevitably fall. From a policy perspective, 'business as usual' is simply insufficient to meet the expanding needs of Indigenous people.

The levels of economic exclusion implied by the findings that have been presented here raise questions about the adequacy of government resourcing to meet the backlog of disadvantage that has so obviously accumulated in many Indigenous communities in Western Australia. Looking ahead, this raises questions about the costs—to government, to industry, and to Indigenous people—if social and economic conditions remain the same as currently experienced. Basically, costs will simply escalate in line with the growth in population. To properly assess adequacy in this context, it is not sufficient to consider amounts expended by governments on Indigenous programs separate from the key questions of whether such amounts are commensurate with the scale of the task of overcoming disadvantage, and whether they are equitable on a per capita basis when compared with equivalent spending across the state and nationally.

To date, the only analysis to have measured spending in this way has been for a single Aboriginal community (Wadeye, in the Northern Territory). This uncovered gross inadequacies and inequities in crucial areas of capacity building such as education, training and infrastructure with associated high expenditures in health, welfare and incarceration (Taylor & Stanley 2005). If similar inadequacies were to exist in communities across Western Australia (and at this stage this is not known), then the level of government intervention aimed at overcoming disadvantage among the growing Indigenous populations of these regions would not only be found wanting, it would simply be 'funding into a deficit' (Ah Kit 2004). This reflects the regressive nature of the link between demography and economy in contemporary Indigenous Australia, and it means that governments (and industry for that matter) can either invest now to build capabilities, or pay heavily in the future to manage the social and economic consequences. Whatever the case, a fiscal response is unavoidable.

Fig. 3. Select social indicators across the life course in Western Australia: Ratio of Indigenous to non-Indigenous



Source: ABS Census of Population and Housing.

Many of the difficulties that produce these unfavourable outcomes in the labour market accumulate over the life course. While premature mortality shortens the overall span of social and economic participation for many Indigenous people, social and economic disadvantage at early ages also serves to diminish such participation. To provide a visual impression of these cumulative effects of disadvantage at different stages in the life course, Fig. 3 shows a series of Indigenous to non-Indigenous ratios of outcomes in key indicators that are linked to labour market success. In this figure, ratios above the middle gridline (1.0) indicate higher Indigenous values; ratios below the middle gridline indicate lower Indigenous values.

Fig. 3 shows that the rate for low birth weight (below 2,500 gms) for Indigenous children in Western Australia is more than twice the rate for all children in the state.[3] Disparity in education attendance commences early, with the level of Indigenous education attendance at age 3-4 years at 84 per cent of the non-Indigenous level. However, this is as good as it gets, as attendance in educational institutions in the all-important school to work transition years (15–24 years of age) falls to only 50 per cent of the non-Indigenous level.

Given these rates of education attendance, it is not surprising to find that the rate at which Indigenous youth are not employed is almost twice that of non-Indigenous youth, and that by middle-age Indigenous people report a need for assistance due to disability or a long term health condition at almost three times the non-Indigenous rate. Putting all this together in a lifespan opportunities framework, the telling outcome is the proportion of time an Indigenous adult of prime working age is predicted to be employed, which is less than two-thirds that of non-Indigenous adults.

Clearly, any strategies aimed at overcoming the disadvantaged situation of Indigenous people in Western Australia will have to address—given their interrelatedness in terms of eventual economic outcomes—the structural issues that occur at each of these crucial formative stages. Among the key structural issues identified here are childhood health and education. If Indigenous people are to successfully compete for skilled mainstream jobs with others in Western Australia, then they require the human capital base to do so. Of course, conspicuously missing from Fig. 3 is the massive gap in interaction with the criminal justice system that so heavily weighs against Indigenous youth and young adults.

While some regions (notably Perth) fare better than others in terms of labour market outcomes, there is clearly no part of the State where urgent attention is not required. In Perth for example, Indigenous people remain substantially underrepresented in particular industry categories that include some of the larger employers in the city such as supermarkets, department stores and retailers of all kinds, in wholesaling, professional services and communications, in accounting, banking, insurance, legal and hiring and sales industries such as real estate. This, in turn, is reflected in a relative absence from key jobs in management, the professions, trades and sales. These include major urban occupations such as information technology (IT) professionals, registered nurses, teachers, motor mechanics, chefs, plumbers, electricians, check out operators, sales assistants, and motor vehicle dealers.

IT: information technology

With two-thirds of the Indigenous population retaining a residential base away from Metropolitan Perth, the extent to which real lifestyle choices are being made has to be factored into any policy response. Clearly, the sheer scale of continuing ties to country requires that opportunities for economic activity need to be exploited wherever they emerge. In considering such options, one issue is the extent to which existing economic activities are adequately reflected in census statistics. For example, it would appear that many locally significant tasks are either subsumed under the label of 'CDEP', or 'labouring' in the census, or overlooked altogether due to their lack of fit with mainstream labour force categories. Examples of such activity abound and often have their basis in the customary sector, though invariably reliant on linkages and interdependencies with the market or state sectors—for example, hunting, fishing and gathering, art and craft manufacture, cultural and natural resource management. These often have fledgling or well-established employment potential (Altman 2002, 2005; Altman, Buchanan & Larsen 2007; Armstrong, Morrison & Yu 2005). More importantly, they are often labour-intensive and certainly widespread in occurrence. It is important to consider ways of strengthening these customary economic activities as part of the broad strategy of raising employment levels.

Of course, in pursuit of a social licence to operate, major corporations have been active in engaging Indigenous workers with many mine sites across the State adopting target quotas. But such is the depth of supply-side disadvantage that a major challenge lies ahead in meeting these targets (certainly in a collective sense) given that they are likely to come close to exhausting entire local supplies of employable labour. For this reason, companies are increasingly investing in remedial programs to enhance work readiness and to address structural barriers in meeting 'fitness for work' requirements (Tiplady & Barclay 2007). Even so, if current targets were to be achieved, the additional jobs created might only suffice to keep pace with the growth in Indigenous working-age population. Thus, while much might be accomplished by the mining sector in the years ahead in terms of raising levels of Indigenous employment, little change might be discernable in terms of aggregate social indicators with a large component of the population remaining marginalised unless wider options for engagement are canvassed.

Indigenous employment generation in many remote communities, and to some extent in towns as well, is most likely to occur via an import substitution model embracing activities such as the construction and maintenance of physical infrastructure, education, health services, retailing, public administration, transport, media, land restoration, land and sea management, and tourism. Some of the diversity in economic activity encompassed here is already in place via CDEP schemes, although it is rarely recognised as such, often being seen amorphously as 'just' CDEP work. As for the jobs in remote communities that

are currently occupied by imported non-Indigenous workers, these tend to be managerial and professional positions requiring particular skills and job-readiness. There is unlikely to be rapid 'Indigenisation' of such jobs without concerted effort to raise educational standards.

Short of any sustained migration for employment away from rural areas—which has not been evident to date and which could not necessarily guarantee employment anyway as indicated by the limited difference in outcomes between Perth and the rest of the State—there is a continued need for public subvention along with flexibility and realism in the drive to raise economic status. In particular, it is important to ask how the broad strategy of raising employment levels might be targeted to suit particular regional and local circumstances. There is an immediate requirement for detailed regionally-based quantitative assessments of the supply of, and demand for, Indigenous labour for different economic activities that already exist, or that may be created at the local level. Only then can the appropriate mix of resources for matching supply to demand be appropriately assessed and deployed.

NOTES

1. The applicable population is those aged 5 years and over in 2006, who stated their usual residence on Census night in 2006 and what it was 5 years before then and who were in Australia on Census night in 2001 and 2006. It should also be noted that these migration rates were summed up from Statistical Local Area (SLA) level data. Five of the 1,429 SLAs were spread across multiple Indigenous Regions. These SLAs were allocated to the Indigenous Region with the highest proportion of the SLA population in 2006.

2. The actual formula for the Index of Dissimilarity is

$$ID = 0.5\sum_i \left| \frac{I_i}{I} - \frac{N_i}{N} \right|$$

where the vertical lines refer to the absolute value, the summation is over i occupation or industry categories, (I_i, N_i) refers to the number of Indigenous and non-Indigenous Australians in the *ith* category and (I, N) refers to the total number of employed Indigenous and non-Indigenous Australians in the region.

3. Due to data constraints, the ratio for this figure is Indigenous children relative to all children. The gap between Indigenous and non-Indigenous children will be even larger.

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Table A1. Select characteristics of non-Indigenous Australians or non-Indigenous households by state of usual residence, 2006

Variable	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Population ('000s)	6,019	4,636	3,552	1,419	1,773	437	123	305	18,267
Unemployment rate (% labour force)	5.7	5.3	4.5	5.1	3.6	6.3	2.6	3.3	5.1
Labour force participation rate (% adults)	62.3	63.3	65.4	61.6	66.4	59.7	78.7	72.7	63.7
Employment-to-population ratio (% adults)	58.8	59.9	62.4	58.4	64.1	55.9	76.6	70.2	60.5
Private-sector employment (% adults)	51.5	52.4	53.5	50.1	55.2	45.9	32.8	42.2	52.1
Median income – Individual	464	457	481	436	507	402	712	724	471
Median income – non-Indigenous households	1,042	1,023	1,037	891	1,071	802	1,324	1,513	1,031
Home owner or purchasing (% non-Indigenous households)	69.5	74.1	72.2	72.2	72.0	74.3	56.4	70.0	71.0
Average number of persons per bedroom (% non-Indigenous households)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Household size (Persons in non-Indigenous households)	2.6	2.6	2.6	2.4	2.5	2.4	2.5	2.6	2.6
Never attended school (% adults)	1.2	1.2	0.5	0.8	0.6	0.4	0.7	0.4	0.9
Completed Year 10 or higher (% adults)	83.0	81.7	85.2	83.4	88.2	80.7	88.7	91.1	83.7
Completed Year 12 (% adults)	47.7	48.9	46.4	42.2	48.2	35.1	48.4	66.9	47.4
Post-school qualification (% adults)	47.7	45.8	43.7	41.8	46.5	41.1	52.2	57.4	45.9
Degree or higher (% adults)	19.4	19.9	15.4	14.9	17.1	13.9	19.1	33.5	18.3
Population aged over 55 years (% population)	24.7	24.4	24.0	27.2	23.4	27.6	16.1	20.4	24.7

Source: ABS Census of Population and Housing.

APPENDIX B. INDUSTRY OF EMPLOYMENT ABBREVIATIONS AND FULL NAMES

Table B1. Industry of employment abbreviations and full names to support Table 17

Abbreviation	Industries
Agri., Forest., Fish.	Agriculture, forestry & fishing
Mining	Mining
Manu.	Manufacturing
Accom., Food Services.	Accommodation & food services
Trans., Post., Ware.	Transport, postal & warehousing
Prof., Sci, Tech.	Professional, scientific & technical services
Admin., Sup. Serv.	Administrative & support services
Public Admin.	Public administration & safety
Edu., Train.	Education & training
Health	Health care & social assistance
Trade	Wholesale trade; Retail trade
Art., Other Services	Arts & recreation services; Other services
Utilit., Const.	Electricity, gas, water & waste services; Construction
Media., Finance Services	Information media & telecommunications; Financial & insurance services; Rental, hiring & real estate services

Source: ABS Census of Population and Housing.

APPENDIX C. SELECT EMPLOYMENT VARIABLES BY INDIGENOUS AREA

The employment outcomes for the Indigenous population in Western Australia that have been presented and discussed in this paper have all been at the Indigenous Region level. However, as is apparent from Fig. 1, the geographic size of the Indigenous Regions in Western Australia are in many cases very large. For example, the Indigenous Region of Kalgoorlie covers over 950,000 square kilometres in the south west of the state. Clearly, with regions this size, there is going to be a great deal of diversity in the population within a number of these regions and hence the labour market outcomes are also likely to vary. This is demonstrated in Tables C1, C2, and C3 below, which give select employment outcomes by Indigenous Area, the level of geography below Indigenous Regions.

Table C1. Select employment variables by Indigenous Area for Perth Indigenous Region, 2006

Indigenous Area	Unemployment rate (% labour force)	Adjusted count of 15-54 year olds not employed	Emp/pop	Full-time and private emp/pop
		Perth Indigenous Region		
Wanneroo	16.0	691	46.9	21.6
Joondalup	7.0	174	66.4	29.1
Swan	17.0	1,012	42.2	18.9
Stirling	18.3	870	40.3	15.7
Bayswater	13.2	234	49.6	23.7
Bassendean	15.2	157	43.8	21.6
Belmont	22.5	417	38.8	14.8
Kalamunda	10.6	267	53.5	25.5
Mundaring	18.5	508	26.9	12.8
Perth West	14.7	157	43.8	17.6
Perth/Vincent	10.9	132	53.9	17.3
South Perth	23.2	163	34.4	19.2
Victoria Park	9.9	165	48.5	23.2
Fremantle/ East Fremantle	19.0	214	35.0	10.7
Melville	18.2	217	47.0	23.3
Canning	17.4	361	45.1	20.8
Gosnells	15.9	1,038	40.3	18.4
Cockburn	16.4	480	45.2	17.8
Armadale	22.7	581	40.3	16.8
Kwinana	20.3	595	23.2	11.3
Serpentine-Jarrahdale	6.7	40	53.2	25.0
Rockingham	9.0	338	53.4	24.8

Source: ABS Census of Population and Housing.

Table C2. Select employment variables by Indigenous Area for Broome and Kununurra Indigenous Regions, 2006

Indigenous area	Unemployment rate	Adjusted count of 15–54 year olds not employed	Emp/pop	Full-time/private emp/pop
		Broome Indigenous Region		
Broome	14.5	977	44.9	18.2
Bidyadanga	4.0	175	41.3	1.3
Beagle Bay	7.1	38	69.6	11.7
Djarindjin/ Lombadina	4.3	65	54.5	2.5
Bardi (One Arm Point)	9.7	58	53.8	5.5
Broome - Pastoral Areas	0.0	50	68.0	0.0
		Kununurra Indigenous Region		
Kununurra	5.3	335	48.6	15.6
Wyndham	12.2	121	40.9	10.8
Oombulgurri	0.0	12	72.2	9.6
Kalumburu	0.0	144	37.2	3.5
Lake Argyle	3.2	62	62.3	17.4
Wyndham-East Kimberley-Rem	3.4	38	75.4	25.2
Warmun	6.9	55	44.3	7.5
Balgo	12.0	205	32.5	0.0
Halls Creek Town	22.2	387	37.7	6.7
Halls Creek-North	8.7	52	65.5	0.0
Mulan	0.0	37	46.8	5.5
Mindibungu	0.0	26	41.5	0.0
Great Sandy Desert	4.9	78	44.6	14.2

Source: ABS Census of Population and Housing.

Table C3. Select employment variables by Indigenous Area for Narrogin, South Hedland and Derby Indigenous Regions, 2006

Indigenous area	Unemployment rate	Adjusted count of 15–54 year olds not employed	Emp/pop	Full-time/private emp/pop
Narrogin Indigenous Region				
Moore	18.8	146	47.0	21.8
Northam	31.9	210	32.0	12.3
Avon	25.2	290	37.3	12.6
Campion	22.9	194	36.5	11.5
Narrogin	14.6	114	43.2	12.1
Hotham/Lakes	20.9	180	42.8	10.5
Katanning	20.8	128	40.9	11.6
Pallinup	17.7	128	46.7	9.9
Albany	13.0	369	39.6	13.6
King	24.3	59	35.0	17.2
Busselton	16.8	96	53.3	22.6
Mandurah	20.2	288	43.8	21.4
Bunbury	15.7	342	46.1	18.5
Collie	14.3	78	48.4	16.4
Harvey	12.2	102	53.4	23.9
Murray/Waroona/ Boddington	18.0	107	42.9	12.2
South-West	8.6	206	56.9	27.9
South Hedland Indigenous Region				
Port Hedland	16.7	654	46.1	22.9
Karratha	12.1	219	60.2	31.3
Roebourne excl. Karratha	21.0	621	28.2	9.3
Exmouth/Ashburton	11.2	196	56.8	24.5
Jigalong	58.6	149	15.3	6.1
East Pilbara	12.9	429	48.5	11.8
Derby Indigenous Region				
Fitzroy Crossing	1.5	138	64.0	10.3
Bayulu	0.0	48	64.6	2.2
Yungngora	0.0	61	68.9	32.9
Looma	4.5	157	35.9	10.3
Mowanjum	4.3	66	56.4	18.0
Fitzroy River	1.8	155	70.4	5.2
Derby-West Kimberley Bal	2.4	58	66.7	7.8
Halls Creek North-West	2.3	46	74.0	2.4
Wyndham-East Kimberley Far-West	0.0	13	64.9	10.7

Source: ABS Census of Population and Housing.

Table C4. Select employment variables by Indigenous Area for Kalgoorlie and Geraldton Indigenous Regions, 2006

Indigenous area	Unemployment rate	Adjusted count of 15–54 year olds not employed	Emp/pop	Full-time/private emp/pop
Kalgoorlie Indigenous Region				
Laverton	2.9	94	53.2	13.5
Leonora	5.9	56	53.3	23.0
Kalgoorlie/ Boulder	16.9	858	41.9	18.1
Coolgardie	9.2	104	54.7	23.9
Esperance	26.9	275	36.5	14.1
Warburton Community	1.5	164	56.6	0.9
Ngaanyatjarraku excl. Warburton	3.6	162	56.9	3.0
Wiluna	8.9	114	43.6	9.9
Kalgoorlie Indigenous Region Bal	11.6	103	46.7	11.0
Geraldton Indigenous Region				
Geraldton	25.8	734	39.5	14.8
Northern Agricultural	15.9	162	43.1	14.6
Carnarvon	9.7	367	44.8	18.1
Upper Gascoyne/ Shark Bay	8.0	57	64.0	20.5
Meekatharra	22.5	187	38.8	11.2
Carnegie South	15.9	127	44.6	11.3
Greenough	16.8	415	31.8	13.3
Mullewa	17.1	92	45.3	20.0

Source: ABS Census of Population and Housing.