Indigenous Participation in Regional Labour Markets, 2001–06

N. Biddle, J. Taylor and M. Yap

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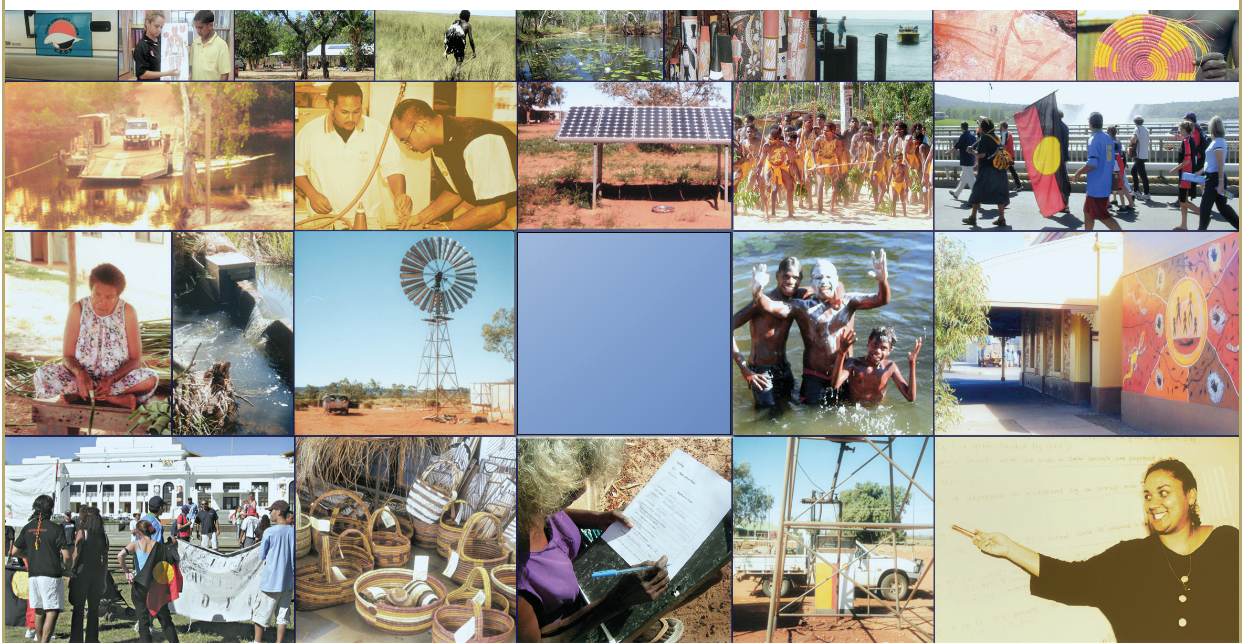

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November 2008

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Ministerial Council for Aboriginal
and Torres Strait Islander Affairs

THE AUSTRALIAN NATIONAL UNIVERSITY

INDIGENOUS PARTICIPATION IN REGIONAL LABOUR MARKETS, 2001–06

N. BIDDLE, J. TAYLOR AND M. YAP

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This project has its genesis in a CAEPR report commissioned by the Ministerial Council for Aboriginal and Torres Strait Islander Affairs (MCATSIA) in 2005. The aim of the report (published as *CAEPR Discussion Paper No. 283*) was to synthesise findings from a wide variety of regional and community-based demographic studies. What emerged was the identification of demographic 'hot spots'—particular Indigenous population dynamics in particular regions that give rise to issues of public policy concern. These trends spatially align with specific categories of place that transcend State and Territory boundaries. The 'hot spots' coalesce around several structural settings including city suburbs, regional towns, town camps, remote Indigenous towns, and outstations, as opposed to the more formal regionalised or jurisdictional spatial configurations that have tended to guide and inform Indigenous policy development.

Recognising that the structural circumstances facing Indigenous populations are locationally dispersed in this way, MCATSIA has established an enhanced research capacity at CAEPR over three years to further explore the dynamics and regional geography of Indigenous population and socioeconomic change.

This research activity commenced in late 2007 and is constructed around four discrete yet overlapping projects:

- a detailed regional analysis of relative and absolute change in Indigenous social indicators
- an assessment of social and spatial mobility among Indigenous metropolitan populations
- case-study analyses of multiple disadvantage in select city neighbourhoods and regional centres
- the development of conceptual and methodological approaches to the measurement of temporary short-term mobility.

Discussion Papers related to these projects are co-badged with MCATSIA. It should be noted that the views expressed in these publications are those of the researcher/s and do not necessarily represent the views of MCATSIA as a whole, or the views of individual jurisdictions.

ABBREVIATIONS AND ACRONYMS

ABS	Australian Bureau of Statistics
AIGC	Australian Indigenous Geographical Classification
ANU	The Australian National University
ANZSIC	Australia and New Zealand Standard Industry Classification
ASCO	Australian Standard Classification of Occupation
ATSIC	Aboriginal and Torres Strait Islander Commission
CAEPR	Centre for Aboriginal Economic Policy Research
CD	Collection District
CDEP	Community Development Employment Projects (program)
COAG	Council of Australian Governments
CPI	Consumer Price Index
DEET	Department of Employment, Education and Training (Cwlth)
DEWR	Department of Employment and Workplace Relations
DEEWR	Department of Education, Employment and Workplace Relations
ERP	Estimated Resident Population
FaHCSIA	Department of Families, Housing, Community Services and Indigenous Affairs
IEP	Indigenous Employment Policy
IHF	Interviewer Household Forms
MCATSIA	Ministerial Council on Aboriginal and Torres Strait Islander Affairs
NATSIS	National Aboriginal and Torres Strait Islander Survey (1994)
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
SIF	Special Indigenous Forms
STEP	Structured Training and Employment Projects

ABSTRACT

This paper examines the extent to which Indigenous Australians have shared in the large expansion of the Australian workforce that is revealed by a comparison of 2001 and 2006 census results. It considers whether this is reflected in changes to regional patterns of Indigenous labour force status, income, occupation and industry of employment. As such, it provides the first comprehensive assessment of possible impacts of federal Indigenous employment policies introduced just prior to the 2001 Census and it contributes to the policy discourse on 'closing the gap' between Indigenous and other Australians. Conventional census measures of labour force status are established for each of 37 Indigenous Regions and administrative data are also deployed to produce a more accurate picture of the spread of CDEP program employment and the effect of this on labour force outcomes. Changes in occupational and industry segregation are established as is the effect of employment change on the gap in median incomes. In line with previous gap analyses conducted by CAEPR an attempt is made to estimate future job requirements using a projection of the Indigenous working-age population to 2016. This reveals a need for more than 70,000 additional jobs to meet current government targets.

Keywords: Indigenous Employment Policy, CDEP, Indigenous Labour Force Status, Regional Labour Markets, 2006 Census

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EXECUTIVE SUMMARY

1. The intercensal period 2001–06 witnessed a large expansion of the Australian workforce and associated income. In this paper we consider to what extent Indigenous Australians shared in this expansion and whether there were any discernible regional patterns.

2. Nationally, between 2001 and 2006, the Indigenous employment rate (expressed as a percentage of population aged 15+) increased from 42 to 46 per cent. As a consequence, the gap between Indigenous and non-Indigenous employment rates narrowed as a ratio from 0.71 to 0.75.

3. This improvement in overall employment outcomes for Indigenous adults was widespread at the Indigenous Region level. However, there were regions where outcomes worsened both absolutely and relatively with Cape York and Broome standing out in this regard.

4. In 2006, 15.5 per cent of the Indigenous labour force was unemployed. While this represented a marked decline from the figure of 19.7 per cent recorded in 2001, it was still three times higher than the figure for the non-Indigenous population. Indeed, because the decline in non-Indigenous unemployment was greater over this same period, the actual gap in unemployment rates widened from a ratio of 2.8 to 3.1.

5. Using a structural, rather than a regional, framework for considering these data it is apparent that little variation exists in Indigenous employment and unemployment rates across the settlement hierarchy. What does vary, though, is the employment and unemployment gap with other Australians since non-Indigenous employment rates are notably higher in remote settlements while non-Indigenous unemployment rates in these same places are much lower.

6. Regions across the tropical north rely heavily on Community Development Employment Projects (CDEP) as a source of employment and economic activity. This is also true in nearly all arid areas, but further south and east CDEP numbers are relatively few.

7. Overall, it appears that Indigenous workers shared fully in the expansion of full-time private sector employment between 2001 and 2006 with the ratio of Indigenous to non-Indigenous participation in such work rising from 0.48 to 0.52.

8. The level of occupational and industry segregation between Indigenous and non-Indigenous workers declined between 2001 and 2006. This occurred in all Indigenous Regions with the exception of Sydney. Overall, 18 per cent of Indigenous workers would have to change their industry of employment to have the same industry profile as non-Indigenous workers. The same proportion applies to occupational distribution as well.

9. The Indigenous workforce is found predominantly in low-skilled occupations with the proportion employed as managers, administrators and professionals only a little over half that of the non-Indigenous share. However, there was a reasonable amount of growth in both moderate- and high-skilled occupations between 2001 and 2006 explaining the reduction in occupation segregation.

10. In 2001, almost 41 per cent of Indigenous adults employed were in industries that would grow by more than 5 per cent (high-growth) in the subsequent intercensal period. By comparison, the non-Indigenous employment share in this category at that time was only 23 per cent (a ratio of 1.78). This presents a quite different labour market outlook for Indigenous adults to that projected at the beginning of the 1990s.

11. The incomes of Indigenous people who are employed are much higher than the incomes of those who are not employed in regions where the bulk of employment is derived from non-CDEP activities. In regions where CDEP constitutes a sizeable share of total Indigenous employment the gap between employment and non-employment income is much lower. At the same time, Indigenous employment income even in regions with low CDEP participation is still notably lower than non-Indigenous employment income, whereas incomes for those not employed are roughly the same for both Indigenous and non-Indigenous adults.

12. For those not employed, there was a small decline in median income between 2001 and 2006. For the employed, large increases in median income are evident for both Indigenous and non-Indigenous workers. However, overall median income for non-Indigenous workers has grown faster than for Indigenous workers, resulting in a widening in the employment/income gap.

13. The Indigenous working-age population is expected to grow at a rate of 2.3 per cent per annum between 2006 and 2016. To maintain the current Indigenous employment rate at 43.2 per cent (see Note 1), this means that an extra 36,091 Indigenous adults will need to be in work by 2016. To meet the Rudd Government's target of halving the employment rate gap, a total of 71,239 additional jobs will need to be created over the 10 year period.

14. The above job creation requirements are minimum estimates since they assume that CDEP employment will be maintained at its current level. Under the most extreme scenario of abolishing CDEP entirely a total of 105,963 jobs would be required.

15. If the goal of creating 50,000 Indigenous jobs as envisaged by the Australian Employment Covenant were to be achieved within the two year time frame that has been set, and if these jobs were in addition to those already in existence, then the government's aim of halving the gap in employment rates would be well advanced by 2011. However, what matters is not just the number of jobs created but rather the net change in employment. The 2011 Census will be critical in determining what the impact of this initiative has been.

INTRODUCTION

For analysts of Indigenous participation in the Australian labour market, results from the 2006 Census were eagerly anticipated. This is because the 2001 Census came too soon after the establishment of the Indigenous Employment Policy (IEP) in mid-1999 to allow sufficient time for any assessment of possible impacts on Indigenous labour force outcomes (Hunter & Taylor 2001a). Over the years since that census, the panoply of IEP measures have been in place with the particular aim of facilitating an expansion of private sector opportunity through Intensive Assistance, Wage Assistance and Structured Training and Employment Projects (STEP). Over the same period, other significant labour market policies have been enacted—most notably a shift in emphasis away from community development aspects of the original Community Development Employment Projects (CDEP) scheme towards the preparation-for-mainstream employment focus of the current CDEP program.

All these policy changes occurred during a time of strong economic growth and rapid employment expansion. There were around 800,000 additional people counted as employed in the 2006 Census compared to 2001, an increase of almost 10 per cent. The 2006 Census allows us to test whether Indigenous Australians shared equally in this expansion. It also presents a long-awaited opportunity to analyse the impact of general labour market reforms introduced almost immediately following the formation of the first Howard Government and, more specifically, on the effect of particular measures aimed at Indigenous jobseekers since 1999.

This is not to say there has been no assessment to date of the likely impacts of the IEP and related policy changes. Two evaluations of the IEP were conducted in-house in 2002 and 2003 by the Department of Employment and Workplace Relations (DEWR 2002, 2003). Elsewhere, Hunter and Taylor (2004) have charted shifts in labour force status with particular emphasis on the interplay with the CDEP program. They noted the likely positive outcomes from the IEP, while Gregory (2006) has suggested the opposite. All the while, the Australian Bureau of Statistics (ABS) has been developing annual experimental estimates of Indigenous labour force status and this has also enabled some tracking of outcomes (Hunter & Taylor 2001b: 126, 2004) with an indication of steady decline in the Indigenous unemployment rate despite some uncertainty due to small sample size.

Thus, while many studies have pointed to steady overall improvement in Indigenous labour market outcomes they remain national-level partial analyses only and are heavily reliant on sample survey or program data that do not always provide direct comparison with the rest of the workforce. By contrast, the census yields a fully comprehensive set of labour force data that do provide for such comparison and for disaggregated levels of geography. Of course, the census has its own limitations to do with population coverage (Taylor & Biddle 2008) but it remains the key resource for Indigenous labour market analysis. Thus, it is the outcomes for Indigenous people that are revealed from census to census in both absolute and relative terms that shed most light on the net effect of policy and economy on changing economic status. While results from 2006 do suggest that a combination of the IEP and favourable economic conditions led to an improvement in employment outcomes for Indigenous adults, closing the gap in labour force status with other Australians was always going to be another matter.

The tenacity of this latter challenge is illustrated by the fact that, despite sustained employment growth in the Australian economy since the early 1990s, the 2006 census-derived employment rate of the Indigenous working-age population was little different from that recorded in 1971 (Altman, Biddle & Hunter 2008). While the numbers in work undoubtedly increased over that period, so too did the size of the Indigenous working-age population. As a consequence, the proportion of the Indigenous adult population counted at the 2006 Census that was in employment (46.1%) was only slightly higher than the figure of 42.0 per cent recorded for the equivalent population counted 35 years earlier at the 1971 Census (Altman, Biddle & Hunter 2008). This is a remarkably stable outcome over a long time-span, and all the more so because the 2006 census-identified population was substantially more urban than its predecessor and was therefore located in much closer proximity to established labour markets in regional and metropolitan Australia. Equally surprising is the ratio of Indigenous to non-Indigenous employment rates which was only slightly higher in 2006 than it was for the population counted 35 years earlier (0.75 in 2006 compared to 0.73 in 1971). In effect, after decades of government policy aimed at enhancing Indigenous workforce participation, the gap in employment rates barely shifted.

While this historical perspective provides an inauspicious backdrop to the current Council of Australian Governments (COAG) ambition of halving the gap in employment outcomes within a decade (by 2018), it is useful to place this time series in a more contemporary context in order to gauge the strength and composition of current trends in labour force outcomes. We do this here by comparing 2006 Census results with 2001 and, in particular, by examining changes in Indigenous workforce levels and composition at a regional level. This spatial approach is in recognition of the fact that labour markets vary geographically and reflect the regional character of both labour demand and supply.

As part of this variability, the composition of employment by industry, occupation and industry sector constantly shifts in response to changes in the macro-economy. For the Indigenous workforce, compositional change can also directly reflect policy decisions such as embodied in the IEP, in changes to the CDEP program, and most recently in the potential change embodied in the government-backed Australian Employment Covenant which pledges to provide opportunities for 50,000 Indigenous Australians in permanent full-time private sector jobs. Ultimately, of course, employment is a means to income generation and so we also examine the contribution of employment to changes in Indigenous gross income and compare this with the situation reported for the rest of the population. As the first years of the twenty-first century witnessed a large expansion of the Australian workforce, the basic question we address is in what way and to what extent did Indigenous Australians share in this expansion?

Fig. 1. Indigenous Region structure, 2006

DATA AND GEOGRAPHY

Data for this analysis are mostly extracted from the 2001 and 2006 Censuses. Our primary spatial unit of analysis for this information is the Indigenous Region level drawn from the Australian Indigenous Geographical Classification (AIGC), as shown in Fig. 1.

For the 2006 Census there were 37 Indigenous Regions across Australia loosely based initially on the ATSIC (Aboriginal and Torres Strait Islander Commission) Regions that were used for the 2001 and earlier censuses but restructured for the 2006 Census to reflect new administrative arrangements (Indigenous Coordination

Centres) and population redistribution. Four major differences are evident between the ATSIC Region structure in 2001 and Indigenous Regions in 2006:

- a separate region was created for the Australian Capital Territory (ACT) where previously it was included as part of the Queanbeyan ATSIC region
- a separate region was created for Dubbo in New South Wales where previously it was included as part of the Wagga Wagga ATSIC region
- in 2006 Victoria was made up of Melbourne and Non-Metropolitan Victoria, rather than being split into east and west as in 2001
- the Western Australian ATSIC Region of Warburton has been split and included into expanded South Hedland and Kalgoorlie Indigenous Regions.

Given these and other minor changes (some small towns and Indigenous Areas reallocated between regions), the 2001 data used in the present paper are based on Indigenous Areas, the level below ATSIC regions in 2001. These were then aggregated to 2006 Indigenous Regions using a quasi-population-based concordance.[1]

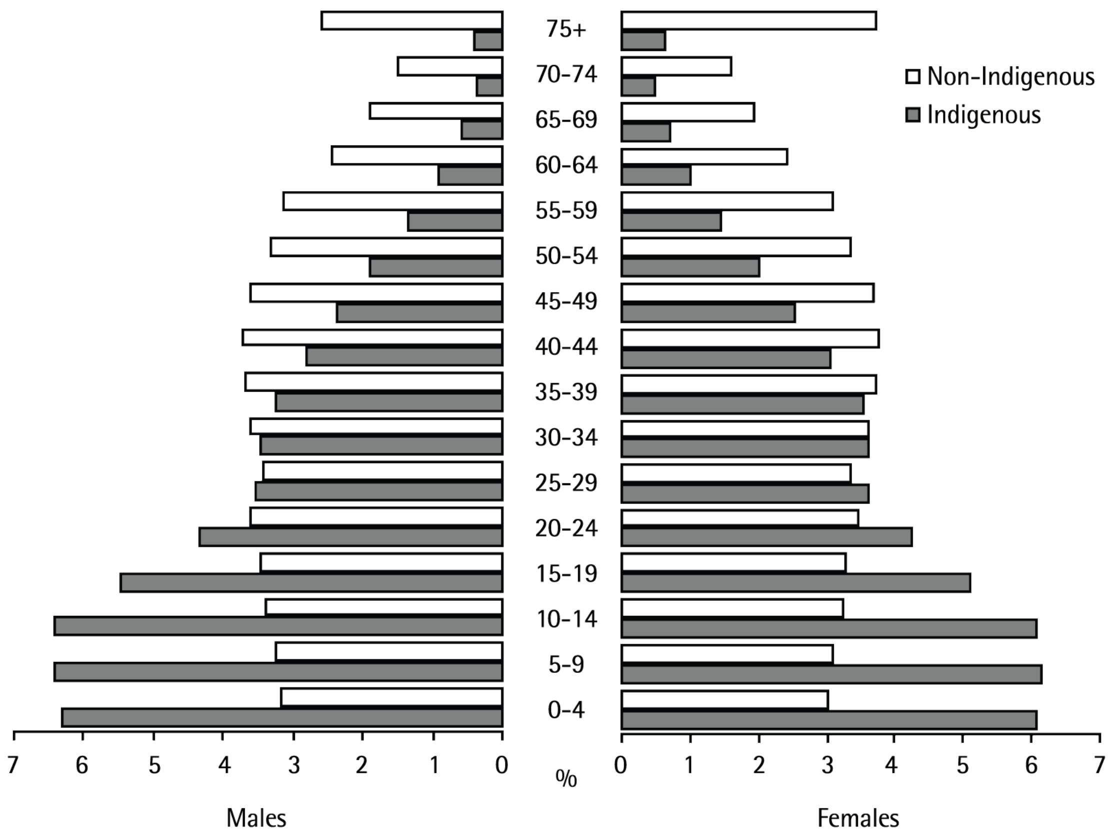
Although Indigenous Regions are broader in scale than previous attempts to define 'natural' labour markets in Australia using Local Government Areas (Department of Employment, Education and Training (DEET) 1993), it nonetheless reflects a much closer approximation to the spatial distribution of Indigenous people. While it is recognised that there is heterogeneity within these regions in relation to the characteristics of the labour markets that Indigenous Australians are likely to interact with, the style of analysis undertaken in this paper would not be amenable to a more disaggregated geography. However, the distribution in 2006 of Indigenous socioeconomic outcomes by 531 Indigenous Areas, as well as the change in that distribution since 2001, is currently being analysed.

A final note of caution is required prior to any consideration of these census data given the widespread and substantial undercount of Indigenous population in 2006 especially in remote towns, Aboriginal towns and outstations across remote parts of Western Australia, Northern Territory and to some extent Queensland (Taylor & Biddle 2008). In these areas of inadequate enumeration the census is more akin to a large sample survey. The drawback is that it is unlikely to be a random sample and we have no estimate of the characteristics (including labour force status) of those not captured.

SIZE AND DISTRIBUTION OF THE WORKING-AGE POPULATION

A fundamental component of labour supply is the population of working-age (defined here as 15 years and over). Significantly, the size of the Indigenous working-age population counted in the census has grown rapidly over the past few decades (a more than four-fold increase since 1971). The current national estimate is an Indigenous working-age population of 322,794 (ABS 2008a). This represents almost two-thirds (62.6%)

Fig. 2. Indigenous and non-Indigenous age and sex distribution, 2006



Source: ABS 2008b.

of the total estimated Indigenous population and represents an increase of 43,928 (16%) from the 2001 estimate. Furthermore, the current estimated age structure of the Indigenous population (Fig. 2) and its associated population momentum mean that the working-age group, especially those of younger working-age (15–29), is set to increase considerably in the years ahead.

Compared to the rest of the population, this expansion of numbers in younger working-age groups reinforces a widening gap in the focus and purpose of social and economic policy. For the population as a whole this is increasingly concerned with the effects and implications of ageing and retirement funding, whereas for Indigenous Australians the focus of social and economic policy remains fixed on issues of raising families, housing, education, training, and entry into employment.

The distribution of working-age numbers by Indigenous Region provides an initial indication of the relative weight of these various needs across the country. This is shown in Table 1, although care should be taken when interpreting these data owing to the aforementioned undercount in the 2006 Census.[2]

The issue of undercount aside, Table 1 suggests that the greatest concentrations of Indigenous working-age population are in major cities and in a line extending along the east coast from Cairns to Sydney. Numbers in the various regions associated with this pattern tend to be between 10,000 and 25,000 persons. Elsewhere, in more inland and remote parts of Australia, the Indigenous working-age population averages around 5,000 per region.

Of further interest is the Indigenous share of working-age population in any given region, as this reflects the extent to which Indigenous people comprise the potential in situ labour supply apart from any other considerations. Even despite substantial undercount in Western Australia, Queensland and Northern Territory, Table 1 shows that Indigenous people in many parts of these jurisdictions constitute from around half to as much as 80 per cent of the adult population. In major cities and in many regional areas, on the other hand, the Indigenous share of potential labour supply is very small.

This relative share of adult population in a region is likely to have some bearing on the distribution of demand for Indigenous labour. In capital cities and other parts of coastal Australia, Indigenous people are far more likely to be competing as a minority in labour markets where human capital characteristics are the main differentiating factor influencing outcomes. There is potential for racial discrimination in employment to also have some explanatory power (Hunter 2004: 78–80).

By comparison, in areas where Indigenous people constitute a high proportion of the adult population there has been a growing focus on the engagement of Indigenous labour either because of social responsibility policies of resource companies in regard to the use of local labour or because of directives by government to move people from CDEP and income support into mainstream work. Relatively low levels of Indigenous labour force participation juxtaposed (at least regionally) with areas experiencing high labour demand have significant implications in the continuing mutual obligation policy environment, and this now appears to have been recognised (Taylor 2005).

INDIGENOUS PARTICIPATION IN REGIONAL LABOUR MARKETS

On the face of it, results from the 2006 Census count regarding Indigenous employment outcomes present a good news story: an increase of 22,358 Indigenous persons employed (from 100,393 to 122,751) representing a growth of 22.3 per cent. The number of non-Indigenous adults counted as employed in the 2006 Census represented an increase of only 9.4 per cent compared to 2001 and so the reported outcome for Indigenous employment in 2006 is relatively impressive. However, because of the contribution of non-demographic factors to change in Indigenous population counts, as well as the substantial Indigenous undercount that occurs at each census, it is potentially misleading to compare successive counts of census characteristics as a

Table 1. Indigenous and non-Indigenous working age population by Indigenous Region, 2006

Indigenous Region	Indigenous Count ('000)	Indigenous Australian share (%)	Non-Indigenous Count ('000)	Non-Indigenous Australian share (%)	Indigenous share (%)
Queanbeyan	5.8	1.8	257.6	1.6	2.2
Bourke	5.3	1.6	30.0	0.18	15.1
Coffs Harbour	26.7	8.3	1,114.0	6.8	2.3
Sydney	30.1	9.3	3,411.0	20.9	0.9
Tamworth	9.8	3.0	154.9	0.9	5.9
Wagga Wagga	10.8	3.3	357.4	2.2	2.9
Dubbo	6.0	1.8	63.8	0.4	8.5
Melbourne	10.5	3.2	3,039.3	18.6	0.3
Non-Met. Victoria	10.6	3.3	1,091.8	6.7	1.0
Brisbane	28.3	8.8	2,145.8	13.1	1.3
Cairns	13.4	4.2	154.6	0.9	8.0
Mt Isa	5.1	1.6	17.9	0.1	22.4
Cape York	5.1	1.6	4.7	0.0	52.0
Rockhampton	10.2	3.2	325.0	2.0	3.1
Roma	7.9	2.5	245.6	1.5	3.1
Torres Strait	4.9	1.5	1.2	0.0	80.2
Townsville	13.5	4.2	273.0	1.7	4.7
Adelaide	11.6	3.6	1,175.9	7.2	1.0
Ceduna	1.4	0.4	26.1	0.2	5.2
Port Augusta	4.7	1.5	60.9	0.4	7.2
Perth	16.0	4.9	1,212.7	7.4	1.3
Broome	3.2	1.0	7.6	0.0	29.5
Kununurra	3.3	1.0	4.0	0.0	45.3
Narrogin	5.9	1.8	269.2	1.6	2.1
South Hedland	5.0	1.6	29.8	0.2	14.4
Derby	3.4	1.0	2.1	0.0	61.5
Kalgoorlie	4.0	1.2	38.5	0.2	9.5
Geraldton	4.2	1.3	40.8	0.2	9.4
Tasmania	11.7	3.6	381.8	2.3	3.0
Alice Springs	3.7	1.2	17.1	0.1	17.9
Jabiru	6.8	2.1	2.4	0.0	73.9
Katherine	6.3	1.9	6.9	0.0	47.7
Apatula	7.1	2.2	2.3	0.0	75.7
Nhulunbuy	6.6	2.1	4.5	0.0	59.7
Tennant Creek	2.7	0.8	1.9	0.0	58.8
Darwin	8.4	2.6	82.5	0.5	9.2
Australian Capital Territory	2.7	0.8	268.7	1.6	1.0
Australia Total	**322.8**	**100.0**	**16,324.6**	**100.0**	**1.9**

Note: Australian share refers to the percentage of the total Indigenous or non-Indigenous population usually resident in that region, whereas Indigenous share refers to the percentage of that Indigenous Region who identified as being Indigenous.

Source: ABS 2006 Census customised usual residence tables.

Table 2. Indigenous and non-Indigenous rates and estimated levels of labour force status, 2006

	Employed Non-CDEP	Employed CDEP	Unemployed	Not in the labour force	Total 15+
Indigenous rate	35.3	10.8	8.5	45.5	100.0
Estimated no.	114,084	34,724	27,437	146 ,871	322,794
Non-Indigenous rate	61.2	n.a.	3.4	35.4	100.0
Estimated no.	9,990,680	n.a.	555,038	5,778,923	16,324,641

Source: ABS 2006 Census, FaHCSIA CDEP Manager, ABS 2008b.

means of establishing changes in levels. To do this reliably it is necessary to generate employment levels that are comparable over time. For this purpose, two adjustments to census counts are required.

First, estimates of the numbers employed at the time of the 2006 Census need to be derived by applying the 2006 employment rate to the 2006 Indigenous estimate of working-age population. Secondly, the 2001 estimate of working-age population has to be aligned with the 2006 estimate. This is done by replacing deaths over the five year intercensal period by reverse survival of the 2006 estimate (Taylor & Bell 1998). The proposition here is that the 2006 estimated population is the best estimate yet of an ultimately unknown potential population of Aboriginal or Torres Strait Islander origin. By applying the 2001 employment rate of 41.9 per cent to this newly calibrated 2001 estimate of working-age population a new 'correct' employment level for 2001 can be derived.

Following these procedures, the new estimate of Indigenous working-age population for 2001 amounts to 286,959 and the new employment level for 2001 becomes 120,236 (up from the census count of 100,393). Compared to the ERP-adjusted employment level for 2006 of 148,808 this produces an increase in employment of 28,572 (a rise of 23.8%) which confirms the observation from census counts that the Indigenous employment level in 2006 was substantially higher than in 2001.

The interesting feature of this rise in Indigenous employment is that for the first time since the 1980s the vast bulk of it was due to new jobs in non-CDEP work. The level of CDEP employment (derived from administrative data on participant numbers) was almost unchanged between 2001 and 2006 (34,358 and 34,724 respectively) and so unlike in previous intercensal periods only a very small share of the intercensal employment increase (2.4%) was due to CDEP.

In Table 2, census-derived rates of Indigenous labour force status are applied to the 2006 estimate of working-age population to generate estimated numbers in each labour force category. These are compared with reported non-Indigenous rates and levels. While this estimation suffers from a necessary assumption that Indigenous persons added to the post-censal estimate share the same labour force characteristics as those counted by the census, it nonetheless provides a useful measure of the likely upper bound of numbers in each labour force status category. For ease of accounting, the following indicators of labour force status are presented:

- the *employment rate*, defined here as the percentage of persons aged 15 years and over who indicated in the census that they were in employment during the week prior to enumeration. For the Indigenous population, the employment rate is further disaggregated into CDEP and non-CDEP employment rates. The former are calculated using CDEP administrative data while the latter represent the residual of CDEP participant numbers from total estimated employment.
- the *unemployment rate*, defined here as 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. This is different from the conventional unemployment rate (those unemployed divided by the labour force).
- the *not in the labour force rate*, defined here as representing persons who are neither employed nor unemployed as a percentage of those aged 15 years and over.

Overall, in 2006, an estimated 148,808 Indigenous adults were employed across Australia with 34,724 of these in CDEP. A further 27,437 were estimated to be unemployed and seeking work, while 146,871 were not in the labour force. As shown, the overall Indigenous employment rate of 46.1 per cent (non CDEP plus CDEP) is substantially below the 61.2 per cent recorded for non-Indigenous adults. This gap is wider still if the comparison is made with the non-CDEP employment rate of 35.3 per cent. As for the per cent of Indigenous adults who are unemployed, this is more than twice as high as the non-Indigenous per cent (three times as high if the conventional unemployment rates of 15.6 and 5.3 are applied) while a greater per cent of Indigenous adults (45.5% compared to 35.4%) are also not in the labour force. In line with our analytical focus on regional labour markets, changes in these labour force indicators are examined at the Indigenous Region level. Table 3 starts with employment rates.

At the regional level, no obvious spatial pattern of change in employment rates is evident. In the Sydney and Melbourne labour markets, Indigenous employment outcomes remained virtually unaltered whereas in Brisbane the employment rate increased substantially from 46 per cent to 55 per cent. In Cape York, the Indigenous employment rate declined, while across the Gulf of Carpentaria, in Nhulunbuy, it notably improved. This diversity in outcomes supports the idea of approaching the analysis of Indigenous labour market issues from a regional perspective rather than focusing on classifications such as remoteness, or State and Territory. This same point can also be made in terms of intra-regional variation, although this will be the subject of later research outputs.

Table 3. Indigenous and non-Indigenous employment rates by Indigenous Region, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	37.6	42.7	13.6	53.5	55.8	4.3	0.70	0.77	9.0
Bourke	36.4	38.7	6.4	53.9	56.1	4.2	0.67	0.69	2.1
Coffs Harbour	37.9	42.9	13.1	49.9	53.2	6.6	0.76	0.80	6.1
Sydney	48.6	49.0	0.8	61.3	62.6	2.1	0.79	0.78	-1.3
Tamworth	33.9	38.5	13.9	56.8	58.9	3.6	0.60	0.65	9.9
Wagga Wagga	36.6	38.9	6.4	58.7	60.1	2.3	0.62	0.65	4.0
Dubbo	36.0	40.9	13.6	59.0	60.9	3.2	0.61	0.67	10.1
Melbourne	52.2	54.0	3.5	60.2	62.1	3.2	0.87	0.87	0.3
Non-Met. Victoria	40.3	41.9	3.9	56.6	58.8	3.8	0.71	0.71	0.1
Brisbane	46.1	54.8	18.9	59.0	64.0	8.4	0.78	0.86	9.7
Cairns	42.1	47.5	12.8	64.5	67.7	4.9	0.65	0.70	7.6
Mt Isa	46.9	50.5	7.6	75.8	78.8	3.9	0.62	0.64	3.5
Cape York	61.2	56.7	-7.4	69.2	76.3	10.3	0.88	0.74	-16.0
Rockhampton	39.7	48.0	21.1	55.1	58.8	6.8	0.72	0.82	13.4
Roma	42.8	47.0	9.9	58.5	60.8	4.0	0.73	0.77	5.7
Torres Strait	59.5	64.5	8.4	77.4	83.0	7.3	0.77	0.78	1.0
Townsville	37.8	47.2	24.8	62.6	67.4	7.7	0.60	0.70	15.9
Adelaide	39.3	43.3	10.3	56.4	59.5	5.6	0.70	0.73	4.5
Ceduna	49.2	45.8	-6.9	60.2	63.8	5.9	0.82	0.72	-12.0
Port Augusta	38.0	41.3	8.6	53.4	56.7	6.0	0.71	0.73	2.4
Perth	37.4	42.8	14.5	60.5	65.4	8.1	0.62	0.66	5.9
Broome	50.9	48.3	-5.1	77.0	79.6	3.5	0.66	0.61	-8.3
Kununurra	45.9	46.6	1.5	82.7	85.2	3.0	0.56	0.55	-1.4
Narrogin	41.7	43.9	5.1	58.5	61.1	4.5	0.71	0.72	0.7
South Hedland	43.3	44.3	2.3	79.4	83.0	4.6	0.55	0.53	-2.2
Derby	59.2	59.4	0.4	80.1	82.1	2.5	0.74	0.72	-2.1
Kalgoorlie	43.7	47.3	8.1	71.2	74.3	4.3	0.61	0.64	3.7
Geraldton	36.5	41.6	13.9	61.5	64.8	5.5	0.59	0.64	8.0
Tasmania	47.1	52.0	10.4	53.1	57.0	7.3	0.89	0.91	2.9
Alice Springs	37.9	42.5	12.3	79.6	81.9	2.9	0.48	0.52	9.2
Jabiru	32.6	38.7	18.9	81.0	83.1	2.5	0.40	0.47	15.9
Katherine	40.1	44.3	10.3	79.0	81.2	2.8	0.51	0.54	7.4
Apatula	22.3	24.8	10.8	89.4	88.9	-0.6	0.25	0.28	11.5
Nhulunbuy	28.6	33.5	17.1	83.2	88.0	5.8	0.34	0.38	10.7
Tennant Creek	32.1	32.5	1.3	80.0	83.3	4.1	0.40	0.39	-2.7
Darwin	41.8	46.0	10.0	73.3	76.5	4.4	0.57	0.60	5.4
Australian Capital Territory	59.6	62.7	5.2	68.2	70.9	4.0	0.87	0.88	1.1
Australia Total	41.9	46.1	10.0	59.0	61.7	4.7	0.71	0.75	5.0

Source: ABS 2001 and 2006 Census customised usual residence tables.

Table 4. Indigenous and non-Indigenous unemployment rates by Indigenous Region, 2001 and 2006

Indigenous Region	Indigenous 2001 (%)	Indigenous 2006 (%)	Indigenous Change (%)	Non-Indigenous 2001 (%)	Non-Indigenous 2006 (%)	Non-Indigenous Change (%)	Ratio 2001	Ratio 2006	Ratio Change (%)
Queanbeyan	25.9	19.7	-23.9	7.4	5.7	-22.5	3.51	3.45	-1.7
Bourke	24.6	21.6	-12.5	9.0	6.5	-27.8	2.73	3.31	21.3
Coffs Harbour	26.9	20.4	-24.4	10.3	7.5	-27.6	2.62	2.73	4.3
Sydney	16.2	15.1	-6.7	6.0	5.2	-12.8	2.72	2.91	7.0
Tamworth	29.9	24.3	-18.8	7.5	6.0	-20.7	3.97	4.07	2.4
Wagga Wagga	23.9	21.2	-11.4	6.3	5.3	-16.6	3.79	4.02	6.2
Dubbo	25.7	22.4	-12.8	6.4	5.3	-17.3	4.01	4.23	5.4
Melbourne	14.5	13.0	-10.4	6.5	5.3	-18.5	2.23	2.45	10.0
Non-Met. Victoria	21.6	19.0	-11.8	7.2	5.5	-24.0	2.99	3.47	16.0
Brisbane	21.5	12.8	-40.4	8.1	4.6	-43.9	2.64	2.81	6.1
Cairns	21.9	15.4	-30.0	7.0	3.7	-46.8	3.12	4.11	31.5
Mt Isa	16.2	12.1	-25.2	4.1	2.3	-43.7	3.91	5.19	32.7
Cape York	5.5	5.9	5.8	7.4	3.2	-56.6	0.74	1.81	143.7
Rockhampton	25.5	15.4	-39.7	8.9	5.4	-39.4	2.85	2.84	-0.4
Roma	21.2	16.4	-22.8	6.7	4.5	-33.0	3.17	3.65	15.3
Torres Strait	5.5	4.9	-12.1	3.4	2.8	-17.9	1.64	1.76	7.0
Townsville	23.6	15.3	-35.3	7.2	3.7	-48.5	3.29	4.14	25.8
Adelaide	21.9	17.3	-21.2	7.3	5.0	-31.2	3.00	3.44	14.5
Ceduna	11.8	10.9	-7.4	6.2	3.9	-37.1	1.89	2.79	47.1
Port Augusta	18.2	13.4	-26.1	9.7	6.9	-28.8	1.87	1.94	3.8
Perth	26.7	16.2	-39.4	7.3	3.5	-52.3	3.63	4.61	27.0
Broome	9.9	10.6	7.5	4.3	2.3	-48.0	2.27	4.70	106.8
Kununurra	8.5	8.4	-1.7	2.1	1.7	-20.8	3.98	4.95	24.2
Narrogin	22.5	18.1	-19.5	7.4	3.8	-48.0	3.04	4.72	55.0
South Hedland	15.2	16.6	9.0	3.7	2.0	-46.4	4.12	8.37	103.2
Derby	5.2	4.1	-21.0	2.9	2.4	-14.9	1.82	1.69	-7.2
Kalgoorlie	14.2	11.5	-19.0	5.3	3.2	-40.9	2.66	3.64	36.9
Geraldton	24.3	18.1	-25.6	8.2	4.4	-47.0	2.95	4.13	40.3
Tasmania	19.5	13.7	-30.0	9.7	6.3	-35.0	2.01	2.17	7.8
Alice Springs	16.0	10.1	-36.5	2.9	1.7	-41.4	5.56	6.03	8.3
Jabiru	9.4	8.3	-12.2	3.1	2.1	-32.4	3.01	3.91	29.8
Katherine	14.2	12.7	-10.5	3.6	2.0	-44.1	3.90	6.24	60.2
Apatula	12.1	24.0	98.8	1.0	0.7	-33.6	11.84	35.45	199.3
Nhulunbuy	8.4	18.4	118.4	2.1	1.3	-38.4	4.10	14.54	254.8
Tennant Creek	7.4	13.9	87.6	4.0	1.7	-56.4	1.86	8.00	330.2
Darwin	19.4	13.3	-31.6	5.7	3.0	-48.3	3.39	4.49	32.3
Australian Capital Territory	13.1	10.8	-17.8	4.9	3.3	-33.4	2.65	3.27	23.5
Australia Total	19.7	15.5	-21.1	7.1	5.0	-29.1	2.77	3.08	11.2

Source: ABS 2001 and 2006 Census customised usual residence tables.

Given the generally favourable economic conditions between 2001 and 2006, perhaps the most telling measures from Table 3 in terms of success in Indigenous employment creation are the Indigenous/non-Indigenous ratios (the last three columns). These show the degree to which employment rates for Indigenous adults are moving closer to, or further away from, non-Indigenous rates. For the most part, there was positive change in this ratio with many regions recording a reduced gap of more than 10 per cent. Notable examples include Dubbo, Rockhampton, Townsville, Jabiru, Apatula and Nhulunbuy. This does not reflect a decline in the regional non-Indigenous employment rate as the change in this variable was almost universally positive. Rather it appears to reflect an even faster rate of growth for the Indigenous population. It should be noted that in the Jabiru, Apatula and Nhulunbuy regions some caution is required in interpreting outcomes because of the relatively small size of the non-Indigenous population (see Table 1).

Regions that stand out for their negative change (or worsening) in this ratio include Sydney, Cape York, Ceduna, Broome, Kununurra, South Hedland, Derby and Tennant Creek. Aside from Sydney, this most likely reflects differential engagement with expanding employment opportunities in remote labour markets, especially in resource development projects (Taylor & Scambary 2005).

For the most part, then, Indigenous employment rates improved between 2001 and 2006, both absolutely as well as compared to the rest of the population. A corollary of this general improvement in Indigenous employment rates is found in widespread declines in the unemployment rate (Table 4). In contrast to Table 2, the unemployment rates shown here are the conventional measure of those not in employment who were actively seeking work expressed as a percentage of the labour force (those employed and unemployed).

According to the 2006 Census, 15.5 per cent of the Indigenous labour force was unemployed. While this represented a marked decline from the figure of 19.7 per cent recorded in 2001, it was still over three times higher than the figure for the non-Indigenous population in 2006 and almost twice the rate recorded for the non-Indigenous population when it was at its highest during the recession of the early 1990s (Altman, Biddle & Hunter 2008). Indeed, because the decline in non-Indigenous unemployment was greater over this same period, the actual gap in unemployment rates widened from a ratio of 2.8 to 3.1. Simply put, according to this particular measure of labour market success, the booming Australian economy has not benefited the Indigenous population nearly as much as it has the non-Indigenous population except to say that it has drawn more Indigenous adults into the labour force as job-seekers. Of interest here are the very large proportional increases in the unemployment rate in many parts of the Northern Territory (Nhulunbuy being the outstanding case) which may reflect localised changes to CDEP program administration.

As for the ratio of Indigenous to non-Indigenous unemployment rates, this fell in only a handful of regions (Queanbeyan, Rockhampton and Derby). The most common outcome was a widening in the unemployment gap. However, the degree to which this occurred appears to have varied according to the size of the decline in non-Indigenous rates. This underlines the fact that gaps in labour force status (and any other indicators that governments may target) are dynamic and any attempt to narrow them can be compromised by a shifting base, especially—as in this instance—in times of rapid economic growth. For example, in Bourke

Table 5. Indigenous and non-Indigenous employment and unemployment rates by location typology, 2006

	Indigenous		Non-Indigenous	
Location type	Employment	Unemployment	Employment	Unemployment
City areas	49.8	14.9	62.5	5.0
Large regional towns	43.5	18.7	59.3	5.7
Small regional towns and localities	43.5	17.9	58.8	5.1
Regional rural areas	48.8	13.3	60.0	4.7
Remote towns	47.9	13.6	73.9	2.9
Indigenous towns	42.3	11.6	83.5	1.8
Town camps	21.1	22.7	80.9	0.0
Remote dispersed settlements	47.3	8.6	74.5	2.8

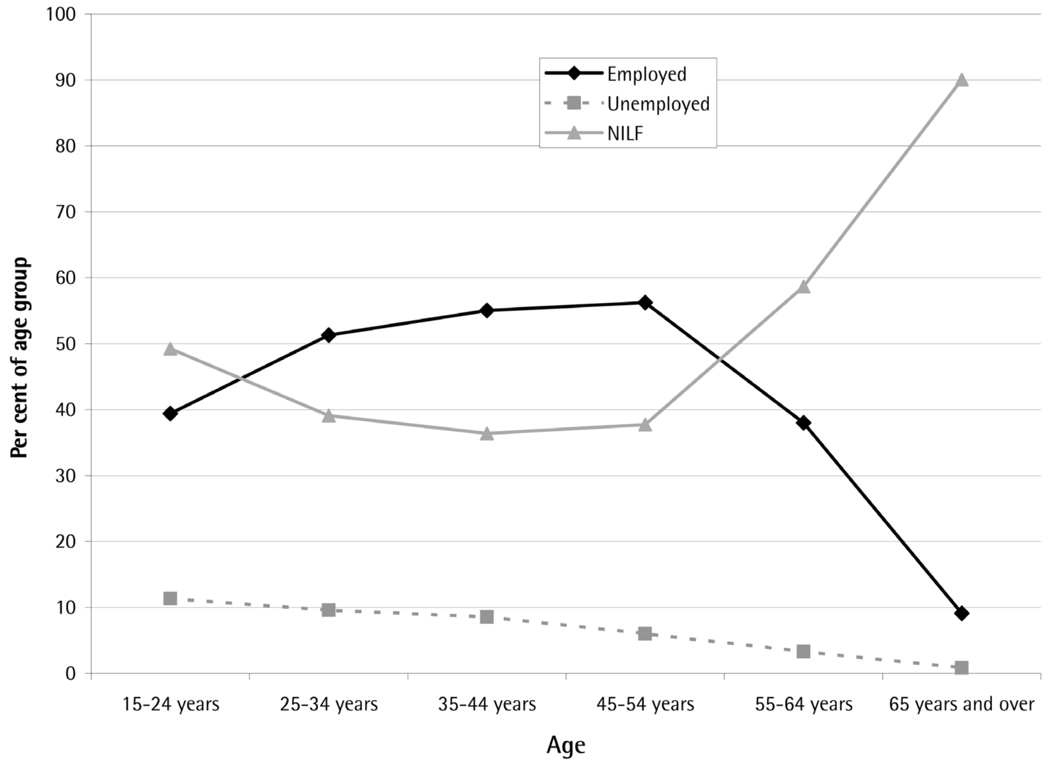
Source: ABS 2006 Census.

the Indigenous unemployment rate fell by 12 per cent from 25 to 22 per cent, but because the non-Indigenous rate fell by 28 per cent the local gap in unemployment widened. Examples of this relative failure of Indigenous job seekers to respond to labour demand are widespread throughout all jurisdictions, except in parts of the Northern Territory. In Nhulunbuy, Apatula and Tennant Creek regions, the significant widening of the gap in unemployment rates due to substantial increase in Indigenous unemployment possibly reflects administrative change in the delivery of CDEP and activity testing for Centrelink benefits.

While the unemployment rate can be seen as an important indicator of labour market constraints, there are a number of reasons why it provides only a limited measure of labour 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—those who have given up looking for work (discouraged jobseekers) are not included in the calculation of the unemployment rate. Others excluded from the unemployment calculation are those who are unable to work. Among the reasons for this are poor health (their own or someone they have to care for), incarceration, full-time study or child rearing. Studies in some regions, such as the Pilbara and Kimberley regions of Western Australia, have shown that the combined effects of ill-health and interaction with the criminal justice system can be quite substantial (Taylor 2008; Taylor & Scambary 2005). It is also the case that CDEP program participation can mask the underlying rate of unemployment. This no doubt explains why many of the lowest Indigenous rates are found in remote regions such as Cape York, Torres Strait, Derby and Jabiru.

It is interesting to consider this equalising effect of CDEP in another, more structural, context. One line of discussion implicit in some Indigenous Affairs policy debate would have it that part of the reason for low absolute and relative Indigenous economic status is the reluctance or incapacity of Indigenous people

Fig. 3. Indigenous labour force status rates by age group, Australia, 2006

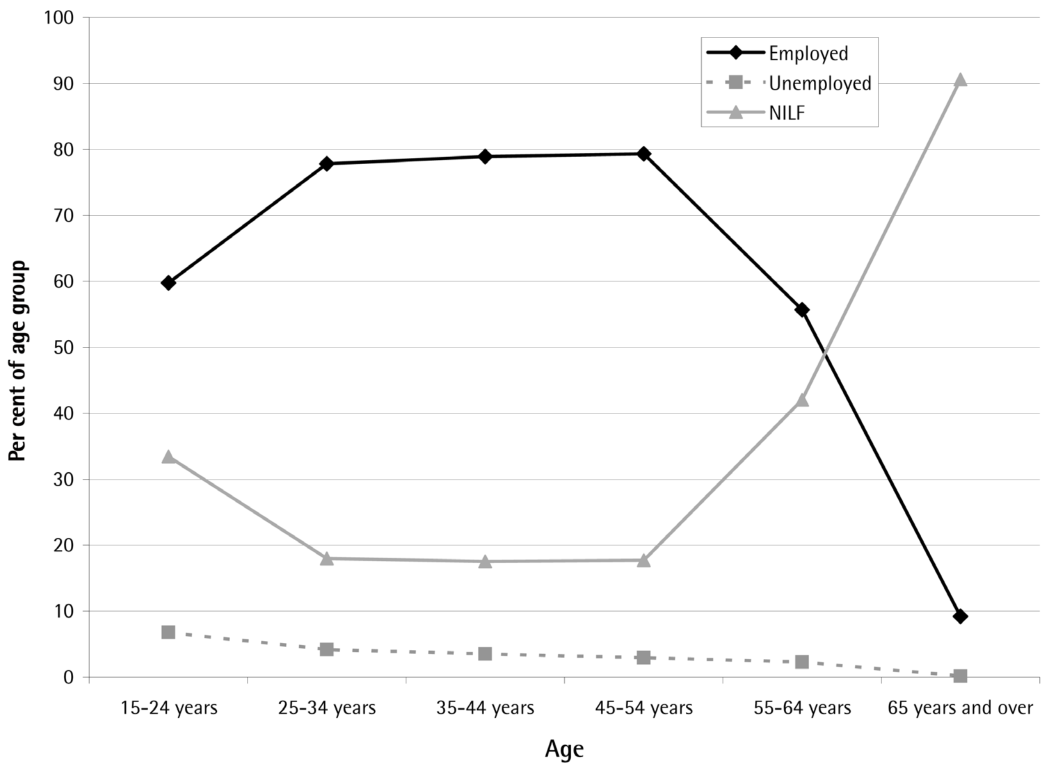


Source: ABS 2006 Census of Population and Housing customised tables.

to successfully migrate to areas of labour market opportunity, the basic idea being that improved labour market outcomes are best sought by moving to urban centres (Johns 2008: 75–80). Table 5 explores this idea by comparing Indigenous and non-Indigenous employment and unemployment rates according to the provisional settlement typology outlined in Taylor and Biddle (2008).

What this reveals is a weak association between urban/rural/remote residence and Indigenous labour force status. If we examine employment rates first, the remarkable feature here is the lack of variation in Indigenous rates across the settlement hierarchy, except in the case of town camps, while non-Indigenous rates are highest in remote locations and not in the larger regional centres and cities. As for unemployment, a similar situation prevails whereby the lowest Indigenous rates are in the remotest places (except, again, in town camps) and non-Indigenous rates follow suit. However the reasons for the low rates of unemployment in the remote categories are no doubt quite different. For the Indigenous population it reflects the impact of

Fig. 4. Non-Indigenous labour force status rates by age group, Australia, 2006



Source: ABS 2006 Census of Population and Housing customised tables.

the CDEP scheme, whereas for the non-Indigenous population it is more likely to be due to employment-led migration. What Table 5 does not reveal, of course, is the composition of employment by occupational status and hours worked which may also be influenced by the prevalence or otherwise of CDEP.

LABOUR FORCE STATUS BY AGE

Of particular interest for policy planning is the distribution of labour force status by age. This is shown in Fig. 3 for Indigenous adults in Australia as a whole and in Fig. 4 for non-Indigenous adults. While the broad pattern of labour force status by age is similar for both populations with peak employment between 25 and 54 years, there are striking differences. First of all, Indigenous employment rates are much lower at all ages, with the most noticeable gap observed among young adults aged 15–24 years.

For young adults, education and training are typically important pursuits leading to relatively low labour force participation. Of the Indigenous 15–24 year olds not in labour force, more than half (55%) were attending some form of education or training. This level of participation in education and training was much lower than the figure of 83 per cent recorded for non-Indigenous young adults. Less discrepancy was evident among those of prime working age (25–54), with one in every five Indigenous people in this age group and not in the labour force engaged in education and training compared to one in every six non-Indigenous people in the same category.

Also noticeable are the higher unemployment rates at younger ages for Indigenous adults, with these persisting through to age 55. Compared to this, for the rest of the population unemployment rates tail off quite rapidly. Aside from the sizeable gap in employment rates in prime working ages (25–54), the other striking feature of these charts is that the cross-over between 'employment' and 'not in the labour force' curves happens around 10 years younger for the Indigenous population (between 45–54 years and 55–64 years).

Because of the quite different age distribution of the Indigenous population identified in Fig. 2, these age-related patterns make it difficult to directly compare labour market outcomes of Indigenous Australians relative to the non-Indigenous population. In other words, it is not clear to what extent the differences evident between the two populations reflect differential age distribution as opposed to relative success in the labour market given that labour force status is clearly linked to age.

One way to control for this effect is by age standardisation. That is, by estimating what employment or unemployment rates would eventuate if the two populations had the same age distributions. At the national level, this procedure only impacts on labour force status at the margins. In terms of the employment rate, it produces a slightly wider gap between Indigenous and non-Indigenous rates because the Indigenous population is under-represented in the 55 year and older age group (where employment rates are low), whilst for unemployment rates it produces a slightly smaller gap because the Indigenous population is overrepresented in the 15–24 year age group (where unemployment rates are high). In other words, if the Indigenous population had the same age distribution as the non-Indigenous population there would be fewer Indigenous Australians employed, but there would be a lower rate of unemployment among those in the labour force. This limited impact of age distribution on labour force status is repeated across all regions, indicating that age is not a significant factor in explaining regional variation in labour market outcomes.

EMPLOYMENT IN THE INDIGENOUS COMMUNITY SECTOR

So far, we have 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, in particular those related to hours worked, income and job security. One factor that historically has contributed to this variation is a tendency for Indigenous employment to be concentrated in government

Table 6. Distribution of Indigenous and non-Indigenous government/ non-government employment, Australia, 2006

Sector of employment	Indigenous	Non-Indigenous	Ratio
Commonwealth government	4.3	4.1	1.05
State government	11.9	9.0	1.32
Local government	9.6	1.4	6.86
Private sector	74.2	85.5	0.87

Source: ABS 2008c.

sector industries, including (though currently unquantified) in what has been labelled by Rowse (2002) as the Indigenous community sector. As a consequence, Indigenous workers have tended to be relatively excluded from the private sector.

While this remains the case, the situation appears to have shifted dramatically over the five-year period between 2001 and 2006. At the 2001 Census, 57 per cent of Indigenous workers were employed in private sector industries. By 2006 this had risen to 74 per cent resulting in an increase in the ratio of Indigenous to non-Indigenous private sector employment from 0.67 to 0.87. As shown in Table 6, the main differentiating industry sector is now local government with the ratios of relative employment in Commonwealth, State government and private sectors all much closer to parity.

However, with industry sector classification, statistics are not always what they seem (Altman & Taylor 1995). Firstly, when processing census results, if the government sector cannot be determined the census responses are default-coded to the private sector. Secondly, the substantial Indigenous undercount in much of Western Australia, Northern Territory, and in remote parts of Queensland and New South Wales as outlined by Taylor and Biddle (2008) may well have compromised the numbers recorded in public sector work given the greater reliance on government-funded employment in such areas. Finally, it should be noted that 42 per cent of the 14,155 Indigenous workers coded as CDEP employees were also classified by the 2006 Census as private sector employees. The ambiguity of this situation in relation to CDEP employment has been noted for some time (Altman & Taylor 1995) and it raises questions about the true nature (and purpose) of CDEP work—which can be a market-based, community-owned enterprise while built on customary skills and funded by government as a labour market program.

Needless to say, this new census variable of government/non-government employment (replacing the former industry sector classification) masks employment in the Indigenous community sector. This sector is important, not only for its growth over the past three decades, but also for the fact that employment levels in Indigenous community organisations have been less dependent on macro-economic cycles and more reliant on government policy as well as the flow of localised private sector monies—not least derived from private sector initiatives based on Indigenous land ownership, such as mining agreements. This creates interesting and contrasting scenarios for future Indigenous employment: on the one hand, employment in the Indigenous community sector via government funding is likely to continue to decline 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 as corporate interests pursue a social licence to operate.

Unfortunately, data regarding this important labour market sector are either scarce or dated. For example, the most direct source remains the 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS) which estimated that 29 per cent of Indigenous workers across the country were employed by an Indigenous community organisation (ABS 1995: 52). While no similar data have been available since the 1994 NATSIS, on 30 June 2006 (close to census date), a total of 2,529 corporations were registered under the *Aboriginal Councils and Associations Act 1976* (Department of Families, Community Services and Indigenous Affairs 2006). To be equivalent to the numbers employed by the Australian, State and Territory governments combined according to 2006 Census results, each of these corporations would need only hire seven Indigenous workers. On this indication, it is both ironic and remiss that specific data do not exist regarding what constitutes a significant employment sector for Indigenous people. It also begs the question as to precisely where they are located in the ABS government/non-government employment classification.

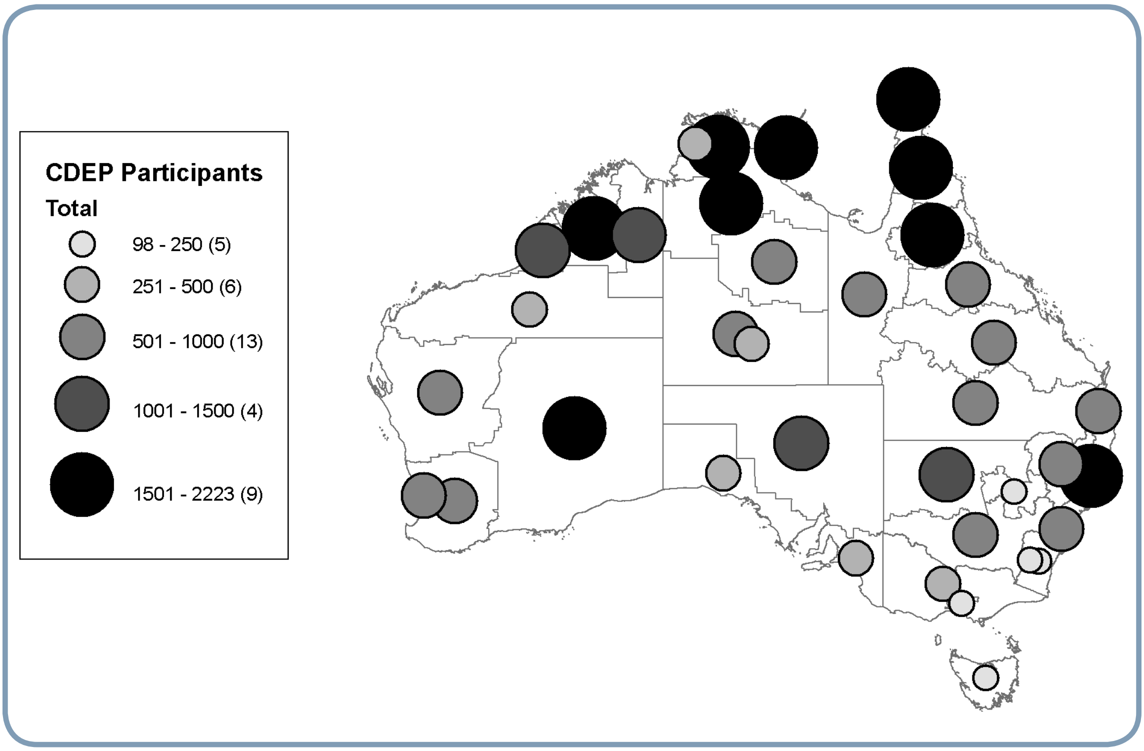
CDEP EMPLOYMENT

In terms of employment, by far the largest element of this Indigenous community sector in 2006 is likely to have been jobs administered by various CDEP programs. Apart from providing the bulk of Indigenous employment opportunities outside of the private sector, the economic impact of CDEP is extended, in remote regions especially, by boosting the local size of the service industries sector through the disbursement of on-cost expenditures and the enhancement of local capacity for economic activity. Trends in regional CDEP activity are therefore of considerable interest beyond the primary function of the program to support various platforms for local Indigenous economic participation and preparedness for engagement with mainstream work opportunities.

Unfortunately, at the 2006 Census (and likewise in 2001), CDEP employment status was only collected on Interviewer Household Forms that were applied mostly in remote communities (Morphy 2007). Thus, out of 34,724 active participants in the CDEP program in August 2006,[3] only 14,155 (41%) were captured by the census. While the census sample of CDEP participants is therefore inevitably biased towards remote Australia, it is still instructive to compare their characteristics with general Indigenous employment characteristics.

CDEP participants are much more likely to work part-time with 21 per cent working 1–15 hours per week and 44 per cent working 16–24 hours per week. Compared to this, the corresponding figures for all Indigenous employed (which includes those in CDEP employment)[4] were 14.3 per cent and 14.1 per cent respectively. Of interest is the fact that 17.3 per cent of Indigenous CDEP employees captured by the census worked full-

Fig. 5. Distribution of CDEP participants by Indigenous Region, August 2006

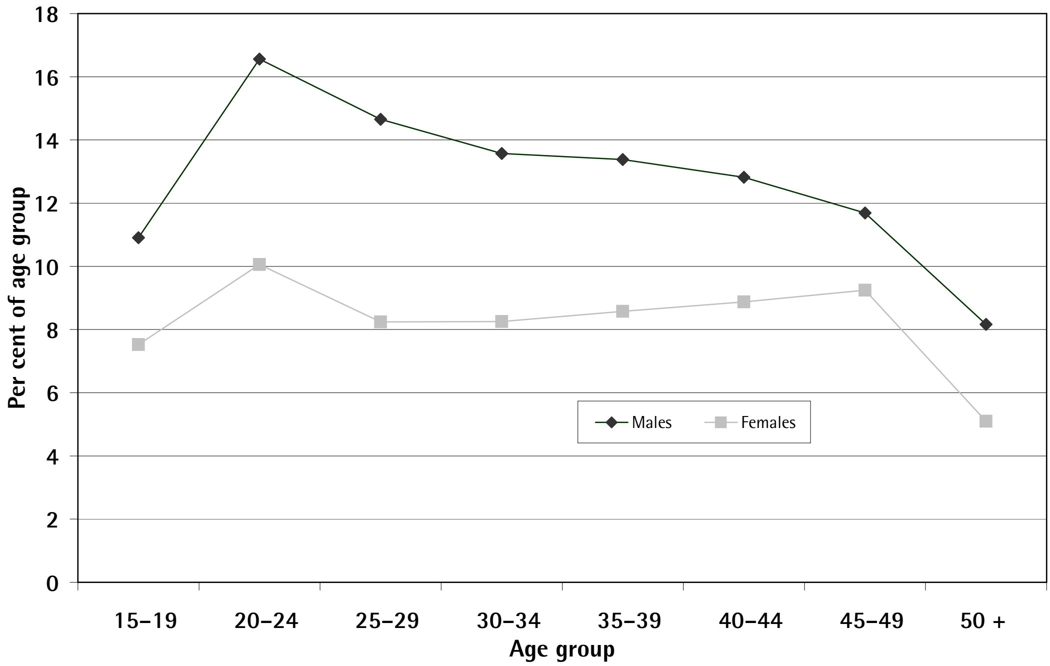


Source: Customised data from FaHCSIA and the Torres Strait Regional Authority.

time (more than 35 hours per week). Partly as a consequence of the continued part-time nature of most CDEP employment, the median weekly income for CDEP participants captured by the census amounted to just $210, which was substantially lower than the median weekly income of all Indigenous persons employed of $521. Indeed, the CDEP median was only slightly above the median income recorded for Indigenous adults who were not employed, of $202. As noted earlier, 42 per cent of CDEP employment was classified as private sector, but the bulk of the remainder (55%) was classified as local government even though CDEP workers are often found in State and Territory government institutions such as health services and schools.

Before considering spatial and demographic features of CDEP participation, it is important to note that administrative changes to the program that commenced just before the 2006 Census have seen the closure of CDEP programs in many urban centres and regional areas, with a shift away from supporting employment activity towards providing training via STEP brokerage services. Thus, the 34,358 CDEP participants recorded at 30 June 2001 can now be seen as approaching the end of a long-standing growth curve that peaked at around 37,000 participants in 2005. By the 2006 Census, this figure was almost back to its 2001 level at 34,724 with the full impact of reform measures yet to materialise.[5]

Fig. 6. CDEP participation rates by age and sex, Australia, 2006



Source: Customised data from FaHCSIA, Canberra.

While the changing geographic structure of CDEP participation had not materialised by the time of the 2006 Census, there has nonetheless always been a strong bias towards remote areas given the origins and historic intended purpose of the program (Sanders 1993). The distribution of CDEP participant numbers allocated to Indigenous Regions at the time of the 2006 Census using administrative data provided by the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) is shown in Fig. 5.

Ideally, these numbers would be converted to CDEP employment rates, but the necessary estimates of working age numbers were not available at the time of writing. However, the numbers alone tell the story. Regions across the tropical north, from the Kimberley through Arnhem Land to Cape York and the Torres Strait, clearly rely heavily on CDEP as a source of employment and economic activity. This is also true in arid areas (with the exception of South Hedland), but further south and east (except in the Coffs Harbour region) CDEP numbers are relatively few. This is interesting because it means that the weight of overall participant numbers is clearly focused on those regions where the census actually recorded CDEP employment, and yet the census produced only 14,155 CDEP workers. If this were a valid count then, logically, one would expect the remaining 20,569 CDEP workers to be found in non-remote regions which, is evidently not the case as shown in Fig. 5. Indirectly, then, Fig. 5 provides an indication of substantial undercount of CDEP—and therefore, total employment—in remote regions, which is not surprising given the geography of undercounting revealed by Taylor and Biddle (2008).

A more complete picture of the characteristics of CDEP participants is available from the CDEP Manager administrative database, although this is limited in terms of public access to demographic information on age and sex, along with the location of individual CDEP programs. At the national level we can use these demographic data to derive age and sex-specific CDEP participation rates using the ABS preliminary Indigenous estimated resident populations by five-year age group. These are shown in Fig. 6 for both males and females.[6]

Fig. 6 shows that males had higher CDEP participation rates than females across all age groups. The peak age of participation for both sexes is 20–24 with almost one in every five males in this age group in CDEP work and one in every 10 females. Interestingly, while male participation rates fall with age, the trend appears to be the opposite for women with female rates rising steadily to the 45–49 age group.

CDEP ACTIVITIES

One drawback of census-derived industry and occupational data is their tendency to apply blanket classifications to CDEP scheme employment, typically in local government as labourers. However, because of the employment substitution effect of CDEP much work classified as CDEP actually covers a wider range of industry and occupational categories than is apparent from this census coding. An example here would be CDEP work in an aquaculture project. If this were in the mainstream labour market it would be classified under agriculture, fishing and forestry as an industry, and the workers may well be classified as farm hands or skilled agricultural workers depending on the nature of the job. This diversity in industry and occupational types is well illustrated by examples of select activities undertaken in recent years by CDEP participants in the Kimberley. These include:

> … house and other building construction, building and non-building construction, plumbing and electrical maintenance, pipe laying, painting and decorating, fencing, road maintenance, plant maintenance and operation, tyre and battery workshop, vehicle repair, office administration, cleaning, rubbish collection, parks and gardens maintenance, aquaculture, market gardening, livestock management, pastoral work, rodeo horse training, horticulture, land and sea natural resource management, cultural activities, tour guides, drivers, media, school of the air, sewing, visual and musical arts, ceramics, screen printing, aged care, crèche, youth and men's support activities, clinic assistants, teachers assistants, sport and recreation activities, office assistants, store assistants, Centrelink services, police wardens, fruit growing, contract chipping of green waste, and retailing (Taylor 2005).

Clearly, census coding of CDEP masks a good deal of diversity in the composition of Indigenous participation in regional economies. This is a crucial observation given the new role of CDEP programs as providers of employment brokering services to individual workers with the ultimate aim of moving them off the scheme and into mainstream work. With this in mind, and given the fact that CDEP is by far the largest employer of Indigenous labour in many remote regions, there is a need to better quantify related employment activity and explore ways in which vital elements might articulate with more mainstream components of the regional labour market either via direct contracting, sub-contracting and/or joint venturing.

At the same time, there are many activities historically funded by CDEP (such as teaching, health work, office administration, and community maintenance) that are properly the responsibility of State or Local governments and new arrangements for CDEP administration raise questions about the future funding and possible viability of some of these positions. Other activities, such as cultural activities, arts and crafts, and natural resource management, may well also come under increasing funding scrutiny, although innovative approaches tying these to business development are being brokered (Altman 2001, 2005; Armstrong, Morrison & Yu 2005). In addition, the growing recognition and support for environmental management on the Indigenous estate through the formation of Indigenous Protected Areas, the various Caring for Country programs supported by land councils, and the Department of Environment, Water, Heritage and the Arts' Working on Country program are creating new roles for CDEP organisations as administrators of such programs (Altman, Buchanan & Larsen 2007). While fully comprehensive data on the extent of CDEP participation in these activities are yet to be compiled, it is estimated that about 400 Indigenous rangers are funded by CDEP in 36 projects in the Top End of the Northern Territory alone to deliver a variety of environmental services including bio-security services for the Australian Quarantine Inspection Service, border surveillance for Australian Customs, and managing weeds, feral animals and wildfires for environmental agencies and programs (Altman & Sanders 2008).

PRIVATE SECTOR EMPLOYMENT

From a government policy perspective the corollary of CDEP in terms of planned objectives is full-time private sector employment. Since 1999, the IEP has placed a focus on facilitating Indigenous participation in the private sector and much of the subsequent stimulus for Indigenous welfare reform has reflected an attempt to articulate with what has been the fastest growing part of many regional labour markets in recent years. Nationally, almost one million (917,334) additional private sector jobs were created between 2001 and 2006 (an increase of 13.6%), whereas jobs in the government sector fell by 31,209 (a decline of 2.3%). Over the same period, total full-time private sector employment increased from 4,357,645 to 4,897,154 an increase of 12.4 per cent.

Overall, it appears that Indigenous workers more than shared in this expansion of full-time private sector employment. In 2001, an estimated 44,191 Indigenous adults (15.4 per cent of the 2001 reverse survival-adjusted working-age ERP (estimated resident population) were in such employment and this rose to 56,166 (17.4 per cent of the 2006 working-age ERP) by 2006 (an increase in level of 27%). This compared to a rise in the non-Indigenous full-time private sector employment rate from 31.9 per cent to 33.4 per cent which represented an increase in the level of just 12.6 per cent. As a consequence, the ratio of Indigenous to non-

Table 7. Indigenous and non-Indigenous full-time, private sector employment rates by Indigenous Region, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	13.1	16.9	29.5	25.3	26.4	4.2	0.52	0.64	24.3
Bourke	10.5	12.6	19.2	27.9	29.6	6.3	0.38	0.42	12.1
Coffs Harbour	13.8	16.9	22.2	24.3	26.2	7.9	0.57	0.64	13.3
Sydney	22.7	23.0	1.6	35.6	36.3	1.9	0.64	0.63	-0.3
Tamworth	10.3	14.3	38.9	30.6	31.9	4.3	0.34	0.45	33.2
Wagga Wagga	15.1	17.0	12.3	31.5	32.9	4.4	0.48	0.52	7.6
Dubbo	12.7	16.4	28.8	32.1	32.9	2.5	0.40	0.50	25.7
Melbourne	26.3	27.3	3.9	34.6	34.8	0.4	0.76	0.78	3.5
Non-Met. Victoria	18.1	18.3	1.2	30.3	30.1	-0.5	0.60	0.61	1.7
Brisbane	20.2	25.4	25.9	31.1	34.5	11.1	0.65	0.74	13.3
Cairns	12.6	16.0	26.8	35.5	37.5	5.8	0.36	0.43	19.8
Mt Isa	16.0	17.8	11.9	47.7	51.0	7.0	0.33	0.35	4.6
Cape York	11.5	8.6	-25.6	37.7	42.5	12.7	0.31	0.20	-34.0
Rockhampton	15.1	19.8	30.8	28.9	31.9	10.1	0.52	0.62	18.8
Roma	16.2	19.6	21.0	31.1	32.9	5.8	0.52	0.60	14.4
Torres Strait	15.9	8.7	-45.2	27.3	26.6	-2.5	0.58	0.33	-43.7
Townsville	13.8	20.2	46.0	32.9	37.7	14.5	0.42	0.54	27.6
Adelaide	15.3	17.4	14.2	29.5	30.8	4.3	0.52	0.57	9.5
Ceduna	9.4	12.6	33.8	34.1	34.5	1.2	0.28	0.37	32.2
Port Augusta	7.5	9.9	32.4	28.3	30.7	8.6	0.27	0.32	21.9
Perth	14.9	18.6	24.3	31.7	34.9	10.0	0.47	0.53	13.0
Broome	15.5	13.7	-11.6	46.4	46.7	0.5	0.33	0.29	-12.0
Kununurra	12.0	10.0	-16.8	50.9	54.1	6.3	0.24	0.18	-21.7
Narrogin	12.8	16.2	26.4	31.2	33.1	6.0	0.41	0.49	19.2
South Hedland	15.6	17.8	14.2	50.5	55.0	8.8	0.31	0.32	5.0
Derby	12.9	11.5	-10.9	47.1	46.3	-1.7	0.27	0.25	-9.3
Kalgoorlie	12.6	12.8	1.7	45.7	46.9	2.8	0.28	0.27	-1.0
Geraldton	12.9	15.2	17.9	33.3	35.0	5.2	0.39	0.43	12.1
Tasmania	21.8	24.3	11.3	25.7	27.2	5.7	0.85	0.90	5.3
Alice Springs	13.1	14.8	13.5	42.7	44.4	3.9	0.31	0.33	9.2
Jabiru	10.8	5.8	-46.7	49.2	48.1	-2.4	0.22	0.12	-45.4
Katherine	6.7	6.9	2.6	36.4	38.1	4.9	0.18	0.18	-2.1
Apatula	3.2	3.0	-6.8	67.7	62.3	-8.0	0.05	0.05	1.3
Nhulunbuy	9.8	3.9	-60.0	49.4	56.7	14.8	0.20	0.07	-65.1
Tennant Creek	6.7	6.1	-8.4	42.7	49.5	16.0	0.16	0.12	-21.1
Darwin	14.9	15.4	3.6	34.4	37.6	9.4	0.43	0.41	-5.4
Australian Capital Territory	16.2	20.5	26.9	23.7	25.7	8.5	0.68	0.80	16.9
Australia Total	15.4	17.4	13.6	31.9	33.4	4.5	0.48	0.52	8.7

Source: ABS 2001 and 2006 Census customised usual residence tables.

Indigenous employment in full-time private sector jobs rose from 0.48 to 0.52. Table 7 shows the regional change in these rates, but for a sense of what proportion of all workers occupy such jobs, these results should be compared with the total employment rates shown in Table 3. Using this method, just over one-third (38%) of all Indigenous workers are in full-time private sector employment compared to over half (54%) of non-Indigenous workers.

It is interesting to consider these figures in light of the proposal under the Australian Employment Covenant to create 50,000 full-time private sector jobs for Indigenous people by 2011. Immediately we can see that if these Covenant-related jobs were to be all new or additional positions then, all else being equal, they would bring about a near doubling of the current level of such employment given that the census-derived full-time private sector employment rate of 17.4 per cent translates to around 56,000 Indigenous workers when adjusted using the 2006 ERP. Using projections of the Indigenous working-age population, if these additional jobs were to be created by 2011 then this would result in a full-time private sector employment rate by that time of 32.9 per cent, which would be only slightly less than the rate recorded for the non-Indigenous population in 2006 of 33.4 per cent. Again, all other things being equal, the overall Indigenous employment rate would rise to 61.5 per cent—almost exactly in line with the current rate for the rest of the population.

For this employment growth to occur, however, the pace at which such jobs are created would need to be twice as fast over the next two years than it was over the five years between 2001 and 2006 in much more favourable economic conditions. Clearly, the task is ambitious but, if achieved, it would close the gap in employment outcomes and lead to substantial realignment of Indigenous labour force status, since the individuals involved would need to be drawn heavily from the current (2006) ranks of CDEP employed (34,724) and unemployed (27,437), and then possibly from the much larger pool of those not in the labour force (146,871).

Once again, Table 7 shows substantial variation by Indigenous Region. In Sydney, Melbourne, Brisbane, Townsville, Tasmania, and the ACT, over 20 per cent of Indigenous adults were employed full-time in the private sector. By contrast, the lowest proportions (mostly below 10%) were in remote regions including most of the Northern Territory, the Kimberley, Port Augusta, Cape York, and the Torres Strait. Ironically, these latter regions also tend to have the highest non-Indigenous rates leading to a substantial contrast in full-time private sector employment outcomes which widened between 2001 and 2006. In these regions, therefore, it was not so much that these types of jobs declined, rather that Indigenous participation in them fell (at least according to census counts).

In most other regions Indigenous outcomes were far more positive with substantial growth in full-time private sector employment in Queanbeyan, Coffs Harbour, Tamworth, Dubbo, Brisbane, Cairns, Rockhampton, Roma, Townsville, Ceduna, Port Augusta, Perth, Narrogin and the ACT. Overall, the rate of increase in such employment was highest for Indigenous adults leading to some closure in the ratio with non-Indigenous

Table 8. Dissimilarity indices by occupation and industry classification for Indigenous Regions, 2001–06

Indigenous Region	Occupation 2001	Occupation 2006	Occupation Change (%)	Industry 2001	Industry 2006	Industry Change (%)
Queanbeyan	0.18	0.14	-19.4	0.15	0.10	-32.2
Bourke	0.25	0.20	-19.8	0.33	0.31	-7.4
Coffs Harbour	0.14	0.12	-16.2	0.13	0.10	-28.3
Sydney	0.16	0.16	-1.7	0.13	0.13	3.4
Tamworth	0.25	0.21	-16.7	0.23	0.15	-37.6
Wagga Wagga	0.19	0.17	-14.0	0.12	0.10	-11.1
Dubbo	0.22	0.21	-4.9	0.18	0.15	-17.8
Melbourne	0.10	0.11	8.3	0.12	0.12	-3.4
Non-Met. Victoria	0.14	0.11	-15.8	0.14	0.11	-19.5
Brisbane	0.13	0.15	20.8	0.10	0.08	-17.8
Cairns	0.25	0.23	-9.3	0.32	0.25	-21.7
Mt Isa	0.30	0.24	-18.2	0.36	0.30	-17.2
Cape York	0.50	0.41	-18.0	0.74	0.59	-20.2
Rockhampton	0.20	0.16	-17.4	0.17	0.13	-26.4
Roma	0.23	0.21	-5.3	0.18	0.15	-17.1
Torres Strait	0.34	0.41	21.2	0.42	0.35	-17.0
Townsville	0.20	0.19	-3.5	0.17	0.12	-32.0
Adelaide	0.11	0.11	-3.0	0.19	0.12	-38.2
Ceduna	0.35	0.31	-10.1	0.50	0.44	-13.0
Port Augusta	0.31	0.29	-7.2	0.46	0.41	-11.7
Perth	0.11	0.14	23.6	0.18	0.12	-30.8
Broome	0.33	0.26	-21.1	0.49	0.34	-30.3
Kununurra	0.44	0.41	-7.7	0.58	0.49	-15.7
Narrogin	0.22	0.19	-12.7	0.21	0.16	-24.9
South Hedland	0.30	0.22	-26.9	0.38	0.28	-24.7
Derby	0.51	0.45	-11.8	0.53	0.47	-11.4
Kalgoorlie	0.33	0.31	-6.6	0.47	0.41	-12.8
Geraldton	0.23	0.24	4.7	0.31	0.25	-19.9
Tasmania	0.15	0.17	7.9	0.08	0.07	-8.7
Alice Springs	0.14	0.15	2.8	0.28	0.22	-21.7
Jabiru	0.39	0.40	1.7	0.59	0.47	-21.0
Katherine	0.50	0.38	-23.7	0.46	0.36	-21.1
Apatula	0.39	0.40	3.9	0.66	0.57	-13.1
Nhulunbuy	0.43	0.46	6.4	0.62	0.60	-3.3
Tennant Creek	0.29	0.27	-6.5	0.52	0.43	-16.2
Darwin	0.15	0.14	-7.6	0.17	0.14	-18.1
Australian Capital Territory	0.10	0.12	27.4	0.13	0.11	-13.8
Australia Total	0.20	0.18	-10.1	0.23	0.18	-21.7

Source: ABS 2001 and 2006 Census customised usual residence tables.

workers. Tamworth and Townsville present standout cases where the gap in such employment rates narrowed considerably, although Indigenous people generally still occupy such jobs at barely half the rate of others.

OCCUPATION AND INDUSTRY

Paid work provides a means to personal income generation with the amount generated determined largely by occupational status. There are also a number of non-pecuniary benefits of certain occupations including conditions of employment, standing within the community and personal autonomy. In turn, the availability of particular occupations within a region is partly related to the industry mix of economic activities. For these reasons, the relative distribution of Indigenous and non-Indigenous employment by industry and occupational category constitutes a vital feature of participation in the labour market.

Different distributions across occupations and industries between the Indigenous and non-Indigenous populations can indicate a mismatch of skills or even discrimination by employers in hiring practices. However, it may also represent relative preferences of the different populations for different types of work. Whatever the cause, because of the impact on a range of outcomes it is important to identify which areas have the greatest divergence and how this has changed over the last intercensal period.

The difference between occupations and industries in which Indigenous and non-Indigenous workers are employed can be summarised using the Index of Dissimilarity. This index is used to measure the extent to which two particular groups (in this case employed Indigenous and non-Indigenous Australians) 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 (or vice-versa).

The level of segregation by occupation and industry for each region and for Australia as a whole is presented in Table 8. For this exercise we use the 1-digit or broadest classification for industry and occupation based on comparable classifications for 2001 and 2006.[7]

Using this consistent classification scheme, both the level of occupational and industry segregation between Indigenous and non-Indigenous workers declined between 2001 and 2006. In effect, in order for the Indigenous workforce to acquire an occupational profile equivalent to that of the rest of the workforce, 18 per cent would have to shift their broad occupation of employment. This is down from 20 per cent in 2001. As for broad industry categories of employment, this shift would also have to involve 18 per cent of the Indigenous workforce, down from 23 per cent in 2001. While this points to moderately low and declining labour market segregation, some caution is necessary since previous research has shown that measures of Indigenous segregation are much higher at more disaggregated levels of occupational and industry classification (Taylor 1993; Taylor & Liu 1996).

If we examine regional patterns (Table 8), it is evident that the reduction in labour market segregation was widespread with 26 of the 37 regions having lower levels of occupational segregation in 2006, and all but one (Sydney) having lower industry segregation.

Considering occupational segregation first, there are two dimensions at which we can report this. Firstly, the actual degree of segregation varies substantially. In the ACT, Queanbeyan, Coffs Harbour, Wagga Wagga, Melbourne, Non-Metropolitan Victoria, Sydney, Perth, Adelaide, Brisbane, Rockhampton, Tasmania, Alice Springs, and Darwin this is below average and in instances (Melbourne, Non-metropolitan Victoria and Adelaide) effectively very low. There is clearly an urban/metropolitan effect here since regions with segregation levels well above average (over 40%) include Nhulunbuy, Apatula, Jabiru, Derby, Kununurra, Cape York and Torres Strait—all in remote Australia, reflecting the gap in skill sets between local and imported labour.

The second dimension to occupational segregation is the amount of shift since 2001. Here the picture is complex since many remote regions (such as Katherine, Derby, South Hedland, Broome, Cape York, and Mt Isa), experienced reductions in segregation that were above average, while in many city regions (Sydney, Melbourne, Brisbane, Adelaide, Townsville, Perth, Darwin) there was either below average reduction or an actual increase in segregation.

Much the same regional patterns are evident for the segregation measures by industry of employment, only here the indices tend to be somewhat higher (for example in Nhulunbuy and Apatula) and the degree of reduction in segregation is often more substantial (for example in Queanbeyan, Tamworth, Townsville, and Adelaide with shifts of more than 30%). Also noticeable are the very low segregation measures in some regions such as Tasmania, where only 7 per cent of the Indigenous workforce would need to change their industry of employment to have an equal distribution with non-Indigenous population. Compared to this, there were three remote regions with levels of segregation greater than 0.5 and a further seven between 0.4 and 0.5.

To gain a better understanding of the decline in the level of occupational segregation we apply the ABS classification of occupations into three broad groupings based on a ranking of their assumed skill level (ABS 1997):

- high-skill (ABS skill level 1): Managers and administrators; professionals
- moderate-skill (ABS skill level 2 or 3): Associate professionals; tradespersons and related workers; advanced clerical and service workers
- low-skill (ABS skill level 4 or 5): Intermediate clerical, sales and service workers; intermediate production and transport workers; elementary clerical, sales and service workers; labourers and related workers.

Table 9. Distribution of Indigenous and non-Indigenous employed by skill-based occupation classification: Australia, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Occupation category	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
High-skill, low Indigenous share	15.6	16.3	4.9	28.2	29.0	2.6	0.55	0.56	2.2
Moderate-skill, moderate Indigenous share	21.6	22.5	4.2	28.4	27.8	-2.0	0.76	0.81	6.4
Low-skill, high Indigenous share	62.8	61.1	-2.7	43.4	43.2	-0.4	1.45	1.41	-2.3

Source: ABS 2006 Census.

The proportion of the Indigenous and non-Indigenous workers in each of the three categories in 2001 and 2006 are provided in Appendix Tables A1 to A3 by Indigenous Region. However, for discussion, summary national percentage figures are presented in Table 9.

Clearly, in both 2001 and 2006, the Indigenous workforce was found predominantly in low-skilled occupations with the proportion employed as managers, administrators and professionals only a little over half that of the non-Indigenous share. However, there was a reasonable amount of growth in both moderate- and high-skilled occupations. In the high-skilled occupations, the share of non-Indigenous employment also increased, though not as fast as the share of Indigenous employment in high-skilled occupations. This has led to a small improvement in the ratio between the two populations. This is important from an income perspective because it is these types of occupations that are well remunerated with workers employed in them also experiencing a number of non-pecuniary benefits like greater personal autonomy, favourable working conditions and higher standing in the broader community. There was also steady Indigenous growth in the moderately-skilled group. However, for these occupations there was actually a decline in the share of employment for the non-Indigenous population. This led to a 6.4 per cent increase in the Indigenous to non-Indigenous ratio.

Thus, the results in Table 9 show that the national-level decline in occupational segregation reported in Table 8 was caused by more Indigenous Australians being employed in occupational categories that had previously recorded a sizeable gap in employment representation (Taylor & Liu 1996). This closure was greatest in moderately-skilled occupations such as associate professionals, tradespersons and advanced clerical and service workers.

In order to examine regional patterns of employment by industry in more detail, we group the 17 industries from the broadest categorisation of the 1st edition of the Australia and New Zealand Standard Industry

Table 10. Distribution of Indigenous and non-Indigenous employed by industry classification: Australia, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Industry category	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
High-growth	40.8	41.5	1.9	22.8	26.3	15.3	1.78	1.58	-11.7
Stable	40.3	41.0	1.9	50.9	50.5	-0.8	0.79	0.81	2.7
Declining	18.9	17.4	-8.0	26.3	23.2	-11.8	0.72	0.75	4.4

Source: ABS 2001 and 2006 Census customised usual residence tables.

Classification (ANZSIC) into three categories based on the change in the total Australian population employed in them between 2001 and 2006. The resulting categories and composite industries are as follows:

- high-growth industries (increase in the employment share by 5% or more): mining; government administration and defence; construction; health and community services; electricity, gas and water supply
- stable industries (growth or decline of between –5% and +5%): education; transport and storage; finance and insurance; personal and other services; retail trade; property and business services; accommodation, cafes and restaurants
- declining industries (decrease in the employment share by –5% or more): wholesale trade; cultural and recreational services; manufacturing; communication services; agriculture, forestry and fishing.

The national level percentages for the Indigenous and non-Indigenous populations in each of these three types of industries are provided in Table 10 while a breakdown by Indigenous Regions is available in Appendix Tables A4 to A6.

In 2001, almost 41 per cent of Indigenous adults employed were in industries that would grow by more than 5 per cent (high-growth) in the subsequent intercensal period. By comparison, the non-Indigenous employment share in this category at that time was only 23 per cent (a ratio of 1.78). By 2006, however, there was only a slight increase in the share of Indigenous employment in these industries (1.9%) compared to a large increase for the non-Indigenous population (15.3%). Compared to this, both the Indigenous and non-Indigenous employment in declining industries fell noticeably between 2001 and 2006 (–8.0% and –11.8% respectively).

This presents a quite different labour market outlook for Indigenous adults to that projected at the beginning of the 1990s which found that Indigenous workers were overly concentrated in low-skilled occupations that were set for relative decline (Taylor 1992: 24–5). It also suggests that part of the reason for the fall in the index of dissimilarity by industry shown in Table 8 is the fact that non-Indigenous workers were more likely to be in industries that have traditionally had a relatively high level of Indigenous employment in 2006 than they were in 2001.

It is unclear as to whether the high growth rate in industries with relatively high rates of Indigenous employment will continue into the future or whether it was an outcome particular to the period under study and the economic conditions that prevailed. Using employment forecasts and trends as well as particular industry developments, DEEWR (2008) predicted that between 2007 and 2011–12 the four industries that would grow fastest in absolute terms were (in order) Health and Community Services (169,300 new jobs), Property and Business Services (136,200), Retail Trade (128,200) and Construction (82,500).

Of these four growth industries, only Health and Community Services had a relatively high rate of Indigenous employment in 2006 with Indigenous Australians being particularly under-represented in both Property and Business Services and Retail Trade. Although these projections are just that, it would appear that based on current location and skill sets Indigenous Australians are not well positioned to take up positions in these latter two industries. The mining industry, often raised as a potential source of Indigenous employment because of its location on or near the Indigenous estate, was by comparison only projected to add another 21,400 new jobs over the period. While this is high in proportional terms, a very high number of these jobs would need to go to Indigenous Australians in order to make further inroads into the disparity in employment outcomes.

Given the high proportion of Indigenous Australians in urban and regional Australia, a number of the new jobs anticipated to be added in the Property and Business Services and Retail Trade Industries will need to go to Indigenous Australians to meet the target of halving the employment gap between Indigenous and non-Indigenous Australians. Of course governments will have to make sure adequate training is available for potential workers to be sufficiently skilled for the jobs.

SELF-EMPLOYMENT AND INDIGENOUS-OWNED BUSINESSES

Self-employment represents an important sub-component of the private sector and, accordingly, this form of labour market engagement comprises a key element of the IEP. More broadly, Indigenous Business Australia and the Indigenous Land Corporation invest substantial resources in encouraging the formation of Indigenous business enterprise. These combined activities are aimed at producing a particular labour market outcome—individuals or corporate bodies who own and are running their own business for profit or family gain.

A total of 6,316 Indigenous adults were recorded as self-employed in the 2006 Census. This compares to 1.4 million non-Indigenous adults. Even taking into account the relatively large undercount for the Indigenous population, this is a sizeable difference as it converts to just 2.2 per cent of Indigenous adults compared to 9.8 per cent of other adults. The Census divides these numbers between two categories of owner managers:

Table 11. Indigenous and non-Indigenous median weekly incomes by employment status (2006) and percentage change from 2001, by Indigenous Regions[a]

	Indigenous				Non-Indigenous			
	Not employed		Employed		Not employed		Employed	
Indigenous Region	2006 ($)	Change (%)[b]	2006 ($)	Change (%)[b]	2006 ($)	Change (%)[b]	2006 ($)	Change (%)[b]
Queanbeyan	205	-3.3	535	-1.6	230	1.5	657	4.6
Bourke	208	-1.6	461	2.4	218	-0.1	634	4.2
Coffs Harbour	205	-3.1	525	0.2	228	0.7	647	3.2
Sydney	199	-3.8	659	0.3	197	-5.5	803	2.8
Tamworth	207	-0.7	489	4.9	216	-0.3	617	1.9
Wagga Wagga	202	-3.8	532	-3.9	217	-0.2	627	1.7
Dubbo	206	-3.0	517	-0.1	219	-0.6	614	1.4
Melbourne	194	-8.2	639	1.7	200	-4.9	743	3.8
Non-Met. Victoria	208	-1.1	537	3.5	220	0.3	624	2.6
Brisbane	204	-3.0	583	0.5	219	-0.4	710	7.6
Cairns	209	-2.3	495	6.8	220	-0.7	662	6.6
Mt Isa	212	-3.7	499	5.7	193	-3.2	902	9.9
Cape York	198	1.0	266	20.3	212	0.1	822	18.2
Rockhampton	205	-1.9	529	6.7	216	0.5	665	8.1
Roma	209	-3.3	514	5.8	219	1.4	609	4.5
Torres Strait	195	-7.9	368	-1.8	165	-22.0	787	5.2
Townsville	202	-1.4	554	6.5	213	-0.6	714	11.1
Adelaide	205	-1.6	571	0.2	220	-0.5	683	5.0
Ceduna	206	2.6	370	36.3	220	0.5	588	3.6
Port Augusta	202	-1.1	317	5.1	215	-0.1	674	5.6
Perth	200	-4.2	630	3.8	208	-1.4	758	10.4
Broome	205	-4.4	366	58.1	216	-1.3	800	7.9
Kununurra	202	-3.5	248	5.7	207	4.5	875	14.5
Narrogin	207	-3.7	507	13.6	220	1.7	660	11.8
South Hedland	203	-3.0	588	31.3	81	-22.0	1,177	20.1
Derby	207	-0.2	227	1.0	203	-5.7	862	11.2
Kalgoorlie	199	2.7	316	5.4	186	-4.6	871	11.6
Geraldton	216	0.1	520	9.9	214	0.4	679	10.0
Tasmania	201	-1.2	535	1.6	223	1.0	646	3.9
Alice Springs	204	0.2	612	-1.9	187	-4.6	828	7.7
Jabiru	190	-4.4	232	3.8	197	-1.2	884	7.3
Katherine	201	0.3	239	8.9	203	-1.3	803	6.2
Apatula	200	-0.3	232	2.0	179	-16.3	749	-3.7
Nhulunbuy	186	-8.3	228	1.8	62	-7.7	1,213	21.3
Tennant Creek	189	-9.8	232	-15.7	210	0.8	726	10.4
Darwin	203	-1.1	690	5.6	204	0.0	853	9.2
Australian Capital Territory	188	-6.0	860	11.2	230	5.7	949	11.5
Australia Total	202	-2.5	521	4.1	212	-1.8	723	5.5

Note: a. See endnote 8. **b.** Indicates percentage change, 2001–06.

Source: ABS 2001 and 2006 Census customised usual residence tables.

those with no employees and those with one or more employees. On this basis it is apparent that Indigenous self-employed are far more likely to have no employees (51% compared to 41% for non-Indigenous self-employed) while the fact that they are also less likely to be owner managers of incorporated (as opposed to unincorporated) enterprises (29% compared to non-Indigenous owner managers at 42%) provides a measure of their relative exclusion from large business enterprise.

Even if we focus on those Indigenous self-employed with no employees, we find that six regions in remote Australia recorded no Indigenous self-employed workers at all—the Torres Strait, Kununurra, Jabiru, Apatula, Nhulunbuy and Tennant Creek. These are all areas in which customary economic activity is relatively common, raising questions about the utility of official definitions of 'self-employment' in cross-cultural contexts (Altman, Buchanan & Biddle 2006). More broadly, it appears that major barriers to Indigenous self-employment identified by Foley (2006), Hunter (2004) and Daly (1995) still remain. These include a relative lack of education and training in general and in business management more specifically, as well as limited access to capital and business finance, and racial and gender discrimination.

INCOME SHARES AND THE IMPORTANCE OF EMPLOYMENT

The relative contribution made to total income from employment as opposed to other sources is an important consideration in terms of the economic situation facing Indigenous individuals and families across the country. Approximate parity between incomes derived from social security and those derived from employment (after tax) is the likely outcome unless there is sufficient participation in well-paying jobs. This is important in terms of regional labour supply as it is argued that the gap between welfare and earned income is sufficiently low for Indigenous people so as to discourage job seeking (Daly & Hunter 1999). However, in many remote regions in particular, this relationship remains diluted somewhat by participation in the CDEP program.

Table 11 shows median income for those employed as well as those not employed.[8] These incomes are calculated separately for Indigenous and non-Indigenous adults with a uniform distribution assumed across the median income category. The change in these median incomes over the five years between 2001 and 2006 (after adjusting for inflation using the national Consumer Price Index (CPI)) is also provided.

Three features stand out. First, there are large differences between the incomes of those employed compared to the incomes of those not employed only in those regions without a high CDEP presence. Second, incomes for those not employed are roughly the same for both Indigenous and non-Indigenous adults and across regions, as might be expected given that such income is likely to be derived largely from prescribed government payments (South Hedland and Nhulunbuy are notable exceptions). The third feature that stands out is the substantial difference in Indigenous and non-Indigenous incomes among those employed. In some regions, notably Kununurra, Derby, Jabiru and especially Nhulunbuy, the median income in 2006 for the employed Indigenous population was less than 30 per cent of that for the non-Indigenous population. For the Indigenous population, median income for those employed ranged from $227 per week in Derby

Table 12. Indigenous and non-Indigenous shares of total income from employment by Indigenous Regions, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	62.1	67.9	9.5	76.2	77.4	1.7	0.81	0.88	7.6
Bourke	56.5	60.8	7.6	78.4	80.1	2.2	0.72	0.76	5.4
Coffs Harbour	60.7	68.3	12.5	74.0	76.2	3.1	0.82	0.90	9.2
Sydney	76.0	77.9	2.5	85.4	86.1	0.8	0.89	0.90	1.6
Tamworth	53.3	62.4	17.1	79.5	80.8	1.7	0.67	0.77	15.2
Wagga Wagga	60.9	66.9	9.8	81.0	81.6	0.7	0.75	0.82	9.0
Dubbo	55.8	65.3	17.0	80.3	81.6	1.6	0.70	0.80	15.1
Melbourne	75.8	79.7	5.1	83.8	85.0	1.4	0.90	0.94	3.6
Non-Met. Victoria	62.2	66.0	6.2	79.0	80.2	1.4	0.79	0.82	4.7
Brisbane	70.7	78.7	11.3	81.2	84.3	3.7	0.87	0.93	7.3
Cairns	61.8	70.4	13.9	83.7	85.7	2.4	0.74	0.82	11.2
Mt Isa	66.5	70.6	6.2	93.0	94.3	1.4	0.72	0.75	4.7
Cape York	71.8	72.3	0.7	88.1	91.9	4.3	0.82	0.79	-3.5
Rockhampton	62.4	74.3	19.0	79.3	82.1	3.5	0.79	0.90	15.0
Roma	63.2	69.5	10.0	79.9	81.2	1.6	0.79	0.86	8.2
Torres Strait	74.4	80.9	8.7	93.4	96.0	2.7	0.80	0.84	5.8
Townsville	61.7	74.3	20.5	83.9	87.1	3.8	0.73	0.85	16.0
Adelaide	64.4	69.6	8.1	79.2	81.4	2.7	0.81	0.86	5.2
Ceduna	65.6	66.6	1.5	79.8	82.1	2.9	0.82	0.81	-1.3
Port Augusta	55.5	63.3	14.1	78.5	81.0	3.2	0.71	0.78	10.6
Perth	64.4	73.2	13.7	83.3	86.5	3.8	0.77	0.85	9.5
Broome	68.0	72.6	6.8	91.3	92.1	0.8	0.74	0.79	5.9
Kununurra	58.9	63.0	7.0	94.8	95.1	0.3	0.62	0.66	6.6
Narrogin	60.8	68.5	12.8	79.7	81.9	2.8	0.76	0.84	9.7
South Hedland	69.9	76.0	8.8	95.7	96.8	1.1	0.73	0.79	7.6
Derby	70.5	70.9	0.6	93.5	94.6	1.2	0.75	0.75	-0.6
Kalgoorlie	64.2	69.7	8.5	91.3	92.2	1.0	0.70	0.76	7.5
Geraldton	56.1	67.3	19.8	81.8	84.4	3.2	0.69	0.80	16.1
Tasmania	70.7	75.4	6.7	76.1	78.8	3.5	0.93	0.96	3.1
Alice Springs	67.7	69.9	3.2	93.8	94.4	0.6	0.72	0.74	2.6
Jabiru	43.2	52.2	20.9	94.2	94.7	0.5	0.46	0.55	20.3
Katherine	52.3	57.2	9.4	93.4	94.0	0.6	0.56	0.61	8.8
Apatula	31.6	36.2	14.7	95.6	97.2	1.7	0.33	0.37	12.8
Nhulunbuy	41.3	49.3	19.5	97.0	98.1	1.1	0.43	0.50	18.2
Tennant Creek	45.0	49.7	10.6	93.5	93.4	-0.1	0.48	0.53	10.7
Darwin	72.0	76.2	5.9	90.8	92.0	1.3	0.79	0.83	4.6
Australian Capital Territory	84.3	87.4	3.7	87.3	88.1	1.0	0.97	0.99	2.7
Australia Total	65.1	71.6	10.0	82.3	84.0	2.0	0.79	0.85	7.8

Source: ABS 2001 and 2006 Census customised usual residence tables.

to $860 per week in the ACT. Corresponding figures for the non-Indigenous population range from $588 per week in Ceduna to $1,213 per week in Nhulunbuy. Interestingly, the broad geographic patterns of employment income run somewhat counter between the two populations. Thus, regions with high median incomes for employed Indigenous people are generally in the capital cities and on the coast, while for the non-Indigenous employed, median incomes are also high in the capital cities, but are highest in more remote regions. Clearly, this income distribution reflects variation in the occupational—and to some extent the industry—composition of employment.

The final point to note is the change in income between 2001 and 2006. For those not employed, there has been a small decline in median income (keeping in mind that the 2001 figure is adjusted using the CPI). For the employed, on the other hand, large increases in median income are evident for both Indigenous and non-Indigenous workers. However, overall median income for non-Indigenous workers has grown faster than for Indigenous workers resulting in a widening in the employment/income gap. Clearly, employment is one of the key predictors of access to financial resources. Indigenous adults who have obtained employment have an income that is over two and a half times higher than those who are not, though their income is still less than three-quarters of the non-Indigenous population. Given the importance of employment in providing a basis for raising living standards, improving access to well remunerated employment for the Indigenous population will remain a key policy goal of all levels of government and for many Indigenous organisations.

Of interest, then, is whether the share of Indigenous total income gained from employment has increased in recent times, and how this compares to the rest of the population. Ultimately, this is the measure that best captures the effect of employment expansion in improving access to market resources. Unfortunately, the Census does not disaggregate personal income by source and so we obtain an estimate of the share of total income across Australia, or in a given region, that goes to those who are employed as opposed to those not employed.

Nationally, there was a 10 per cent increase in the share of total income received by Indigenous Australians that went to those who were employed compared to those who were not employed (Table 12). This compares favourably with a 2 per cent rise more generally, leading to an improvement in the ratio between the two populations. It is likely that a large part of this increase reflects the general improvement in Indigenous employment outcomes that we have demonstrated for the recent period, as well as the type of employment that Indigenous Australians have been able to access. This absolute improvement was widespread with no regions experiencing a fall in the income share from employed persons, and only three regions (Cape York, Ceduna and Derby) experiencing a decline relative to the non-Indigenous population.

THE JOB AHEAD REVISITED

Previous discussions around employment equality for Indigenous Australians have emphasised the need to account for a growing population of working-age when setting targets for future job needs. First Gray and Tesfaghiorghis (1991), then Taylor and Altman (1997) and Taylor and Hunter (1998), all measured employment

Table 13. Projected Indigenous jobs required to meet employment targets by 2016

	Status quo		Halve the gap	
	CDEP kept	No CDEP	CDEP kept	No CDEP
Employment rate, 2006[a]	43.2	43.2	43.2	43.2
Employment rate, 2016 target[a]	43.2	43.2	51.9	51.9
Working age population, 2006 estimate	322,794	322,794	322,794	322,794
Working age population, 2016 projection	406,338	406,338	406,338	406,338
Working age population, Projected growth rate	2.3	2.3	2.3	2.3
Indigenous employment, 2006 estimate	139,447	139,447	139,447	139,447
Indigenous employment, 2016 projection	175,538	175,538	210,686	210,686
Jobs required, 2016 projection	36,091	70,815	71,239	105,963
Jobs required, Projected growth rate	2.3	4.2	4.2	5.8
Interim jobs required, 2011	17,008	31,785	31,958	45,544

Note: **a.** See endnote 1.
Source: Based on authors' calculations.

requirements as a function of the additional jobs required to achieve parity in employment rates inflated by projected working-age population over specified periods (typically 10 years). As an indication of the difficulties experienced in achieving such targets it is significant to note that the last two of these analyses were entitled *The Job Ahead* and *The Job Still Ahead* respectively.

As noted, one of the problems with gap analyses is that the gap itself may vary over time. Accordingly, the release of 2006 Census data now provides for an evaluation of former predictions about Indigenous job needs as well as an assessment of what was actually achieved. Looking forward, in light of the current Government's stated aim of halving the gap in employment outcomes (percentage of the population employed) over the next 10 year period, it is also important to estimate the number of new jobs that this would require. By linking this to our foregoing regional analysis of employment gaps we can also provide a measure of the geography of employment need.

Using 1996 census data, Taylor and Hunter (1998) estimated that 25,095 additional jobs would be required to accommodate the growth in the working age population and maintain the rate of Indigenous employment at the 1996 level. To achieve the non-Indigenous employment rate, however, a total of 76,969 additional jobs were required.

In actual fact, over this period an estimated 49,235 new jobs were created, not enough to fully close the gap between the Indigenous and non-Indigenous population but more than enough to maintain the status quo.

There were two main reasons why this employment growth failed to substantially impact on the employment gap. Firstly, the working age population was much higher in 2006 than predicted; and secondly, the non-Indigenous employment rate increased substantially over the period when the model assumed consistency. In other words the target shifted. This highlights the two main challenges in policies that aim to achieve parity between the Indigenous and non-Indigenous populations. That is, the intercensal growth of the population is usually much higher than forecast, and non-Indigenous outcomes often improve through time—in this case on the back of one of the longest periods of sustained employment expansion in Australian history.

While the 1996 to 2006 period presents a cautionary tale for the 'closing the gaps' agenda of the Rudd Government, it is still worth considering the magnitude of the task that this implies under certain scenarios. To do this we set up two goals for the 2006 to 2016 period: maintaining the status quo in the face of continued population growth and halving the employment rate gap. For these two scenarios we use a cohort component methodology to project the working-age population and estimate the number of jobs required if CDEP were to be maintained over the period and the number of jobs required if CDEP were to be phased out.[9] The figures are provided in Table 13, alongside annualised growth rates and interim targets for 2011. According to the projection assumptions adopted, the Indigenous working age population will grow at a rate of 2.3 per cent per annum between 2006 and 2016 rising from 322,794 to 406,338 over the period. To maintain the current employment rate, this translates to 36,091 additional jobs required. To meet the Rudd Government's target of halving the gap in employment rates, however, a total of 71,239 new jobs would be required in net terms over the period. To put these projections into perspective, it is worth revisiting the 49,235 new jobs created over the decade up until 2006. This was during a time of rapid economic expansion, conditions not expected to continue. Clearly, to meet the targets the Rudd Government has set for itself, employment creation will need to be greater than previously achieved during a time of less certain economic outlook.

The above job creation requirements are in one sense a lower bound in that they assume that CDEP employment will be maintained at its current level over the period. However, this is far from certain, with the Federal Government undertaking a large-scale review of the program at the time of writing. Under the most extreme scenario of abolishing CDEP entirely, these jobs would need to be replaced through other means. Some of this would occur through reallocation to other government departments (for example Aboriginal health workers may start being paid out of the health budget); however, there is likely to be a shortfall that will need to be made up through other sources. Whether this is through the private sector or through the creation of new public sector positions, to achieve the Rudd Government's aims, a total of 105,963 jobs would be required were CDEP to be abolished entirely.

In attempting to meet the target of halving the gap in employment outcomes over a decade, there are likely to be regions within Australia that have relatively high need. For example, the Apatula Indigenous Region had an employment rate in 2006 of 24.8 per cent, well below the national average. For other regions, for example the ACT or the Torres Strait, the employment rate is already well above the 51.9 per cent target

Table 14. Projected Indigenous jobs required to meet employment targets by 2016 for Indigenous Regions

Indigenous Region	2006 estimates: Total employed	2006 estimates: CDEP employed	Additional jobs required by 2016 — Status quo: CDEP kept	Status quo: No CDEP	Halve the gap: CDEP kept	Halve the gap: No CDEP
Queanbeyan	2,476	228	641	738	1,458	1,581
Bourke	2,067	1,041	535	938	1,557	2,118
Coffs Harbour	11,457	1,830	2,965	3,750	6,663	7,650
Sydney	14,764	505	3,821	4,069	5,680	5,952
Tamworth	3,762	753	974	1,264	2,868	3,274
Wagga Wagga	4,193	519	1,085	1,287	3,120	3,400
Dubbo	2,436	191	631	709	1,605	1,708
Melbourne	5,656	106	1,464	1,521	1,464	1,521
Non-Met. Victoria	4,436	475	1,148	1,347	2,747	3,003
Brisbane	15,509	562	4,014	4,322	4,014	4,322
Cairns	6,383	1,654	1,652	2,438	2,734	3,626
Mt Isa	2,600	721	673	1,037	893	1,282
Cape York	2,904	2,223	751	2,012	751	2,012
Rockhampton	4,910	729	1,271	1,621	2,030	2,423
Roma	3,732	718	966	1,303	1,656	2,043
Torres Strait	3,130	1,942	810	2,063	810	2,063
Townsville	6,352	794	1,644	2,019	2,779	3,207
Adelaide	5,033	479	1,303	1,510	2,854	3,112
Ceduna	659	403	171	355	317	535
Port Augusta	1,959	1,152	507	983	1,260	1,880
Perth	6,830	818	1,768	2,118	3,998	4,439
Broome	1,538	1,277	398	1,015	622	1,311
Kununurra	1,550	1,276	401	996	707	1,395
Narrogin	2,577	822	667	1,028	1,406	1,849
South Hedland	2,222	500	575	797	1,181	1,451
Derby	1,997	1,681	517	1,515	517	1,515
Kalgoorlie	1,906	1,700	493	1,297	828	1,744
Geraldton	1,763	917	456	838	1,112	1,607
Tasmania	6,060	103	1,568	1,622	1,847	1,903
Alice Springs	1,590	424	412	592	949	1,177
Jabiru	2,613	2,066	676	1,476	1,969	3,082
Katherine	2,786	2,086	721	1,645	1,481	2,605
Apatula	1,766	992	457	703	3,066	3,600
Nhulunbuy	2,224	1,600	576	1,112	2,281	3,143
Tennant Creek	864	874	224	508	940	1,411
Darwin	3,850	357	996	1,161	1,829	2,021
Australian Capital Territory	1,710	98	443	504	443	504

Note: The estimate for total employed population in 2006 includes those in the CDEP scheme.
Source: Authors' calculations.

outlined in Table 13. In these areas, the priority will be keeping up with population growth and any loss in CDEP jobs that will occur over the next decade.

In order to estimate the impact of applying employment targets at the regional level we use the information in Tables 1 and 3 and the data that underlies Fig. 5. Table 14 outlines the job requirements for each Indigenous Region under two scenarios. The first scenario is the maintenance of the status quo if the working age population grows at the 2.3 per cent per annum estimated nationally. The second scenario is the more ambitious aim of achieving a minimum employment rate of 53.9 per cent, half way between the national averages for the Indigenous and non-Indigenous rates presented in Table 3.[10] Alongside the job requirements, we present the estimated employed population in 2006 (using the implied Indigenous Region specific undercount rate) as well as the estimated number of people in the CDEP scheme as summarised in Fig. 5. Once again, the alternate assumptions of maintaining the current level of CDEP employment and abolishing it entirely are tested.

There were six Indigenous Regions that already had an employment rate above the minimum target of 53.9 per cent used to construct Table 14. In these areas, the job requirements came about purely in order to cover the growth in the working age population over the period. However three of these regions—Cape York, the Torres Strait and Derby—had high rates of CDEP employment in 2006, meaning that in these areas a large number of new jobs would be required if CDEP was phased out over the decade.

Outside those regions which are at or above the minimum target, there were six regions that were estimated to require additional jobs greater than or nearly equal to the estimated number of people employed in 2006, were the CDEP scheme to be abolished. These were Bourke in New South Wales, Port Augusta in South Australia and Jabiru, Apatula, Nhulunbuy and Tennant Creek in the Northern Territory. Clearly if the aim of government is to make substantial inroads into the disparity in employment rates between the Indigenous and non-Indigenous populations, any scaling back of the CDEP scheme in these areas will require a level of non-CDEP employment growth of a scale unseen in contemporary labour markets.

If the policy response to the large relative need for additional jobs in remote Australia is to encourage people to migrate to settled Australia, then this is going to put additional requirements on city and regional labour markets. However, what Table 14 shows is that the four regions with the greatest absolute requirement for additional jobs in order to reach the 53.9 per cent minimum employment rate were in fact in regional Australia (Coffs Harbour) or in the capital cities (Sydney, Brisbane and Perth). While the jobs required may be relatively low in proportion to the size of the population, clearly urban and regional Australian job markets cannot be ignored under any policy aim of reducing employment disparities between the Indigenous and non-Indigenous populations.

CONCLUSION

The intercensal period between 2001 and 2006 was a time of rapid economic and employment expansion in Australia. The 2006 Census recorded 9.1 million employed Australians, an increase of more than 800,000 people in work compared to the previous Census. Over the same period there was a fall in the total unemployment rate from 7.4 per cent to 5.2 per cent. This paper has considered two broad questions in relation to these changes: Have Indigenous Australians shared equally in this rapid expansion of the workforce? Is there a regional pattern to any associated changes in Indigenous labour force status?

In considering the first question, the census would appear to provide prima facie evidence that targeted Indigenous employment policy was very successful in its primary aim of raising Indigenous employment levels, especially in the private sector, given the far higher rate of growth in the latter form of employment compared to that observed for the rest of the workforce. Having said that, it is impossible to isolate any effects of government programs from those brought about by the very favourable economic circumstances that prevailed generally over this period. Whatever the cause, the fact is that better than average Indigenous performance in the labour market in terms of the basic measure of employment increase led to a reduction in the gap with other Australians for this key national indicator.

Indigenous unemployment also fell, though not as rapidly as for the non-Indigenous population. This paradox can be explained by a large expansion in the Indigenous labour force compared to relative stability for the non-Indigenous population. In other words, not only were there more Indigenous Australians in employment, there were also more looking for work.

Between 2001 and 2006 Indigenous Australians also moved into jobs that historically they had found difficult to secure, with large relative and absolute gains in full-time private sector employment. These gains sit alongside relatively stable CDEP employment numbers. Against a growing Indigenous working-age population, this translated into a reduced CDEP share of total employment.

In addition to the rise in full-time private sector employment, Indigenous Australians were employed in high skilled, well-remunerated occupations in 2006 at higher rates than ever before. There were also a number of industries that Indigenous Australians have traditionally had a comparative advantage in (mining, government, construction, health and community services) that did well in terms of an increase in their employment share. This stands in stark contrast to the situation in the 1990s when Indigenous workers were overly concentrated in low-skilled occupations that were set for relative decline (Taylor 1992: 24–5). These two trends led to a fall in both occupation and industry segregation between 2001 and 2006 (by 10% and 22% respectively). In other words, in 2006, Indigenous Australians were spread across occupations and industries in a way that was more similar to the non-Indigenous population than in the past.

Despite this apparent sharing in employment growth, there was an important negative finding at the national level. Although median income increased in real terms for employed Indigenous Australians, this increase was not as fast as reported for the non-Indigenous employed population. Given the way in which consumption expectations rise alongside community incomes (Layard 2005), the resultant widening of the income gap has important implications for how Indigenous Australians see themselves positioned in the Australian economy.

With regard to the second question—whether there were any regional patterns to the change in employment related outcomes for the Indigenous population—the answer is a qualified yes. In general, it appears that improvement in employment outcomes was greatest in urban and regional parts of Australia. Townsville, Rockhampton, Brisbane and Perth in particular, all experienced gains in employment (or falls in unemployment) that were notably more substantial than in other Indigenous Regions. Compared to this, remote parts of Australia fared relatively poorly in terms of employment outcomes over the period. Cape York, Broome, Ceduna, Tennant Creek and Kununurra were all remote regions that experienced below average gains in employment rates—in fact, these actually fell in the first three of these regions.

There were, however, exceptions to this broad remote/non-remote pattern, both in terms of regions and in terms of indicators. For example, Indigenous employment outcomes in Sydney stagnated between 2001 and 2006 with the percentage of the population employed increasing only slightly from 48.6 per cent to 49.0 per cent. Relative to the non-Indigenous population, it was one of only eight regions where the employment gap widened (the rest mainly being in remote Australia). Furthermore, Sydney was the only region where industry segregation increased. Thus, while providing some insight, the remoteness classification masks a degree of diversity that is occurring at the level at which labour markets are constructed. In terms of understanding the drivers of Indigenous employment change, it is at the labour market level where analysis needs focus and where policy needs to be designed.

Clearly, it is necessary to consider the multi-dimensional nature of employment change before drawing conclusions about outcomes. For example, regions that witnessed substantial improvement in rates of employment did not necessarily do as well in other employment-related measures. Townsville, Brisbane and Perth are examples of where employment rates improved but occupational segregation either increased or was barely altered. Furthermore, while Brisbane recorded one of the highest increases in Indigenous employment rate (from 46.1% to 54.8%) in real terms the income of those employed barely changed leading to a further widening of the gap with non-Indigenous employment income.

It would appear, therefore, that in a number of regions where employment rates improved rapidly, this was because of gains in either low-skilled or low-paid positions in secondary labour markets. This is to be expected, as historically those Indigenous adults who find it hard to obtain employment are generally those without formal qualifications or other work skills, as shown by the high employment returns to education outlined in Hunter (2004) and Biddle (2007). This raises an issue to watch out for in the years ahead as those with low skills are amongst the last to be hired at the peak of the business cycle and the first to be shed in times of economic downturn as profit margins are squeezed—the so-called 'last in first out' principle as outlined by Auer and Cazes (2000) and suggested for the Indigenous population by Fisk (1985). If 2006 does prove to have been the highpoint of a cycle of economic expansion in Australia (at least as it relates to the cycle of population censuses) then any slowdown could see a disproportionate deterioration in the employment position of Indigenous Australians. If such a slowdown was to occur, then the relative position of Indigenous Australians in future censuses will indicate whether the improvements identified in this paper were structural in nature, or simply an artefact of the business cycle.

Despite the general absolute improvement in Indigenous labour force indicators, it is important to note that sizeable disparities in outcomes between Indigenous and non-Indigenous adults still remain. Given increasing indications that the 2006 Census may represent a high water mark in terms of employment outcomes for the general population, it is clear that cyclical factors alone are not sufficient to substantially reduce employment disparities. Furthermore, the weight of population momentum means that a disproportionate number of Indigenous youth are about to enter the working-age group.

As with many aspects of Indigenous policy, just to maintain employment outcomes at their present level will require requisite additional investments because of population growth. Specifically, 36,091 additional jobs will be required between 2006 and 2016 just to keep up with the projected 2.3 per cent per annum growth in the working age population. To meet the Rudd Government's target of halving the gap in employment rates, however, a total of 71,239 new jobs would be required in net terms over the period.

To do more than just stand still, a major part of this investment will need to address Indigenous supply-side factors as demonstrated in a number of regional studies (Taylor 2003, 2006a, 2008; Taylor & Scambary 2005). Many of these structural barriers accumulate over the life course and 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 its effectiveness in terms of human capital accumulation. The point is now well-made—if Indigenous people are to successfully compete for mainstream jobs then they require at least an equivalent human capital base from which to do so. This is especially the case with the type of skilled jobs that will be necessary to improve relative income status and associated standards of living. These supply-side constraints are increasingly recognised by employers and a response to the problem forms part of the rationale for the new Australian Employment Covenant. The mining sector, in particular, provides examples of how 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).

There is a demand-side issue here as well. Despite initiatives such as the Australian Employment Covenant there is a continued need for flexible and realistic approaches to raising participation in economic activity especially in the more remote regions that are identified in this paper as doing relatively poorly in terms of standard economic indicators. In many remote communities, and to some extent in towns as well, this broadening of activity is most likely to occur via an import substitution model that embraces activities such as the construction and maintenance of physical infrastructure, education, health services, retailing, public administration, transport, media, land restoration, land management, and tourism. Some of the diversity in economic activity encompassed here is also already in place via the CDEP program in the form of land and sea management jobs (Altman & Sanders 2008).

Of course, in urban areas CDEP withdrawal is underway, and this is likely to have raised the unemployment rate in many regions unless former CDEP workers have subsequently acquired alternate employment. Certainly, in any economic downturn, the lack of CDEP to fall back on will have the same effect. In this context, it is interesting to note that our analysis reveals urbanised regions to be those that require the greatest absolute number of additional jobs over the next 10 years if the Rudd Government's employment target is to be met. This is reinforced by the fact that identified migration patterns continue to reveal net rural-urban flows (Biddle & Taylor 2008; Taylor 2006b). Even within this general prescription, the basic geography of job need dictates that particular attention will need to be paid to certain non-metropolitan labour markets—especially in New South Wales and Queensland—in order to meet expected goals.

Of particular interest in the months and years ahead is the potential impact on the employment gap and labour force status more generally of the proposal embodied in the Australian Employment Covenant to generate 50,000 full-time private sector jobs for Indigenous people. As noted, if these jobs are created within the proposed two year timeframe, and if they form an addition to jobs already in existence (i.e. they are drawn from the pool of those who are currently not employed), then by 2011 this would not only raise the rate of full-time private sector employment to match that of the rest of the population, it would also go a long way towards accomplishing the Rudd Government's target of halving the gap in employment rates.

However, what matters most in gap analysis is not the number of new jobs created but rather their net effect on overall labour force status since jobs can be shed just as much as they can be created. Indeed, a probable effect of this focused attention on Indigenous employment is an increase in churn between labour force categories with people moving variously out of unemployment or being not in the labour force as well as out of part-time and government sector jobs (including CDEP) into any new full-time private sector jobs. There is also the question of just how feasible the creation of an additional 50,000 jobs will be in the new labour market conditions created by global economic downturn, certainly within the two year timeframe adopted. Thus, the likely net effect on overall labour force status is difficult to predict, except to say that an initiative of the size of the Australian Employment Covenant will undoubtedly leave its mark. Depending on the pace at which it proceeds, this should start to show up fairly quickly in ABS annual reporting of Indigenous labour force status via the Labour Force Survey while results from the 2011 Census will prove crucial in determining the overall scale and composition of impacts. Once again, we find ourselves eagerly anticipating a census round to examine the effectiveness of Indigenous policy.

NOTES

1. As the 2001 and 2006 Censuses are based on different Census Collection Districts (CDs) it is not possible for the ABS to construct official population based concordances. However after finding a number of anomalous results using the area based concordances supplied by the ABS, we constructed our own concordances that more explicitly take into account the uneven nature of boundary changes. Specifically, we used an area-based concordance for 2001 Census CDs to 2006 Indigenous Regions. We then used the usual resident total population for the Census CDs in 2001, weighted them by the area based ratio of the 2001 Census CD in the 2006 Indigenous Regions and summed them up to 2001 Indigenous Areas. This gave an estimate of the ratio of the population in each of the 2001 Indigenous Areas that would have been classified into each of the 2006 Indigenous Regions using that classification scheme. These concordances are available from the authors upon request.

   One consequence of this regional approach is that most labour force status rates used in the analysis are in respect of individuals who stated their usual region of residence. This produces an employment rate of 43.2%, as opposed to the higher overall national rate (which includes 'Indigenous region of usual residence not stated') of 46.1%.

2. As reported in Taylor and Biddle (2008), care should be taken when interpreting 2006 usual residence counts in different regions, especially those in Western Australia, the Northern Territory and Queensland, because of substantial undercount of Indigenous populations in the census. As a consequence, the numbers of working-age population shown here for each Indigenous Region, and their relative share of the total, are inevitably skewed in favour of those regions away from these jurisdictions.

3. This figure is an aggregate of CDEP participants recorded by FaHCSIA from the CDEP Manager administrative database managed at the time of the 2006 census by DEWR for the Australian mainland and the Torres Strait Regional Authority for the Torres Strait Islands.

4. Because it was not possible to identify those in CDEP employment outside of Special Indigenous Forms (SIF) areas, it was also not possible to undertake a CDEP versus non-CDEP participant comparison. Such comparisons are only possible using the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) and the 2008 NATSISS when it becomes available.

5. These figures are an aggregate of CDEP participants recorded by ATSIC or FaHCSIA for the Australian mainland and the Torres Strait Regional Authority. The breakdown for 2001 was 32,616 participants and 1,742 participants respectively, for 2005 it was an estimate of 35,000 and 1,880 respectively and for 2006 it was 32,782 and 1,942 participants respectively.

6. The numerator for these figures excludes CDEP participants in Tasmania (due to confidentialising) and the Torres Strait Islands (as this data is collected outside of FaHCSIA).

7. That is, the 2nd edition of the Australian Standard Classification of Occupation (ASCO) and the 1st edition of the Australian and New Zealand Standard Industry Classification (ANZSIC).

8. It should be noted that the Census does not provide information on earnings. While such data are collected by a variety of ABS business and household surveys, the former do not include an Indigenous identifier while the latter have only a small sample of Indigenous respondents and sampling frames that do not extend to remote areas. As a consequence, to obtain any sense of earnings from employment for Indigenous workers we are forced to use a cross-tabulation of Census labour force status by Census-reported income with the heavy proviso that income from this source is intended to include family allowances, pensions, unemployment benefits, student allowances,

maintenance, superannuation, wages, salary, dividends, rents received, interest received, business or farm income, and worker's compensation received. However, whether all such sources are reported is unknown. It should also be noted that Census data report income in categories, with the highest category left open-ended.

9. Official projections from the ABS will not be available until sometime in 2009. In the meantime, sufficient data are available to prepare preliminary projections. These are based on using 2006 age-specific Indigenous fertility and paternity rates (ABS 2007a: 76) and the latest available national Indigenous survival rates that cover the period 1996-2001 (ABS 2007b: 81). These are held constant for the projection period using the final 2006 Indigenous experimental population estimates as the base. Arguably, all of these parameters will vary over time but in the absence of a reliable model of how this might occur and for ease of interpretation we have developed one projection series only. The result is therefore indicative only.

10. This is a slightly more ambitious target than the one set by the Rudd Government in that the aim is to achieve a minimum employment to population percentage in all regions (with some allowed to be higher) rather than an average across Australia. It should also be noted that the employment to population percentage aim under the 'halving the gap' scenario is slightly higher than that outlined in Table 13. This is because those who stated their place of usual residence were more likely to be employed than those who did not. The relative gap between the Indigenous and non-Indigenous populations is, however, roughly the same in Table 3 and Table 13.

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APPENDIX: OCCUPATION AND INDUSTRY BY INDIGENOUS REGION

Table A1. Indigenous and non-Indigenous employment in high skill and low Indigenous employment share occupations by Indigenous Region, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	18.2	17.9	-1.8	25.9	26.9	3.6	0.70	0.67	-5.3
Bourke	15.5	16.8	8.6	29.0	29.8	2.9	0.53	0.56	5.6
Coffs Harbour	16.9	18.0	6.7	23.7	24.3	2.5	0.71	0.74	4.1
Sydney	18.8	20.0	6.4	31.1	32.9	5.6	0.61	0.61	0.8
Tamworth	13.3	14.8	11.9	30.3	30.0	-0.7	0.44	0.49	12.7
Wagga Wagga	15.4	15.7	2.2	28.8	28.4	-1.2	0.54	0.55	3.4
Dubbo	13.2	14.0	5.6	29.8	30.5	2.3	0.44	0.46	3.2
Melbourne	20.9	21.9	4.5	30.0	31.0	3.4	0.70	0.71	1.1
Non-Met. Victoria	19.8	19.0	-4.2	27.9	27.8	-0.3	0.71	0.68	-3.9
Brisbane	16.6	15.0	-9.5	25.4	26.3	3.6	0.65	0.57	-12.7
Cairns	15.8	14.0	-11.4	23.5	23.2	-1.0	0.67	0.60	-10.5
Mt Isa	8.7	10.9	25.8	20.2	21.7	7.6	0.43	0.50	16.9
Cape York	6.8	11.1	63.4	24.2	27.0	11.2	0.28	0.41	47.0
Rockhampton	11.7	12.2	4.4	23.3	22.1	-5.1	0.50	0.55	10.0
Roma	12.6	11.9	-6.0	28.4	26.6	-6.6	0.44	0.45	0.6
Torres Strait	11.7	13.7	17.2	35.5	41.6	17.1	0.33	0.33	0.1
Townsville	13.0	11.9	-8.5	22.7	21.9	-3.3	0.57	0.54	-5.4
Adelaide	19.0	19.1	0.5	26.9	27.7	3.0	0.70	0.69	-2.4
Ceduna	15.0	19.9	32.4	34.9	33.8	-3.1	0.43	0.59	36.7
Port Augusta	18.5	14.8	-20.1	23.7	24.1	1.8	0.78	0.61	-21.5
Perth	19.6	18.8	-4.1	26.6	27.7	4.1	0.74	0.68	-7.9
Broome	12.1	16.8	38.8	24.3	26.0	6.8	0.50	0.64	29.9
Kununurra	7.6	11.7	55.0	28.0	30.7	9.6	0.27	0.38	41.4
Narrogin	13.1	13.9	6.7	27.6	26.1	-5.4	0.47	0.54	12.8
South Hedland	10.2	15.3	50.2	19.0	19.7	3.7	0.54	0.78	44.9
Derby	8.2	10.9	32.8	32.7	30.9	-5.6	0.25	0.35	40.8
Kalgoorlie	10.3	15.0	45.7	22.7	22.0	-3.1	0.45	0.68	50.4
Geraldton	13.7	15.4	12.4	27.0	26.3	-2.7	0.51	0.58	15.5
Tasmania	14.0	14.3	2.0	26.4	26.3	-0.4	0.53	0.54	2.4
Alice Springs	22.5	21.4	-4.7	26.8	29.2	9.3	0.84	0.73	-12.8
Jabiru	11.4	15.9	39.1	31.8	35.6	11.9	0.36	0.45	24.3
Katherine	9.0	15.0	67.4	25.4	27.2	7.2	0.35	0.55	56.2
Apatula	14.6	14.5	-1.1	26.5	30.3	14.1	0.55	0.48	-13.3
Nhulunbuy	12.9	14.5	12.5	27.6	25.8	-6.2	0.47	0.56	20.0
Tennant Creek	13.8	20.7	50.3	23.8	25.5	7.0	0.58	0.81	40.5
Darwin	19.5	20.2	3.5	27.1	28.0	3.3	0.72	0.72	0.2
Australian Capital Territory	29.0	29.5	1.6	38.3	41.1	7.4	0.76	0.72	-5.4
Australia Total	15.6	16.3	4.9	28.2	29.0	2.6	0.55	0.56	2.2

Source: ABS 2001 and 2006 Census customised usual residence tables.

Table A2. Indigenous and non-Indigenous employment in moderate skill and moderate Indigenous employment share occupations by Indigenous Region, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	22.1	26.1	18.5	31.4	30.9	-1.6	0.70	0.85	20.5
Bourke	17.2	21.2	23.3	26.6	26.1	-1.9	0.65	0.81	25.6
Coffs Harbour	23.0	24.1	4.8	30.0	29.4	-2.0	0.77	0.82	7.0
Sydney	25.4	24.9	-1.8	28.0	26.5	-5.1	0.91	0.94	3.5
Tamworth	18.9	21.2	12.2	26.6	26.6	-0.2	0.71	0.80	12.4
Wagga Wagga	21.8	23.2	6.3	26.7	27.1	1.5	0.82	0.85	4.7
Dubbo	22.7	24.1	6.4	27.5	27.1	-1.4	0.82	0.89	7.9
Melbourne	28.3	27.2	-4.0	27.6	26.7	-3.3	1.03	1.02	-0.7
Non-Met. Victoria	23.9	25.2	5.7	28.2	27.9	-1.1	0.85	0.91	6.9
Brisbane	25.8	26.0	0.7	29.2	28.9	-1.0	0.88	0.90	1.7
Cairns	16.8	20.4	20.9	30.1	31.1	3.3	0.56	0.65	17.0
Mt Isa	18.6	19.1	2.3	33.4	32.5	-2.7	0.56	0.59	5.2
Cape York	7.6	11.8	55.8	32.2	31.2	-3.2	0.23	0.38	60.9
Rockhampton	21.6	22.7	4.8	28.1	29.1	3.4	0.77	0.78	1.3
Roma	20.8	20.7	-0.6	25.9	27.0	4.1	0.80	0.77	-4.5
Torres Strait	18.1	17.0	-5.9	27.3	29.8	9.5	0.66	0.57	-14.0
Townsville	21.7	22.5	3.9	29.9	30.6	2.2	0.72	0.74	1.6
Adelaide	27.3	25.6	-6.2	27.6	27.3	-1.1	0.99	0.94	-5.1
Ceduna	17.8	23.1	29.9	25.4	25.6	0.7	0.70	0.90	29.0
Port Augusta	15.5	17.2	11.3	29.0	28.7	-1.0	0.53	0.60	12.4
Perth	26.2	25.2	-3.5	30.1	29.5	-2.0	0.87	0.85	-1.5
Broome	17.2	20.6	20.3	34.0	34.9	2.6	0.50	0.59	17.3
Kununurra	11.1	13.7	23.7	31.2	30.1	-3.7	0.36	0.46	28.5
Narrogin	22.6	24.2	7.2	29.0	29.8	2.8	0.78	0.81	4.3
South Hedland	19.3	20.1	3.9	35.9	35.6	-0.7	0.54	0.56	4.7
Derby	9.2	12.4	35.4	29.5	31.0	5.3	0.31	0.40	28.7
Kalgoorlie	15.8	15.1	-4.8	32.9	32.4	-1.6	0.48	0.47	-3.2
Geraldton	21.4	20.4	-4.4	29.6	29.8	0.7	0.72	0.68	-5.1
Tasmania	26.2	25.0	-4.9	27.5	27.3	-0.7	0.95	0.91	-4.3
Alice Springs	23.5	24.7	5.3	31.3	30.6	-2.5	0.75	0.81	7.9
Jabiru	12.2	11.3	-7.8	31.2	27.3	-12.4	0.39	0.41	5.2
Katherine	9.6	12.6	30.8	35.8	36.3	1.2	0.27	0.35	29.3
Apatula	9.3	9.2	-1.6	26.9	26.1	-2.9	0.35	0.35	1.2
Nhulunbuy	11.6	9.1	-21.6	33.1	32.6	-1.6	0.35	0.28	-20.3
Tennant Creek	15.2	15.0	-1.7	33.9	36.8	8.4	0.45	0.41	-9.3
Darwin	25.7	26.1	1.6	33.5	32.5	-2.9	0.77	0.80	4.6
Australian Capital Territory	28.4	27.9	-1.6	26.0	25.1	-3.7	1.09	1.11	2.2
Australia Total	21.6	22.5	4.2	28.4	27.8	-2.0	0.76	0.81	6.4

Source: ABS 2001 and 2006 Census customised usual residence tables.

Table A3. Indigenous and non-Indigenous employment in low skill and high Indigenous employment share occupations by Indigenous Region, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	59.7	56.0	-6.3	42.7	42.2	-1.0	1.40	1.32	-5.3
Bourke	67.3	62.0	-7.9	44.5	44.1	-0.8	1.51	1.40	-7.2
Coffs Harbour	60.1	57.9	-3.7	46.3	46.3	0.0	1.30	1.25	-3.7
Sydney	55.8	55.1	-1.3	40.9	40.6	-0.7	1.36	1.36	-0.6
Tamworth	67.8	64.0	-5.7	43.1	43.4	0.6	1.57	1.48	-6.3
Wagga Wagga	62.8	61.1	-2.7	44.5	44.4	-0.1	1.41	1.37	-2.6
Dubbo	64.1	61.9	-3.4	42.7	42.4	-0.7	1.50	1.46	-2.7
Melbourne	50.7	50.9	0.4	42.4	42.3	-0.2	1.20	1.20	0.6
Non-Met. Victoria	56.3	55.8	-0.9	43.9	44.3	0.9	1.28	1.26	-1.8
Brisbane	57.6	59.0	2.4	45.4	44.7	-1.4	1.27	1.32	3.9
Cairns	67.4	65.7	-2.5	46.4	45.6	-1.6	1.45	1.44	-0.9
Mt Isa	72.7	70.1	-3.7	46.4	45.8	-1.3	1.57	1.53	-2.4
Cape York	85.7	77.1	-9.9	43.6	41.9	-3.9	1.97	1.84	-6.3
Rockhampton	66.7	65.1	-2.3	48.6	48.8	0.5	1.37	1.33	-2.8
Roma	66.6	67.4	1.3	45.7	46.5	1.8	1.46	1.45	-0.4
Torres Strait	70.2	69.3	-1.4	37.2	28.5	-23.3	1.89	2.43	28.6
Townsville	65.3	65.6	0.4	47.4	47.5	0.2	1.38	1.38	0.2
Adelaide	53.7	55.3	3.0	45.4	44.9	-1.1	1.18	1.23	4.1
Ceduna	67.2	57.0	-15.2	39.6	40.6	2.3	1.69	1.41	-17.1
Port Augusta	66.0	68.0	3.0	47.3	47.2	-0.3	1.39	1.44	3.3
Perth	54.3	56.0	3.2	43.3	42.8	-1.1	1.25	1.31	4.4
Broome	70.8	62.6	-11.5	41.7	39.1	-6.1	1.70	1.60	-5.8
Kununurra	81.3	74.6	-8.3	40.8	39.2	-3.7	2.00	1.90	-4.8
Narrogin	64.4	61.9	-3.9	43.4	44.1	1.6	1.48	1.40	-5.4
South Hedland	70.5	64.7	-8.3	45.1	44.7	-1.0	1.56	1.45	-7.4
Derby	82.6	76.7	-7.2	37.8	38.1	0.8	2.18	2.01	-7.9
Kalgoorlie	73.9	69.9	-5.3	44.5	45.7	2.8	1.66	1.53	-7.9
Geraldton	65.0	64.2	-1.2	43.4	43.9	1.2	1.50	1.46	-2.3
Tasmania	59.7	60.7	1.7	46.1	46.4	0.6	1.30	1.31	1.1
Alice Springs	54.0	53.8	-0.3	41.9	40.2	-4.1	1.29	1.34	3.9
Jabiru	76.4	72.9	-4.6	37.0	37.1	0.2	2.07	1.97	-4.8
Katherine	81.4	72.3	-11.1	38.8	36.6	-5.8	2.10	1.98	-5.6
Apatula	76.0	76.3	0.4	46.6	43.6	-6.4	1.63	1.75	7.3
Nhulunbuy	75.5	76.4	1.2	39.3	41.6	5.7	1.92	1.84	-4.3
Tennant Creek	71.0	64.3	-9.4	42.2	37.7	-10.7	1.68	1.71	1.5
Darwin	54.8	53.7	-2.0	39.4	39.5	0.2	1.39	1.36	-2.2
Australian Capital Territory	42.6	42.6	0.0	35.6	33.8	-5.2	1.19	1.26	5.5
Australia Total	62.8	61.1	-2.7	43.4	43.2	-0.4	1.45	1.41	-2.3

Source: ABS 2001 and 2006 Census customised usual residence tables.

Table A4. Indigenous and non-Indigenous employment in high growth industries, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	35.3	37.0	4.8	27.2	30.9	13.5	1.30	1.20	-7.7
Bourke	43.2	48.5	12.3	28.0	33.2	18.5	1.54	1.46	-5.3
Coffs Harbour	33.4	34.9	4.3	26.4	29.6	12.1	1.27	1.18	-6.9
Sydney	27.5	30.5	10.9	20.3	22.7	11.7	1.35	1.34	-0.7
Tamworth	37.8	31.6	-16.5	21.5	24.8	15.0	1.76	1.28	-27.4
Wagga Wagga	28.4	31.3	10.2	21.3	25.3	18.8	1.33	1.23	-7.2
Dubbo	34.1	34.0	-0.2	21.9	26.1	19.1	1.56	1.30	-16.2
Melbourne	26.8	29.0	8.3	19.8	22.7	14.3	1.35	1.28	-5.3
Non-Met. Victoria	31.1	35.2	13.2	22.7	26.7	17.9	1.37	1.32	-4.0
Brisbane	29.5	32.3	9.7	23.1	26.7	15.5	1.27	1.21	-5.0
Cairns	45.7	47.3	3.5	21.5	26.9	25.5	2.13	1.76	-17.5
Mt Isa	58.8	60.7	3.2	38.4	42.7	11.0	1.53	1.42	-7.1
Cape York	90.0	80.1	-11.1	38.7	33.3	-14.0	2.33	2.41	3.4
Rockhampton	35.3	40.5	14.8	25.6	31.4	22.6	1.38	1.29	-6.3
Roma	36.2	39.0	7.7	22.3	26.3	18.0	1.62	1.48	-8.7
Torres Strait	76.6	79.8	4.2	43.8	51.4	17.3	1.75	1.55	-11.2
Townsville	36.0	39.9	11.0	26.4	32.0	21.4	1.36	1.25	-8.5
Adelaide	33.5	33.4	-0.4	22.9	26.7	16.8	1.47	1.25	-14.8
Ceduna	59.4	46.9	-21.1	18.9	22.0	16.8	3.15	2.13	-32.4
Port Augusta	54.5	59.2	8.5	27.0	31.2	15.7	2.02	1.89	-6.2
Perth	33.2	36.9	11.1	25.4	29.6	16.3	1.31	1.25	-4.5
Broome	61.9	48.0	-22.4	24.5	28.5	16.1	2.52	1.69	-33.2
Kununurra	61.3	56.8	-7.3	26.1	33.5	28.2	2.35	1.70	-27.7
Narrogin	30.0	33.6	12.1	23.9	28.2	17.9	1.26	1.19	-4.9
South Hedland	54.7	65.2	19.3	45.3	51.0	12.8	1.21	1.28	5.8
Derby	63.5	67.0	5.5	38.6	41.0	6.2	1.65	1.63	-0.7
Kalgoorlie	60.9	56.8	-6.7	37.3	39.4	5.7	1.63	1.44	-11.7
Geraldton	39.7	45.8	15.4	25.8	29.6	14.7	1.54	1.55	0.6
Tasmania	25.0	28.1	12.4	24.6	28.2	15.0	1.02	1.00	-2.3
Alice Springs	38.6	46.8	21.2	31.0	32.9	5.8	1.24	1.43	14.6
Jabiru	74.6	71.4	-4.3	36.6	41.6	13.8	2.04	1.72	-15.9
Katherine	75.0	73.8	-1.6	39.3	41.6	5.8	1.91	1.77	-6.9
Apatula	70.2	74.2	5.6	20.4	23.1	13.4	3.44	3.20	-6.9
Nhulunbuy	73.4	79.6	8.4	44.7	41.1	-8.1	1.64	1.94	18.0
Tennant Creek	65.8	69.4	5.6	29.4	30.8	5.0	2.24	2.25	0.6
Darwin	40.2	40.8	1.5	33.0	37.6	14.0	1.22	1.08	-11.0
Australian Capital Territory	46.6	52.2	12.0	38.4	44.8	16.5	1.21	1.17	-3.8
Australia Total	40.8	41.5	1.9	22.8	26.3	15.3	1.78	1.58	-11.7

Source: ABS 2001 and 2006 Census customised usual residence tables.

Table A5. Indigenous and non-Indigenous employment in stable industries, 2001 and 2006

Indigenous Region	Indigenous 2001 (%)	Indigenous 2006 (%)	Indigenous Change (%)	Non-Indigenous 2001 (%)	Non-Indigenous 2006 (%)	Non-Indigenous Change (%)	Ratio 2001	Ratio 2006	Ratio Change (%)
Queanbeyan	44.9	45.0	0.2	49.6	49.1	-1.1	0.91	0.92	1.3
Bourke	39.9	39.5	-1.0	42.9	40.9	-4.5	0.93	0.96	3.7
Coffs Harbour	47.9	47.8	-0.3	50.9	50.5	-0.9	0.94	0.95	0.7
Sydney	49.6	49.9	0.6	55.0	55.2	0.4	0.90	0.90	0.2
Tamworth	40.2	45.9	14.2	44.2	44.1	-0.1	0.91	1.04	14.3
Wagga Wagga	42.2	43.2	2.5	42.8	43.6	1.8	0.98	0.99	0.7
Dubbo	39.4	46.5	17.9	44.6	44.5	-0.2	0.88	1.04	18.1
Melbourne	45.8	45.7	-0.2	51.8	52.2	0.8	0.88	0.88	-1.0
Non-Met. Victoria	41.3	39.6	-4.1	44.2	44.4	0.5	0.93	0.89	-4.5
Brisbane	46.1	46.5	0.9	53.5	52.3	-2.2	0.86	0.89	3.1
Cairns	36.7	39.4	7.4	55.3	54.0	-2.3	0.66	0.73	9.9
Mt Isa	29.9	28.1	-6.2	40.0	37.5	-6.3	0.75	0.75	0.1
Cape York	8.3	9.8	18.1	47.4	37.1	-21.8	0.18	0.26	51.0
Rockhampton	42.0	40.6	-3.3	45.5	44.6	-1.9	0.92	0.91	-1.4
Roma	37.4	36.5	-2.5	42.8	42.8	0.0	0.87	0.85	-2.5
Torres Strait	21.1	18.3	-13.4	50.2	42.0	-16.3	0.42	0.43	3.5
Townsville	43.0	42.1	-2.1	47.5	45.6	-4.0	0.90	0.92	1.9
Adelaide	42.2	44.0	4.3	47.6	47.8	0.3	0.89	0.92	4.0
Ceduna	24.5	40.1	64.0	40.3	41.0	1.8	0.61	0.98	61.1
Port Augusta	37.2	34.3	-7.9	44.0	42.7	-2.9	0.85	0.80	-5.1
Perth	47.1	44.6	-5.3	52.4	50.7	-3.3	0.90	0.88	-2.1
Broome	29.4	42.7	45.0	56.4	57.5	1.9	0.52	0.74	42.3
Kununurra	32.8	37.7	15.0	50.3	46.7	-7.2	0.65	0.81	23.8
Narrogin	44.9	43.6	-2.8	42.0	41.5	-1.0	1.07	1.05	-1.7
South Hedland	36.1	27.9	-22.6	40.5	38.6	-4.7	0.89	0.72	-18.8
Derby	29.9	27.5	-8.0	45.0	43.9	-2.3	0.67	0.63	-5.9
Kalgoorlie	31.3	34.0	8.4	41.7	41.0	-1.7	0.75	0.83	10.3
Geraldton	44.0	39.1	-11.2	44.9	45.3	0.9	0.98	0.86	-12.0
Tasmania	45.7	45.6	-0.1	48.1	47.6	-1.0	0.95	0.96	0.9
Alice Springs	48.7	45.8	-5.9	55.4	55.2	-0.4	0.88	0.83	-5.6
Jabiru	19.4	22.6	16.3	50.1	42.1	-15.9	0.39	0.54	38.4
Katherine	18.6	19.6	5.4	44.1	41.1	-6.9	0.42	0.48	13.2
Apatula	23.2	21.8	-6.0	63.4	58.5	-7.7	0.37	0.37	1.9
Nhulunbuy	24.9	17.1	-31.3	39.9	33.9	-15.2	0.62	0.50	-19.0
Tennant Creek	27.5	23.6	-14.2	44.2	42.8	-3.2	0.62	0.55	-11.4
Darwin	46.0	46.2	0.5	50.9	47.8	-6.1	0.90	0.97	7.1
Australian Capital Territory	41.7	39.9	-4.4	50.5	45.6	-9.6	0.83	0.87	5.8
Australia Total	40.3	41.0	1.9	50.9	50.5	-0.8	0.79	0.81	2.7

Source: ABS 2001 and 2006 Census customised usual residence tables.

Table A6. Indigenous and non-Indigenous employment in declining industries, 2001 and 2006

	Indigenous			Non-Indigenous			Ratio		
Indigenous Region	2001 (%)	2006 (%)	Change (%)	2001 (%)	2006 (%)	Change (%)	2001	2006	Change (%)
Queanbeyan	19.8	18.0	-9.1	23.2	20.0	-13.6	0.85	0.90	5.3
Bourke	16.9	12.0	-29.0	29.1	25.8	-11.2	0.58	0.46	-20.1
Coffs Harbour	18.7	17.4	-7.0	22.7	20.0	-11.9	0.82	0.87	5.6
Sydney	23.0	19.6	-14.4	24.7	22.1	-10.5	0.93	0.89	-4.4
Tamworth	22.0	22.5	2.5	34.3	31.1	-9.3	0.64	0.72	13.0
Wagga Wagga	29.5	25.5	-13.4	35.8	31.0	-13.4	0.82	0.82	-0.1
Dubbo	26.5	19.5	-26.4	33.5	29.4	-12.2	0.79	0.66	-16.2
Melbourne	27.4	25.3	-7.8	28.4	25.1	-11.5	0.97	1.01	4.2
Non-Met. Victoria	27.7	25.3	-8.7	33.1	28.8	-12.8	0.84	0.88	4.8
Brisbane	24.4	21.2	-13.3	23.4	20.9	-10.3	1.04	1.01	-3.3
Cairns	17.6	13.2	-24.6	23.2	19.0	-18.0	0.76	0.69	-8.1
Mt Isa	11.2	11.2	-0.1	21.6	19.8	-8.0	0.52	0.57	8.6
Cape York	1.7	10.1	511.5	13.9	29.6	113.2	0.12	0.34	186.8
Rockhampton	22.7	18.9	-16.9	28.9	24.0	-16.9	0.79	0.79	0.0
Roma	26.4	24.6	-7.1	34.9	30.9	-11.5	0.76	0.80	5.1
Torres Strait	2.4	2.0	-17.0	6.0	6.6	9.5	0.39	0.30	-24.2
Townsville	21.0	18.0	-14.5	26.1	22.3	-14.4	0.81	0.81	-0.2
Adelaide	24.3	22.6	-6.9	29.5	25.5	-13.5	0.82	0.88	7.7
Ceduna	16.2	13.0	-19.5	40.9	37.0	-9.5	0.40	0.35	-11.1
Port Augusta	8.3	6.6	-20.8	29.1	26.1	-10.2	0.29	0.25	-11.8
Perth	19.7	18.5	-6.1	22.2	19.7	-11.0	0.89	0.94	5.5
Broome	8.7	9.3	7.2	19.1	14.1	-26.4	0.45	0.66	45.7
Kununurra	5.8	5.4	-7.1	23.6	19.9	-15.9	0.25	0.27	10.5
Narrogin	25.1	22.7	-9.5	34.1	30.3	-11.2	0.74	0.75	2.0
South Hedland	9.2	6.8	-25.8	14.2	10.3	-27.3	0.65	0.66	2.1
Derby	6.5	5.4	-16.7	16.4	15.1	-8.3	0.40	0.36	-9.1
Kalgoorlie	7.8	9.2	18.5	21.0	19.6	-6.7	0.37	0.47	27.1
Geraldton	16.3	15.1	-7.2	29.3	25.1	-14.3	0.56	0.60	8.3
Tasmania	29.3	26.3	-10.4	27.4	24.2	-11.7	1.07	1.09	1.5
Alice Springs	12.6	7.3	-42.0	13.6	12.0	-11.8	0.93	0.61	-34.2
Jabiru	6.0	6.0	0.2	13.3	16.3	21.9	0.45	0.37	-17.8
Katherine	6.4	6.6	2.5	16.5	17.3	4.6	0.39	0.38	-2.0
Apatula	6.6	4.0	-38.9	16.2	18.4	13.4	0.41	0.22	-46.2
Nhulunbuy	1.7	3.3	98.0	15.3	25.0	63.4	0.11	0.13	21.2
Tennant Creek	6.8	7.0	3.7	26.4	26.4	-0.1	0.26	0.27	3.8
Darwin	13.8	13.0	-6.0	16.1	14.6	-9.3	0.86	0.89	3.6
Australian Capital Territory	11.7	7.9	-32.2	11.1	9.6	-13.1	1.05	0.82	-22.0
Australia Total	18.9	17.4	-8.0	26.3	23.2	-11.8	0.72	0.75	4.4

Source: ABS 2001 and 2006 Census customised usual residence tables.