

**The effects of the CDEP scheme on
the economic status of Indigenous
Australians: some analyses using
the 1996 Census**

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Table of Contents

Summary	v
Acknowledgments	viii
Background	1
Aims of this paper	2
Previous CAEPR research and data availability	3
The 1996 Census and the identification of CDEP employment	5
The effects of the CDEP scheme on labour market outcomes	8
The effect of CDEP schemes on the economic status of Indigenous communities	13
The comparative economic status of CDEP and non-CDEP communities by section-of-State	13
Proportion of employment which is linked to the CDEP scheme	15
The proportion of the population which is non-Indigenous and CDEP employment	16
Conclusion and policy implications	17
Notes	19
References	21

Tables

Table 1.	Selected characteristics of regions in which the SIPFs was used and the 'rest of Australia' by Indigenous status, 1996 Census.	7
Table 2.	Median personal weekly income by labour force status, enumerated using the SIPF.	10
Table 3.	Personal weekly income by labour force status, enumerated using the SIPF (per cent in each category).	12
Table 4.	Hours worked by labour force status, enumerated using the SIPF (per cent in each category).	13
Table 5.	Labour force status by region of residence, Indigenous population aged 15–64 years.	14
Table 6.	Economic indicators by proportion of employment which is CDEP, Indigenous persons in SIPF areas.	15
Table 7.	Economic indicators for Indigenous persons in SIPF areas by the proportion of the population which is non-Indigenous.	17

Figures

Figure 1.	Personal income distribution by labour force status, males.	11
Figure 2.	Personal income distribution by labour force status, females.....	11

Summary

The Community Development Employment Projects (CDEP) scheme is currently the Aboriginal and Torres Strait Islander Commission's (ATSIC's) most significant program. Since its establishment in 1977, this Indigenous-specific program has been variously described as a labour market program, an alternative income support scheme and a community development initiative. A major objective of the scheme is to improve the employment and income status of Indigenous people.

This paper presents the first analysis using data from the 1996 Census of the effects of CDEP employment on the economic status of Indigenous individuals. The 1996 Census is the first census that provides information about CDEP employees. Information is restricted to areas in which the Special Indigenous Personal Forms (SIPF) were utilised, but this allows the effects of CDEP employment on income to be better isolated, at least in these areas. Some comparisons of the labour market outcomes of indigenous people in CDEP communities to those in non-CDEP communities are also presented.

Previous CAEPR research and data availability

A number of papers have analysed the effects of CDEP participation on the economic status of individuals and communities. These papers have produced mixed results that may have been generated in part by the absence of appropriate statistical information about the effectiveness of the scheme. On balance, the available evidence suggests that the CDEP-employed earned higher incomes than those dependent on government support, and significantly lower incomes than those in mainstream employment.

The 1996 Census and the identification of CDEP employment

Statistical data on CDEP scheme participants have improved in the last decade, but the information available in the 1996 Census that is analysed here is still incomplete. For the first time, the 1996 Census attempted to reliably identify CDEP-employed participants in the discrete Indigenous communities in which the SIPF were used as part of the Indigenous Enumeration Strategy (IES). The SIPF were predominantly used in remote and rural communities, as well as in some town camps, and are based on data collection via interview rather than self-administered questionnaire.

- The total number of CDEP participants identified as employed in the 1996 Census was 12,256, which constitutes around 65 per cent of estimated working CDEP participants at the time.
- The geographic areas in which the SIPF was used have relatively large Indigenous populations. The Indigenous population enumerated in the SIPF areas is approximately 20 per cent of the total Indigenous population, whereas the non-Indigenous population is 0.6 per cent of the total non-Indigenous population. Despite having only 20 per cent of the Australian

Indigenous population, approximately 60 per cent of total CDEP employment is in the SIPF areas.

- The Indigenous employment to population ratio of 40.5 per cent in the SIPF areas is slightly higher than the employment to population ratio of 38.5 in the non-SIPF rest of Australia, primarily because of the high levels of CDEP 'employment' in these areas. Reflecting the lack of mainstream employment opportunities in the SIPF areas, the labour force participation rate and median incomes are lower in the communities in which the SIPF was used than for the Indigenous population in the rest of Australia.

The effects of the CDEP scheme on labour market outcomes

This section focuses specifically on those areas in which the SIPF was used in order to allow an analysis of the effects of CDEP employment on income. By using information at the level of the individual it is possible to isolate the effect of CDEP employment on income.

- The mean and median personal weekly income of the CDEP-employed is substantially higher than for the unemployed. For example CDEP-employed males and females receive a median income of \$169 and \$166 per week respectively, compared to \$146 and \$154 received by unemployed males and females respectively. The income of the CDEP employed is, however, much lower than the median income of \$274 per week received by both Indigenous males and females in full-time and part-time mainstream employment in SIPF areas.
- Participation in a CDEP scheme may increase personal income in several ways. CDEP participants may combine CDEP employment with part-time mainstream employment, or periods of CDEP employment with periods of mainstream employment and self-employment within a given year. Community organisations with CDEP schemes may also engage in business enterprises that generate extra hours of paid employment for CDEP participants. In addition, if there are drop-outs from the CDEP scheme, it is possible to provide more days of work (and hence income) for those who take on the work of the departed participants.
- The distribution of hours worked per week for the CDEP and mainstream-employed reveals that a significant minority of working CDEP participants worked full-time (more than 35 hours per week).

The effect of CDEP schemes on the economic status of Indigenous communities

This section analyses the effects of the CDEP scheme on the extent of employment and unemployment at the level of Indigenous communities and groups. By combining ATSIC administrative data with census data it is possible to compare the rates of employment, labour force participation and unemployment in the CDEP communities with those in non-CDEP communities. The analysis

here includes all communities in rural and remote areas and other urban areas. It is not possible to conduct an analysis of CDEP and non-CDEP communities in major urban areas.

The comparative economic status of CDEP and non-CDEP communities by section-of-State

- CDEP communities in 'other urban' areas have an employment to working age population ratio of 39.0 per cent which is very similar to the rate of 39.9 per cent in non-CDEP communities. CDEP schemes account for 6.0 per cent of employment, and therefore this suggests a mainstream employment rate of around 33 per cent in 'other urban' areas in which there are CDEP schemes. Thus, in the absence of the CDEP scheme, the employment to population ratio would be lower than in other urban areas which do not have CDEP schemes.
- The most dramatic effects of CDEP schemes on employment can be seen in the 'rural balance and locality' areas. CDEP communities in these areas have an employment to population ratio of 49.7 per cent which is more than 10 percentage points higher than in CDEP communities in 'other urban' areas. On the other hand, communities without the CDEP scheme in 'rural balance and locality' areas have an employment to population ratio of 37.7 per cent which is slightly lower than in 'other urban' areas.

The proportion of the population which is non-Indigenous and CDEP employment

The proportion of the population in a geographic area which is non-Indigenous is closely related to the number of mainstream labour market opportunities. Indigenous locations in which a high proportion of the population is non-Indigenous have higher mainstream labour market opportunities in general.

CDEP employment accounts for the greatest proportion of employment in regions in which a large proportion of the population is Indigenous. This result simply reflects the fact that there are more CDEP schemes in areas in which a high proportion of the population is Indigenous, because of past administrative rules which limited CDEP schemes to rural and remote areas. This pattern is likely to change in the future with policy shift allowing more CDEP schemes in urban areas.

Conclusion and policy implications

This paper finds that CDEP employment increases income above social security entitlements, but that the increase in income is smaller than NATSIS estimates show. This suggests that CDEP employment does play some role in raising personal incomes. There are a number of possible reasons for the difference between the NATSIS estimates and those presented here. One possibility is that the NATSIS findings are representative of the entire Indigenous population,

whereas the 1996 Census estimates are restricted to geographic regions in which the SIPF was used: that is predominantly rural and remote areas in which mainstream employment opportunities are limited.

CDEP-employed in urban areas may receive more than those in rural and remote areas because CDEP schemes in urban areas may be more likely to engage in activities which provide CDEP participants with increased hours of work. However, it is very possible that not all cash income earned in rural and remote areas is enumerated, especially that gained from informal economic activity.

If the difference between the NATSIS and the 1996 Census estimates of the effects of CDEP on income is due to the fact that the NATSIS estimates are for all regions of Australia, whereas the census estimates are primarily for rural and remote areas, then this implies that the positive effect of CDEP on income is much larger in the urban areas than in the rural and remote areas.

Ultimately, the socioeconomic impact of the scheme on individuals is significant and future census and NATSIS information on scheme participants will be important. But the scheme has two broad aims: labour market performance and community development. Broader questions such as whether there are significant differences in the social and cultural characteristics between communities with and without CDEP cannot be addressed using census data. Data sets which measure a far wider range of variables such as health status, arrest rates, and the flows between CDEP employment and the other labour force states are all needed to answer such questions. It is likely that such issues will only be comprehensively addressed by community-based case-study research that can document the benefits of the scheme to community development outcomes.

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Background

The Community Development Employment Projects (CDEP) scheme is currently the Aboriginal and Torres Strait Islander Commission's (ATSIC's) most significant program. Since its establishment in 1977, this Indigenous-specific program has been variously described as a labour market program, an alternative income support scheme and a community development initiative. At present, two elements of the scheme are emphasised: community-based employment and community development (ATSIC 1999: 50). This accords with emphases in the current social policy environment on 'mutual obligation' and the scheme has similarities to the work-for-the-dole program available to all Australians. At 30 June 1999, the scheme had 31,900 participants and was administered by 265 Indigenous community organisations. In 1998/99, the program cost ATSIC nearly \$379 million, although 63 per cent of this (or \$249 million) comprised an offset against participants' unemployment and sole parent social security entitlements (ATSIC 1999: 50–1).

Under the CDEP scheme, Indigenous community organisations receive a non-discretionary grant similar to the collective unemployment payment and pension entitlements of all participants. An additional discretionary component that can total 40 per cent above this 'entitlement' can be provided to fund administration and capital and equipment requirements. Discretion is primarily with ATSIC Regional Councils who make allocative decisions on the basis of community applications; community organisations also have discretion, and a high degree of accountability, about how total allocations are utilised. In general, scheme participants are expected to work part-time for wages, although not all participating organisations insist on a work-for-pay rule.

Historically, the CDEP scheme was only available on a one-in/all-in basis for each community organisation. However, the current CDEP policy, which has evolved during the 1990s, means that when the scheme is provided, the unemployed have some choice as to whether or not they participate, with normal income support also generally available. Similarly, historically, the scheme was available only to remote communities, but in recent years its geographic coverage has increased markedly and there are now numerous CDEP schemes in urban areas. Nonetheless, CDEP schemes remain predominantly concentrated in rural and remote regions that have very poor mainstream employment prospects (Altman and Hunter 1996b; see location map in ATSIC 1999: 55). At the time of the 1996 Census (August) there were an estimated 18,000 working CDEP participants, accounting for around 20 per cent of Indigenous adults recorded by the census as employed (Taylor and Hunter 1998). In some rural and remote areas the proportion of Indigenous employment generated by CDEP schemes is much higher.

The recent increase in the incidence of other work-for-the-dole schemes in the general Australian community has lessened the unique and distinctive aspects of this Indigenous labour market institution. However, the rise of mainstream work-for-the-dole schemes and other programs based on 'mutual

obligation' are unlikely to replace the ongoing need for large scale usage of CDEP-style schemes in areas where there are disproportionate numbers of Indigenous people and limited mainstream employment opportunities. This commitment to continue funding the scheme has been most recently reaffirmed in the Indigenous Employment Policy launched by Minister Peter Reith on 25 May 1999.

Aims of this paper

This paper continues an established research tradition at CAEPR of assessing, in whatever ways possible, the impacts of the CDEP scheme on the socioeconomic status of Indigenous Australians. This accords with CAEPR's fundamental interests in appropriate economic policy and beneficial economic development for Indigenous Australians. This literature, though, will not be summarised here except in relation to two broad evaluative issues that are the focus of this paper. First, how has the economic status of individuals participating in the scheme changed over time? This question is especially pertinent because the scheme has expanded very rapidly since 1986 when only 38 community organisations and about 4,000 individuals participated in the scheme (Altman and Sanders 1991) to the current 265 organisations and 31,900 individuals. Second, and of equal significance, how does the economic status of scheme participants compare with that of other Indigenous people not participating in the scheme and with other Australians?

A major objective of the scheme is to improve the employment and income status of Indigenous people. The notion of improvement suggests a need to measure change over time. However, the extent to which the CDEP scheme has been successful (or unsuccessful) in doing this is largely unresolved owing to the absence of appropriate statistics. (Measuring change in the socioeconomic status of Indigenous Australians intercensally is difficult enough without a focus on the impacts of just one of many interventions.) A common theme in CAEPR research since the early 1990s (see chapters in Altman 1991 and Altman 1992) is the need for CDEP participants to be identified in major statistical collections made by the Australian Bureau of Statistics (ABS) to allow the generation of historical and comparative data. This recommendation was implemented in part with the inclusion of a question on CDEP scheme participation in the first National Aboriginal and Torres Strait Islander Survey (NATSIS) in 1994 (see chapters in Altman and Taylor 1996). It is possible that the Indigenous General Social Survey planned by the ABS for 2002 will provide strictly comparative information to allow longer-term assessment of the scheme's impact on individual economic status. Such a possibility will be dependent on similar questions being asked and the scheme remaining fundamentally unchanged until the time data are collected.

The recommendation for identification of CDEP scheme participants was also partly implemented in the 1996 Census. For the first time, the census attempted to reliably identify the CDEP-employed participants in the discrete Indigenous communities in which the Special Indigenous Personal Form (SIPF) was used as part of the Indigenous Enumeration Strategy (IES). The SIPF was predominantly used in remote and rural communities, as well as in some town

camps, and is based on data collection via interview rather than self-administered questionnaire. While some CDEP participants were identified via the standard census method, this proved unreliable with only a small proportion of the actual working CDEP participants identified. The total number of CDEP participants identified as employed in the 1996 Census was 12,256, of which 10,948 were identified using the SIPF. This total number constitutes around 65 per cent of estimated working CDEP participants (Taylor and Hunter 1998) at the time of the 1996 Census. This paper uses the available data set in an attempt to answer the second broad question raised above: what is the comparative impact of the CDEP scheme on participating employed individuals according to the 1996 Census?

This paper is in four sections. The first section briefly summarises previous and more rudimentary research findings about the economic impact of the scheme on participants. The second section discusses the implementation of the IES and the use of the SIPFs in the 1996 Census, and describes the overall characteristics of Indigenous persons living in communities in which SIPF forms were used as compared to those who were enumerated using the standard census methodology. The third section uses data from the 1996 Census to analyse the effects of CDEP employment on personal income and levels of employment within CDEP communities. By focusing on the Indigenous respondents who were enumerated using SIPF we can derive the best estimates yet as to the effect of CDEP on the economic status of individuals living in those geographic regions in which SIPF were used. The fourth section explores whether the CDEP scheme influences the socioeconomic status of residents of communities that participate in the CDEP scheme as compared to residents of communities which do not participate in the scheme.

In conclusion, we raise a number of policy implications of our findings, while reiterating the need for improved statistical information about CDEP scheme participation and the need for other research to assess the impacts of the scheme on communities as distinct from on individual participants.

Previous CAEPR research and data availability

Three studies undertaken at CAEPR on the effects of CDEP participation on the economic status of individuals and communities highlight problems and mixed results that may have been generated in part by the absence of appropriate statistical information about the effectiveness of the scheme.¹ These three studies also provide illustrative material on the problems encountered in identifying CDEP scheme participants in the past and the enormous progress that has been possible with the inclusion of a question on CDEP scheme employment in the 1996 Census.

Altman and Daly (1992: 4–5) identified 38 named community organisations participating in the CDEP scheme in 1986. In the absence of any question on CDEP scheme participation in the 1986 Census, they identified 19 ABS Collection Districts (CDs) that were entirely composed of communities known to be participating in the scheme. The Aboriginal population sub-file was then

interrogated to provide information about these CDs. However, because CDEP participants were not identified, a very imprecise proxy, people working 0–24 hours per week, was used to identify employed CDEP scheme participants. Not surprisingly, this imprecise methodology generated imprecise outcomes. In particular, it was only possible to locate 30 per cent of an estimated 2,000 CDEP scheme participants at these 19 communities, indicating that a high proportion of participants at that time were probably recorded as unemployed, not in the labour force, or labour force not stated.

Altman and Hunter (1996a) used data from the 1991 Census to compare selected CDEP and non-CDEP communities in the Northern Territory. This methodology was more robust because no attempt was made to identify individuals and the focus was on community profiles data from the 1991 Census. In total 19 communities were selected, ten that were participating in the scheme and nine that were not. Selection ensured that all communities were in similar geographic locations to allow for structural economic circumstances that might bias research outcomes. This research indicated that employment levels were higher at communities participating in the CDEP scheme and that this improvement exceeded the direct employment created by the scheme and went beyond the cosmetic appearance of employment creation that occurs when individuals move from welfare to workfare. On the other hand, the research indicated that income levels at CDEP communities were similar to those at non-CDEP communities and may even have been slightly lower. Altman and Hunter (1996a) warned that this finding must be treated with caution because it is based on a small number of discrete communities and because 1991 Census data did not identify CDEP employment.

It was only later in 1996 that results from the 1994 NATSIS became available and these allowed direct comparison between individuals on the basis of participation in the CDEP scheme. Hence for example, Ross (1996) was able to show that counter to Altman and Hunter's (1996a) earlier finding, the CDEP-employed earned higher incomes than those dependent on government support, and significantly lower incomes than those in mainstream employment. This early finding was subsequently given further support in more sophisticated interrogation of the NATSIS Confidentialised Unit Record File by Sanders (1997) and the Office of Evaluation and Audit (1997).

While enormous progress has been possible with the inclusion of a question on CDEP scheme employment in the 1996 Census, these data have been hardly used outside of the ABS. This is primarily a result of the data not being publicly available in a form, which allows analysis of the type conducted in this paper. A number of the tables presented in this paper required the purchase of customised data from the ABS. Other tables required a great deal of effort to identify the Indigenous Areas in which CDEP employment is reliably identified. Provision of the data in a more accessible and cheaper form by the ABS to researchers would greatly enhance the use of these data.

The 1996 Census and the identification of CDEP employment

Statistical data on CDEP scheme participants have clearly improved progressively in the last decade. But the information available in the 1996 Census that is analysed here is still incomplete. Before analysing the effects of the CDEP scheme on the socioeconomic status of Indigenous Australians, it is important to understand which CDEP scheme participants were identified in the 1996 Census. It is also important to understand the economic and demographic characteristics of the geographic areas in which these CDEP participants were identified. This not only provides a context within which to interpret the analysis of the effects of CDEP participation on the economic status of Indigenous individuals, but it may also be of use to other researchers who use census data to analyse the effects of the CDEP scheme.

The particular IES adopted for the 1996 Census evolved from similar strategies used in previous censuses. The strategy aims to provide the ABS with sufficient flexibility to account for the unique cultural aspects of Indigenous society that may affect Indigenous enumeration, although it has been argued that there is a long way to go before this aim is achieved (see Smith 1992; Altman and Taylor 1996; Martin and Taylor 1996). Within this framework different approaches were needed to enumerate nominated discrete communities of Indigenous peoples and all other Indigenous households. Nominated discrete communities are those that were identified, by the ABS, as requiring specialised enumeration procedures because of geographical isolation and/or extent of cultural or language differences from mainstream Australia. Such communities are located in remote areas, but some exist as clearly defined Indigenous populations in, or near, towns or cities. In nominated discrete communities enumeration was carried out by Indigenous interviewers using specially-designed census forms. For the nominated discrete communities, three census forms were used. The Community List, which was a coverage check of dwellings and households; the Special Indigenous Household Form (SIHF), which was a listing of household members and visitors; and the Special Indigenous Personal Form (SIPF), equivalent to the standard Personal form but reworded for use by an interviewer and to suit the cultural situation of Indigenous communities. (See Alphenaar, Majchrzak-Hamilton and Smith (1999) for further details of the use of the IES).

The nominated discrete areas are closely correlated with the 1996 Census Indigenous geography and in most cases can be exactly matched. By comparing the number of Indigenous persons in each Indigenous Location (ILOC) enumerated by the 1996 Census to the number of SIPF forms administered in each ILOC it is possible to identify the degree of coverage using the SIPF forms.² In the ILOCs in which the IES was used, 60,186 SIPF were distributed and 72,229 Indigenous individuals identified, meaning that in SIPF areas 82.6 percent of the Indigenous population used a SIPF census form.³

Table 1 presents selected demographic and economic characteristics of the ILOCs in which the SIPF were used and the ILOCs in which the standard census

methodology was used (the 'rest of Australia'). In the SIPF areas 10,948 working CDEP participants are identified, accounting for approximately 58 per cent of the estimated 18,656 working CDEP participants at the time of the 1996 Census (Taylor and Bell 1998).⁴ In the 'rest of Australia' CDEP participation was identified through the name of employer provided on the census form. This was a very unreliable way of identifying CDEP participants with only 1,237 CDEP participants identified, which is approximately 7 per cent of the estimated working CDEP participants in these geographic areas. Since the SIPF forms were overwhelmingly used in rural and remote areas, it can be readily concluded that reliable information from the 1996 Census on CDEP employment is limited to these areas.

The geographic areas in which the SIPF was used have relatively large Indigenous populations. Of the total population of 174,796 living in the SIPF areas, 72,229 are Indigenous and 102,567 non-Indigenous (Table 1). The Indigenous population enumerated in the SIPF areas is approximately 20 per cent of the total Indigenous population, whereas the non-Indigenous population is 0.6 per cent of the total non-Indigenous population. Despite having only 20 per cent of the Australian Indigenous population, approximately 60 per cent of total CDEP employment is in the SIPF areas. This is a reflection of the fact that the SIPF areas are predominantly in rural and remote areas where, as noted earlier, the CDEP scheme predominates for historical and structural reasons.

The Indigenous employment to population ratio of 40.5 per cent in the SIPF areas is slightly higher than the employment to population ratio of 38.5 in the 'rest of Australia', primarily because of the high levels of CDEP 'employment' in SIPF areas. Reflecting the lack of mainstream employment opportunities in the SIPF areas, the labour force participation rate and median incomes are lower in the communities in which the SIPF was used than for the Indigenous population in the rest of Australia. For example, in the SIPF areas only 58.3 per cent of the Indigenous population were participating in the labour force as compared to 65.3 per cent of the Indigenous population in the rest of Australia.

Within the non-Indigenous population there are also differences in labour force status between those living in SIPF areas and the rest of Australia. This reflects the fact that the SIPF was predominantly used in rural and remote areas, where a high proportion of the non-Indigenous population is in the area specifically for work; in the absence of employment this population would migrate to a location where employment is available. The employment to population ratio in the SIPF areas is 71.1 compared to 56.5 per cent in the rest of Australia. Consistent with the very high employment to population ratio, median individual income is markedly higher for the non-Indigenous population in the SIPF areas than in the rest of Australia.

The proportion of the Indigenous population aged 15 years plus that has never been to school is much higher in the SIPF areas (8.1 per cent) than in the rest of Australia (1.4 per cent). The level of post-secondary educational attainment in the SIPF areas is also very low, with only 1.5 per cent of the Indigenous population having a diploma or degree level qualification, 11.1 per cent not

stating or describing inadequately their post-secondary qualifications, and 87.4 per cent having no post-secondary qualification.

Table 1. Selected characteristics of regions in which the SIPFs was used and the 'rest of Australia' by Indigenous status, 1996 Census

	SIPF areas		Rest of Australia	
	Indigenous	non-Indigenous	Indigenous	non-Indigenous
Total persons	72,229	102,567	280,741	16,771,889
0–14 years	27,325	20,109	114,071	3,579,998
15–44 years	34,652	52,566	130,709	7,625,189
45–64 years	7,843	23,558	29,022	3,560,698
65 years and over	2,409	6,334	6,939	2,006,004
Attending an educational institution (per cent)	26.8	20.1	36.4	26.0
Never attended school (per cent)	8.1	0.3	1.4	0.7
In the labour force				
Employed: CDEP	10,948		1,311	
Employed: other	7,247	58,635	62,841	7,446,906
Unemployed	2,635	2,971	21,598	738,834
Total	20,830	61,606	85,750	8,185,740
Not in the labour force	22,017	19,986	73,492	4,896,554
Unemployment rate (per cent)	12.4	4.8	22.0	8.2
Participation rate (per cent)	58.3	82.5	65.3	71.9
Employment to population ratio (per cent)	40.5	71.1	38.5	56.5
Median individual weekly income	\$173	\$381	\$190	\$318

Note: CDEP participation is only reliably identified in SIPF areas in the 1996 Census. The employment and participation rates are calculated for the population aged 15 years plus. The employment to population ratio includes CDEP and non-CDEP scheme employment. The unemployment rate is calculated as the number unemployed divided by the labour force. The participation rate is defined as the proportion of the population aged 15 plus years who are either employed or unemployed. Median income excludes respondents who did not state their income. Respondents who did not state whether or not they are Aboriginal or Torres Strait Islander are excluded from the statistics presented in this table.

Source: 1996 Census.

The effects of the CDEP scheme on labour market outcomes

The analysis in the preceding section provides a brief overview of the characteristics of the Indigenous and non-Indigenous populations of the areas in which the SIPF was and was not used. This section focuses specifically on those areas where the SIPF was used to enable an analysis of the effects of CDEP employment on income. By using information at the level of the individual it is possible to isolate the effect of CDEP employment on income.

Participation in a CDEP scheme may increase personal income in several ways. CDEP participants may combine CDEP employment with part-time mainstream employment.⁵ CDEP participants may also combine periods of CDEP employment with periods of mainstream employment and self-employment within a given year. For example there is some evidence of part-time commercial fishing being combined with CDEP employment in the Torres Strait (Arthur 1999). Community organisations with CDEP schemes may also engage in business enterprises that generate extra hours of paid employment for CDEP participants (Smith 1994, 1995, 1996). In addition, if there are drop-outs from the CDEP scheme, it is possible to provide more days of work (and hence income) for those who take on the work of the departed participants. In some communities, a 'no work, no pay' rule is strictly applied, similarly generating so called 'savings' for other participants.

The census records information on total weekly income, but does not differentiate between income from different sources such as CDEP and mainstream employment. This limits the scope of the analysis by not allowing CDEP income to be separated from other employment income. In addition, if periods of CDEP employment are being combined with periods of mainstream employment within a year then the effects of this on income will not be measured by the census.

The mean and median personal weekly income of the CDEP-employed is substantially higher than for the unemployed (see Table 2). For example CDEP-employed males and females receive a median income of \$169 and \$166 per week respectively, compared to \$146 and \$154 received by unemployed males and females respectively. The income of the CDEP employed is, however, much lower than the median income of \$274 per week received by both Indigenous males and females in full-time and part-time mainstream employment in SIPF areas.

The increase in median incomes for the CDEP-employed as compared to the unemployed and those not-in-the-labour force (NILF) is greater for males than females. CDEP-employed males receive an extra \$23 to \$26 per week compared to those who are unemployed or NILF. CDEP-employed females receive only an extra \$5 to \$9 per week compared to the unemployed or those NILF. This difference reflects a slightly lower median income for females employed in the CDEP scheme and higher social security entitlements for females. The higher social security entitlements for females who are unemployed or NILF probably reflects their higher average number of dependents and the targeted needs-based nature of the Australian social security system (Daly 1992).

The mean is an alternative to the median as a summary measure of income. The mean incomes of CDEP participants are higher than the median income which reflects the fact that there are a significant number of CDEP participants who earn 'higher' levels of income, mostly because they fill management positions within the scheme (see Table 3 for further information on the total distribution of income).

The 1996 Census estimates of the mean and median income of the CDEP and mainstream employed presented in Table 2 are much smaller than the estimates from NATSIS for 1994. The NATSIS estimates that in 1994 the mean weekly income of CDEP-employed and unemployed persons was \$246 and \$170 per week respectively (Office of Evaluation and Audit 1997) as compared to the much lower estimates from the 1996 Census of \$184 and \$141 per week respectively.

It is impossible to determine accurately exactly why there is a difference between the NATSIS estimates and the 1996 Census estimates. Possible explanations include that the NATSIS estimates are representative of the entire Indigenous population, whereas the 1996 estimates are restricted to individuals who were enumerated using the SIPF. As has been shown above, in the areas in which the SIPF was used mainstream employment opportunities are more limited and those who are employed earn much less than their Indigenous counterparts in the 'rest of Australia'. CDEP participants identified by the 1996 Census may therefore be less likely to supplement their income by combining mainstream employment with employment in a CDEP scheme. The NATSIS data show that of the \$246 per week received by CDEP participants only \$25 per week was from other sources. There were, however, small differences between CDEP participants in rural and remote areas and those in urban centres, with those in urban areas, on average, receiving more CDEP income and more mainstream income than those in rural and remote areas (Office of Evaluation and Audit 1997).

Another explanation for why the CDEP-employed in urban areas may receive more than those in rural and remote areas is that CDEP schemes in urban areas may be more likely to engage in activities which provide CDEP participants with increased hours of work (see, for example, Smith 1996). The NATSIS estimates of higher CDEP income among CDEP participants in urban areas than among those in rural and remote areas provides some indirect support for the hypothesis that CDEP schemes in urban areas are more likely to be able to provide additional paid hours of work through business enterprises. However, it is very possible that not all cash income earned in rural and remote areas is enumerated, especially that derived from informal economic activity (Altman and Allen 1992).

The detailed distributions of personal income by gender and labour force status for persons enumerated using the SIPF are presented graphically in Figures 1 and 2 and in numerical form in Table 3. For both Indigenous males and females virtually no CDEP employed reported having negative income, no income or a very low income in the range \$1 to \$39 per week. This can be compared to 13.7 and 10.3 per cent of males and females who were NILF who reported have

negative or nil income. This confirms that the SIPF forms do in fact only identify working CDEP participants, and non-working CDEP participants are being recorded as either being unemployed or NILF. Both male and female CDEP employed are slightly more likely to be in the very low income range of \$40 to \$119 dollars than their non-employed counterparts. The proportion of the CDEP employed who receive negative or nil income is very similar to the NATSIS estimates for 1994 (ABS 1995).

Table 2. Median personal weekly income by labour force status, enumerated using the SIPF, 1996 Census

	CDEP employed	Mainstream employed	Unemployed	NILF
Male				
Median income	\$169	\$274	\$146	\$144
Mean income	\$186	\$298	\$139	\$132
Population	6,774	2,106	1,228	7,921
Female				
Median income	\$166	\$274	\$154	\$161
Mean income	\$181	\$299	\$145	\$155
Population	4,143	1,889	840	1,1824

Note: Excludes respondents who did not state their labour force status. Median and mean income excludes respondents who did not state their income. Because the census asks about income in terms of income categories in order to calculate the median and mean income we need to assume that the respondents are evenly distributed across each of the income categories.

Source: Unpublished cross-tabulations from the 1996 Census.

The distribution of hours worked per week for the CDEP and mainstream employed is presented in Table 4. While 73.5 and 81.7 per cent of CDEP employed males and females worked part-time (less than 35 hours per week) a significant minority (25.9 per cent of males and 18.3 per cent of females) worked more than 35 hours per week. As already noted, a CDEP participant can increase their hours of work either by taking up the hours of CDEP drop outs, from extra hours of work generated by profitable enterprises undertaken by the CDEP or by combining CDEP employment with part-time mainstream employment.

Figure 1. Personal income distribution by labour force status, males, 1996 Census

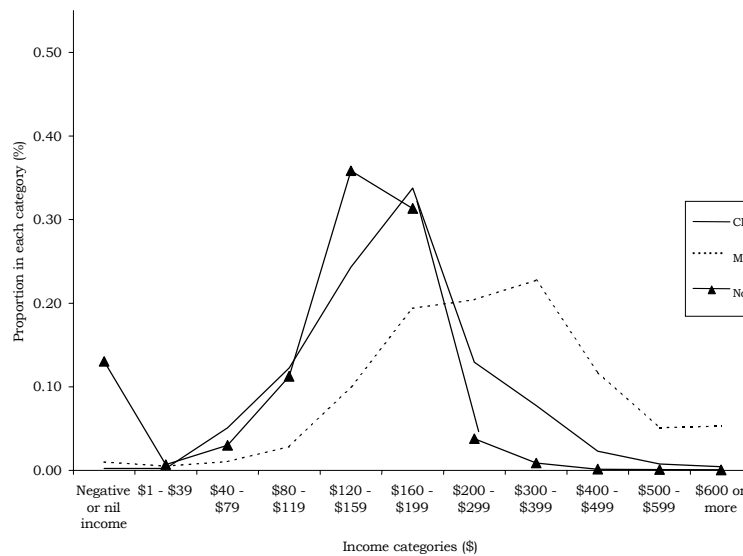


Figure 2. Personal income distribution by labour force status, females, 1996 Census

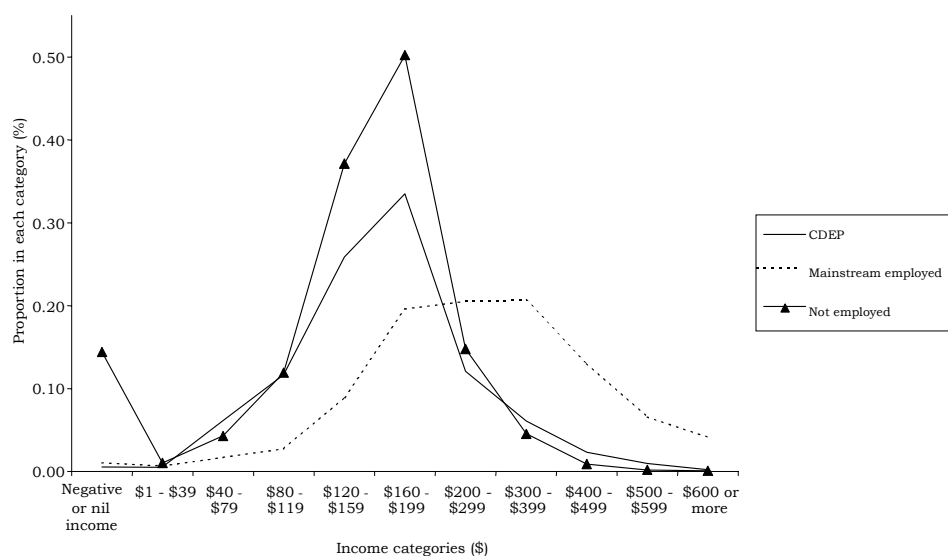


Table 3. Personal weekly income by gender and labour force status, enumerated using the SIPF (per cent in each category), 1996 Census

	CDEP employed	Mainstream employed	Unemployed	NILF	Total
Male					
Negative or nil income	0.2	1.0	8.9	13.7	6.6
\$1-\$39	0.2	0.5	0.6	0.7	0.5
\$40-\$79	5.1	1.0	2.5	3.0	3.6
\$80-\$119	12.3	2.8	10.2	11.4	10.6
\$120-\$159	24.3	10.0	41.1	35.0	28.3
\$160-\$199	33.8	19.4	32.9	31.1	31.0
\$200-\$299	12.9	20.4	2.8	4.0	9.3
\$300-\$399	7.7	22.7	0.8	0.9	6.1
\$400-\$499	2.3	11.7	0.3	0.1	2.3
\$500-\$599	0.7	5.1	0.0	0.1	0.9
\$600 or more	0.4	5.3	0.0	0.1	0.8
Not stated	1.3	4.0	2.6	7.2	9.6
Total (persons)	6,774	2,106	1,228	7,921	19,328
Female					
Negative or nil income	0.5	1.0	10.7	10.3	7.1
\$1-\$39	0.5	0.7	1.1	0.7	0.7
\$40-\$79	6.1	1.7	4.5	3.0	3.6
\$80-\$119	11.7	2.7	12.7	8.3	8.6
\$120-\$159	25.9	8.9	24.3	26.8	24.6
\$160-\$199	33.5	19.6	35.7	36.0	33.9
\$200-\$299	12.1	20.5	7.8	10.8	11.9
\$300-\$399	6.1	20.7	2.9	3.3	5.7
\$400-\$499	2.3	13.0	0.4	0.7	2.3
\$500-\$599	0.9	6.6	0.0	0.1	1.0
\$600 or more	0.2	4.1	0.0	0.1	0.6
Not stated	1.7	3.3	4.3	6.0	9.3
Total (persons)	4,143	1,889	840	11,824	19,894

Source: Unpublished cross-tabulations from the 1996 Census.

Table 4. Hours worked by gender and labour force status, enumerated using the SIPF (per cent in each category), 1996 Census

	Male		Female	
	CDEP employed	Mainstream employed	CDEP employed	Mainstream employed
1–15 hours	14.5	11.8	18.8	16.4
16–24 hours	42.2	18.7	47.3	20.6
25–34 hours	16.8	12.7	15.6	15.6
35–39 hours	9.9	20.0	7.2	17.9
40 hours	13.8	25.7	9.1	20.1
>41 hours	2.8	11.1	2.0	9.3
Total (persons)	6,379	1,782	3,989	1,779

Note: Individuals who reported being employed in CDEP or mainstream employment but reported no hours worked and respondents who did not state their hours worked are excluded. If the respondent had more than one job then hours worked is for hours in the respondents 'main' job.

Source: Unpublished cross-tabulations from the 1996 Census.

The effect of CDEP schemes on the economic status of Indigenous communities

To this point our analysis has used individual-level data to analyse the effects of CDEP employment on personal income and the number of hours worked. This section shifts the focus of the analysis to the effects of the scheme on the levels of employment and unemployment at the level of Indigenous communities and groups. For the purposes of this section an Indigenous group or community is defined as comprising all the Indigenous people living in an ILOC.⁶ It must be stressed that the definition of an Indigenous 'community' or 'group' is geographical: it defines persons living within a defined geographic region as a community. It is not a sociological definition of community, with its implications of social interaction and relatedness between members of the 'community'.

The comparative economic status of CDEP and non-CDEP communities by section-of-State⁷

By combining ATSIC administrative data with census data it is possible to compare the rates of employment, labour force participation, and unemployment in the CDEP communities with those in non-CDEP communities. The analysis here includes all communities in rural and remote areas and other urban areas. It is not possible to conduct an analysis of CDEP and non-CDEP communities in major urban areas because the concept of a community can not be reconciled with the Australian Indigenous Geographical Classification. For example, a

person who works in the Redfern CDEP scheme may not reside in the ILOC in which Redfern is located.

As already discussed, differences in mainstream labour market opportunities between rural and remote areas and urban areas mean that CDEP schemes may have a different relationship with the mainstream labour market, and therefore with economic status, depending on which region the community is in. In order to address this question CDEP communities are classified according to whether they are in a rural or remote area or in an 'other urban' area.⁸ Because this exercise uses data for Indigenous Australians enumerated using the SIPF as well as the standard census methodology, it is not possible to separate CDEP from mainstream employment. The analysis is therefore restricted to the total employment to population ratio.

Table 5. Labour force status by region of residence, Indigenous population aged 15–64 years, 1996 Census

	Employment to population ratio (per cent)	NILF ratio (per cent)	Unemployment rate (per cent)	Population
CDEP communities				
Other urban	39.0	48.6	23.5	30,004
Rural balance and locality	49.7	44.4	10.5	28,545
Non-CDEP communities				
Other urban	39.9	45.0	15.6	49,454
Rural balance and locality	37.7	50.3	13.0	24,558

Note: The statistics in this table are calculated for the Indigenous population aged 15 years to 64 years. All statistics exclude those who did not state their labour force status. The unemployment rate is calculated as the number unemployed divided by the number in the labour force (employed plus unemployed). The comparison between CDEP and non-CDEP areas is not possible for major urban areas because many individuals may not live in the ILOC in which they work.

Source: 1996 Census.

CDEP communities in 'other urban' areas have an employment to working age population ratio of 39.0 per cent, which is very similar to the rate of 39.9 per cent in non-CDEP communities (see Table 5). While it is impossible to estimate, from the 1996 Census, the number of CDEP employed in 'other urban' areas, the NATSIS estimates that in 1994 approximately 6 per cent of the Indigenous population in 'other urban' areas was in CDEP employment (ABS 1995). This suggests a mainstream employment rate of around 33 per cent in 'other urban' areas in which there were CDEP schemes. Therefore, in the absence of the CDEP scheme, the employment to population ratio would be lower than in 'other urban'

areas which do not have CDEP schemes.⁹ This suggests that in 'other urban' areas, CDEP schemes have been established primarily in areas where labour market opportunities for the Indigenous population are relatively limited. Further support for the hypothesis is provided by information that the unemployment rate in CDEP communities, of 23.5 per cent, is significantly higher than that in non-CDEP communities which had a rate of 15.6 per cent.

The most dramatic effects of CDEP schemes on employment can be seen in the 'rural balance and locality' areas. CDEP communities in these areas have an employment to population ratio of 49.7 per cent which is more than 10 percentage points higher than in CDEP communities in 'other urban' areas. On the other hand, communities without the CDEP scheme in 'rural balance' and 'locality' areas have an employment to population ratio of 37.7 per cent which is slightly lower than in 'other urban' areas.

Proportion of employment which is linked to the CDEP scheme

Altman and Hunter (1996a) used 1991 Census data to address the question: do the socioeconomic characteristics of residents of communities which participate in the CDEP scheme differ in any significant or discernible way from those of residents of communities who do not participate in the scheme? This section expands their analysis to all the ILOCs in which the SIPF was used and CDEP employment reliably identified using 1996 Census data: as a consequence the results of Altman and Hunter may be generalised to all SIPF areas and their analysis updated from 1991.

Table 6. Economic indicators by proportion of employment which is CDEP, Indigenous persons in SIPF areas, 1996 Census

	Proportion of total employment which is CDEP employment				
	< 5%	5% to 20%	20% to 50%	50% to 90%	>90%
CDEP employment to population ratio	0.2%	3.5%	12.5%	37.5%	51.5%
Mainstream employment to population ratio	25.9%	31.6%	23.3%	13.1%	2.2%
Participation rate	37.2%	44.2%	43.7%	53.4%	59.0%
Unemployment to population ratio	11.4%	8.9%	9.4%	3.9%	2.1%
Median personal weekly income	\$190	\$207	\$174	\$165	\$147
Population (15 plus)	9,349	6,417	4,079	18,612	5,935

Note: The statistics in this table are for the population aged 15 to 64 years. Median income excludes respondents who did not state their income.

Source: 1996 Census.

Altman and Hunter's comparison of CDEP and non-CDEP communities is reproduced by grouping the ILOCs in which the SIPF was used according to the proportion of employment which is in the CDEP scheme. The ILOCs are grouped into five levels of reliance on CDEP employment: (i) less than 5 per cent; (ii) 5–20 per cent; (iii) 20–50 per cent; (iv) 50–90 per cent; and (v) over 90 per cent. Table 6 presents a number of measures of economic status for each of the categories, including median income and rates of employment and unemployment. The comparison of the ILOCs which have less than 5 per cent of employment in the CDEP scheme are equivalent to what Altman and Hunter (1996a) term 'non-CDEP communities' and the ILOCs which have more than 90 per cent of employment in the CDEP scheme are 'CDEP communities'.

The results from the 1996 Census are consistent with Altman and Hunter's (1996a) results. The total employment to population ratio (CDEP plus mainstream employment) is higher in CDEP communities than non-CDEP communities, being 53.7 and 26.1 per cent respectively. The unemployment rate falls as the proportion of employment that is in the CDEP scheme increases, and the labour force participation rate increases. These results are predictable and entirely consistent with the Altman and Hunter (1996a) finding that the effect of the CDEP scheme in Northern Territory communities was to increase the total employment to population ratio by drawing in people from outside of the labour force, as well as providing part-time employment for the unemployed.

In general there is a continuum of change as the proportion of total employment which is in the CDEP scheme increases. For example, as the proportion increases from less than 5 per cent to more than 90 per cent, median income decreases from around \$190 to \$147 per week. The unemployment to population ratio falls from 11.4 to 2.1 per cent, and the labour force participation rate increases from 37.2 to 59.0 per cent. The total employment to population ratio also increases.

The proportion of the population which is non-Indigenous and CDEP employment

The proportion of the population in a geographic area which is non-Indigenous is closely related to the number of mainstream labour market opportunities. ILOCs which have a high proportion of the population which is non-Indigenous, in general, have higher mainstream labour market opportunities. This section categorises ILOCs by the proportion of the population that is non-Indigenous. In addition to providing information on CDEP employment disaggregated by mainstream labour market opportunities, the analysis provides information about the distribution of CDEP employment across different regions. Three categories of the proportion of the total population which is non-Indigenous are used: (i) less than 10 per cent of the population is non-Indigenous; (ii) 10–50 per cent of the population is non-Indigenous; and (iii) more than 50 per cent of the population is non-Indigenous (see Table 7).

The CDEP and mainstream employment to population ratios are very similar between categories (i) and (ii). In the communities in which less than 10 per cent of the population is non-Indigenous, 29.9 per cent of the non-Indigenous population aged 15 plus is in CDEP employment in contrast to 32.1 per cent in the 10–50 per cent category. In communities in which a large proportion of the population is non-Indigenous, the proportion of the Indigenous population in CDEP employment is much smaller, at 8.4 per cent.

Table 7. Economic indicators for Indigenous persons in SIPF areas by the proportion of the population which is non-Indigenous, 1996 Census

	Proportion of population which is non-Indigenous		
	<10%	10% to 50%	50% plus
CDEP employment to population ratio	29.9%	32.1%	8.4%
Mainstream employment to population ratio	10.8%	13.2%	32.8%
Ratio of CDEP to total employment	72.4%	70.1%	20.1%
Participation rate	46.0%	49.8%	50.0%
Unemployment to population ratio	4.9%	6.0%	9.2%
Median personal weekly income	\$162	\$161	\$200
Population (15 years plus)	17,284	14,131	12,977

Note: The statistics in this table are for the population aged 15 to 64 years. Median income excludes respondents who did not state their income.

Source: 1996 Census.

The mainstream employment to population ratio is much higher in the ILOCs where more than 50 per cent of the population is non-Indigenous, probably reflecting greater demand for labour as well as higher levels of educational attainment amongst the Indigenous population.¹⁰ These results simply reflect the fact that there are more CDEP schemes in areas in which a high proportion of the population is Indigenous. This is a reflection of past administrative rules which limited CDEP schemes to rural and remote areas. This pattern is likely to change in the future with the continuing drift towards CDEP schemes in urban areas (Altman 1997).

Similarly there is very little difference in median personal income between the ILOCs that have less than 10 and 10–50 per cent of the population being non-Indigenous. Reflecting the higher mainstream employment to population ratio, the median personal income of \$200 per week is higher than for the other groups of ILOCs that have a median personal income of around \$160 per week.

Conclusion and policy implications

This paper presents the first analysis using data from the 1996 Census of the effects of CDEP employment on economic status outcomes for Indigenous

individuals. The 1996 Census is the first to provide information about CDEP employees, albeit that it is restricted to areas in which the SIPF was utilised. This allows the effects of CDEP employment on income to be better isolated in these geographic areas.

The effects of CDEP employment on the income levels of participants is a question that is of policy importance. Altman and Hunter (1996a), using data from the 1991 Census, found that the level of income in CDEP communities was similar to that in non-CDEP communities and, if anything, it is lower. On the other hand, Ross (1996) and Sanders (1997) find, using 1994 data from NATSIS, that individuals employed in a CDEP scheme receive considerably more income than individuals who are unemployed.

This paper finds that in 1996 CDEP employment increased income above social security entitlements, but that the increase in income was smaller than what NATSIS estimates show in 1994. This suggests that CDEP employment does play some role in raising personal incomes. There are a number of possible reasons for the difference between the NATSIS estimates and those presented here. One possibility is that the NATSIS findings are representative of the entire Indigenous population, whereas the 1996 Census estimates are restricted to geographic regions in which the SIPF was used, that is predominantly rural and remote areas in which mainstream employment opportunities are limited. If this is the case, the implication is that the NATSIS estimates are for all regions of Australia, whereas the census estimates are primarily for rural and remote areas, which implies that the positive effect of CDEP on income is much larger in the urban areas than in the rural and remote areas. In addition, the NATSIS questionnaire asks about annual income whereas the census asks about income in the last week. If CDEP participants are combining periods of CDEP employment with periods of mainstream employment, then the census weekly income measure will miss the income generated from the periods of mainstream employment and therefore understate the annual income of CDEP participants. There is also a difference in the timing of the surveys, with the NATSIS completed in 1994 and the Census estimates from 1996.

Such technical issues and differences aside, the findings of this paper have positive policy implications because they indicate that even in the rural and remote regions where the SIPF was used, employment participation in the CDEP scheme has beneficial impacts. In the absence of mainstream employment opportunities in these regions, it must be asked if the marginal cost of the CDEP scheme (at an estimated \$4,075 per participant, that is the amount above welfare entitlements) represents good value for money for government. The answer to this important question is contingent on a number of factors.

First, the broad-brush statistical analysis undertaken here does not allow any assessment of intra-community organisation differences. Indeed our analysis was not even able to assess differences in the additional CDEP scheme resources provided to different communities. Nevertheless, it seems likely that if some communities are able to demonstrate better outcomes from additional administrative and capital resourcing than others, then there is a possibility that

resources will flow to such communities to support economic development projects and associated employment and income spin-offs for the CDEP-employed.

Second, no distinction is possible on a scheme-by-scheme basis on the differing impacts of variable rates of CDEP employment as distinct from CDEP scheme participation. In other words, it is possible that communities with a high number of scheme participants but a relatively low number of CDEP-employed, may benefit disproportionately from the scheme. This in turn depends on the criteria used by ATSIC Regional Councils in providing communities with discretionary administrative and capital funding.

Ultimately, the socioeconomic impact of the scheme on individuals is important and future census and NATSIS information on scheme participants will be important. But the scheme has two broad aims, labour market performance and community development. Broader questions, such as whether there are significant differences in the social and cultural characteristics of communities with and without CDEP cannot be addressed using census data. Data sets which measure a far wider range of variables, such as health status, arrest rates, and the flows between CDEP employment and the other labour force states, are all needed to answer such questions. It is likely that such issues will only be comprehensively addressed by community-based case study research that can document the benefits of the scheme to community development outcomes. Some such research was undertaken in the early 1990s by Deloitte Touche Tohmatsu (1993) and in the mid 1990s by Smith (1994, 1995, 1996). Now at the start of the 21st century, with government focusing increasingly on mutual obligation social policy concerns, it might be timely for new community-based research to investigate those fine-grained questions that census data cannot address.

Notes

1. The focus here on CAEPR illustrative examples is intentionally selective because it highlights particular statistical problems encountered in past research. It should be noted that others, including Deloitte Touche Tohmatsu (1993), Verucci (1995), Office of Evaluation and Audit (1997) and Spicer (1997) have all encountered similar difficulties
2. The Australian Indigenous Geographic Classification (AIGC) structure groups Collection Districts (CD) together into three distinct hierarchical levels. The three classifications are, from smallest to largest: Indigenous Location (ILOC), Indigenous Area (IARE) and ATSIC Region (AREG). There are 36 AREG, 692 IARE and 934 ILOC. IAREs generally include around 280 Indigenous persons and comprise one or more ILOCs. In general, IAREs were allocated on the basis of language or cultural groupings of Indigenous people. In some urban areas, however, Statistical Local Areas (SLAs) were used as the base unit and IAREs were aggregations of SLAs with

more than 280 Indigenous people. ILOCs generally include at least 80 Indigenous persons and comprise one or more CDs.

3. In total 60,674 SIPF forms were distributed during the 1996 Census. Of these, 488 forms were used in non-SIPF areas. These were discarded because only a very small proportion of the Indigenous population in these areas used SIPF forms, leaving 60,186 SIPF forms for use in the study.
4. The SIPF questionnaire asks (1) 'Did you have a paid job last *week*?' and then specifies that a job means any type of work including casual or temporary work or part-time work, if it was for one hour or more. Specifying that a job must have been for one hour or more ensures that only working CDEP participants were picked up in the SIPF.
5. The administrative rules of CDEP encourage this by allowing additional income to be earned while still retaining full eligibility (up to a given level of income). In contrast, on other welfare payments, such as Newstart Allowance (NSA), payment starts to be reduced with every dollar of additional income earned above a threshold level (Sanders 1997).
6. A CDEP community is defined as an ILOC which ATSIC administrative data shows had a CDEP scheme at the time of the 1996 Census.
7. The Section-of-State classification uses population counts from the census to define Collection Districts as either urban or rural. Within States and Territories, each Section-of-State represents an aggregation of non-contiguous geographical areas of a particular urban or rural type. The five categories are: Major Urban: urban areas with population of 100,000 or more; Other Urban: urban areas with populations of 1,000 to 99,999; Bounded Locality: rural areas with population of 200 to 999; and Rural Balance: the remainder of the State or Territory.
8. In general the correspondence between the location of a CDEP scheme and the ILOC is quite good and so reliable information can be obtained from the Census Community Profiles. While the mapping of the 1996 Census Indigenous Geography into the Section-of-State Geography is not exact, the correspondences appear close enough to allow a valid statistical analysis. The problem of the lack of correspondence is minimised by first classifying all of the Indigenous areas which had a CDEP scheme at the 1996 Census by Section-of-State, and then deriving the statistics for the non-CDEP communities by subtracting out the CDEP scheme communities by Section-of-State from the statistics for all Australia. This avoids the need to classify the non-CDEP ILOCs by Section-of-State.
9. This assumes that CDEP employment does not displace mainstream employment: that is that the presence of a CDEP scheme does not causally reduce the number of mainstream jobs available to Indigenous individuals. It is of course possible that Indigenous people prefer to work in a CDEP scheme rather than in mainstream employment.
10. This may also be in part due to a greater participation in wage-subsidised labour-market programs (Taylor and Bell 1998).

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