

The Australian National University



Centre for
Aboriginal
Economic
Policy
Research

Discussion Paper



**Employment implications of the growth
of the indigenous Australian working-age
population to 2001**

J.C. Altman and K.H.W. Gaminiratne

No.53/1993

ISSN 1036-1774
ISBN 0 7315 1727 X

SERIES NOTE

The Centre for Aboriginal Economic Policy Research (CAEPR) was established in March 1990 under an agreement between the Australian National University and the Commonwealth of Australia (Aboriginal and Torres Strait Islander Commission). CAEPR operates as an independent research unit within the University's Faculty of Arts. CAEPR's principal objectives are to undertake research to:

- investigate the stimulation of Aboriginal and Torres Strait Islander economic development and issues relating to Aboriginal and Torres Strait Islander employment and unemployment;
- identify and analyse the factors affecting Aboriginal and Torres Strait Islander participation in the labour force; and
- assist in the development of government strategies aimed at raising the level of Aboriginal and Torres Strait Islander participation in the labour market.

The Director of the Centre is responsible to the Vice-Chancellor of the Australian National University and receives assistance in formulating the Centre's research agenda from an Advisory Committee consisting of five senior academics nominated by the Vice-Chancellor and four representatives nominated by the Aboriginal and Torres Strait Islander Commission, the Department of Employment, Education and Training and the Department of Social Security.

CAEPR DISCUSSION PAPERS are intended as a forum for the dissemination of refereed papers on research that falls within the CAEPR ambit. These papers are produced for discussion and comment within the research community and Aboriginal affairs policy arena. Many are subsequently published in academic journals. Copies of discussion papers can be purchased from Reply Paid 440, ANUTECH Pty Ltd, Canberra ACT 0200. Ph (06) 249 2479 Fax (06) 257 5088.

**As with all CAEPR publications, the views expressed in this
DISCUSSION PAPER are those of the author(s) and do not reflect an
official CAEPR position.**

Jon Altman
Director, CAEPR
Australian National University

ABSTRACT

This paper has been specifically prepared as a submission to the review of the Aboriginal Employment Development Policy (AEDP) which is to be completed early in 1994. A critical innovative feature of the Commonwealth Government's AEDP, launched in 1986-87, is its overarching goal of attaining statistical employment equality between indigenous and non-indigenous Australians by the year 2000. This paper examines the nature of labour force planning and goal setting in the AEDP Statement. It then re-examines a critique of the statistical targets made by demographers Tesfaghiorghis and Gray in 1991. Using recently published 1991 Census data, the paper explores intercensal changes in the size and labour force status of the indigenous population.

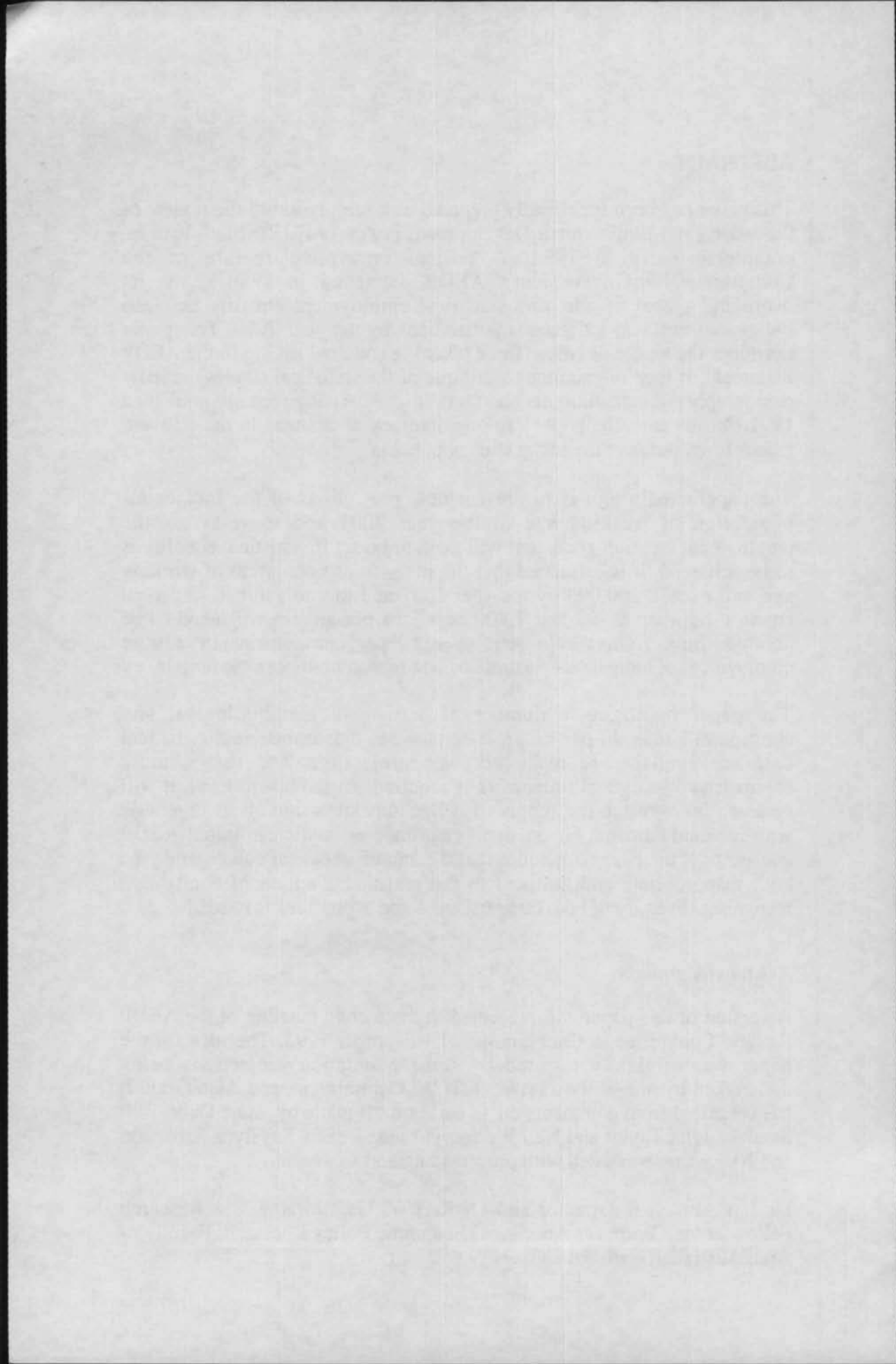
The paper's main aim is to present new projections of the indigenous population of working age to the year 2001 and to re-assess the employment creation goals that will need to be set if statistical equality is to be achieved. It is estimated that the indigenous population of working age will exceed 200,000 by the year 2001 and that to achieve statistical equality between 6,400 and 7,400 new jobs per annum will need to be created. Both figures represent over 10 per cent of the 1991 base employment of indigenous Australians and represent impossible targets.

The paper highlights a number of statistical, methodological and conceptual issues. In particular, it emphasises that insufficient statistical data are available to make accurate projections and that a more sophisticated analytical framework is required. At the macro level, it will be essential to match the supply of indigenous labour, in all its diversity, with regional demand. Given significant underestimation in initial AEDP goal-setting, the paper concludes that the aim of statistical equality may be both inappropriate and destined to fail and that a notion of equity that recognises diversity of both circumstances and aspirations is needed.

Acknowledgments

A version of this paper was presented to the second meeting of the AEDP Review Committee in Canberra on 24 November 1993. The idea for the paper was originally inspired by some population projections being undertaken by one of the authors, K.H.W. Gaminiratne, and Alan Gray. It has benefited from comments on an earlier draft made by Anne Daly, Will Sanders, John Taylor and Neil Westbury. Linda Roach, Krystyna Szokalski and Nicky Lumb assisted with proofreading and sub-editing.

Dr Jon Altman is Director and Dr K.H.W. Gaminiratne is a Research Fellow at the Centre for Aboriginal Economic Policy Research, Faculty of Arts, Australian National University.



A critical innovative feature of the Aboriginal Employment Development Policy (AEDP) originally launched by the Commonwealth in the August 1986 Budget, and again more formally in November 1987, was an overarching commitment to employment 'equity' between indigenous and non-indigenous Australians by the year 2000. This commitment was couched in terms of statistical employment equality and labour force planning targets. Using census data it was estimated that between November 1987 and the year 2000, 3,600 new jobs per annum, or 46,000 new jobs in total, would need to be created.

This paper begins by reviewing both the original forecasts in the AEDP Statement (Australian Government 1987a) and a major critique made by Tesfaghiorghis and Gray (1991) also using 1986 Census data and new population projections that indicated that the set targets were underestimates. With access to 1991 Census data and new forecasts of the indigenous population by age cohorts to 2011 (Gray and Gaminiratne 1993), this paper re-assesses the potential to meet the original AEDP target of employment equality for indigenous Australians by the year 2000.¹

An important feature of the AEDP Statement was the incorporation of a commitment to undertake a major independent review of the policy after an initial five year phase to allow an assessment of the overall effectiveness of the policy in meeting the Government's long-term objectives (Australian Government 1987a: 16). This review, originally to be undertaken in early 1993, is now to be completed by the end of 1993. This paper provides new projections of the indigenous working-age population for consideration by the review committee. It highlights policy issues that emanate from the new projections and estimates the new employment creation targets that will need to be attained for statistical equality in labour force status. The value of labour force projections in the Aboriginal and Torres Strait Islander economic policy context is called to question given the overall paucity of population data and information on births and deaths (Gaminiratne and Tesfaghiorghis 1992). The paper concludes that the risk of failing to meet stated targets might be reduced if job-creation goals were set more realistically at the regional level in a manner that accurately reflects the geographic distribution of the indigenous population.

Labour force planning in the AEDP Statement

The employment equity goal articulated in the AEDP Statement was presented in terms of statistical goals; after Altman and Sanders (1991), the reference here will be to the Government's goal of statistical equality rather than equity. Referring to the indigenous population aged 15 years and over (rather than the working-age population aged 15-64 years) the Australian Government (1987a: 3) indicated that the employment/ population ratio for

indigenous Australians would need to increase from 37 per cent in 1986 (it was actually 32.6 per cent at that time) to 60 per cent in the year 2000. It was estimated that this would require the number of indigenous Australians employed by the year 2000 to increase to around 89,000 by the creation of 46,000 new jobs over nearly 13 years at an annual rate of about 3,600 jobs (Australian Government (1987a: 5).

Unfortunately, no indication was given in the AEDP Statement (Australian Government 1987a) or in accompanying volumes (Australian Government 1987b, 1987c) about how these estimates were constructed. For example, no overall population projections were provided nor were assumptions about the size of the working-age population and the labour force participation rate explicitly stated. In defence of the Department of Employment and Industrial Relations (now Department of Employment, Education and Training) which developed the AEDP in the aftermath of the Miller Report on Aboriginal employment and training programs (Miller 1985), there were few official data available from which to make projections. The Miller Report had based its findings on an analysis of 1981 Census data, and final 1986 Census information was not available during 1986-87 when the policy development process was under way.

A reconstruction suggests that employment targets were based on fairly rudimentary statistical calculations. For example, if the indigenous population was estimated at 250,000 in the year 2000, and the working-age population (the AEDP Statement generally referred to population aged over 15 years rather than 15-64 years) was estimated at 60 per cent of this population, those of working-age would total 150,000. If the policy aim was to ensure that 60 per cent of this group was employed, this would total 90,000 employed indigenous Australians, which is remarkably close to the stated AEDP target of 'around' 89,000 (Australian Government 1987a: 5).

A similar vagueness was evident in the distinction made in the AEDP Statement between indigenous Australians residing in cities, large towns and small country towns and those in remote areas, small multi-racial townships and town camps. The only distinction articulated was between people living 'in areas of at least 1,000 in total population, but excluding town camp residents' and those 'in areas of less than 1,000 in total population or are residents of separate town camps located near or within an urban area' (Australian Government 1987a: 5-6). It was estimated that 53 per cent of the indigenous population lived in the former category and 47 per cent lived in the latter. This distinction is not strictly based on census geography: sections-of-State distinguish major urban and urban (greater than 1,000 persons) and rural localities and other rural (less than 1,000 persons). And in 1986, 66 per cent of the indigenous Australian population (not 53 per cent) were estimated to reside in communities with

a population exceeding 1,000, with the balance of 34 per cent (not 47 per cent) residing in communities of less than 1,000.

Again *ex post facto* reconstruction suggests that settlement location rather than size was the principal factor used to distinguish urban and rural strategies. For example, Taylor (1992) divided Australia into remote and settled regions using a line that reflected a consensus of boundaries discussed in the literature. He then allocated Statistical Divisions and Statistical Local Areas from the 1986 Census to either side of the line and found that 53.1 per cent of the indigenous population lived in 'settled' Australia and 46.9 per cent in 'remote' Australia, figures almost identical to those in the AEDP Statement.² Indeed, it seems likely that the AEDP Statement was referring to 'remote' and 'settled' Australia, especially as the Miller Report strongly emphasised the need for a diversity of employment-creation strategies depending on regional location (Miller 1985: 18).

Irrespective of whether section-of-State data or a remote/settled distinction was made, a target of 1,600 new jobs per annum was allocated to the urban or settled category and 2,000 per annum to the rural or remote category. Such proportional targeting suggests that employment/population ratios in the latter were some 58 per cent lower than in the former. A comparison with some data from the 1986 Census indicates that such assumptions were erroneous. The employment/population ratio in centres with populations over 1,000 was 34.4 per cent and elsewhere with populations under 1,000 the ratio was a lower, but still similar, 29.9 per cent. Daly (1992a), using a somewhat different definition of settled and remote than Taylor (1992) calculated, also using 1986 Census data, that the employment/population ratio in the former was 36.2 per cent and 31.0 per cent in the latter, again a variation that far exceeds the implicit assumption in the AEDP Statement.³

Table 1. Indigenous Australians of working age and employment/population ratios, by section-of-State, 1986 Census.^a

Section-of-State	Population Number	15 years plus Per cent	Number	Employed Per cent
Major urban	34,240	25.0	13,318	38.9
Other urban	56,435	41.2	16,719	29.6
Rural locality	20,378	14.9	5,337	26.2
Other rural	26,080	19.0	7,504	28.8
Total	137,133	100.0	42,878	31.3

a. Population figure refers to all persons, employment/population ratios excludes not-stated.

Source: Australian Bureau of Statistics (1991: 33, 45).

The labour force planning undertaken as part of the AEDP Statement did not use a rigorous analytical framework, partially because the data needed for such a framework were not then available. The resulting target-setting in the Statement had both an up-side and a down-side. On the positive side, such projections highlighted very clearly the extent of the labour market disadvantage of indigenous Australians. The projections and targets were certainly useful in the political context in enabling earmarking of additional resources to a five-year employment development package. On the negative side, if the AEDP Statement was based on an estimated indigenous population of 250,000 in the year 2000, then this was a gross underestimate. This, as will be illustrated below, was highlighted by demographers Tesfaghiorghis and Gray (1991) using a more sophisticated analytical model and a similar data set.⁴ Unfortunately, the legacy of using the poor forecasts made in 1987 remains with today's policy makers under very different labour market conditions. The performance of the AEDP will need to be assessed against stated, but grossly underestimated, required outcomes.

The Tesfaghiorghis/Gray critique of statistical equality

In 1991, the Centre for Aboriginal Economic Policy Research and the Academy of the Social Sciences in Australia convened a workshop entitled 'Aboriginal Employment Equity by the Year 2000'. Perhaps the most significant finding to emanate from the workshop (Altman 1991: 158-9) was a recalculation of the AEDP's job-creation targets undertaken by demographers Tesfaghiorghis and Gray (1991). Using final 1986 Census data, they estimated that the indigenous working-age population would increase from an actual 130,937 in 1986 to an estimated 192,323 in 2001. This projection indicated that the AEDP Statement had underestimated the likely size of the indigenous working-age population by about 44,000; had underestimated the employment/population ratio for the non-indigenous population (it was 64 per cent, not 60 per cent) and had overestimated the employment/population ratio for indigenous Australians (it was 32.6 per cent not 37 per cent).

Using 1986 as a base when 42,685 indigenous Australians were estimated to be in employment, Tesfaghiorghis and Gray (1991: 60) projected the number of new jobs which must be created by census year 2001 (not 2000) using three different employment/population ratios: 32.6 per cent (that is, the 1986 actual ratio); 37 per cent (the ratio assumed to be the actual 1986 ratio in the AEDP Statement) and 60 per cent (the equality target in the AEDP Statement). They estimated that to maintain the 1986 status quo, some 20,000 new jobs would be needed by the year 2001; that to achieve an employment/population ratio of 37 per cent would require over 28,000 new jobs and to achieve the AEDP target would require over 72,000 new

jobs. To compare with the AEDP goal of 3,600 new jobs per annum over nearly 13 years, their data translates (in round target figures) to 1,500 jobs per annum over nearly 14 years (to 2001) to maintain the status quo, 2,000 jobs per annum to achieve an employment/population ratio of 37 per cent; and 5,300 jobs per annum to achieve the stated AEDP goal. The last and most significant figure is 47 per cent higher than the goal highlighted in the AEDP Statement. Interestingly, Tesfaghiorghis and Gray (1991) chose not to make sub-national projections of either the total indigenous population or the population of working age.

Table 2. Required job growth 1986-2001 under various scenarios.

Employment/ population ratio	Base employment 1986	Required jobs 2001	New jobs required	New jobs per annum
32.6	42,685	62,697	20,012	1,521
37.0	42,685	71,160	28,475	2,164
60.0	42,685	115,395	72,709	5,525

Source: Based on Tesfaghiorghis and Gray (1991: 60).

Intercensal change in the size and status of the indigenous labour force

Taylor (1993a, 1993c) has provided a very comprehensive analysis of intercensal change in the socioeconomic status of the indigenous Australian population at both national and regional levels. The discussion here does not repeat this analysis, but rather focuses on summarising demographic and labour force status change between 1986 and 1991.

Between 1986 and 1991, the total Australian population grew by 1.5 per cent per annum, while the population of working age grew slightly faster at 1.6 per cent per annum. During the same period the indigenous Australian population grew by 3 per cent per annum. The working-age population increased during this period from 131,088 to 152,885 at a similar rate of 3 per cent per annum. The size of this working-age population already exceeds the number anticipated in the AEDP Statement for the year 2000. The various reasons for this rapid population growth have been analysed in some detail by Gaminiratne (1993) and Gray and Tesfaghiorghis (1993).

In the intercensal period, at least according to official statistics, there have been some marked changes in the labour force status of indigenous Australians. Despite the prolonged recession of the late 1980s and early

1990s, the employment/population ratio for indigenous Australians of working age increased from 32.6 to 37.0, while the ratio for the rest of the Australian population remained fairly static (64.1 in 1986, 64.7 in 1991). Similarly, the participation rate, defined as those in the labour force as a proportion of those aged 15-64 years, increased from 50.3 to 53.4 for indigenous Australians, but remained well below the rate for other Australians (70.4 in 1986 and 73.1 in 1991). Interestingly, the issue of participation was not examined in the AEDP Statement, with employment targets focusing primarily on employment/population ratios.

In terms of AEDP targets, and assuming a November 1987 start, then it is evident that there has been job growth of nearly 14,000 in the intercensal period and that the target of 3,600 has been attained, if all job growth can be attributed to AEDP programs. This is a possibility: indeed, Altman and Daly (1992a) have suggested that in the intercensal period employment that has not been based on government support may have declined for the indigenous population. However, because the employment/population ratio was erroneously estimated at 37.0 instead of 32.6 in the AEDP Statement, the situation at August 1991 was no different from the baseline used nearly four years earlier.

New projections based on 1991 Census data

The need to make new projections is not just driven by the availability of a more recent data set. There are indications that the indigenous population has grown faster than anticipated by Tesfaghiorghis and Gray (1991). For example, they forecasted a 1991 indigenous population of 251,800, whereas the 1991 Census estimate was 265,484. The basis of this unexpectedly high growth has been analysed by Gray and Tesfaghiorghis (1993) who observe that in 1986-91 fertility had increased and survival chances improved compared to the 1981-86 period. They estimate that the indigenous Total Fertility Rate in the 1986-91 intercensal period was 3.22 per woman which is slightly higher than the 3.06 estimated for the 1981-86 period (Gray 1989). The expectation of years of life at birth for indigenous Australians has increased from 55.7 years for males in 1981-86 to 56.9 in 1986-91 and for females from 63.9 to 64.4 years. Gaminiratne (1993) raises the issue of changed identification, especially in those States like Victoria and Tasmania, where intercensal indigenous population growth cannot be explained by demographic factors alone.

Based on these more recent fertility and mortality estimates and after adjusting for obvious inconsistencies in the age-sex structure of the indigenous population in 1991 when compared to 1986, a new set of national population projections have been made for the period 1991 to 2011. According to these revised projections, the total indigenous

population is estimated to increase from 268,000 in 1991 to 303,400 in 1996 and 340,100 in 2001 (for detailed discussion of methodology, see Gray and Gaminiratne 1993). These projections are based on a 1991-96 intercensal growth rate of 2.6 per cent per annum, rising to 2.8 per cent per annum for the period 1996-2001 (see Table 3).

Table 3. New population projections for the Aboriginal and Torres Strait Islander population by age group, 1991-2001.^a

Year	Age group			All ages
	< 15	15-64	65+	
Number of persons				
1991	104,500	156,700	6,800	268,000
1996	118,000	177,800	7,600	303,400
2001	129,700	201,600	8,800	340,100
Index of growth (1991 = 100)				
1991 ^a	100	100	100	100
1996	113	113	112	113
2001	124	129	129	127
Per cent distribution				
1991	39.0	58.5	2.5	100.0
1996	38.9	58.6	2.5	100.0
2001	38.1	59.3	2.6	100.0

a. This provisional projection is based on unadjusted 1991 Census figures and the final figure will be higher owing to such an adjustment.

In absolute terms, the working-age population will increase from nearly 157,000 in 1991 to about 178,000 in 1996 and nearly 202,000 in 2001. The rate of growth of the working-age population equals the growth rate for the indigenous population in 1991-96, but is higher (at 3.2 per cent per annum) for the period 1996 to 2001. This variable growth rate is reflected in the index of growth in Table 3. The rapid growth of the working-age population will be problematic for meeting any targets expressed in employment/population terms.

The availability of projections of the indigenous population to 2001 allows a recalculation of the number of jobs that will be needed to meet various employment/population ratios. In Table 4, three scenarios are presented: a ratio of 37.0, the 1991 rate for indigenous Australians; a ratio of 60.0, the AEDP target rate; and a ratio of 64.7, the rate for the non-indigenous population in 1991. Assuming that the base indigenous employment of

56,590 persons in 1991 is not eroded, estimates are provided of the numbers that will need to be employed to meet various employment/population ratios. These vary from a need of 74,500 jobs for an employment/population ratio of 37.0 to 130,000 for an employment/population ratio of 64.7.

These employment requirements are in turn translated to new job requirements (again assuming that the 1991 level is a stable base), in both total and per annum terms. These job needs vary from 1,800 new jobs per annum to maintain the indigenous status quo (owing to rapid population growth) to 7,400 new jobs per annum to achieve the 1991 non-indigenous status quo. They assume, of course, that participation and employment rates in the wider society will remain static at 1991 levels, whereas government policy is committed to reducing historically high unemployment rates. Requirements are couched in broad terms, primarily to provide a comparison with the target of 3,600 per annum outlined in the AEDP Statement. To achieve employment equality between indigenous and non-indigenous Australians by the year 2000 under the above assumptions will require twice as many new jobs per annum as estimated in 1987.⁵

Table 4. Required job growth 1991-2001 under various scenarios (to nearest hundred).

Employment/ population ratio	Base employment 1991 ^a	Required jobs 2001	New jobs required	New jobs per annum ^b
37.0	56,590	74,600	18,000	1,800
60.0	56,590	121,000	64,400	6,400
64.7 ^c	56,590	129,400	74,000	7,400

a. Assuming that this base employment remains constant and does not decline.

b. Over a ten-year period, that is to August 2001, not to 2000.

c. Assuming that the employment/population ratio for the non-indigenous population remains static at the August 1991 level.

Statistical, methodological and conceptual issues

Any attempt to estimate accurate labour force planning targets for indigenous Australians will be hampered by a range of statistical, methodological and conceptual issues. This is already evident in the one-off AEDP attempt to undertake such an exercise at both national and sub-national levels. Any future attempt to repeat such an exercise, driven by the

legitimate concern to manage for results (Sanders 1991: 14) needs to consider the following.

On the statistical front it can be readily argued that there are insufficient population and labour force data, even at the national level, to allow anything but indicative projections about indigenous Australians. The only reasonably reliable data source is the five-yearly Census of Population and Housing. While this source does provide a data base for some indicative aggregate population projections (see Gray and Gaminiratne 1993), it is less reliable as a source of information on the labour force characteristics of the indigenous population. This over-reliance on the census has been discussed in some detail elsewhere (see papers in Altman 1992). The 1994 National Aboriginal and Torres Strait Islander Survey and the inclusion of an indigenous identifier in the Labour Force Survey in February or March 1994 will almost certainly generate additional and very useful information. Unfortunately, the current AEDP review will be completed before these data are available.

Sanders (1991) in an article titled 'Destined to fail ...' cautioned about the use of statistical targets; his warning was partially driven by concern at the high risk of failure if unrealistic targets were set. Our concerns, while similar, are based on methodological grounds. First, if targets are to be set it is important that demographic projections are soundly based, with methodology and assumptions spelt out. As Bell (1992), Webster (1992) and Bell and Skinner (1992) note, while the number of labour-power (a term that appears to have greater currency than manpower) and population projections in Australia, at both national and sub-national levels, have increased rapidly in recent years, there has been very little attempt to assess forecast accuracy. The data in this paper indicate what is already known following Tesfaghiorghis and Gray (1991): even AEDP targets, let alone policy performance, were grossly understated. Presumably, the current review of the AEDP will assess performance against set targets, but this will hardly assist in the achievement of overall goals of statistical equality if targets were set too low.

A second methodological issue of concern is the relatively unsophisticated nature of labour-power planning undertaken for indigenous Australians in contrast to that undertaken for the general population (see Department of Employment, Education and Training 1991). The unspecified version of the cohort-component method used in the AEDP Statement is based entirely on demography: employment-creation targets are set without any regard for either demand-side or supply-side factors. Both, as will be argued below, are of crucial significance.

Given recent interest in regional development in both Aboriginal and Torres Strait Islander affairs, and in public policy more generally, it makes

conceptual sense to set employment targets at some regional level. This is especially the case given the cultural diversity of the indigenous population, reflected in highly variable employment aspirations, and its geographic distribution, reflected in highly variable employment opportunities. The key regional option that can be directly linked to the AEDP is the structure established by the Aboriginal and Torres Strait Islander Commission (ATSIC), the agency that has primary responsibility for administering the AEDP. There are currently 36 ATSIC Regional Council jurisdictions that have some degree of regional cohesion and similarity. Regional councils are charged with developing plans to better the socioeconomic status of their indigenous Australian residents.⁶

The conceptual dilemma is that the more national data are disaggregated the lower its reliability, especially when making sub-national population projections for indigenous Australians. A combination of devolution to these jurisdictions and labour force data that should be generated at this level by the 1994 National Aboriginal and Torres Strait Islander Survey could greatly assist labour force planning. The survey should at least generate supply-side data on indigenous employment aspirations, educational qualifications and work experience.⁷ While there will still be no quantitative information on labour demand, it might be advisable to delay setting any firm employment targets at the regional level until this information is available in late 1994 or early 1995.

Policy implications

While this paper initially focuses on demographic issues pertaining to the indigenous working-age population, it is also replete with policy implications. The focus here is primarily the AEDP goal of employment equality. However, as has been highlighted elsewhere, such a focus is based on an assumption that there are no tradeoffs between this goal and other AEDP goals of income equality and reduced welfare dependency, and the Aboriginal and Torres Strait Islander Education Policy goal of educational equality. In fact, a number of researchers have argued that while the AEDP might be achieving the desired policy outcome in terms of employment, policy analysis should not ignore the types of jobs created and their income limitations. Being in the work force in menial employment might be a less desirable outcome, in the longer term, than remaining outside the work force but enrolled in a tertiary education institution while enhancing human capital endowments. And the notional links of some labour market programs, like the Community Development Employment Projects (CDEP) scheme, to welfare entitlements frequently creates low income ceilings. Such issues are beyond the immediate scope of this paper but have been addressed elsewhere.⁸

Even relaxing the critique of the AEDP employment equality goal, based on inaccurate demographics outlined above, and assuming that jobs held by indigenous Australians are qualitatively no different from those held by non-indigenous Australians (an assumption that is totally undermined by Taylor (1993a) who highlights the disproportionate share of the indigenous employed working part-time for low income), there appears to be little chance that employment equality will be achieved by the year 2000, even at the national level.

Table 5 provides information primarily on the employment/population ratio for the indigenous and total (and more recently non-indigenous) populations for the last five censuses. Information is also provided about the unemployment rate. These five observations, the maximum number available, indicate a degree of fluctuation in the ratio of indigenous to total employment/population ratios. On examining the period 1971-91, no clear pattern is evident. But optimistically, especially in the AEDP review context, some convergence of ratios is evident in the latest intercensal period.

Table 5. Employment/population ratios and unemployment/population ratios for the indigenous and total populations aged 15 years and over, 1971 to 1991.

	1971	1976	1981	1986	1991
<hr/>					
Employment/population ratio					
Indigenous Australians	41.4	40.7	35.7	31.3	35.6
Total population	57.7	58.7	57.6	54.4	54.3
Ratio indigenous to total ^a	0.69	0.69	0.62	0.58	0.66
<hr/>					
Unemployment/population ratio					
Indigenous Australians	4.2	8.8	11.6	17.1	15.8
Total population	1.0	2.7	3.6	5.5	7.1
Ratio indigenous to total ^b	4.2	3.3	3.2	3.1	2.2

a. The closer the ratio to 1.00 the greater the similarity between the two populations.

b. The lower the ratio the greater the similarity between the two populations.

Source: Altman and Smith (1993b); Tesfaghiorghis and Altman (1991); Taylor (1993a).

While linear extrapolation is a crude method to project into the future, especially given the limited number of observations, one scenario from Table 5 would suggest that if the divergence in employment/population ratios evident in the last intercensal period continues (that is an increase in the ratio of 0.08 every five years), then employment equality could be achieved by the year 2011. Alternatively, if the non-indigenous

employment/population rate is held constant at the 1991 level, then assuming a constant improvement in the indigenous rate of 4.3 per cent per annum, employment equality would be achieved by 2021. A more optimistic prospect is evident with the ratio of indigenous to total unemployment/population ratios, although AEDP goals were not articulated in relation to this. If the improvement evident between 1986-91 (which in the case of these rates appears to be part of a longer-term trend) continues, then the indigenous and total rates will be equal before 2001. However, such a prognosis would be based on an assumed, and questionable, further increase in the unemployment rate for non-indigenous Australians beyond current historically high levels and a continuing decline in the indigenous rate.

The aim in using these linear extrapolations under various scenarios is not to estimate a likely date for the achievement of employment equality, but rather to place the target date of the year 2000 in a more realistic and longer-term time frame. As the demographic projections above indicated, the goal of employment equality, which would be hard to achieve assuming a steady-state population of working-age, will become increasingly more difficult to achieve as this population increases.

One of the key financial arguments made for labour market programs is that in the short-term they have a low marginal cost beyond welfare entitlements, and in the longer-run, assuming positive employment outcomes, such programs may in fact generate net savings to government. This 'offset' argument was clearly articulated in the AEDP Statement where it was stated that a reduction in welfare (mainly unemployment benefit) dependency from 30 per cent to 5 per cent would generate total savings for government of \$1,800 million (Australian Government 1987a: 4). While no indication was given if this figure referred to nominal or real dollars, it can be contextualised by AEDP expenditure in the period 1986-87 to 1990-91 that totalled \$1,081 million in nominal terms.

Such financial justifications can be difficult to sustain. For example, during the first five years of the AEDP (1986-91) a high proportion of new jobs generated have been under the auspices of the CDEP scheme (Taylor 1993a). The problem here is that participants have merely moved from welfare dependence to CDEP scheme participation with no net saving to government. To date, there is no evidence of either individuals or communities exiting from the CDEP scheme into more self-sustaining employment. Some savings may have accrued to State and Territory governments in situations where the scheme has operated as a substitute for provision of services normally funded by them. On the other hand, it could be argued that the marginal cost of the scheme to government is low and that there are both economic and social benefits associated with previously unemployed people participating in productive activity. Unfortunately,

there is no ready means to calculate the cost of creating a new job under the AEDP because some jobs, like those under the CDEP scheme, require ongoing subvention, while others that result from training programs and hopefully generate 'proper' jobs, are one-off.

There is a view that the most significant and unprecedented features of the AEDP was its earmarking of significant financial resources over five years targeted to improving the employment status of indigenous Australians. However, given the indication that the targets set in the AEDP in 1987 were far too low, this could, arguably, have resulted in insufficient resources being earmarked specifically for special employment and training programs. While the recession experienced in Australia from the early 1990s could not have been foreseen when the AEDP was being formulated in 1986 and 1987, it could be argued that greater inroads into economic inequality may have been achieved with increased funding.

Such a view though merely suggests that deeply-entrenched economic problems can be fixed with financial resources. It does not take into account structural factors, like the geographic distribution of the indigenous population (Taylor 1993c); cultural factors, like the relative immobility of indigenous labour, especially in remote regions (Taylor 1991); possible labour market distortions, like discrimination, on the demand-side; the demographic structure of the indigenous population (Tesfaghiorghis and Altman 1991); and the interactions between indigenous people, especially females, and the welfare system (Daly 1992b).

A broad option is to shift from defining equity, with its associated notions of fairness and social justice, as being synonymous with statistical equality, an argument articulated earlier by Altman and Sanders (1991). Alternatively, if broad targets are required to provide a means to assess the success of the AEDP, then it might be more appropriate to redefine equity in a manner that more accurately reflects regional variations. In particular, it might be necessary to differentiate those regions where mainstream labour markets exist and where the ideal of statistical employment equality is meaningful (especially in urban contexts), and those where mainstream employment opportunities are extremely circumscribed and where employment equality will never be an option. Equity may require that employment/population ratios vary between regions and that such variation is accepted as both socially just and in keeping with overarching government policies of self-determination and self-management.

A related issue is whether the expansion of the CDEP scheme, largely in rural and remote regions, has created regional funding distortions. As noted above, the AEDP Statement wrongly assumed that employment levels were far lower in 'remote' than 'settled' Australia. Hence employment

creation targets were set higher for remote and rural regions. While such goal setting has been effective in improving employment/population ratios, this may have been at the expense of urban, and especially major urban, centres where relative employment prospects for indigenous Australians have declined. Equity considerations may have required a disproportionate expenditure on new 'proper' jobs in situations where they are hard and expensive to create (that is, where mainstream labour markets exist) rather than vice versa.

This policy option is not canvassed as some unsophisticated 1990s version of the dual economy model. Rather, it suggests that demand-side analysis is urgently required, at a regional level, to establish the number of mainstream 'proper' jobs that might be available and that targets are set in accordance with established employment ceilings. Just such an exercise has been undertaken in general terms for the Torres Strait by Arthur (1991). Such an approach could link the setting of job-creation targets with targeting those seeking mainstream employment, especially after participation in education and training programs. This in turn would provide an impetus to link education and training opportunities provided to indigenous Australians to future demand for indigenous labour with particular skills, an issue raised by Taylor (1993b). Put in an inter-agency policy context, such an approach might provide the rationale to coordinate the AEDP with the Aboriginal and Torres Strait Islander Education Policy.⁹ In the labour economics framework, there is a need to match supply of labour with demand. Not only is there a need for training programs to articulate with mainstream employment opportunities, but it is also important to ensure that indigenous Australians attain skills to compete with non-indigenous Australians, rather than relying on opportunities created in a segmented 'indigenous' labour market (Altman and Daly 1992).

Conclusion

This paper highlights the high risks associated with making population forecasts in the Aboriginal and Torres Strait Islander affairs policy context. Owing in part to a shortage of statistical data and in part to the use of unsophisticated analytical frameworks, projections made to date have been gross underestimates. The availability of 1991 Census data have allowed for new projections to the year 2001. These indicate that estimates of new jobs required to achieve employment equality (in terms of employment/population ratios) between indigenous and other Australians have been set far too low. These new projections, combined with demographic transitions and the geographic distribution of the indigenous population, will make it impossible to achieve employment equality measured by employment/population ratios, by the year 2000.

The lesson to be learnt here is that a more sophisticated analytical framework and more statistical data are needed if labour force planning and forecasting are to be undertaken. While conventional wisdom suggests that some prognosis is better than none in a general policy context, in the somewhat politicised Aboriginal and Torres Strait Islander affairs policy context, any failure to meet targets has a particularly high cost in terms of negative public perceptions.

It has been argued above that the risk of failure to meet stated targets may be reduced if job-creation targets are set at a regional level that makes requisite adjustments for regional employment opportunities. Such an approach would allow statistical employment goals to be set in relation to mainstream employment opportunities in regional contexts. Policies and programs that cannot deliver economic equality, owing to the absence of requisite demand for labour, would need to be assessed according to a different yardstick that recognises the need for ongoing regional fiscal subvention.

Ultimately, at the broadest level, policy makers face an acute dilemma. To achieve employment equality will require that indigenous Australians attain labour market skills necessary to compete with non-indigenous Australians. Such a process of matching supply to demand has some fundamental shortcomings: it will take a very long time to achieve; it takes no account of the geographic distribution and relative immobility of the indigenous population of working age; and it could potentially be emotively labelled as economic assimilation. On the other hand, tailoring demand for indigenous labour to supply would require ongoing and massive government subvention, would be extremely inefficient and makes no sense under the overarching AEDP ambit of achieving economic equality for indigenous Australians. Policy realism suggests that a mix of these two broad approaches will be needed, but whether such a mix delivers employment and income equality and a reduction in welfare dependence remains a moot point.

Notes

1. To 31 December 1999, not August 2001.
2. Interestingly, Taylor (1992: 59) found that 49 localities in 'remote' Australia had populations exceeding 1,000 persons.
3. Daly (1992a) included Cairns and Townsville and the coastal strip joining them in settled Australia; this change alone resulted in an increase in the proportion of indigenous population in settled Australia from Taylor's 57 per cent to 62 per cent.
4. By 1991, the total indigenous population was 265,484, exceeding the AEDP estimate nearly a decade earlier than anticipated.

5. The targets would be no different to the year 2000 in per annum terms, but would be slightly lower in aggregate terms.
6. According to the *Aboriginal and Torres Strait Islander Commission Act 1989* (at para. 94 (1) (a)) the functions of each Regional Council include a responsibility 'to formulate, and revise from time to time, a regional plan for improving the economic, social and cultural status of Aboriginal and Torres Strait Islander residents of the region'.
7. The latest questionnaire for the November 1993 dress rehearsal of the survey includes questions under the broad headings job details (including participation in the CDEP scheme), looking for work and employment history, as well as educational attainment, attitudes to school and schooling.
8. For example, Altman (1992) and Altman and Smith (1993a) have argued that employment and income equality goals might be inversely related; analysis undertaken by Daly (1993) suggests that employment and educational equality goals might be incompatible; and Altman and Smith (1993b) and Taylor (1993a) suggest that employment equality and reduced welfare dependency might be inversely related, if the notional link between CDEP scheme employment and Jobsearch/Newstart Allowances is taken into account.
9. It is somewhat worrying for policy coordination that the AEP that emanated from the AEDP is currently being separately reviewed.

References

- Altman, J.C. 1991. 'Conclusion', in J.C. Altman (ed.) *Aboriginal Employment Equity by the Year 2000*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Altman, J.C. 1992. 'Income support options for indigenous Australians', *CAEPR Discussion Paper No. 12*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Altman, J.C. and Daly, A.E. 1992. 'Do fluctuations in the Australian macroeconomy influence Aboriginal employment status?', *Economic Papers*, 11 (4): 32-48.
- Altman, J.C. and Sanders, W. 1991. 'Government initiatives for Aboriginal employment: equity, equality and policy realism', in J.C. Altman (ed.) *Aboriginal Employment Equity by the Year 2000*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Altman, J.C. and Smith, D.E. 1993a. 'The welfare dependence of Aboriginal Australians: policy implications', *Social Security Journal*, March 1993: 19-41.
- Altman, J.C. and Smith, D.E. 1993b. 'Compensating indigenous Australian 'losers': a community-oriented approach from the Aboriginal social policy arena', *CAEPR Discussion Paper No. 47*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Arthur, W.S. 1991. 'The prospects for employment equity in remote areas: the Torres Strait case', in J.C. Altman (ed.) *Aboriginal Employment Equity by the Year 2000*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

- Australian Bureau of Statistics (ABS) 1991. *Census 1986: Australia's Aboriginal and Torres Strait Islander People*, cat. no. 2503.0, ABS, Canberra.
- Australian Government 1987a. *Aboriginal Employment Development Policy Statement: Policy Paper No. 1*, Australian Government Publishing Service, Canberra.
- Australian Government 1987b. *Aboriginal Employment Development Policy Statement: Policy Paper No. 2, Private and Public Employment Strategies*, Australian Government Publishing Service, Canberra.
- Australian Government 1987c. *Aboriginal Employment Development Policy Statement: Policy Paper No. 3, Community-Based Employment, Enterprise and Development Strategies*, Australian Government Publishing Service, Canberra.
- Bell, M. 1992. *Demographic Projections and Forecasts in Australia: A Directory and a Digest*, Australian Government Publishing Service, Canberra.
- Bell, M. and Skinner, J. 1992. 'Forecast accuracy of Australian subnational population projections', *Journal of the Australian Population Association*, 9 (2): 207-35.
- Daly, A.E. 1992a. 'Location as an explanatory factor in Aboriginal labour market status', unpublished seminar paper, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra, September 1992.
- Daly, A.E. 1992b. 'Replacement ratios for female sole parents: the position of Aboriginal women', *Australian Bulletin of Labour*, 18 (4): 297-311.
- Daly, A.E. 1993. 'Education and employment for young indigenous Australians, 1986 to 1991', *CAEPR Discussion Paper No. 50*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Department of Employment, Education and Training 1991. *Australia's Workforce in the Year 2001*, Australian Government Publishing Service, Canberra.
- Gaminiratne, K.H.W. 1993. 'Change in Aboriginal and Torres Strait Islander population distribution, 1986-91', *CAEPR Discussion Paper No. 49*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Gaminiratne, K.H.W. and Tesfaghiorghis, H. 1992. 'Demographic data on indigenous Australians: current availability and future needs', in J.C. Altman (ed.) *A National Survey of Indigenous Australians: Options and Implications*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Gray, A. and Gaminiratne, K.H.W. 1993. 'Indicative projections of the Aboriginal and Torres Strait Islander indigenous population to 2011', *CAEPR Discussion Paper No. 52*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.
- Gray, A. and Tesfaghiorghis, H. 1993. 'Aboriginal population prospects', *Journal of the Australian Population Association*, (forthcoming, December 1993).
- Miller, M. (Chairman) 1985. *Report of the Committee of Review of Aboriginal Employment and Training Programs*, Australian Government Publishing Service, Canberra.
- Sanders, W. 1991. 'Destined to fail: the Hawke Government's pursuit of statistical equality in employment and income status between Aboriginal and other Australians

by the year 2000 (or a cautionary tale involving the new managerialism and social justice strategies)', *Australian Aboriginal Studies*, 1991/2: 13-18.

Taylor, J. 1991. 'Aboriginal labour migration for employment: the evidence', in J.C. Altman (ed.) *Aboriginal Employment Equity by the Year 2000*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Taylor, J. 1992. 'Aboriginal migration and labour market programs', *Journal of the Australian Population Association*, 9 (1): 53-71.

Taylor, J. 1993a. *The Relative Economic Status of Indigenous Australians, 1986-91*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Taylor, J. 1993b. 'Measuring the occupational segregation of Australia's indigenous workforce: a census-based analysis', *Social Indicators Research*, 31 (2): 49-78 (in press).

Taylor, J. 1993c. *Regional Change in the Economic Status of Indigenous Australians, 1986-91*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Tesfaghiorghis, H. and Gray, A. 1991. 'The demographic structure and location of the Aboriginal population: employment implications', in J.C. Altman (ed.) *Aboriginal Employment Equity by the Year 2000*, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

Webster, E.M. 1992. 'Labour marketing forecasting in Australia: the science of the art', *Journal of the Australian Population Association*, 9 (2): 185-205.

**CENTRE FOR ABORIGINAL ECONOMIC POLICY RESEARCH
(CAEPR)
RECENT DISCUSSION PAPERS**

- 19/1992 *Estimating the reliance of Aboriginal Australians on welfare: some policy implications*, J.C. Altman and D.E. Smith.
- 20/1992 *Establishing trends in ATSIC regional council populations using census data: a cautionary note*, J.C. Altman and K.H.W. Gaminiratne.
- 21/1992 *Do fluctuations in the Australian macroeconomy influence Aboriginal employment status?*, J.C. Altman and A.E. Daly.
- 22/1992 *Industry segregation among employed Aborigines and Torres Strait Islanders*, J. Taylor.
- 23/1992 *The evaluation of labour market programs: some issues for Aboriginal policy formulation from experience in the United States*, A.E. Daly.
- 24/1992 *First counts, 1991 Census: a comment on Aboriginal and Torres Strait Islander population growth*, K.H.W. Gaminiratne.
- 25/1992 *Patterns and trends in the spatial diffusion of the Torres Strait Islander population*, J. Taylor and W.S. Arthur.
- 26/1992 *Aborigines, tourism and sustainable development*, J.C. Altman and J. Finlayson.
- 27/1992 *Political spoils or political largesse? Regional development in northern Quebec, Canada and Australia's Northern Territory*, C. Scott.
- 28/1992 *Survey or census? Estimation of Aboriginal and Torres Strait Islander housing need in large urban areas*, J. Taylor.
- 29/1992 *An analysis of the Aboriginal component of Commonwealth fiscal flows to the Northern Territory*, D.E. Smith.
- 30/1992 *Estimating Northern Territory Government program expenditure for Aboriginal people: problems and implications*, D.E. Smith.
- 31/1992 *Estimating Aboriginal and Torres Strait Islander fertility from census data*, K.W.H. Gaminiratne.
- 32/1992 *The determinants of Aboriginal employment income*, A.E. Daly.
- 33/1992 *Occupational segregation: a comparison between employed Aborigines, Torres Strait Islanders and other Australians*, J. Taylor.
- 34/1992 *Aboriginal population change in remote Australia, 1986-91: data issues*, J. Taylor.
- 35/1992 *A comparison of the socioeconomic characteristics of Aboriginal and Torres Strait Islander people*, J. Taylor and K.H.W. Gaminiratne.
- 36/1992 *The CDEP scheme: a census-based analysis of the labour market status of participants in 1986*, J.C. Altman and A.E. Daly.

- 37/1993 *Indigenous Australians in the National Tourism Strategy: impact, sustainability and policy issues*, J.C. Altman.
- 38/1993 *Education and employment for young Aborigines*, A.E. Daly.
- 39/1993 *Self-employment amongst Aboriginal people*, A.E. Daly.
- 40/1993 *Aboriginal socioeconomic change in the Northern Territory, 1986-91*, J. Taylor.
- 41/1993 *ATSIC's mechanisms for resource allocation: current policy and practice*, D.E. Smith.
- 42/1993 *The fiscal equalisation model: options for ATSIC's future funding policy and practice*, D.E. Smith.
- 43/1993 *The position of older Aboriginal people in the labour market*, A.E. Daly.
- 44/1993 *Determining the labour force status of Aboriginal people using a multinomial logit model*, A.E. Daly, B. Allen, L. Aufflick, E. Bosworth, and M. Caruso.
- 45/1993 *Indigenous Australians and the labour market: issues for the union movement in the 1990s*, J.C. Altman and A.E. Hawke.
- 46/1993 *Rethinking the fundamentals of social policy towards indigenous Australians: block grants, mainstreaming and the multiplicity of agencies and programs*, W. Sanders.
- 47/1993 *Compensating indigenous Australian 'losers': a community-oriented approach from the Aboriginal social policy arena*, J.C. Altman and D.E. Smith.
- 48/1993 *Work and welfare for indigenous Australians*, A.E. Daly and A.E. Hawke.
- 49/1993 *Change in Aboriginal and Torres Strait Islander population distribution, 1986-91*, K.H.W. Gaminiratne.
- 50/1993 *Education and employment for young indigenous Australians, 1986 to 1991*, A.E. Daly.
- 51/1993 *Reconciling public accountability and Aboriginal self-determination/self-management: is ATSIC succeeding?*, W. Sanders.
- 52/1993 *Indicative projections of the Aboriginal and Torres Strait Islander population to 2011*, A. Gray and K.H.W. Gaminiratne.
- 53/1993 *Employment implications of the growth of the indigenous Australian working-age population to 2001*, J.C. Altman and K.H.W. Gaminiratne.
- 54/1993 *The rise and rise of the CDEP scheme: an Aboriginal 'workfare' program in times of persistent unemployment*, W. Sanders.

For information on earlier CAEPR Discussion Papers contact Nicky Lumb, Centre for Aboriginal Economic Policy Research, Faculty of Arts, Australian National University, Canberra ACT 0200. Ph (06) 249 0587 Fax (06) 249 2789.

