Disparate impact: a demography of Indigenous disadvantage

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Abstract

Policies that appear to be ethnically neutral on the surface are often highly discriminatory underneath, purely as a result of ethnic and/or minority group differences in age structure. The situation can be likened to that covered by the legal concept of disparate impact, where one-size-fits-all policies can have a disproportionately negative impact on one or another group. At the same time, policies that are geared to the needs of minority groups often improve the situation.

This paper outlines the argument for Australia's Aboriginal and Non-Indigenous populations across the period 1981-2001, applying it to trends in educational attainment and labour force status. The paper finds that a decline in the gap in labour force status corresponds with both differences in age structure and the expansion of an Aboriginal-specific employment scheme (CDEP), while an increase in the gap in post-school qualifications corresponds with the same age structure disparities but the introduction of a universal Higher Education Contribution Scheme (HECS), and the mainstreaming of several elements of a previously positively discriminating income support scheme for Aboriginal students, ABSTUDY.

The paper concludes by arguing that, due to recent declines in fertility, the Aboriginal population will soon enter its demographic gift years, while the Non-Indigenous population will simultaneously experience substantial structural ageing. It is critical that the potential of this gift is acknowledged and acted upon in policy development, because otherwise it may easily be squandered.

Introduction

This paper examines gaps in educational attainment and labour force status between the Indigenous (Aboriginal and Torres Strait Islander, hereafter referred to as Aboriginal) and Non-Indigenous populations of Australia, and considers the policy implications of marked differences in age structure between the two populations, the median ages of which are, respectively, 21 and 36 years. It begins with a brief overview of the social and demographic backdrop that has led to these differing age structures, and then examines their outcome in terms of differing levels of 'risk of exposure' to Year 12 (pre-tertiary) attendance, to the holding of post-school qualifications, and to being in various labour market categories.

The paper also examines these data over time, *vis-à-vis* the timing of key policy interventions (such as the 1987 expansion of an Aboriginal-specific employment scheme, CDEP, and the 1989 introduction of the Higher Educational Contribution Scheme, HECS) to indicate the essentially 'disparate impact' that some policies may have when age structures differ.

Relatedly the paper considers these differences in age structure in the context of a phenomenon known as the 'demographic gift'; the gift being that period during demographic transition when the proportion of the population that is in the primary working age population—15-64 years—is at its maximum and consequently the proportion notionally dependent is at its minimum. The paper concludes by arguing that the Aboriginal population is currently poised to begin enjoying its demographic gift, but that realisation of this gift will depend very much on its being explicitly acknowledged and proactively assisted in policy development and implementation.

Background:

Since the arrival of the European settler population from the late 1700s, Australia's Aboriginal population has experienced—and continues to experience—marked and widespread social and economic disadvantage (Tesfaghiorghis 1991; Banks 2003 and countless others). Many limitations exist in the data (not least the use of different ethnic classifications within and between data collections) and render definitive statements regarding these disparities problematic. However, irrespective of the technical classification used, when socio-economic data for those who *claim* Aboriginal descent are aggregated, the results cluster disproportionately in the lower bounds of all social indicators (Jackson 1998: 75 on the same for New Zealand Maori). Further evidence of the reality of these disparities is the 20 year gap in life expectancy between Aboriginal and other Australians, and the fact that this gap has increased by around one-quarter over the past 20 years. The increasing gap is both surprising and distressing because it begins soon after the 1973 implementation of the National Plan for Aboriginal Health which set a goal of improving Indigenous health to the level of other Australians within ten years (Ross and Taylor 2002). Clearly the plan has not achieved its objectives.

However these discrepancies and the reasons behind them are not the topic of this paper. Rather they are presented here as a backdrop to the markedly differing age structures of the two populations that we see today and which are the focus of this paper. To these life expectancy data must thus be added trends in the Total Fertility

Rate (TFR), which also affect the relative age structures of the two populations. As in most developed countries, the TFR for the total population began to fall in 1961. At the time it was 3.6 and it is now 1.78, having undergone a monotonous decline across the ensuing period. The TFR of the Aboriginal population began to fall soon after that of the total population, in 1967, when it was just below 6.0 births per woman; today it is around 2.15 (although the latter is based on a 91 per cent coverage of Aboriginal women and may understate the gap between the two populations) (ABS 2003: 17-18).

This relatively precipitous decline in TFR experienced by the Aboriginal population has significant implications for the speed of structural ageing that will be experienced in the not-too-distant future. In the interim it will give rise to a phenomenon that contains much potential for that population: it is now on the verge of entering the period known as 'the demographic gift'.

The 'demographic gift' refers to that period in a population's demographic transition when the proportion at the primary working ages (15-64 years) is at its maximum and consequently the proportion that is dependent (at least notionally) is at its minimum. Over these years—typically a period of three to four decades—a population may be considered optimally placed for economic growth, since the bulk its of people are potentially able to be educated, work and generate income, *vis-à-vis* the relatively small group (at younger and older ages) that may require financial support. It is this attribute that has motivated the study of the demographic gift in many developing and newly developed countries (Birdsall, Kelley and Sinding, 2001; Bloom and Canning, 2003; Mason, 2003).

That said, just 'having' the gift does not mean that it will translate into improved wealth or well being; this transformation requires proactive policies and appropriate management on the part of governments (Mason 2003). This is an important point because the phenomenon has received little scholarly—let alone policy—interest in the developed countries, despite it having delivered to them empirically verifiable economic benefits (Jackson and Felmingham 2004). Ironically, it may only be with the emergence of the gift in the developing countries and its simultaneous loss in the developed countries—as structural ageing accelerates—that the phenomenon will be afforded the recognition it deserves (Jackson 2003: 1). This paper will argue that early recognition of the positive potential of the situation is critical for the Aboriginal population. As the following analysis will illustrate, the age structure of the Aboriginal *vis-à-vis* the Non-Indigenous population is currently optimal for a relative improvement in at least two important social indicators: educational qualifications and labour force status. Relatedly it is essential that any recent reductions (or increases) in gaps between the two populations are technically disaggregated into those parts coming from differences in age structure, and those from policy and other interventions, lest they be taken as evidence of increased equality *per se*.

Data and Method

The argument that sub-population differences in age structure disproportionately expose those populations to different levels of risk of exposure to certain social phenomena is far from new (Bean and Frisbie 1978; Messina, Fraga, Rhodebeck, and Wright 1992; Jones 1992). However it is new for Australia, which has formally collected data on its Aboriginal population only since 1971, and where no studies that control for the effects of age structure (as opposed to age *per se*) on social phenomena

like unemployment could be located. (Notably excluded from this claim are purely demographic studies that use age-standardised birth and death rates.) Even the 1991 Royal Commission into Aboriginal Deaths in Custody which (briefly) acknowledged the differing age structures of the Aboriginal and non-Aboriginal populations made no attempt to quantify the impact of these differences.

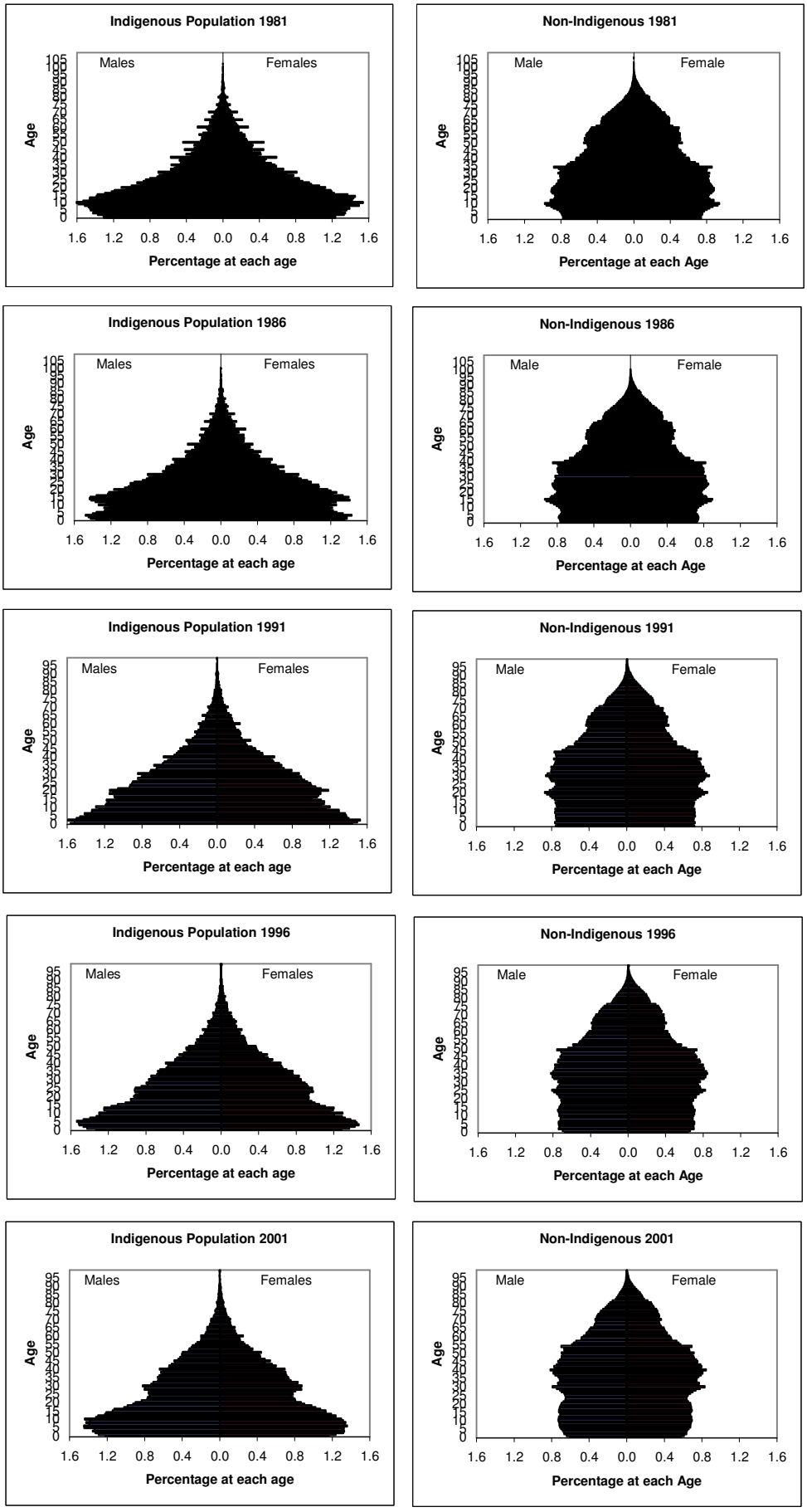
The paper draws on a customised Census database purchased from the Australian Bureau of Statistics. The data cover the period 1981-2001 and include information on the Aboriginal and Non-Indigenous populations by five-year age group, labour force status (employed, unemployed, not in the labour force and total), highest (non-school) educational qualification (bachelors degree or higher, diploma, certificate/vocational qualification, no post school qualification) and Year 12 attendance (the pre-tertiary year).

While the data for all years were standardised to the labour force and educational qualification classifications used in the 2001 census, a problem remains with the undifferentiated inclusion in census data of an Aboriginal-specific employment scheme—The Community Development Employment Projects, commonly known as CDEP. The scheme was established in 1977 primarily as an income support and community development program for remote Aboriginal communities, and in 1987 expanded to what is essentially an employment scheme (Altman and Daly 1992; Hunter 2002a). Under the scheme members of participating communities forego individual access to social security entitlements; amounts broadly equivalent to these entitlements are paid as block grants to the communities they live in, which are then utilised as a wages pool to provide part-time employment (Altman and Daly 1992).

The Census does not allow for identification of CDEP scheme participants, so Altman and Daly's assumption that most people working 0-24 hours per week in the selected communities were in fact participants in the scheme should be kept in mind for this paper (see also Hunter, 2002a: iv, who found that by 1996, between one-fifth and one-half of employed Aboriginals in small urban, rural and remote areas were working in CDEP schemes, and Altman, Gray and Levitus 2005, who argued that by 2002 the CDEP scheme was responsible for 25 per cent of all Aboriginal employment).

Further problems remain with an acknowledged under-coverage of the Aboriginal population in 1981, and significant questions raised since concerning that population's disproportionate growth. Several have argued that, in addition to population momentum, a large portion of this growth reflects an increasing propensity to identify (and to identify children) as Aboriginal (Gray 1997). However with the definition of Aboriginality resting on notions of descent (that is, any person who claims descent from an Aboriginal person is an Aboriginal), the potential for exponential growth is there. The related concept of 'category jumping' (the propensity to record a different identity, either purposefully or inadvertently, at different Censuses) also undoubtedly plays a role. This fluidity in the population data can compromise analyses of other data, such as rates of educational attainment and labour force status based on them. In reality, as shown in Figure 1, the Aboriginal age structure follows a somewhat intuitively correct pattern over the period 1981-2001, and, while differences may exist between data collections, inter-censal comparisons based on data within the Census (as used here) can be considered valid (Hunter 2002a: 4).

Figure 1: Age-Sex Structures of Australia's Aboriginal and Non-Indigenous Populations 1981-2001



These differing age structures result in vastly different proportions of each population at each age. Table 1 converts these proportions to ratios (for the population aged 15+ years), showing that in 2001, there were proportionately 1.9 Aboriginal people aged 15-19 years for every 1.0 Non-Indigenous person at that age; 1.6 Aboriginal people aged 20-24 years to every 1.0 Non-Indigenous, and so on. The opposite is true at the older ages. It is these disproportions at each age that expose each population to different levels of 'risk' of being in one or other social category, like unemployment, and the reason why techniques like age-standardisation are used to 'control' for these differences.

Table 1: Proportionate Ratio* of Aboriginal to Non-Indigenous Persons by Age 1981-2001

	1981	1986	1991	1996	2001
15-19	1.8	1.9	1.8	1.8	1.9
20-24	1.5	1.7	1.7	1.6	1.6
25-29	1.2	1.3	1.4	1.5	1.5
30-34	1.0	1.1	1.2	1.3	1.3
35-39	0.9	0.9	1.0	1.0	1.1
40-44	0.9	0.8	0.8	0.9	0.9
45-49	0.9	0.8	0.7	0.7	0.8
50-54	0.7	0.7	0.7	0.7	0.7
55-59	0.5	0.5	0.6	0.6	0.6
60-64	0.5	0.4	0.5	0.5	0.5
65-69	0.5	0.4	0.4	0.4	0.4
70-74	0.4	0.3	0.3	0.3	0.3
75-79	0.3	0.3	0.2	0.2	0.2
80-84	0.3	0.2	0.2	0.2	0.2
85+	0.3	0.3	0.3	0.3	0.2
Total 15+	1.0	1.0	1.0	1.0	1.0

Notes: **The ratio of the proportion at each age*

Three main indices and techniques are used in the following analysis: the Index of Dissimilarity (ID), direct standardisation, and composition analysis. The ID generates a single figure index which is used to compare whether one or more populations are more or less dis/similar, and/or are becoming more so. An index of 100 (percentage points) would indicate complete dissimilarity, while one of zero would indicate complete similarity. Interpretation of the index relates to the percentage of one population that would need to change categories for the frequency distributions of both (or all) populations to be the same.

Direct standardisation is a statistical technique that controls for compositional differences in populations (such as differences in age structure), whether viewed at a single point in time, or across time. It converts each population to a standard base and generates an observation of what the situation regarding the phenomenon of interest (for example labour force status or educational qualifications) would be *if* the populations of interest had the same composition. In the following analysis the compositional factor of interest is age structure.

The following example should assist in interpreting the results. When unemployment rates for a young population (P1) are standardised to an older age structure (P2), the resulting age-standardised unemployment rate (for P1) is typically lowered. It is lowered because unemployment is normally higher for young people, and the higher

the proportion of young people in a population, the greater the overall unemployment rate. Once the older age structure is applied, that rate falls. The same happens in reverse; when the unemployment rates for an older population (where unemployment is typically less of a problem) are standardised to a younger age structure, the originally lower rate is typically raised.

Decomposition is a more refined version of standardisation and is used here to quantify the contribution of one or other component to the overall observation.

The technique of standardisation is also used to age-standardise the ID, both synchronically and diachronically. The former shows what the index would be if the Aboriginal and Non-Indigenous age structures were the same at each observation; the latter, if they had not changed over the 1981-2001 period.

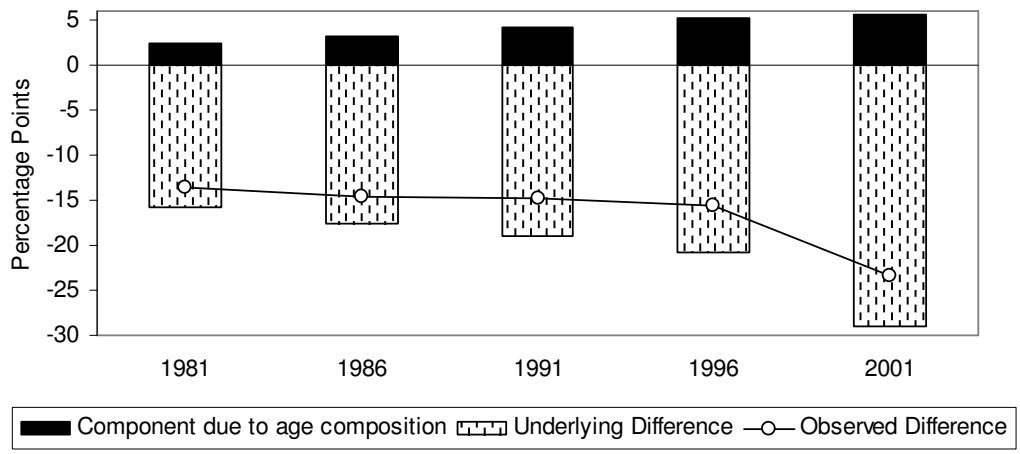
Educational Qualifications:

Over the past two decades (1981-2001) there has been an enormous increase in the proportion of Aboriginal youth and young adults attending educational institutions and gaining secondary school and tertiary level qualifications (Buckskin 2001; Hunter 2002a, 2002b; Brabham and Henry 2002; Hunter and Schwab 2003). This is evidenced in a trebling of the proportion having attended Year 12 (the pre-tertiary year, up from 9 to 26 per cent), a similar gain in the proportions gaining Vocational qualifications, a 20-fold increase in the proportion holding a Bachelors Degree or Higher (up from 0.14 to 2.9 per cent) and a 13 per cent decline in the proportion claiming to have no post-school qualifications (down from 83 to 72 per cent).

The improving situation implies that the gap between the Aboriginal and Non-Indigenous populations will have declined over time, and this is true when the ratio for those with certain qualifications is considered. However this is not the case overall, with the proportion of the Non-Indigenous population holding no post school qualifications having declined over the same period by 20 per cent (from 69 to 55 per cent).

Beginning with Year 12 attendance, Figure 2 shows that despite the marked underlying improvement in this indicator for Aboriginal people, the observed gap between the Aboriginal and Non-Indigenous populations has in fact increased by 73 per cent since 1981, from 13 to 23 percentage points (see Appendix A for data). Also notable is the extent to which the differences in age structure have concealed (reduced) a sizeable proportion of the underlying gap. If the two age structures were the same, the observed gap in 1996 would have been 34 per cent greater, and in 2001, 24 per cent greater. The trend thus also indicates that the Aboriginal age structure is currently optimal for the relative gaining of pre-tertiary qualifications, a finding shown elsewhere for New Zealand Maori (Jackson 2002).

Figure 2: Decomposition of Gap in Percentage of Aboriginal and Non-Indigenous Australians Attending Year 12, 1981-2001



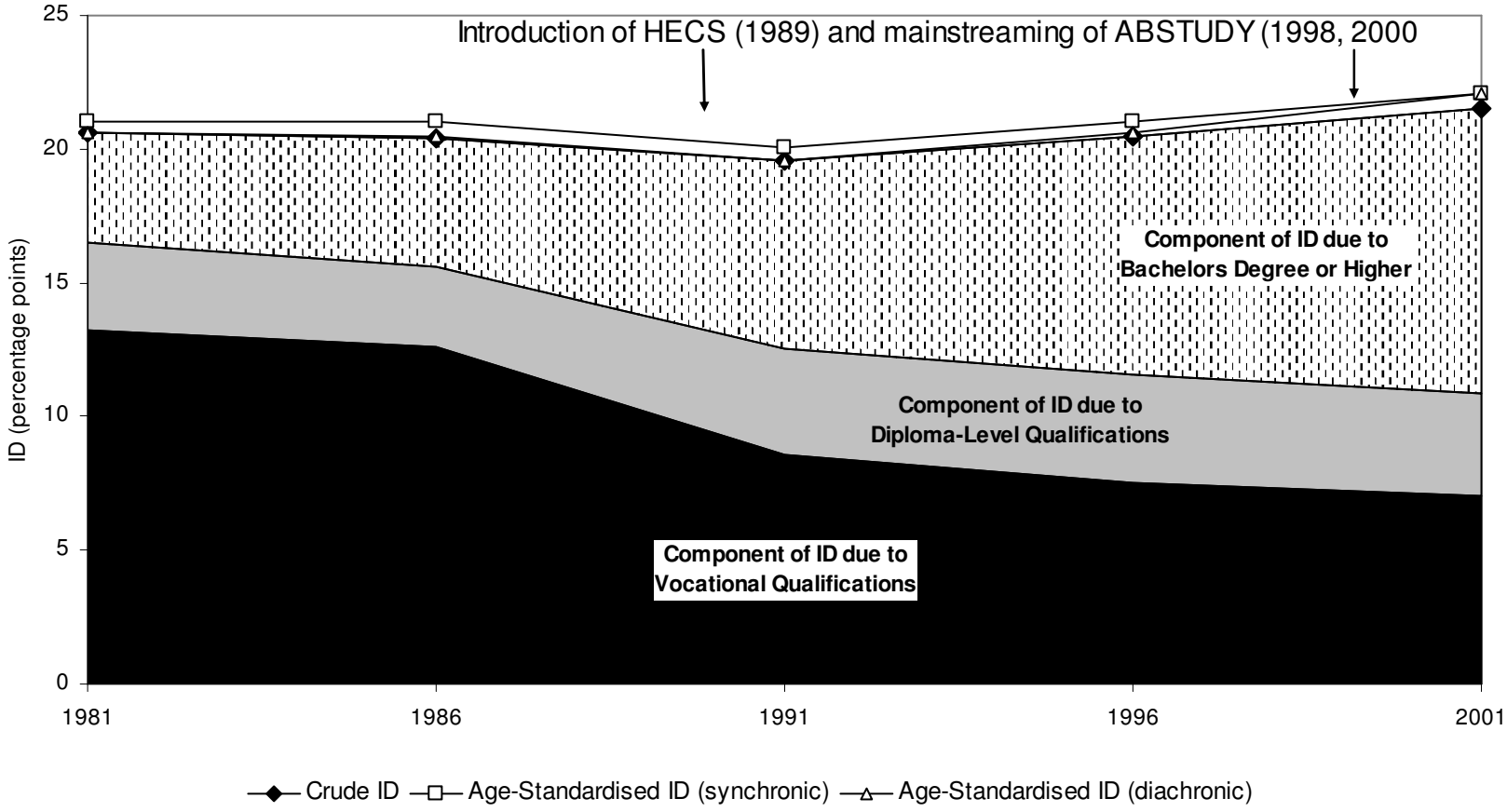
Source: ABS Customised Database

Aboriginal people have also made marked inroads into the gaining of post-school qualifications. However the gap between the two populations has also increased. Using the Index of Dissimilarity (ID) to provide an overall perspective, Figure 3 (over) shows that the ID in 2001 (21.5 percentage points) was one percentage point (5 per cent) higher than it was in 1981, and two percentage points (10 per cent) higher than in 1991.

The decline and then increase in the disparity is clear, as is its driver: a sizeable increase in the gap for the Bachelors Degree or Higher category. Between 1981 and 2001 this category's contribution to the ID increased from 20 to 50 per cent, while that made by Vocational qualifications fell from 66 to 33 per cent. Notably, the increase in the disparity in the Bachelors Degree/Higher category coincides with the introduction of the HECS (Australia's Higher Educational Contribution Scheme) in 1989, and the mainstreaming of an Aboriginal-specific student income support scheme, ABSTUDY, in 1998 and 2000. We return to this point below.

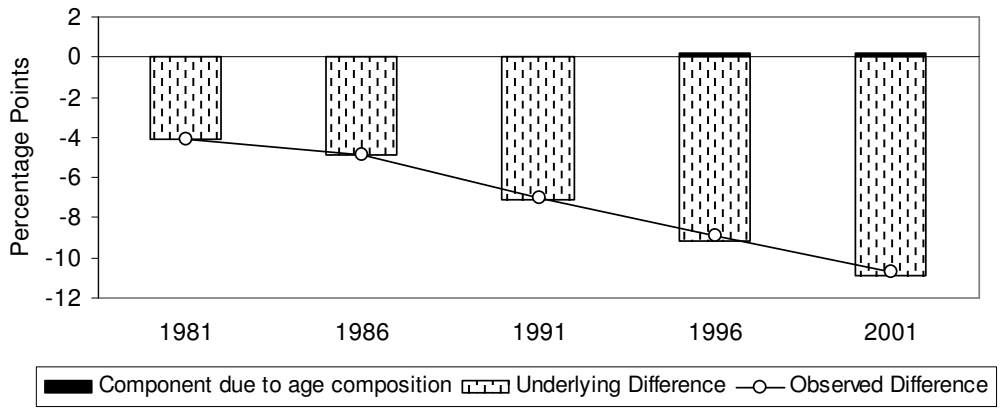
When standardised by age (to the Non-Indigenous age structure), the ID increases slightly, illustrating that if the two populations had the same age structure, the difference would be a little greater; in 2001, around 4.5 per cent (see synchronic trend). The effect has also increased over time. If the two age structures had remained as they were in 1981, the observed gap in 2001 would be 7 per cent greater (see diachronic trend). As was found above for Year 12 attendance, the more youthful Aboriginal age structure is currently providing that population with a minor but increasing advantage in the gaining of higher educational qualifications.

Figure 3: Highest Educational Qualification: Index of Dissimilarity Between Aboriginal and Non-Indigenous Populations, and Timing of Major Policy Interventions, 1981-2001



This small age-related contribution is evident when individual qualifications such as Bachelors Degree or Higher are examined (Figure 4). Reflecting the trends in Figure 3, between 1981 and 2001 the observed percentage point gap between the two populations increased from 4.1 to 10.7. Between 1981 and 1991 the age effect on this gap was miniscule (reducing the observed difference by less than one percent). However had the two populations had the same age structure in 1996 and 2001 the gap in each case would have been respectively 2.6 and 1.8 per cent greater than observed.

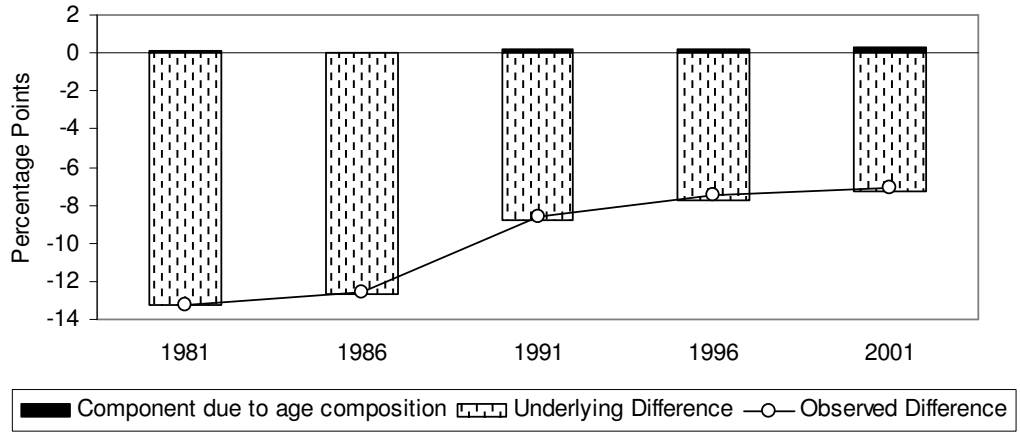
Figure 4: Decomposition of Gap in Percentage of Aboriginal and Non-Indigenous Australians with a Bachelor Degree or Higher, 1981-2001



Source: ABS Customised Database

A similar effect to that for Bachelors Degree/Higher can be seen when the analysis is applied to Vocational level qualifications (Figure 5). In that category, the overall observed difference between 1981 and 2001 reduces significantly, from 13.2 to 7.1 per cent, but, as with the previous analysis, between 1991 and 2001 would have been between 3.0 and 3.6 per cent greater at each observation had the two populations had the same age structure.

Figure 5: Decomposition of Gap in Percentage of Aboriginal and Non-Indigenous Australians Holding a Vocational Qualification, 1981-2001



Source: ABS Customised Database

In both cases, the age-effects are arguably small and somewhat smaller than those shown above for Year 12 attendance. Nevertheless they similarly provide empirical evidence of an advantage to the younger Aboriginal population for the gaining of post-school qualifications. The age-effects on the post-school qualification categories also begin more recently than for the Year 12 category (i.e. from 1991) and are generally increasing, indicating that larger age-effects on the gaining of post-school qualifications may soon follow. This argument is reinforced by the apparent peaking in 1996 of the age-effect for Year 12 attendance, a finding similarly evidenced for the Maori and Non-Maori populations of New Zealand (Jackson 2002).

Such findings are of significant import to arguments regarding a perceived convergence of Aboriginal educational outcomes towards those of the Non-Indigenous population. According to Hunter (2002a: iv) for example, 'the convergence towards Non-Indigenous outcomes [in the gaining of post-school qualifications between 1981 and 1996] is *entirely* due to the low initial base of Indigenous education attainment' (my emphasis).

Some aspects of the statement are correct, with the holding of a Bachelors Degree or Higher by Aboriginal Australians increasing by almost 2,000 per cent (from 0.14 to 2.9 per cent) over the 1981-2001 period, and the effect from age structure being—as yet—a relatively minor feature. However as illustrated above, the general argument that a convergence in the gaining of post-school qualifications is occurring and that it is entirely due to the low initial base of Aboriginal attainment must be challenged (as Hunter does in later work – see for example Hunter and Schwab 2003). Far from converging, the picture is one of increasing disparity driven by a widening gap in the holding of a Bachelors Degree or Higher qualification, and this gap would be even greater were it not for the more youthful age structure of the Aboriginal population that is currently rendering to it a minor advantage in the gaining of qualifications.

Before any move towards convergence can be claimed it is also worth commenting on the counter-factual: the proportion of each population with no post-school qualifications. These data (given in Appendix A) show that not only do proportionately more Aboriginal than Non-Indigenous people have no post-school qualifications, but that the gap in 2001 is 21 per cent greater than it was in 1981, albeit having peaked in 1991 and declining a fraction since. The observed gap in 2001 would also be 5 per cent *lower* if it were not for the differences in age structure. Again the picture that is painted is one of an Aboriginal age structure that is becoming optimally placed to make inroads into these long standing disparities.

Discussion and policy implications (educational disparities):

The foregoing exercise provides empirical evidence of, on the one hand, an increase in disparity between Australia's Aboriginal and Non-Indigenous populations in the gaining of both Year 12 and post-school qualifications between 1981 and 2001, but on the other, the currently optimal age structure of the Aboriginal population for an improvement in these indices.

The first point—the increasing disparity in educational outcomes—must be seen in the context of two significant trends; one an increase in the gap between the two

populations in the Bachelors Degree/Higher category, the other a decrease (of similar percentage point magnitude) in the gap for Vocational qualifications.

While the change in the latter category can be interpreted as an improvement, when taken together the trends add weight to claims that Aboriginal people seeking qualifications disproportionately enrol in general rather than business- or administration-related VET (Vocational Educational Training) courses and end up in short-term, part-time and low paid employment (Ministerial Council on Education, Training and Youth Affairs [MCETYA] 2000: 49, 2001: 26; also Hunter and Schwab 2003). There is also a decline occurring in the primary and manufacturing industries where general skills are utilised, while the areas of employment growth are the knowledge- and service-based sectors for which Aboriginal people are typically not training.

The second point—regarding differences in age structure—is often noted in discussions of challenges for Aboriginal education (e.g. Buckskin 2001: 5; Hunter and Schwab 2003: 88, 94). However, the actual effects do not appear to have been quantified as above. In developing these, the foregoing analysis also illustrates the dynamic nature of the phenomenon. As fertility falls (but at different rates) and the age structures of the two populations mature at different rates, the currently larger age-effects on the gaining of Year 12 qualifications are seemingly shifting upwards to the tertiary qualification categories. There is reason to have confidence in these observations, which have been similarly shown for New Zealand between 1981 and 1991 and continue to this day (Jackson 1998, 2002).

The availability of empirical evidence of this sort is critical for understanding the potentially 'disparate impact' of mainstream policy interventions (and changes) such as the introduction of the HECS in 1989 and more recent efforts to 'mainstream' (universalise) some Aboriginal-specific policies. Notably the latter is occurring at the same time that the Government has—at least rhetorically—an equity policy in place (Birrell, Calderon, Dobson and Smith 2000: 50). However, according to Brabham and Henry (2002: 11), whatever the intent, the Howard Government's stated policy of mainstreaming financial support for students is negatively discriminating against the Aboriginal population in its outcome.

In addition to the implementation of the HECS, which imposes universal fee contributions on all university students, in 1998 and 2000 the Howard Government realigned the principles of a previous Aboriginal student income support scheme, ABSTUDY, to those of two new national-level unemployment income support programs: Youth Allowance and NewStart.

Since its inception in 1969, ABSTUDY had positively discriminated towards the needs of the Aboriginal population, not least its relatively high proportion of mature age students—many of them relatively young sole parent women with children—trying to get a second chance (Aboriginal students are considerably less likely than Non-Indigenous to move directly from Year 12 to tertiary education – Brabham and Henry 2002: 13; Hunter and Schwab 2003). After 1998 the previous age-related principles of ABSTUDY were aligned with those of the two new (unemployment) programs, where they have had a disproportionately negative impact on Aboriginal students. Numbers of Aboriginal students enrolled in higher education in 2000 and 2001 were

substantially below those projected on the basis of earlier participation levels Brabham and Henry (2002: 14). According to Brabham and Henry, the message from Aboriginal communities is that they cannot juggle study and families on the resulting levels of ABSTUDY support.

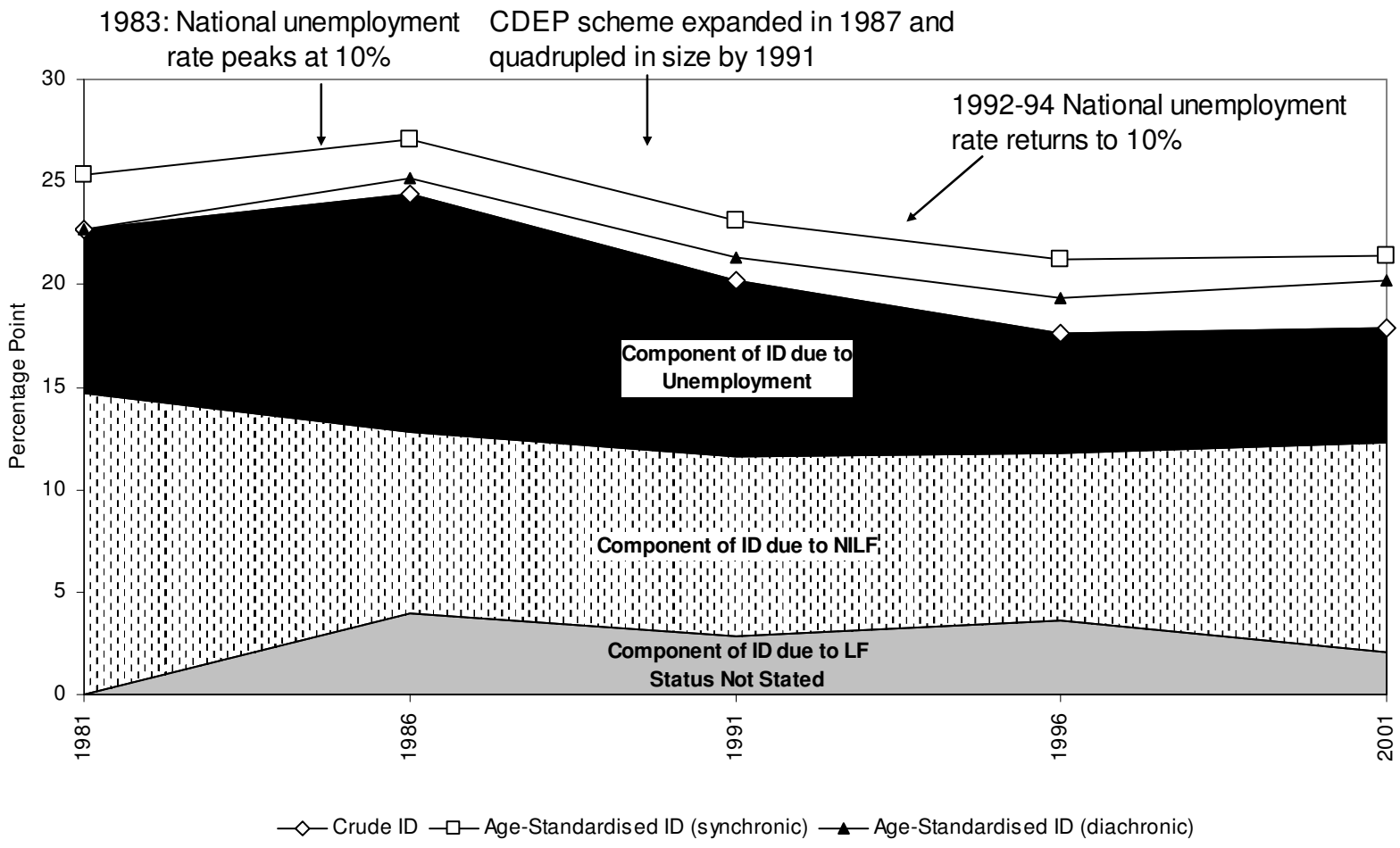
The decline in the ID to 1991 and its increase thereafter thus resonate with the timing of these mainstreaming policy interventions (see also Hunter and Schwab 2003). In each case the small but typically increasing age-effect also conceals greater underlying disparities and provides evidence of the relative optimality of the Aboriginal age structure for the gaining of such qualifications. This optimality in the form of the 'demographic gift' referred to earlier can be expected to continue for just a few decades, whereafter a more rapid structural ageing of the Aboriginal population (than is occurring for the Non-Indigenous population) will remove forever this one-off relative advantage. If the gift is to be realised, whatever it is that is currently dampening Aboriginal participation in higher education must be urgently addressed. Birrell et al. (2000: 50) reflect these concerns in their argument that, despite the Government having an equity policy in place, 'no progress has been made over the past decade in improving equity of access to higher education for young people of lower socio-economic backgrounds.'

Labour Force Status:

By contrast with educational indices, overall disparities in labour force status between Aboriginal and Non-Indigenous Australians have declined since 1981, after having first increased between 1981 and 1986. The situation is summarised in Figure 6, which shows the Index of Dissimilarity first increasing from 23 to 24 percentage points and then declining to 18 (an improvement of 21 per cent over the period 1981-2001). The trends resonate with a relative improvement in employment for Aboriginal people, driven primarily by a decline in unemployment that was maintained even when national unemployment rates returned above 10 per cent in 1991-1992. However the combined contribution made to the ID by those not in the labour force (NILF) and those who did not specify their labour force status remains the greater contributor. The extent to which these trends—particularly the improvement in the gap for unemployment—reflect an expansion to the Aboriginal-specific Community Development Employment Scheme (CDEP) in and since 1987 will be returned to later.

As with the earlier ID for educational qualifications, the age-standardised ID at each observation is a few percentage points greater than its crude counterpart (e.g. in 2001, 4.0), indicating that if the Aboriginal population had the same age structure as the Non-Indigenous population, the level of dissimilarity in 2001 would be around 20 per cent greater, albeit still lower than in 1981 (see synchronic trend). This age-effect has also increased over time (see diachronic trend), accounting for 48 per cent of the improvement in the ID between 1981 and 2001 and providing a strong indication of the extent to which the youthful Aboriginal age structure is offsetting (concealing) a greater degree of underlying disparity.

Figure 6: Labour Force Status: Index of Dissimilarity Between Aboriginal and Non-Indigenous Populations, and Timing of CDEP Changes and Peak Unemployment, 1981-01



The age-effect is clearly evident when the individual labour force categories are examined separately (Figures 7-9, over). Figure 7 indicates that in both 1981 and 1986 the differences in the age structures of the Aboriginal and Non-Indigenous populations reduced the underlying gap in the employment to population ratio by around 14 per cent; in 1991 that effect increased to 17 per cent, and in 1996 and 2001, to 21-22 per cent. That is, at each observation the underlying (or 'true') difference was substantially greater than appears from the observed gap, which in 2001 would have been 28 per cent greater, and this effect has increased over time (Appendix B).

An even greater age-effect is observed for unemployment (Figure 8), where it has an additive rather than a reducing effect, and has risen steadily from 20 per cent of the observed gap in 1981 to 30-31 per cent in 1996 and 2001. That is, in 2001, almost one-third of the observed gap in the unemployment to population ratio between the two populations was due to differences in age structure. This reinforces the argument alluded to earlier that, irrespective of its *actual* unemployment rate, the Aboriginal population in 2001 was disproportionately exposed to the *risk* of unemployment.

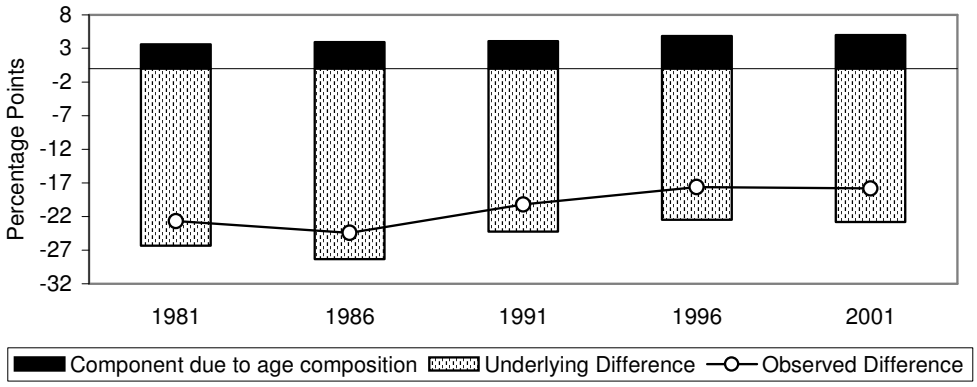
The more youthful age structure of the Aboriginal population also conceals the extent to which that population is concentrated in the Not in the Labour Force (NILF) category (Figure 9). Arguably, it might be expected that the significantly older age structure of the Non-Indigenous population would cause it to have a greater proportion of its members outside the labour force, but this is not the case. In 2001 almost half (46 per cent) of the Aboriginal population aged 15+ years was NILF, compared with 36 per cent of the Non-Indigenous population.

Both these proportions and the observed gap between them have declined over time, the latter from 14.7 to 10.2 percentage points, although notably it increased slightly between 1996 and 2001. However as Figure 9 indicates, the observed gap (in 2001) would have been some 58 per cent greater if the two populations had had the same age structure, up from 36 per cent in 1981 (albeit having been higher over the 1986-1996 period – see Appendix B). Again it is the more youthful age structure of the Aboriginal population that is reducing the observed gap.

Relatedly, this paper adds a plea for analyses that separate out the employment and unemployment categories of labour force participation, as changes in one (e.g. employment or NILF) can conceal those in another (e.g. unemployment).

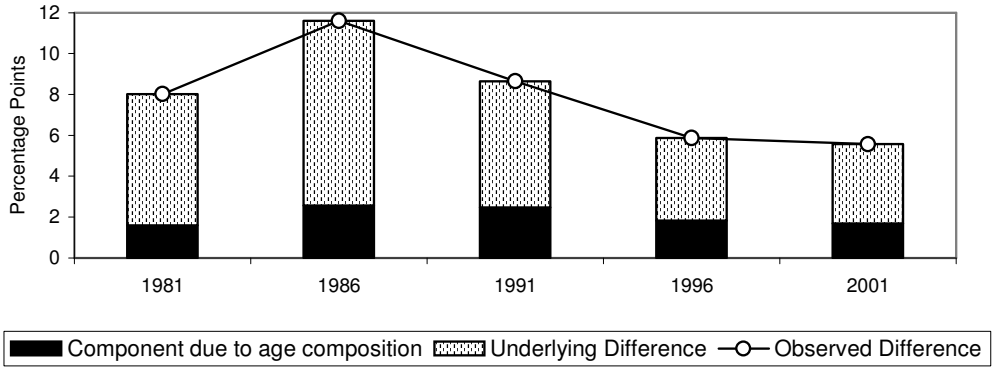
In sum then, while the observed gaps in overall Labour Force status between Aboriginal and Non-Indigenous Australians have declined since 1981, the differing age structures of the two populations conceal substantially greater underlying differences in the employment and NILF categories than is implied in the observed gaps, and add to those for unemployment (see Appendix B). These age differences disproportionately expose each population to the effects of labour market and related income support policies, such as, for example, the 1997 increase in the age of eligibility for the adult rate of NewStart (unemployment) benefit.

Figure 7: Decomposition of Gap in Aboriginal and Non-Indigenous Employment/Population Ratios, 1981-2001



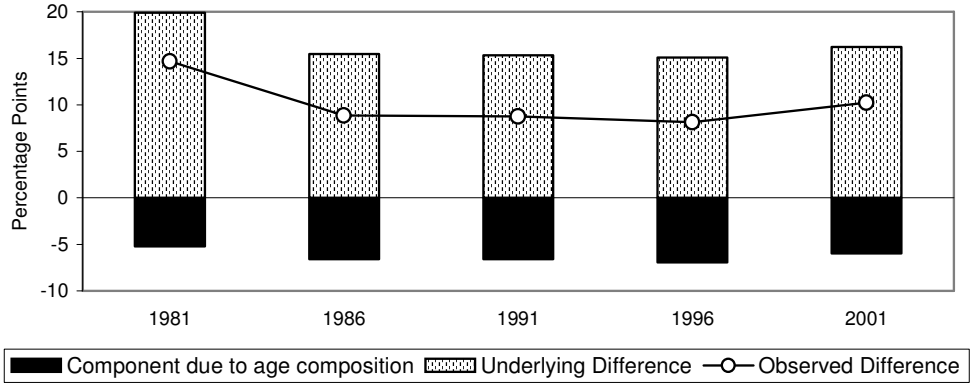
Source: ABS Customised Database

Figure 8: Decomposition of Gap in Aboriginal and Non-Indigenous Unemployment/Population Ratios, 1981-2001



Source: ABS Customised Database

Figure 9: Decomposition of Gap in Aboriginal and Non-Indigenous Not in the Labour Force/Population Ratios, 1981-2001



Source: ABS Customised Database

Discussion and policy implications (labour market)

The relative labour market status of Aboriginal people has improved substantially since 1981, or more accurately, since 1986, when the ID between Aboriginal and Non-Indigenous Australians peaked. Certainly, when the ID is annotated with peak periods of unemployment (refer Figure 6) it is clear that real gains have been made. In 1983, when the national labour force unemployment rate peaked at a little over 10 per cent, the disparity between Aboriginal and Non-Indigenous populations also peaked; however a decade later when national unemployment again reached these levels, the disparity between the two populations was not only declining but continued to decline.

At the same time, both the internal composition of the ID and the age-effects show that the improvements must not be interpreted as being solely due to increasing equality *per se*. The finding by Hunter (2002a: iv) that by 1996 around one-half of all Aboriginal employment in rural and remote areas and one-fifth of that in smaller urban areas outside cities was being generated by the CDEP scheme is a case in point. Hunter explains that aggregate employment for Aboriginal males in major urban areas did not change appreciably over the 1981-1996 period, hovering around 51.4 per cent (2002: 9). From this perspective Aboriginal males may appear to have done better than their Non-Indigenous counterparts, whose employment to population ratio fell from 74 to 67 per cent over the same period. However Hunter explains that the latter was largely due to the overall decline in full-time jobs, which did not have the same effect on Aboriginal people because of their tendency to be employed in a different segment of the market and on a part-time basis. In this sense the CDEP scheme has cushioned Aboriginal people from declines in regional labour markets (Hunter 2002a: 15), rather than seen them enter urban employment. It must also be noted that CDEP-related employment is not preferable to conventional employment. Not only is CDEP remuneration relatively low, but CDEP workers are twice as likely as non-CDEP Aboriginal workers to be underemployed (Hunter 2002b: vi).

Paradoxically this 'shielding of people from the harsh realities of the labour market' may also have reduced the incentive for some Aboriginal people to seek the basic educational attainment that was also an objective of the scheme (Hunter 2002a: 15). This could occur because CDEP is open to any person of Aboriginal descent aged 15 and over and in receipt of the Youth Training Allowance, or over 16 years of age and eligible for (but not receiving) certain types of income support. The concern is echoed by the Ministerial Council on Education, Training and Youth Affairs (2001: 35) which argues that Aboriginal students are more likely to withdraw from university to maintain or commence employment than other groups, and that such an outcome may not be perceived of as negative for many Aboriginal students.

In addition, despite an overall decline in both the observed and underlying gaps in the NILF category across the 1981-2001 period, the significantly greater proportions of the Aboriginal population in this category *at virtually every age* changed very little. At every observation, Indigenous people aged 20-49 years were twice as likely as their Non-Indigenous counterparts to be NILF. At ages 25-34 and 50-54 years Indigenous people in 2001 were *more* likely to be NILF than in 1981. Only at age 65 and above were Aboriginal and Non-Indigenous rates the same (a ratio of 1:1). Accordingly, to Hunter's argument that the dominance of the CDEP scheme in certain

regions of Australia complicates the analysis and interpretation of Aboriginal employment must be added the imperative of analysing and interpreting data for those not in the labour market.

Conclusion

This paper has examined gaps between Aboriginal and Non-Indigenous Australians in educational attainment and labour force status across the period 1981-2001. It finds that the gap in labour force status has decreased, but that by and large this trend is not the result of improved educational attainment, where gaps between the two populations have increased. Only in the Vocational Qualifications category have educational disparities between the two populations reduced, and, as Jackson (2002) showed for New Zealand, that decline may owe as much to a shift of Non-Indigenous persons out of that category and into higher qualifications (a 'shift-share' effect) as it may to increases in the proportion of Aboriginal people entering that category.

The primary cause of the decline in the gap in labour force status is a relatively greater decline in unemployment (or conversely, increase in employment) for the markedly younger Aboriginal population; while the primary cause of the increase in the gap in post-school qualification levels is a relatively smaller increase in the attainment of Bachelor Degree or Higher qualifications for the Aboriginal population, preceded by an increase in the gap for Year 12 attendance, which for most is a necessary precursor to university entrance.

Associated with the decline in the gap in labour force status appears to be the expansion of the Aboriginal-specific employment scheme CDEP, while associated with the increase in the gap in post-school educational qualifications appears to be the introduction of HECS and the mainstreaming of several elements of a previously positively discriminating income support scheme for Aboriginal students, ABSTUDY. To the latter must be added the lower rates of increase in the pre-tertiary qualifications necessary for access to higher education, which—somewhat perversely—may in part be related to the CDEP scheme; the CDEP scheme provides opportunities for work and at least some measure of remuneration that are not otherwise available in most rural and remote areas where Aboriginal people reside.

These trends and their possible interactions aside, the overarching focus of the paper was the extent to which differences in age structure between the two populations may be adding to or concealing greater underlying differences than are apparent from the observed gaps, and in so doing intensify the exposure of one or other population to such policies.

Significantly greater age-effects were found in relation to labour market status and Year 12 attendance than to post-school educational qualifications. Differences in age structure accounted for almost one-third of the difference in observed unemployment between the two populations, while at the same time concealing one-fifth of the underlying difference in employment levels, and more than one-third of the underlying difference for those not in the labour force (NILF). Had the two age structures been the same in 2001, the observed gap in Year 12 attendance would similarly have been 24 per cent greater than indicated by the crude gap, while for all post-school qualifications the age-effect was in the vicinity of a few per cent only.

The differing age-effects between, on the one hand, Year 12 attendance and labour force status, and on the other, post-school qualifications, reflect the differing extent to which each population is 'at risk' of each phenomenon. As the age structures in Figure 1 illustrated, Aboriginal people are disproportionately concentrated in the younger age groups where the 'risk' of Year 12 attendance and unemployment are highest, and less concentrated in the middle to older age groups where the holding of post-school qualifications is highest.

This explanation does not, however, explain the higher concentration of the Aboriginal population in the NILF (not in the labour force) category, where its youthfulness conceals the true reality of that counter-intuitive concentration. If the two populations had the same age structure, the observed disparity in 2001 would have been almost 60 per cent greater. It is this category that thus demands the most urgent attention.

In essence, the more youthful age structure of the Aboriginal population means that it is now significantly better placed (than is the Non-Indigenous population) to gain educational qualifications, enter the labour force and gain from employment (MCEETYA 2000: 46). This advantage has the potential to be transformed into many positives for the Aboriginal population over the next few decades. The Aboriginal population will soon enter its demographic gift years (these being the years during which the maximum proportion of the population is in the working ages, an early manifestation of declining fertility) while the Non-Indigenous population will simultaneously experience substantial structural ageing. It is critical that the potential of this gift is explicitly acknowledged and acted upon in policy, because, as Birdsall et al. (2001), Mason (2003), and Bloom and Canning (2003) (among others) have identified, it can so easily be squandered. This was the experience of total Australia (Jackson and Felmingham 2004) which permitted high levels of structural unemployment at the same moment that the nation's largest-ever cohorts (born in the early 1970s) arrived at labour market entry age in the late 1980s and early '90s. For the Aboriginal population to advance in real terms it is critical that the same mistake be vigorously avoided. In particular, ostensibly 'ethnically-neutral' policies pertaining to employment (like the present attempt to alter the unfair dismissal laws of Industrial Relations Act) that will have a disproportionately greater impact on the youthful and still disproportionately unskilled Aboriginal population must be carefully monitored.

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Appendix A: Effect of Differences in Age Structure on Observed Gap (Percentage Point) in Educational Level/Qualifications

	1981	1986	1991	1996	2001	Index
Year 12 Attendance						
Aboriginal	9.1	11.5	17.3	20.8	26.0	285
Non-Indigenous	22.6	26.0	32.1	36.4	49.4	218
Observed Gap (a)	-13.5	-14.6	-14.8	-15.6	-23.4	173
Underlying Gap (Age-Standardised) (a)	-15.9	-17.7	-19.1	-20.8	-29.1	183
Age effect on Observed Gap (b)	-17.4	-21.4	-28.9	-33.6	-24.2	139
Bachelors Degree or Higher						
Aboriginal	0.1	0.3	0.8	2.0	2.9	2097
Non-Indigenous	4.2	5.2	7.9	10.9	13.6	322
Observed Gap (a)	-4.1	-4.8	-7.0	-8.9	-10.7	262
Underlying Gap (Age-Standardised) (a)	-4.1	-4.9	-7.1	-9.1	-10.9	264
Age effect on Observed Gap (b)	-0.9	-0.7	-0.8	-2.6	-1.8	204
Diploma						
Aboriginal	0.5	0.6	1.4	2.2	2.5	550
Non-Indigenous	3.8	3.6	5.4	6.3	6.3	167
Observed Gap (a)	-3.3	-3.0	-4.0	-4.1	-3.8	115
Underlying Gap (Age-Standardised) (a)	-3.2	-2.8	-3.8	-4.0	-3.6	113
Age effect on Observed Gap (c)	2.9	5.8	3.1	1.7	4.1	142
Vocational Qualifications						
Aboriginal	3.4	5.4	5.5	6.5	9.4	273
Non-Indigenous	16.7	18.0	14.0	14.0	16.4	99
Observed Gap (a)	-13.2	-12.6	-8.6	-7.5	-7.1	53
Underlying Gap (Age-Standardised) (a)	-13.3	-12.7	-8.8	-7.7	-7.3	55
Age effect on Observed Gap (b)	-0.5	-0.4	-2.6	-3.0	-3.6	798
No Post-School Qualifications Qualifications						
Aboriginal	82.6	75.2	79.7	76.3	72.1	87
Non-Indigenous	68.7	60.8	62.1	59.1	55.3	80
Observed Gap (a)	13.9	14.4	17.6	17.2	16.8	121
Underlying Gap (Age-Standardised) (a)	13.2	13.7	15.3	16.6	16.0	121
Age effect on Observed Gap (c)	4.9	5.0	13.0	3.3	5.2	106
Gap in Qualifications Not Stated	6.7	6.0	2.0	3.3	1.9	28

Notes:
(a) Percentage Point Gaps (Aboriginal minus Non-Indigenous)
(b) Percentage reduction due to differences in age structure
(c) Percentage increase due to differences age structure
Index (1981 = 100)

Appendix B: Effect of Differences in Age Structure on Observed Gap (Percentage Point) in Labour Force Status

	1981	1986	1991	1996	2001	Index
Employment / Population						
Aboriginal	35.7	31.3	35.6	38.9	40.3	113
Non-Indigenous	58.4	55.7	55.8	56.5	58.1	100
Observed Gap (a)	-22.7	-24.4	-20.2	-17.6	-17.8	79
Underlying Gap (Age-Standardised) (a)	-26.3	-28.3	-24.3	-22.4	-22.8	87
Age effect on Observed Gap (b)	-16.1	-16.1	-20.0	-27.4	-27.8	173
Unemployed / Population						
Aboriginal	11.6	17.1	15.8	11.5	10.1	87
Non-Indigenous	3.6	5.5	7.2	5.6	4.5	125
Observed Gap (a)	8.0	11.6	8.7	5.9	5.6	69
Underlying Gap (Age-Standardised) (a)	6.4	9.0	6.2	4.0	3.9	60
Age effect on Observed Gap (c)	19.9	22.1	28.6	31.2	30.1	152
Not in Labour Force						
Aboriginal	52.7	46.6	44.7	45.1	46.3	88
Non-Indigenous	38.1	37.7	35.9	37.0	36.1	95
Observed Gap (a)	14.7	8.8	8.7	8.1	10.2	70
Underlying Gap (Age-Standardised) (a)	19.9	15.5	15.3	15.1	16.2	81
Age effect on Observed Gap (b)	-35.7	-75.0	-75.6	-85.9	-58.7	164
Gap in Employment Status Not Stated	..	4.0	2.8	3.6	2.1	…

Notes:
(a) Percentage Point Gaps (Aboriginal minus Non-Indigenous)
(b) Percentage reduction due to differences in age structure
(c) Percentage increase due to differences age structure
Index (1981 = 100)