4708.0

Australian Bureau of Statistics

Occasional Paper

Population Issues, Indigenous Australians

1996

New Issue

Occasional Paper

Population Issues, Indigenous Australians

1996

KATE ROSS
Australian Bureau of Statistics

This Occasional Paper is intended to make the results of current research available to other interested parties. The aim is to encourage discussion and comment.

Views expressed in this paper are those of the author and do not necessarily represent those of the Australian Bureau of Statistics. Where quoted or used, they should be attributed clearly to the author.

AUSTRALIAN BUREAU OF STATISTICS

EMBARGO: 11.30 AM (CANBERRA TIME) MON 15 FEB 1999

ABS Catalogue no. 4708.0
ISBN 0 642 25684 5

Produced by the Australian Bureau of Statistics

INQUIRIES

- For further information about these and related statistics, contact Kate Ross on Darwin 08 8943 2195, email kate.ross@abs.gov.au or any ABS office shown on the back cover of this publication.

CONTENTS

LIST OF TABLES AND GRAPHICS

LIST OF ABBREVIATIONS AND OTHER USAGES

ABS	Australian Bureau of Statistics
AREG	ATSIC Region
ATSIC	Aboriginal and Torres Strait Islander Commission
CBCS	Commonwealth Bureau of Census and Statistics
CD	Collection District
CDEP	Community Development Employment Projects
DAA	Department of Aboriginal Affairs
ERP	estimated resident population
IARE	Indigenous Area
ILOC	Indigenous Location
PES	Post-Enumeration Survey
SD	Statistical Division
SLA	Statistical Local Area
USA	United States of America
. .	not applicable
n.a.	not available
s	section

The following abbreviations are used for the titles of the Australian States and Territories and Australia:

NSW	New South Wales
Vic.	Victoria
Qld	Queensland
WA	Western Australia
SA	South Australia
Tas.	Tasmania
NT	Northern Territory
ACT	Australian Capital Territory
Aust.	Australia

CHAPTER 1 INTRODUCTION

The count of Aboriginal and Torres Strait Islander people increased by some 33% between the 1991 and 1996 Censuses. This increase is far greater than can be explained by demographic factors (births, deaths and migration) alone. This paper attempts to explain the increase in counts between 1991 and 1996 by considering those factors which are readily quantified, such as births, deaths, migration and changes to census coding procedures. It then considers some characteristics of the Indigenous population in order to find other factors which may have contributed to the increase in counts.

Large intercensal increases in counts such as those recorded between 1991 and 1996 are not a new phenomenon; the Indigenous count recorded in the Census increased 340% in the 30 years to 1996 compared with a 53% increase in the census count for the total population. Such a pattern of increase has been observed in other developed countries with minority indigenous populations. Researchers from the USA have described this trend in terms of 'ethnic switching', 'ethnic identity repertoire', 'ethnic renewal' (Nagel 1995), 'social construction of race and ethnicity' (Waters 1996), and 'changes in identification' (Eschbach 1995). In New Zealand it has been referred to as 'inter-ethnic mobility' (Pool 1991).

It seems that the phenomenon under consideration tends to arise in situations where there are long term close relationships between Indigenous and non-Indigenous people, that is, where there are large numbers of people with multiple ancestries/ethnicities. In these situations, which now characterise parts of Australia, New Zealand, the US and Canada, race and ethnicity become social constructions, rather than biological categories (Waters 1996). Ethnic identity is fluid and capable of change over the course of a lifetime and within specific situations. As Waters comments, 'multiple ancestries exist among a large proportion of the population (...) [but] people often choose or are forced into one category for purposes of administrative classification or counting schemes' (Waters 1996 p3).

If ancestry and ethnicity are viewed as social constructs then this has implications for the calculation of population estimates and projections. Population estimates and projections are based on the census count (see Technical Notes); thus any non-demographic factors which impact on changes in census counts also affect population estimates and projections. In addition to population estimates and projections, a wide variety of administrative data collections also use census data as a denominator for rates and ratios. Data from administrative collections about Indigenous people, however, may also be subject to the same increases from social factors as the census. Thus, although this analysis is restricted to census counts, it may provide information to assist in interpreting Indigenous statistics based on administrative data.

INTRODUCTION *continued*

If it is necessary for population estimates and projections to take into account social factors which may not be readily conceptualised or quantified then the relationship between ethnicity and demography may become more difficult. Not only does ethnicity determine demographic traits (e.g. fertility and migration rates) but ethnicity can also be determined by demographic events (Waters 1996). For instance, ethnic or religious identity can be reassessed with the experience of becoming a parent or a move to a new place. In the American context, for example, many Pacific Islanders in Hawaii report two or three identities whilst within the Hawaiian Islands but feel pressured to choose only one ethnicity upon migration to mainland USA (Waters 1996 pp8–9).

The dynamic nature of ethnicity is further highlighted by the various classifications used over time and across nations. As the struggles of indigenous peoples throughout the world come to be debated in terms of 'self-determination' rather than assimilation or acculturation, more emphasis has been placed on the right of indigenous peoples to define themselves, to self-identify rather than be identified by government or the majority culture (Dodson 1994). In Australia, according to one commentator, 'Aboriginality' is not a fixed category but one surviving against 'a continual flow of commentary and classification' (Dodson 1994 p2). It is instructive, therefore, to examine the history of definitions used by government agencies and in national statistical collections in Australia before considering the statistics that resulted from them.

DEFINING 'ABORIGINAL' AND 'TORRES STRAIT ISLANDER'

From the time of federation until the 1967 Referendum, a question on 'race' was asked in all Australian censuses for the purpose of excluding Aboriginal people from official population figures, a Constitutional requirement. (The history of the definition of Torres Strait Islanders is discussed below.) Prior to 1967, there were two specific references to Aboriginal people in the Australian Constitution. Section 51(xxvi) excluded the 'aboriginal race' from Commonwealth legislative power and s127 excluded 'aboriginal natives' from the 'numbers of the people of the Commonwealth'. As these were exclusory provisions, they were interpreted narrowly, so that 'Aboriginal' was taken to mean persons with more than 50% Aboriginal 'blood' (ALRC 1986 p69). This contrasts to the 'one drop rule' operating for African Americans (Nagel 1995 p949) and reflects the belief that 'half-castes' could be assimilated. Tindale, writing in 1941, expressed this most succinctly:

> There is no biological reason for the rejection of people with a dilute strain of Aboriginal blood. A low percentage will not introduce any aberrant characteristics and there need be no fear of reversions to the dark Aboriginal type (quoted in Dodson 1994 pp2–3).

The 50% rule was not uniformly applied in pre-Referendum Australia. One author has identified 'no less than 67 identifiable classifications, descriptions or definitions' in 700 pieces of legislation (McCorquodale, quoted in Nettheim 1993).

DEFINING 'ABORIGINAL' AND 'TORRES STRAIT ISLANDER'
continued

The 1967 Referendum removed both references to Aboriginal people in the Constitution. As a result, the words 'aboriginal person' no longer appeared in the Constitution, and the Commonwealth acquired a power to legislate for the 'aboriginal race' which was previously held solely by the States. As a result of the change to s51(xxvi) an exclusory provision was removed and replaced by an inclusory power. The question of definition was therefore re-examined, in that inclusory legislative powers are generally interpreted widely whereas exclusory ones are interpreted narrowly. Since the Commonwealth gained a legislative power from the Referendum it was necessary to develop a definition for administrative purposes; this definition did not necessarily have to be as narrow as the 50% rule. The Commonwealth did develop such a definition in the post-Referendum period and it was much broader than the 50% rule. The reasoning behind the definition was expressed by the Department of Aboriginal Affairs in 1981, thus:

> It was realised very early in the development of Commonwealth involvement in Aboriginal affairs that definitions of Aboriginality based on an interpretation of the constitution and relying on assessments of an individual's 'preponderance of blood' were not satisfactory for administrative purposes. Assessments of degree of descent were generally considered unreliable and capable of giving offence. Such definitions also failed to take sufficient account of concepts of self-identification and community acceptance central to the rationale for Commonwealth Aboriginal advancement programs and the remediation of Aboriginals' state of disadvantage (DAA 1981, p1).

In 1981 the Constitutional section of the Department of Aboriginal Affairs wrote a review paper entitled, 'Report on a Review of the Administration of the Working Definition of Aboriginal and Torres Strait Islander' (DAA 1981). The paper includes a history of the development of the working definition, a chronological summary of which appears below.

1968 'An Aboriginal is anyone with some Aboriginal blood who considers himself an Aboriginal'. (Minister-in-Charge of Aboriginal Affairs, Honourable W.C. Wentworth, Press Conference, 18 March 1968)

1968 'An Aboriginal is a person of whole or partial Aboriginal descent, who claims to be an Aboriginal and is accepted as such by the community with which he is associated'. (W.C. Wentworth, Cabinet submission, 15 May 1968)

1971 'An Aboriginal is a person of Aboriginal descent who claims to be an Aboriginal and is accepted as such by the community with which he is associated'. (September 1971)

1972 'An "Aboriginal" or "Torres Strait Islander" is a person of Aboriginal or Islander descent who identifies as an Aboriginal or Islander and is accepted as such by the community with which he is associated'.

DEFINING 'ABORIGINAL' AND 'TORRES STRAIT ISLANDER'
continued

1973 Senator J.L. Cavanagh, Minister for Aboriginal Affairs endorses definition.

1975 'An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait Islander descent who identifies as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he lives'. This definition is what has become known as the 'Commonwealth working definition'.

1977 Minister endorses definition (8 June 1977).

1978 Cabinet endorses definition (19 October 1978). (DAA pp6–8)

The High Court of Australia considered s51(xxvi) and the Commonwealth working definition in Commonwealth v Tasmania (1983) 158 CLR 1 (the Tasmanian Dams Case). The Court held that Tasmanian Aboriginal people, most of whom would not meet the 50% rule, were Aboriginal under the section. Justice Brennan said:

> Though the biological element ... is an essential element of membership of a race, it does not ordinarily exhaust the characteristics of a racial group. Physical similarities, and a common history, a common religion or spiritual beliefs and a common culture are factors that tend to create a sense of identity among members of a race and to which others have regard in identifying people as members of a race. As the people of a group identify themselves and are identified by others as a race by reference to their common history, religion, spiritual beliefs or culture as well as by reference to their biological origins and physical similarities, an indication is given of the scope and purpose of the power granted by para(xxvi). (Quoted in ALRC p71)

Although the High Court adopted the Commonwealth working definition in the Tasmanian Dams case not all legislatures throughout Australia have adopted it or any other uniform definition (Nettheim 1993). However, some legal judgements handed down since the advent of the Commonwealth working definition have varied the requirements based on degree of Aboriginal descent. A substantial Aboriginal descent may be sufficient without the need for proof of self-identification and community acceptance whereas a small degree of descent coupled with self-identification and community acceptance may be sufficient (Gibbs v Capewell (1995) 128 ALR 577, Shaw v Wolf, Federal Court of Australia, Melbourne, 20 April 1998).

The Commonwealth working definition with its elements of descent, identification and community acceptance departed radically from the traditional definition of preponderance of Aboriginal blood. By including social elements as well as broadening the biological element, many more people were potentially within the official definition of Aboriginal. The effect of this change in definition on Census counts will be examined in a subsequent section.

Torres Strait Islanders

The history of the definition of Torres Strait Islanders is slightly different to that of Aboriginal people. Although Torres Strait Islanders are also indigenous to Australia they were not separately mentioned in the Constitution. Legislatively, there has been no agreement as to the definition of a Torres Strait Islander. The Commonwealth working definition was extended to include Torres Strait Islanders in 1972 following representations by Torres Strait Islanders (DAA 1981 p7). Treatment in Censuses has also been varied. Prior to the 1947 Census, Torres Strait Islanders were regarded as Aboriginal and thus were excluded from official Census counts if they were of more than 50% Torres Strait Islander blood. In the 1947 Census, Torres Strait Islanders were considered to be Polynesian and were included in official counts. In the 1954 and 1961 Censuses they were considered to be Pacific Islanders and were again included in official counts. For the 1966 Census, however, Torres Strait Islanders were classified as Aboriginal and were excluded from official figures (Smith 1980). Since then Torres Strait Islanders have been regarded as a separate Indigenous people and included in all census counts.

South Sea Islanders

South Sea Islanders are recognised as a disadvantaged group under 1994 Access and Equity legislation, but are not indigenous to Australia. An extension of the definition of Aboriginal or Torres Strait Islander to include South Sea Islanders was considered by an Interdepartmental Committee in 1975 but it was decided 'not to extend special benefits to this group' (DAA 1981 pp8–9, ALRC 1986 pp74–75). Anecdotal evidence, as well as the results of analyses of Census data on language spoken by people who have stated they are Indigenous, suggests that some South Sea Islanders respond as Indigenous to the census question on Indigenous status (DAA 1981 p11). The status of South Sea Islanders remains an issue of considerable interest and debate (HREOC 1992, ABS 1998a).

CENSUS QUESTIONS ON INDIGENOUS STATUS

Australian censuses since 1911 have used eleven different question and answer sets to record information about the Aboriginal and Torres Strait Islander population (figure 1.1). There have been two major breaks in the series of questions used. The first was a result of the 1967 Referendum.

Prior to 1967 it was necessary to ask a question about race to establish numbers of 'half-castes' and 'full-bloods'. 'Full-bloods' (i.e. those persons with more than 50% Aboriginal blood) were then subtracted from the official population figure. As counting of 'full-bloods' was not a prime purpose of the Census, remote areas of Australia which were completely uninhabited by non-Aboriginal people were not enumerated, although 'counts' were sometimes derived by estimation. Thus, the quality of early Aboriginal counts is questionable. In *The Aboriginal Population of Australia: Summary of Characteristics, 30 June 1966* (CBCS 1969) the following explanation was given:

> Prior to the 1966 Census Aborigines 'out of contact' were not enumerated and estimates of these were made by authorities responsible for native welfare. It is estimated that at the 1954 Census 12,956 Aborigines (of which 2,311 were estimated to be in Queensland, 1,760 in South Australia, 3,516 in Western Australia, and 5,369 in the Northern Territory) were not contacted by Census collectors and were not included in the Census. Increasing numbers however, were coming into contact and at the 1961 Census it is estimated that 2,000 Aborigines in Western Australia and 1,944 in the Northern Territory were not contacted by Census collectors. At the 1966 Census, efforts were made to obtain complete coverage (CBCS 1969 p4).

In the pre-Referendum context being Aboriginal was seen to be a disadvantage by many Aboriginal and non-Aboriginal people. In a recent case before the Federal Court of Australia which considered the question of who is an Aboriginal person, Justice Merkel remarked:

> Problems of identification have been exacerbated by the tragic historical fact that actual or perceived racism was such that many Aboriginal persons regarded their Aboriginal identification and public recognition of it with shame and as a distinct disadvantage (Shaw v Wolf, Federal Court of Australia, Melbourne, 20 April 1998 p9).

Such a situation was not unique to Australia. In the USA, for example, people of American Indian descent often 'passed' as white people because of the disadvantages associated with being an American Indian (Nagel 1995, p949).

CENSUS QUESTIONS ON INDIGENOUS STATUS
continued

It would not be surprising therefore if Indigenous Australians did not report their origins in the census, or changed their responses from one census to the next. Indeed, that changes in the way people responded to the Census question occurred is implicitly acknowledged in the 1966 Census summary report:

> Investigations made by matching the replies of individuals at the 1961 and 1966 Censuses and by comparing overall Census results with data available from the State instrumentalities responsible for Aboriginal welfare suggest that considerable doubt attaches to the validity of the replies given to the question on race at the 1966 and previous Censuses.
>
> It has now been concluded:
>
> (a) That reporting by Aborigines in the 1966 Census was insufficiently precise to differentiate persons who are 50% Aboriginal from those who are more than 50% Aboriginal.
>
> (b) That similar dissections obtained at Censuses prior to the 1966 Census were similarly imprecise.
>
> (c) That even a total of all persons who are 50% or more Aboriginal may be suspect, primarily because of the inclusion of persons who are less than 50% Aboriginal and described themselves simply as 'Aboriginal', but also because of persons who are 50% Aboriginal stating their race as 'European' (CBCS 1969, pp3–4).

From 1911 to 1967 all Census questions on origins used the word 'race'; some also asked for blood fractions or whether a person was 'half-caste'. Population counts of Indigenous people for this period are relatively constant, at around 80,000 (figure 1.2, table 1.3).

After the 1967 Referendum, the question on the census form was changed to 'What is each person's racial origin?'. This question was used in the 1971 and 1976 censuses. At this time, large increases in the count occurred. Between 1966 and 1971 the count increased by 44.6% and between 1971 and 1976 it increased by 38.8%. Part of the increases was certainly due to efforts to obtain complete coverage of the Indigenous population. The first census to use special interview procedures to enumerate Indigenous people was the 1976 Census but usage of these procedures were limited to the Northern Territory until the 1981 Census.

CENSUS QUESTIONS ON INDIGENOUS STATUS
continued

The second significant shift in questioning approach occurred between the 1976 and 1981 censuses. As a result of adverse public reaction to the use of the word 'racial' in 1976 this word was removed from the question (ABS 1979a, 1979b). All censuses since 1981 have used the same question to determine Indigenous status—'Is the person of Aboriginal or Torres Strait Islander origin?'. A change to the accompanying instruction was instituted for the 1996 Census to allow persons with both Aboriginal and Torres Strait Islander origins to nominate both. Previously for the 1981, 1986 and 1991 Censuses an instruction was included directing people of 'mixed origin' to nominate the one to which they considered themselves to belong. The use of the word 'mixed' was intended to mean both Aboriginal and Torres Strait Islander, although it is likely that some respondents may have interpreted this as Indigenous and non-Indigenous.

DEFINITIONS AND CENSUS COUNTS

Figure 1.1 shows the Census questions used during this century and table 1.3 presents the population counts derived from them for the Indigenous population. Over time, there is a clear upward trend in census counts, beginning with the 1966 Census and continuing to the most recent census. Whilst the same question has been used in the last four Censuses to determine Indigenous status it is apparent from the Census results that not all people have answered the question consistently over time. The changes after 1966 shown in figure 1.2 are consistent with the construction of the Indigenous population as a social one, rather than a strictly biological one. In the next chapter, the extent of the increase which is attributable to demographic and non-demographic factors will be considered.

1911

10. If a British Subject by Parentage, write P.
If a British Subject by Naturalization, write N. .....
Race:—.....

1921

11. State if of **European race** : .....
If not European, state **what race** : .....

1933

(12) Race. — For all persons of European race wherever born write "**European.**" For non-Europeans state the race to which they belong as **Aboriginal, Chinese, Hindu, Negro, Afghan,** &c. If the person is a half-caste write also "**H.C.**", as "**H.C. Aboriginal,**" "**H.C. Chinese,**" &c.

1947

(11) Race. — For persons of European Race, wherever born, write "**European.**" For non-Europeans state the race to which they belong, for example, **Aboriginal, Chinese, Negro, Afghan,** &c. If the person is half-caste with one parent of **European** race write also "**H.C.,**" for example as "**H.C. Aboriginal,**" "**H.C. Chinese,**" &c. (See instructions also.)

1954 and 1961

10

Race.
For persons of European Race, wherever born, write "**European.**" For non-Europeans state the race to which they belong for example, "**Aboriginal,**" "**Chinese,**" "**Negro,**" "**Afghan,**" &c. If the person is half-caste with one parent of **European** race write also "**H.C.,**" for example "**H.C. Aboriginal,**" "**H.C. Chinese,**" &c. (See Instructions.)

1966

13. **Race.** State **each** person's race. For persons of European race wherever born, write "European". Otherwise state whether Aboriginal, Chinese, Indian, Japanese, etc., as the case may be. If of more than one race give particulars, for example, ½European-½Aboriginal, ¾Aboriginal-¼Chinese, ½European-½Chinese.

1971

5. **What is this person's racial origin ?**
(If of mixed origin indicate the one to which he considers himself to belong)
(Tick **one** box only or give **one** origin only)
1 ☐ European origin
2 ☐ Aboriginal origin
3 ☐ Torres Strait Islander origin
4 ☐ Other origin (give **one** only) .....

1976

18. What is each person's racial origin ?
- If of mixed origin, indicate the one to which the person considers himself/herself to belong.
- Tick one box only for each person

European origin..... ☐ 1
Aboriginal origin..... ☐ 2
Torres Strait Islander origin..... ☐ 3
Other origin..... ☐ 4
State *one* only.....

1981

16. **Is the person of Aboriginal or Torres Strait Islander origin ?**
- For persons of mixed origin, indicate the one to which they consider themselves to belong.

No..... ☐ 1
Yes, Aboriginal..... ☐ 2
Yes, Torres Strait Islander..... ☐ 3

1986

9. **Is the person of Aboriginal or Torres Strait Islander origin ?**
- For persons of mixed origin, indicate the one to which they consider themselves to belong.

4 ☐ No
5 ☐ Yes, Aboriginal
6 ☐ Yes, Torres Strait Islander

1991

13 **Is the person of Aboriginal or Torres Strait Islander origin ?**
- For persons of mixed origin, indicate the one to which they consider themselves to belong.

( ) No
( ) Yes, Aboriginal
( ) Yes, Torres Strait Islander

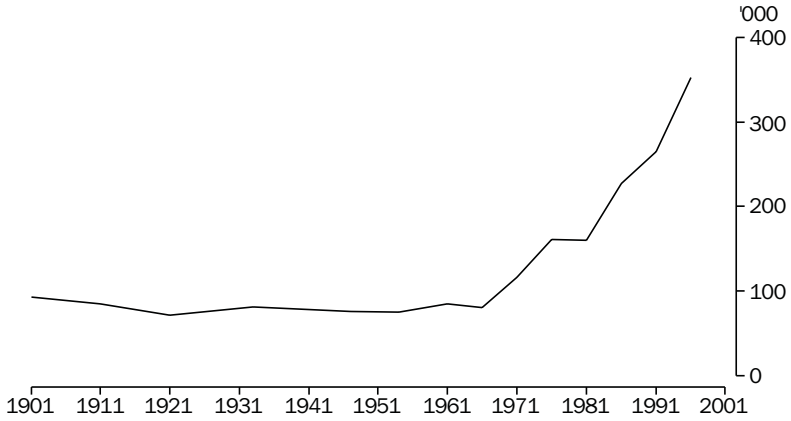
1996

14 **Is the person of Aboriginal or Torres Strait Islander origin ?**
- For persons of both Aboriginal and Torres Strait Islander origin, mark both 'yes' boxes.

( ) No
( ) Yes, Aboriginal
( ) Yes, Torres Strait Islander

Source: ABS 1992, 1996a.

1.2 INDIGENOUS COUNTS AND ESTIMATES, 1901–96



Note: Censuses were held in 1901, 1911, 1921, 1933, 1947, 1954, 1961, 1966, 1971, 1976, 1981, 1986, 1991 and 1996. Pre-1966 figures are official estimates of the Indigenous population. Torres Strait Islanders are excluded from 1947 and 1966 figures.

Source: Smith 1980, CBCS 1969, Choi and Gray 1985, ABS 1997a.

1.3 INDIGENOUS COUNTS AND ESTIMATES, 1901–96(a)

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
	no.	*no.*	*no.*	*no.*	*no.*	*no.*	*no.*	*no.*	*no.*
1901									
Enumerated	7 434	652	6 670	3 888	6 212	157	23 235	. .	48 248
Estimated	7 434	652	26 670	5 185	30 000	157	23 235	. .	93 333
1911									
Enumerated	6 524	643	11 195	2 131	7 844	230	1 467	18	30 052
Estimated	7 329	643	22 508	4 817	27 000	230	22 000	. .	84 527
1921									
Enumerated	6 185	586	10 617	1 769	17 547	152	2 510	33	39 399
Estimated	6 185	586	17 104	2 420	27 547	152	17 809	33	71 836
1933									
Enumerated	9 351	865	15 676	2 139	10 107	270	6 590	68	45 066
Estimated	9 546	859	17 967	3 558	29 067	270	19 386	68	80 721
1947(b)									
Enumerated	11 560	1 277	13 537	2 621	9 507	214	12 232	100	51 048
Estimated	11 560	1 277	16 311	5 122	26 234	214	15 147	100	75 965
1954									
Enumerated	12 215	1 395	20 502	3 213	12 699	93	11 794	173	62 084
Estimated	12 215	1 395	22 813	4 973	16 215	93	17 163	173	75 040
1961									
Enumerated	14 720	1 796	24 903	4 885	16 276	38	17 763	145	80 526
Estimated	14 720	1 796	24 903	4 885	18 276	38	19 707	145	84 470
1966(b)	14 219	1 790	19 003	5 505	18 439	36	21 119	96	80 207
1971	23 873	6 371	31 922	7 299	22 181	671	23 381	255	115 953
1976	40 450	14 760	41 345	10 714	26 126	2 942	23 751	827	160 915
1981	35 367	6 057	44 698	9 825	31 351	2 688	29 088	823	159 897
1986(c)	58 999	12 600	61 250	14 285	37 786	6 716	34 738	1 059	227 593
1991(c)	69 999	16 729	70 102	16 223	41 769	8 882	39 893	1 592	265 371
1996(c)	101 485	21 474	95 518	20 444	50 793	13 873	46 277	2 899	352 970

(a) Pre-1966 figures include both as enumerated counts and official estimates of the Indigenous population. Data for 1966 to 1996 are as enumerated only. For information about data quality of census counts refer to technical notes.

(b) Excludes Torres Strait Islanders.

(c) Excludes overseas visitors. 1986 to 1996 figures include Other Territories in the Australia total. Prior to 1986 Jervis Bay Territory is included with the ACT.

Source: Smith 1980, CBCS 1969, Choi and Gray 1985, ABS 1997a.

CHAPTER 2 EXPLAINABLE AND UNEXPLAINABLE COMPONENTS OF THE CENSUS INCREASE

As described in the previous chapter, very high increases in the Indigenous census count were observed between 1991 and 1996, much higher than can be explained by normal demographic processes. The difference between the expected population growth due to births and deaths and that observed has been referred to as 'the error of closure' (Passel and Berman 1986, Harris 1994).

In addition to births and deaths, migration is another demographic factor which may explain changes in population counts. In the United States, work by Passel and Berman (1986) and Harris (1994) does not consider migration as the US census only asks for each person's usual residence five years ago. As the US census is decennial this means that intercensal migration data is not available from the census itself. Australian census data are available for intercensal migration, so migration can be included in the error of closure calculation, along with births and deaths. In addition, information on the effect of changes to census coding procedures is available; these changes are an explainable factor in the increase in census count and have been considered in calculating the error of closure.

To calculate the error of closure for 1996, the base count is the 1991 Census count. The net effects of natural increase, migration and census edits are added to the 1991 count to produce an expected 1996 count, as if the Indigenous people counted in the 1991 census were a demographically closed population.

BIRTHS AND DEATHS

Reliable birth and death registration data for Indigenous people are not available for all states and territories. Thus, estimates of births and deaths must be used. Estimates of the number of Indigenous births and deaths for each state and territory, based on the 1991 Census, have been previously published by the Australian Bureau of Statistics (ABS 1996b). The estimates were based on only those states for which births registration data achieved a high level of coverage. The average fertility rates for states with an acceptable level of coverage were then applied to the remaining states. Age-specific fertility rates were estimated for each state and territory. As an Indigenous child may have only one Indigenous parent, births include those to Indigenous mothers as well as to Indigenous fathers and non-Indigenous mothers. Estimates of deaths were based on life tables produced by Gray and Tesfaghiorghis (1993). Full details of the methodology are available elsewhere (ABS 1996b). The methods used to produce these estimates are still experimental; other authors have arrived at different estimates (see for example Gray 1997). To estimate the error of closure for the 1991–96 period, the 1991 Census is taken as the base year and components of change for the 1991–96 period are added. It is also possible to work backwards,

rather than forwards, and apply 1996 Census based estimates of births and deaths to the 1991–96 period. This latter approach was used in the production of the most recent ABS experimental projections of the Indigenous population (ABS 1998b).

Despite some uncertainties about Indigenous birth and death estimates, the figures in table 2.1 indicate that only about 40% of the 1991–96 increase in Indigenous census counts can be attributed to natural increase. However, there is considerable variation by state/territory. At one extreme is the Northern Territory and at the other is Tasmania and the Australian Capital Territory. The Northern Territory represents a largely remote, 'traditional', Aboriginal population which came into contact with Europeans quite late in the history of European settlement patterns. The Indigenous population in Tasmania and the Australian Capital Territory could be characterised as highly urban, with a long history of close contact between Europeans and Indigenous people. The Northern Territory recorded the lowest rate of increase between 1991 and 1996, the majority of which can be explained by the excess of births over deaths. At the other extreme, Tasmania and the Australian Capital Territory recorded the highest rates of increase in census counts with births and deaths contributing little to these increases.

2.1 EXPLAINABLE INCREASE DUE TO BIRTHS AND DEATHS, 1991–96

	Population count(a)		*Increase 1991–96*		*Births and deaths(b)*			
							Explainable increase due to births and deaths	
	1991	1996			Births	Deaths		
	no.	no.	no.	%	no.	no.	no.	%(c)
NSW	69 993	101 636	31 643	45.21	12 052	–2 366	9 686	30.61
Vic.	16 701	21 503	4 802	28.75	3 000	–520	2 480	51.65
Qld	70 072	95 374	25 302	36.11	12 171	–2 747	9 424	37.25
SA	16 227	20 421	4 194	25.85	2 666	–574	2 092	49.88
WA	41 844	50 699	8 855	21.16	7 895	–1 754	6 141	69.35
Tas.	8 912	13 929	5 017	56.29	1 468	–247	1 221	24.34
NT	39 857	46 362	6 505	16.32	6 882	–1 705	5 177	79.58
ACT	1 583	2 844	1 261	79.66	277	–39	238	18.87
Aust.(d)	**265 371**	**352 970**	**87 599**	**33.01**	**46 445**	**–9 959**	**36 486**	**41.65**

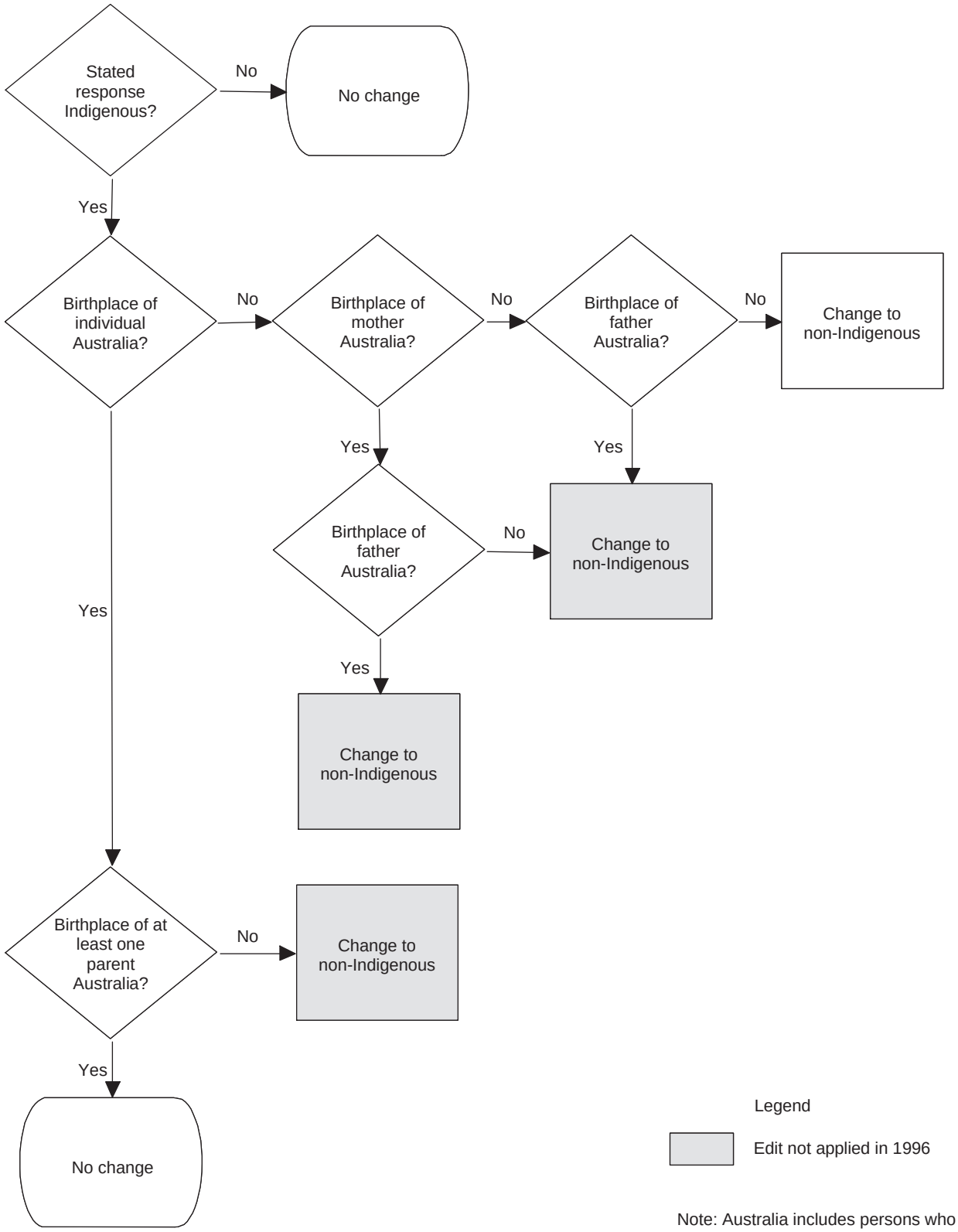
(a) Place of usual residence.
(b) Births and deaths based on Experimental Projections of the Aboriginal and Torres Strait Islander Population, 1991–2001, (ABS 1996b), high series.
(c) Percent of absolute increase 1991–96.
(d) Other Territories are included in the Australia total.

Source: ABS 1996b, 1997a.

CENSUS EDITING PROCEDURES

During the processing of census data, a series of edits are applied to the data collected in order to remove certain inconsistencies and errors. The Indigenous status variable is edited to change responses of 'Aboriginal' or 'Torres Strait Islander' to 'non-Indigenous' for persons who are unlikely to be Indigenous. For the 1991 and 1996 censuses these edits were based on the birthplaces of the individual and parents. For the 1991 Census there were two edits which changed responses from 'Indigenous' to 'non-Indigenous' when the relevant conditions were met. There was only one, narrower, edit applied for the 1996 Census. These edits are summarised in figure 2.2.

2.2 EDITS FOR INDIGENOUS STATUS, 1991–96



Note: Australia includes persons who did not state their birthplace.

CENSUS EDITING PROCEDURES *continued*

The effect of the 1991 edits was to require Indigenous people to be born in Australia and to have at least one parent born in Australia. In 1996 only one of either the Indigenous person, mother or father, was required to be born in Australia. Thus there were a group of people whose stated response as Indigenous was left as Indigenous in 1996 who would have been coded as non-Indigenous using 1991 edits (table 2.3). There were 6,115 people in this group, representing about 7% of the increase in the Indigenous count. Without further investigation it is not clear whether these people are more probably Indigenous or non-Indigenous.

2.3 EXPLAINABLE INCREASE DUE TO CHANGES IN CENSUS EDITS BY EDIT TYPE, 1996

Birthplace of individual	*Birthplace of parents*	*no.(a)*
Australia or not stated	BOTH Overseas	4 302
Overseas	BOTH Australia or not stated	525
Overseas	ONE Australia or not stated, ONE Overseas	1 288
Total		**6 115**

(a) Represents people who would have been recoded to non-Indigenous using 1991 Census editing procedures. These people remained Indigenous, as stated, in the 1996 Census.

Source: ABS unpublished census data.

The contribution of the changes in edits was most striking in Victoria where the changed edits accounted for over a quarter of the increase in the Indigenous census count. Without the contribution of the changed edits, the increase in Indigenous count in Victoria would have been around 20%, similar to what was observed in the Northern Territory, Western Australia and South Australia, and considerably lower than the increases in other eastern states.

2.4 EXPLAINABLE INCREASE DUE TO CHANGES IN CENSUS EDITS, 1991–96

	Population count(a)		*Increase 1991–96*		*Explainable increase due to changes in census edits*	
	1991	*1996*				
	no.	*no.*	*no.*	*%*	*no.(b)*	*%(c)*
NSW	69 993	101 636	31 643	45.21	2 266	7.16
Vic.	16 701	21 503	4 802	28.75	1 378	28.70
Qld	70 072	95 374	25 302	36.11	1 163	4.60
SA	16 227	20 421	4 194	25.85	354	8.44
WA	41 844	50 699	8 855	21.16	667	7.53
Tas.	8 912	13 929	5 017	56.29	104	2.07
NT	39 857	46 362	6 505	16.32	114	1.75
ACT	1 583	2 844	1 261	79.66	66	5.23
Aust.(d)	**265 371**	**352 970**	**87 599**	**33.01**	**6 115**	**6.98**

(a) Place of usual residence.

(b) Represents people who would have been recoded to non-Indigenous using 1991 Census editing procedures. These people remained Indigenous, as stated, in the 1996 Census.

(c) Percent of absolute increase 1991–96.

(d) Other Territories are included in the Australia total.

Source: ABS 1997a, unpublished census data.

Differences in the increase of Indigenous population counts due to the changes in edits were also observed at the regional level, especially in the two Aboriginal and Torres Strait Islander Commission (ATSIC) Regions in Victoria (Ballarat and Wangaratta) (table 2.5). In addition, 28% of the population increase in the Torres Strait Area was due to the changes in edits. Of the 165 people in the Torres Strait Area who would have been coded to non-Indigenous using 1991 edits, 93% were born in Australia and had both parents born in Papua New Guinea. This is probably due to movement of Torres Strait Islanders between the Torres Strait and Papua New Guinea and the practice of traditional adoption throughout the Torres Strait (ALRC 1986 p73).

2.5 EXPLAINABLE INCREASE DUE TO CHANGES IN CENSUS EDITS, ATSIC REGIONS, 1991–96(a)

		Population count(b)		Increase 1991–96		Explainable increase due to census editing procedures	
		1991(c)	1996				
AREG code	AREG name	no.	no.	no.	%	no.(d)	%(e)
1	Queanbeyan	5 698	9 008	3 310	58.09	124	3.75
2	Bourke	6 339	7 639	1 300	20.51	18	1.38
3	Coffs Harbour	15 856	25 038	9 182	57.91	242	2.64
4	Sydney	22 840	34 422	11 582	50.71	1 802	15.56
5	Tamworth	8 574	10 763	2 189	25.53	52	2.38
6	Wagga Wagga	12 458	17 791	5 333	42.81	94	1.76
7	Wangaratta	8 173	10 367	2 194	26.84	676	30.81
8	Ballarat	8 532	11 136	2 604	30.52	702	26.96
9	Brisbane	16 128	27 763	11 635	72.14	649	5.58
10	Cairns	11 214	14 749	3 535	31.52	130	3.68
11	Mount Isa	5 362	5 853	491	9.16	11	2.24
12	Cooktown	5 402	5 440	38	0.70	5	13.16
13	Rockhampton	8 103	11 287	3 184	39.29	60	1.88
14	Roma	6 310	8 800	2 490	39.46	52	2.09
15	Torres Strait Area	6 389	6 971	582	9.11	165	28.35
16	Townsville	11 161	14 511	3 350	30.02	91	2.72
17	Adelaide	9 426	12 589	3 163	33.56	331	10.46
18	Ceduna	1 521	1 865	344	22.62	4	1.16
19	Port Augusta	5 277	5 967	690	13.08	19	2.75
20	Perth	11 907	17 888	5 981	50.23	494	8.26
21	Broome	3 089	3 328	239	7.74	11	4.60
22	Kununurra	3 886	4 155	269	6.92	3	1.12
23	Warburton	2 916	2 978	62	2.13	4	6.45
24	Narrogin	5 511	6 290	779	14.14	52	6.68
25	South Hedland	3 550	3 727	177	4.99	21	11.86
26	Derby	3 719	3 995	276	7.42	40	14.49
27	Kalgoorlie	2 806	3 340	534	19.03	22	4.12
28	Geraldton	4 457	5 019	562	12.61	23	4.09
29	Hobart	8 915	13 929	5 014	56.24	104	2.07
30	Alice Springs	3 601	3 750	149	4.14	22	14.77
31	Jabiru	7 677	8 238	561	7.31	<5	<1.00
32	Katherine	6 005	6 720	715	11.91	7	0.98
33	Aputula	6 878	8 213	1 335	19.41	<5	<1.00
34	Nhulunbuy	6 080	7 128	1 048	17.24	<5	<1.00
35	Tennant Creek	2 773	3 481	708	25.53	5	0.71
36	Darwin	6 838	8 832	1 994	29.16	75	3.76
	Australia	**265 371**	**352 970**	**87 599**	**33.01**	**6 115**	**6.98**

(a) See technical notes for reference map of ATSIC regions.

(b) Place of usual residence.

(c) Persons who were 'not stated' to the SLA of usual residence question in 1991 have been allocated to the ATSIC Region in which they were enumerated. See technical notes for more information.

(d) Represents people who would have been recoded to non-Indigenous using 1991 Census editing procedures. These people remained Indigenous, as stated, in the 1996 Census.

(e) Percent of absolute increase 1991–96.

Source: ABS unpublished census data.

MIGRATION

After births and deaths, migration is the third demographic factor which can explain changes in population counts, both in aggregate for Australia and for each State or Territory. Migration from overseas could contribute to the increase for Australia as a whole and movement between states could account for part of the increase at the state level. Data for both geographic levels show that migration does not account for a significant proportion of the increases in counts either nationally or across states (tables 2.6 and 2.7).

Migration figures were calculated excluding those persons who would have been edited to non-Indigenous if 1991 editing procedures had been used. That is, the 6,115 persons accounted for in the previous section have been excluded from this section in order to avoid double counting.

Migration from overseas

There were 642 people who reported Indigenous origin but who also reported being usually resident overseas five years ago. These people represent 0.73% of the increase in Indigenous count between 1991 and 1996 (table 2.6). Although some of the people in this group may have filled in the census form incorrectly, it is likely that many of them were Indigenous people who had returned home after a period abroad. The majority (95%) of these people were born in Australia and had at least one parent born in Australia. In addition, 87% spoke English (83%) or an Indigenous language (4%) at home.

Equivalent data on those Indigenous people who left Australia for overseas in the 1991–96 period are not available. For the total population this information is available from the passenger cards completed by incoming and outgoing travellers for the Department of Immigration and Multicultural Affairs. These passenger cards do not record the Indigenous status of the traveller. Although the number of Indigenous Australians who emigrate is not known, it is assumed for other purposes, particularly population estimates, that the number of departures equals the number of arrivals. If that were the case then the explainable increase due to overseas migration would be zero.

The effect of immigration on the increase in counts calculated in table 2.6 assumes no Indigenous people emigrated overseas. Nevertheless, the effect of immigration was very small for all states and territories. Just over half of all Indigenous people whose usual residence five years ago was overseas were resident in New South Wales and Queensland. Around half of the movers from overseas to New South Wales and Queensland resided in the capital city ATSIC Regions of Sydney and Brisbane.

2.6 EXPLAINABLE INCREASE DUE TO OVERSEAS MIGRATION, 1991–96

	Population count(a)		Increase 1991–96		Overseas migration(b)			
							Explainable increase due to overseas migration	
	1991	1996			Movers In	Movers Out		
	no.	no.	no.	%	no.	no.	no.	%(c)
NSW	69 993	101 636	31 643	45.21	191	n.a.	191	0.60
Vic.	16 701	21 503	4 802	28.75	69	n.a.	69	1.44
Qld	70 072	95 374	25 302	36.11	168	n.a.	168	0.66
SA	16 227	20 421	4 194	25.85	27	n.a.	27	0.64
WA	41 844	50 699	8 855	21.16	98	n.a.	98	1.11
Tas.	8 912	13 929	5 017	56.29	22	n.a.	22	0.44
NT	39 857	46 362	6 505	16.32	37	n.a.	37	0.57
ACT	1 583	2 844	1 261	79.66	30	n.a.	30	2.38
Aust.(d)	**265 371**	**352 970**	**87 599**	**33.01**	**642**	**n.a.**	**642**	**0.73**

(a) Place of usual residence.

(b) Emigration from Australia is not recorded on passenger cards by Indigenous status. Excludes persons who would have been edited to non-Indigenous if 1991 Census edits had been applied in 1996.

(c) Percent of absolute increase 1991–96.

(d) Other Territories are included in the Australia total.

Source: ABS 1997a, unpublished census data.

Inter-state migration

Four states recorded net gains from inter-state migration of Indigenous people. Of these, the Australian Capital Territory gained 204 people, which is less than one-fifth of the increase in Census counts for this area between 1991 and 1996. The only other state recording a significant gain from interstate migration was Queensland where 8.6% of the increase in Indigenous counts was due to migration. Even in states where there was a net migration loss, there was still an overall increase in the Indigenous count, meaning that there was an even larger effective increase in the Indigenous count, once migration is considered.

2.7 EXPLAINABLE INCREASE DUE TO INTER-STATE MIGRATION, 1991–96

	Population count(a)		Increase 1991–96		Inter-state migration(b)			
							Explainable increase due to inter-state migration	
	1991	1996			Movers In	Movers Out		
	no.	no.	no.	%	no.	no.	no.	%(c)
NSW	69 993	101 636	31 643	45.21	3 262	4 794	–1 532	–4.84
Vic.	16 701	21 503	4 802	28.75	1 516	2 032	–516	–10.75
Qld	70 072	95 374	25 302	36.11	5 286	3 110	2 176	8.60
SA	16 227	20 421	4 194	25.85	1 488	1 398	90	2.15
WA	41 844	50 699	8 855	21.16	1 628	1 478	150	1.69
Tas.	8 912	13 929	5 017	56.29	482	756	–274	–5.46
NT	39 857	46 362	6 505	16.32	1 831	2 126	–295	–4.53
ACT	1 583	2 844	1 261	79.66	787	583	204	16.18
Aust.(d)	**265 371**	**352 970**	**87 599**	**33.01**	**16 296**	**16 296**	**0**	**0.00**

(a) Place of usual residence.

(b) Excludes persons who would have been edited to non-Indigenous if 1991 Census edits had been applied in 1996. Excludes persons usually resident overseas 5 years ago and those who did not state their usual residence 5 years ago.

(c) Percent of absolute increase 1991–96.

(d) Other Territories are included in the Australia total.

Source: ABS 1997a, unpublished census data.

Inter-region migration

Migration, however, did have a significant role in population increase at a regional level. There were 15 ATSIC regions which recorded a net gain from inter-region migration (table 2.8). The most noticeable contribution of migration to the increase in Indigenous census count was in the Alice Springs region where over half of the (relatively small) increase can be explained by migration. People moving into Alice Springs mostly originated from the Katherine and Aputula regions. Other regions where there were significant proportions of the increase in count due to migration were Brisbane, Cairns, Ceduna and Derby. The largest numerical gains from migration were in the Brisbane (2,085 people) and Coffs Harbour (1,389 people) regions.

Major net flows of Indigenous people between ATSIC Regions are mapped in figure 2.9. The single largest net flow was from the Sydney region to the Coffs Harbour region (722 people). Most striking is the general pattern of movement into the Brisbane region, with nine regions each contributing more than 100 Indigenous people to the Brisbane region. This pattern is consistent with movements in the population at large. Movement to the Brisbane region accounts for almost all the net migration gain recorded by Queensland.

2.8 EXPLAINABLE INCREASE DUE TO INTER-REGION MIGRATION, ATSIC REGIONS, 1991–96

		Population count(a)		Increase 1991–96		Inter-region migration(b)			
								Explainable increase due to inter-region migration	
AREG code	AREG name	1991 no.	1996 no.	no.	%	Movers In no.	Movers Out no.	no.	%(c)
1	Queanbeyan	5 698	9 008	3 310	58.09	1 633	–1 262	371	11.21
2	Bourke	6 339	7 639	1 300	20.51	792	–1 364	–572	–44.00
3	Coffs Harbour	15 856	25 038	9 182	57.91	3 572	–2 183	1 389	15.13
4	Sydney	22 840	34 422	11 582	50.71	3 061	–4 504	–1 443	–12.46
5	Tamworth	8 574	10 763	2 189	25.53	1 123	–1 798	–675	–30.84
6	Wagga Wagga	12 458	17 791	5 333	42.81	2 197	–2 599	–402	–7.54
7	Wangaratta	8 173	10 367	2 194	26.84	1 314	–1 481	–167	–7.61
8	Ballarat	8 532	11 136	2 604	30.52	1 287	–1 636	–349	–13.40
9	Brisbane	16 128	27 763	11 635	72.14	5 078	–2 993	2 085	17.92
10	Cairns	11 214	14 749	3 535	31.52	2 309	–1 612	697	19.72
11	Mount Isa	5 362	5 853	491	9.16	490	–1 104	–614	–125.05
12	Cooktown	5 402	5 440	38	0.70	331	–555	–224	–589.47
13	Rockhampton	8 103	11 287	3 184	39.29	1 931	–1 645	286	8.98
14	Roma	6 310	8 800	2 490	39.46	1 426	–1 488	–62	–2.49
15	Torres Strait Area	6 389	6 971	582	9.11	480	–834	–354	–60.82
16	Townsville	11 161	14 511	3 350	30.02	2 363	–2 001	362	10.81
17	Adelaide	9 426	12 589	3 163	33.56	1 497	–1 327	170	5.37
18	Ceduna	1 521	1 865	344	22.62	348	–283	65	18.90
19	Port Augusta	5 277	5 967	690	13.08	562	–707	–145	–21.01
20	Perth	11 907	17 888	5 981	50.23	2 951	–2 080	871	14.56
21	Broome	3 089	3 328	239	7.74	426	–456	–30	–12.55
22	Kununurra	3 886	4 155	269	6.92	330	–466	–136	–50.56
23	Warburton	2 916	2 978	62	2.13	297	–295	2	3.23
24	Narrogin	5 511	6 290	779	14.14	885	–1 324	–439	–56.35
25	South Hedland	3 550	3 727	177	4.99	607	–814	–207	–116.95
26	Derby	3 719	3 995	276	7.42	374	–323	51	18.48
27	Kalgoorlie	2 806	3 340	534	19.03	628	–626	2	0.37
28	Geraldton	4 457	5 019	562	12.61	880	–843	37	6.58
29	Hobart	8 915	13 929	5 014	56.24	482	–756	–274	–5.46
30	Alice Springs	3 601	3 750	149	4.14	989	–908	81	54.36
31	Jabiru	7 677	8 238	561	7.31	363	–539	–176	–31.37
32	Katherine	6 005	6 720	715	11.91	588	–674	–86	–12.03
33	Aputula	6 878	8 213	1 335	19.41	549	–494	55	4.12
34	Nhulunbuy	6 080	7 128	1 048	17.24	145	–252	–107	–10.21
35	Tennant Creek	2 773	3 481	708	25.53	334	–374	–40	–5.65
36	Darwin	6 838	8 832	1 994	29.16	1 751	–1 773	–22	–1.10
	Australia	**265 371**	**352 970**	**87 599**	**33.01**	**44 373**	**–44 373**	**0**	**0.00**

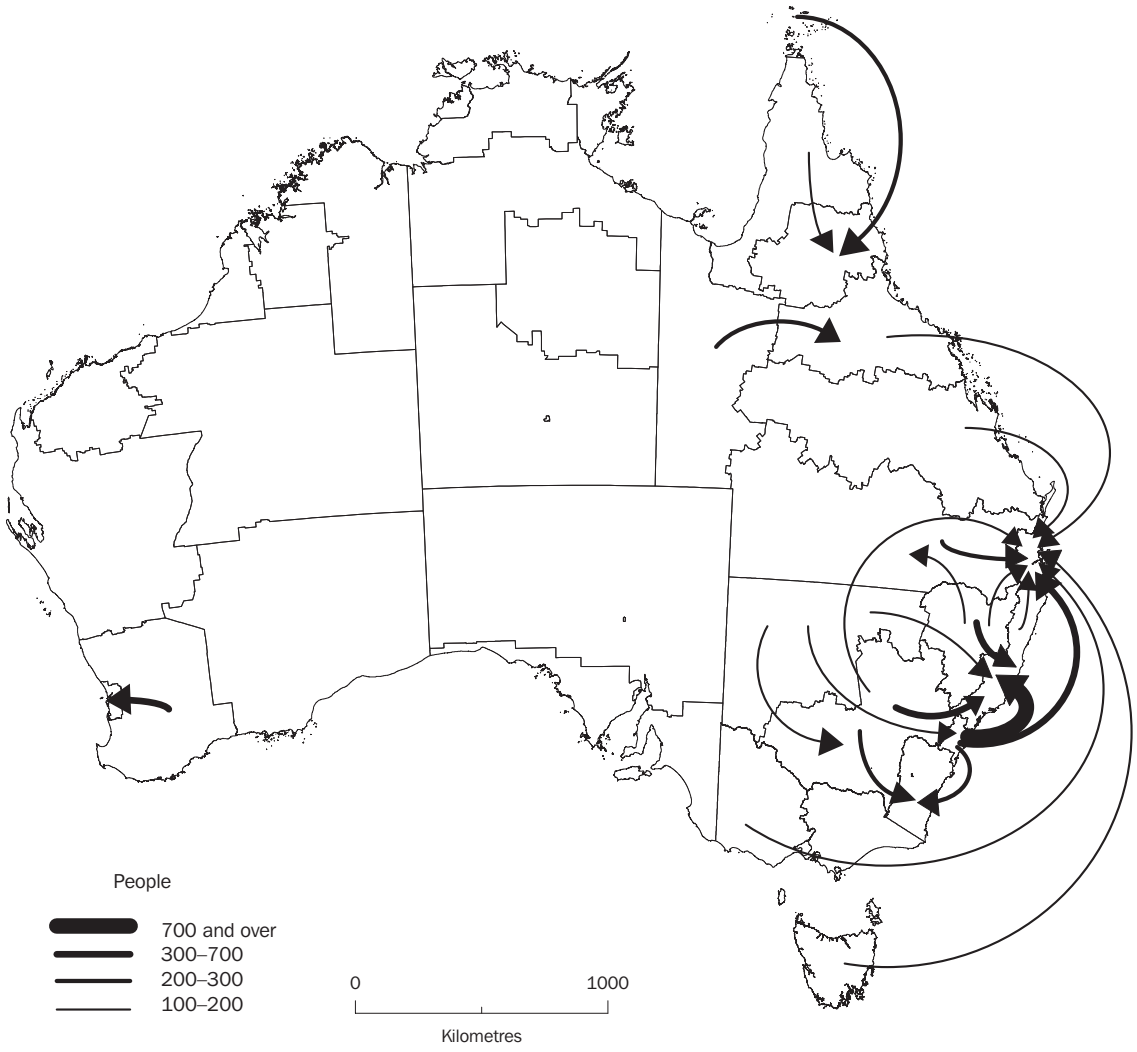
(a) Place of usual residence. 1991 'not stated' responses to SLA of usual residence have been assigned an ATSIC Region of usual residence the same as their ATSIC Region of enumeration. See technical notes for more information.

(b) Excludes persons who would have been edited to non-Indigenous if 1991 Census edits had been applied in 1996. Excludes persons usually resident overseas 5 years ago, those who did not state their usual residence 5 years ago and persons aged less than 5 years.

(c) Percent of absolute increase 1991–96.

Source: ABS unpublished census data.

2.9 INTER-REGION MIGRATION, 1991–96(a)



(a) Net flows of 100 or more Indigenous persons. Excludes persons who would have been edited to non-Indigenous if 1991 Census edits had been applied in 1996; persons usually resident overseas 5 years ago and those who did not state their usual residence 5 years ago. Based on SLA-derived ATSIC Regions. See Technical Notes for more information.
Source: ABS unpublished census data.

THE ERROR OF CLOSURE

Combining the effects of births, deaths, census editing and migration, the error of closure for the 1991–96 period is 44,356 persons, or 12.6% of the total Indigenous count in 1996 (table 2.10). This can be compared with the error of closure for the American Indian population, which was 9.2% for the most recent intercensal period, 1980–90 (Harris 1994), and 25.2% for the 1970–80 period (Passel and Berman 1986).

The error of closure is highest in Tasmania and lowest in the Northern Territory. In the next chapter census characteristics will be examined to attempt to find some other sources of explainable increase. This position of Tasmania and the Northern Territory at the highest and lowest ends of the spectrum is a pattern that is repeated for most characteristics considered in chapter 3.

The proportional increase in the Indigenous census count was second highest in Tasmania and lowest in the Northern Territory. The explainable component of the increase in counts was almost completely accounted for by births and deaths in the Northern Territory. As the error of closure increased the proportion explainable by natural increase decreased. Thus, populations with low errors of closure appear to behave more like demographically closed populations than other populations. Western Australia and South Australia also had low errors of closure and high proportions of the increases in those states can be explained by births. In addition, the changes to editing procedures have had an effect in both states.

The pattern suggested by the low errors of closure of the Northern Territory, Western Australia and South Australia is that populations in the north and west are more like closed populations than those in the south and east. Victoria, however, is an exception. Half of the increase in Victoria can be accounted for by births and deaths, and surprisingly, over a quarter by the changes to census edits. Why this should be so for Victoria and not other south-eastern states is unclear, but it may be connected with the relatively low proportion of the Victorian population which is Indigenous and/or that state's relatively high overseas-born population.

Queensland is in an intermediate position, with an error of closure, increase in count and proportion due to births and deaths very close to the national average. It may be that Queensland's geographical position, straddling both the remote, traditional north and the urban southeast, is a partial explanation for this. In the absence of reliable births and deaths data for ATSIC Regions, this hypothesis cannot be tested.

New South Wales and Tasmania both reported high errors of closure and high increases in counts, with low proportions of the increase in count attributable to births. Whilst the Australian Capital Territory also shows this pattern, a significant proportion of the increase in count was accounted for by migration.

2.10 THE ERROR OF CLOSURE, 1991–96

	Population count(a)		Increase 1991–96		Explainable increase							
									Total explainable		Error of closure	
	1991	1996			Births and Deaths	Changes to edits	Overseas migration	Interstate migration				
	no.	no.	no.	%	%(b)	%(b)	%(b)	%(b)	no.	%(b)	no.	%(c)
NSW	69 993	101 636	31 643	45.21	30.61	7.16	0.60	–4.84	10 611	33.53	21 032	20.69
Vic.	16 701	21 503	4 802	28.75	51.65	28.70	1.44	–10.75	3 411	71.03	1 391	6.47
Qld	70 072	95 374	25 302	36.11	37.25	4.60	0.66	8.60	12 931	51.11	12 371	12.97
SA	16 227	20 421	4 194	25.85	49.88	8.44	0.64	2.15	2 563	61.11	1 631	7.99
WA	41 844	50 699	8 855	21.16	69.35	7.53	1.11	1.69	7 056	79.68	1 799	3.55
Tas.	8 912	13 929	5 017	56.29	24.34	2.07	0.44	–5.46	1 073	21.39	3 944	28.32
NT	39 857	46 362	6 505	16.32	79.58	1.75	0.57	–4.53	5 033	77.37	1 472	3.18
ACT	1 583	2 844	1 261	79.66	18.87	5.23	2.38	16.18	538	42.66	723	25.42
Aust.(d)	**265 371**	**352 970**	**87 599**	**33.01**	**41.65**	**6.98**	**0.73**	**0.00**	**43 243**	**49.36**	**44 356**	**12.57**

(a) Place of usual residence.
(b) Percent of absolute increase 1991–96.
(c) Error of closure as a percentage of 1996 Census count.
(d) Includes Other Territories.

Source: ABS 1997a, unpublished census data.

There are two potential sources of error in the analysis presented in this chapter. Firstly, the births and deaths data used are estimates, not actual births and deaths. Thus, any uncertainties attached to the methodology used to produce the estimates will be reflected in the births and deaths component of the explainable increase. Secondly, data about Indigenous Australians leaving Australia for overseas in the intercensal period are not available.

There are three, difficult to quantify, factors which probably constitute the remaining unexplainable increase. These are undercounting of the Indigenous population in both the 1991 and 1996 Censuses; changes in non-response to the Indigenous status question; and changes in the way Indigenous people answer the Indigenous status question on census forms. These three factors are discussed further in chapter 4.

CHAPTER 3 CHARACTERISTICS OF THE POPULATION

As shown in table 2.10, only about half (49%) of the increase in Indigenous counts between 1991 and 1996 can be readily explained by demographic factors or coding changes. Among the theories that have been advanced to explain the remaining increase, are changes in identification by individuals and better Indigenous enumeration procedures (Gray 1997). In this chapter several characteristics of the Indigenous population are compared over time in an attempt to identify possible components of the error of closure. Characteristics in this chapter are not considered for what they might tell us about the socio-economic status of Indigenous people. This analysis follows Nagel's comment in the US that:

> The largest growing segments of the population are those likely to have the highest 'errors of closure', and hence the most likely influx of new members. Thus, by examining the fastest growing segments of the Indian population we can infer some of the social characteristics of the 'new' Indians (Nagel 1995 pp951–52).

DISTRIBUTION BY STATES AND TERRITORIES

Table 3.1 presents Indigenous counts from each census from 1966 to the present. While there are particular factors affecting the count for each census (see Technical Notes for more information), it is clear that large increases in Indigenous census counts have occurred on several occasions. The increase between 1991 and 1996 is not the largest proportional increase over the past 30 years; neither are the large increases in counts in the south eastern states without precedent.

Some clearer patterns emerge from data on each state and territory's share of the total Indigenous population (figures 3.2–3.9). The last 30 years have seen a major change in redistribution of the Indigenous population. Over half of Australia's Indigenous people lived in the western and northern states (Western Australia, South Australia and Northern Territory) in 1966; in 1996 only a third did so. In 1966, 26% of the total Indigenous population were counted in the Northern Territory; 30 years later this was halved to 13%. Over the same period, the proportion of Indigenous people living in Western Australia also declined markedly whilst Queensland, South Australia and the Australian Capital Territory remained relatively stable. Substantial gains were observed in New South Wales, Victoria and Tasmania.

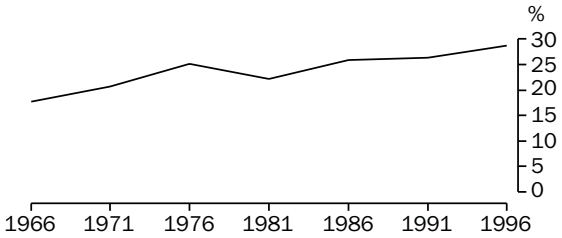
3.1 INDIGENOUS CENSUS COUNTS, 1966–96(a)

	CENSUS COUNT						
	1966(b)	1971	1976	1981	1986(c)	1991(c)	1996(c)
	no.	no.	no.	no.	no.	no.	no.
NSW	14 219	23 873	40 450	35 367	58 999	69 999	101 485
Vic.	1 790	6 371	14 760	6 057	12 600	16 729	21 474
Qld	19 003	31 922	41 345	44 698	61 250	70 102	95 518
SA	5 505	7 299	10 714	9 825	14 285	16 223	20 444
WA	18 439	22 181	26 126	31 351	37 786	41 769	50 793
Tas.	36	671	2 942	2 688	6 716	8 882	13 873
NT	21 119	23 381	23 751	29 088	34 738	39 893	46 277
ACT	96	255	827	823	1 059	1 592	2 899
Aust.(d)	**80 207**	**115 953**	**160 915**	**159 897**	**227 593**	**265 371**	**352 970**
	PROPORTION OF TOTAL INDIGENOUS COUNT						
	1966	1971	1976	1981	1986	1991	1996
	%	%	%	%	%	%	%
NSW	17.73	20.59	25.14	22.12	25.92	26.38	28.75
Vic.	2.23	5.49	9.17	3.79	5.54	6.30	6.08
Qld	23.69	27.53	25.69	27.95	26.91	26.42	27.06
SA	6.86	6.29	6.66	6.14	6.28	6.11	5.79
WA	22.99	19.13	16.24	19.61	16.60	15.74	14.39
Tas.	0.04	0.58	1.83	1.68	2.95	3.35	3.93
NT	26.33	20.16	14.76	18.19	15.26	15.03	13.11
ACT	0.12	0.22	0.51	0.51	0.47	0.60	0.82
Aust.(d)	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
	INCREASE IN CENSUS COUNT						
	1966–71	1971–76	1976–81	1981–86	1986–91	1991–96	1966–96
	%	%	%	%	%	%	%
NSW	67.90	69.44	–12.57	66.82	18.64	44.98	613.73
Vic.	255.92	131.67	–58.96	108.02	32.77	28.36	1 099.66
Qld	67.98	29.52	8.11	37.03	14.45	36.26	402.65
SA	32.59	46.79	–8.30	45.39	13.57	26.02	271.37
WA	20.29	17.79	20.00	20.53	10.54	21.60	175.47
Tas.	1 763.89	338.45	–8.63	149.85	32.25	56.19	38 436.11
NT	10.71	1.58	22.47	19.42	14.84	16.00	119.12
ACT	165.63	224.31	–0.48	28.68	50.33	82.10	2 919.79
Aust.(d)	**44.57**	**38.78**	**–0.63**	**42.34**	**16.60**	**33.01**	**340.07**

(a) Place of enumeration data.
(b) Excludes Torres Strait Islanders.
(c) Excludes overseas visitors.
(d) 1986 to 1996 figures include Other Territories in the Australia total. Prior to 1986 Jervis Bay Territory is included with the ACT.

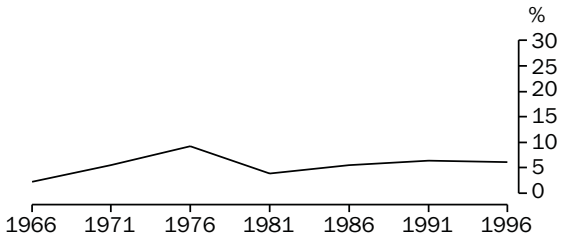
Source: CBCS 1969, Choi and Gray 1985, ABS 1997a.

3.2 PROPORTION OF TOTAL INDIGENOUS POPULATION, New South Wales



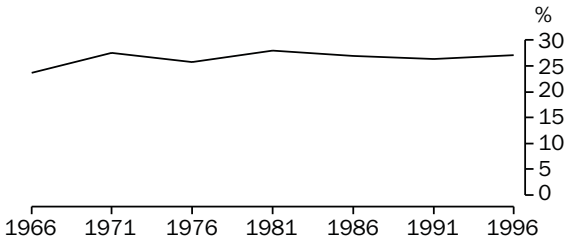
Source: Table 3.1

3.3 PROPORTION OF TOTAL INDIGENOUS POPULATION, Victoria



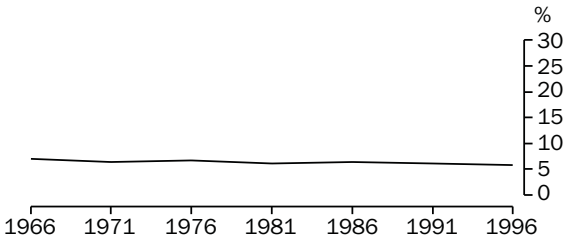
Source: Table 3.1

3.4 PROPORTION OF TOTAL INDIGENOUS POPULATION, Queensland



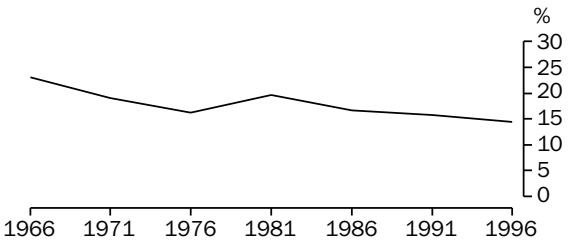
Source: Table 3.1

3.5 PROPORTION OF TOTAL INDIGENOUS POPULATION, South Australia



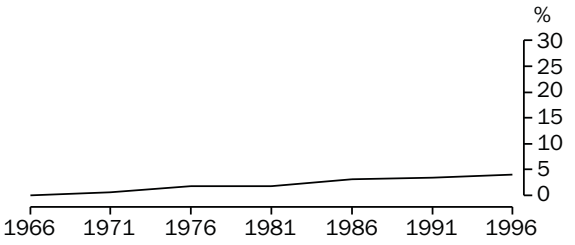
Source: Table 3.1

3.6 PROPORTION OF TOTAL INDIGENOUS POPULATION, Western Australia



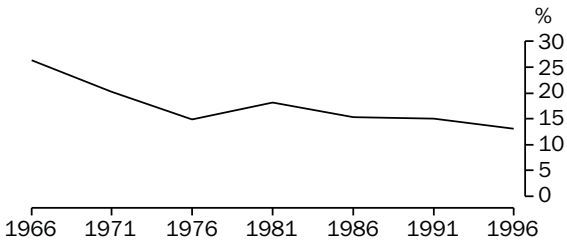
Source: Table 3.1

3.7 PROPORTION OF TOTAL INDIGENOUS POPULATION, Tasmania



Source: Table 3.1

3.8 PROPORTION OF TOTAL INDIGENOUS POPULATION, Northern Territory



Source: Table 3.1

3.9 PROPORTION OF TOTAL INDIGENOUS POPULATION, Australian Capital Territory

Source: Table 3.1

DISTRIBUTION BY STATES AND TERRITORIES *continued*

Examining just the differences between the 1991 and 1996 Censuses, there appears to be a relationship between errors of closure and increase in census counts (table 3.10). The four states with the lowest errors of closure (Northern Territory, Western Australia, South Australia, Victoria) were also those with the lowest increase in count and all reported proportional declines in their share of the total count of Indigenous people. In contrast, the states with the highest errors of closure reported increases in both census counts and their share of the total Indigenous population. Queensland appears to be occupying a middle ground, with an increase in count and an error of closure closest to that of the national average.

3.10 INCREASE IN CENSUS COUNT AND THE ERROR OF CLOSURE, 1991–96

	Increase in count 1991–96(a)	*Error of closure(b)*
	%	*%*
Low error of closure		
Northern Territory	16.32	3.18
Western Australia	21.16	3.55
South Australia	25.85	7.99
Victoria	28.75	6.47
Medium error of closure		
Queensland	36.11	12.97
High error of closure		
New South Wales	45.21	20.69
Tasmania	56.29	28.32
Australian Capital Territory	79.66	25.42
Australia(c)	**33.01**	**12.57**

(a) Place of usual residence data.
(b) Error of closure as a percentage of 1996 Census count.
(c) 1996 figures include Other Territories in the Australia total.

Source: Table 2.10

URBAN AND RURAL DISTRIBUTION

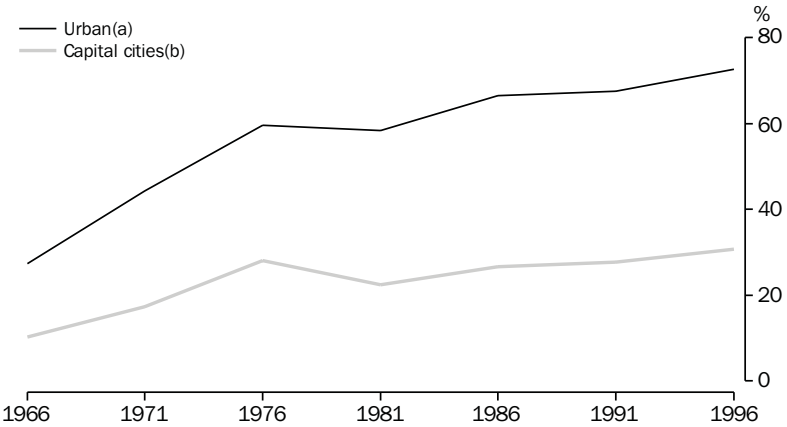
Between 1966 and 1996 the Indigenous population became increasingly urbanised. In 1966, 27% of Indigenous people in the census lived in urban areas; 30 years later this had been completely reversed with only 27% of Indigenous people living outside urban areas (figure 3.11). In contrast, the proportion of the total population in urban areas varied only slightly. In 1966, 83% of the total population were in urban areas; for all subsequent censuses the proportion varied between 85% and 86% (table 3.12).

Over the 1966–96 period, the count of urban Aboriginal and Torres Strait Islander people increased nearly 12 times in contrast to that of those living in rural areas which increased by just over one and a half times, similar to the magnitude of the increase in both urban and rural areas for the total population.

URBAN AND RURAL DISTRIBUTION *continued*

Some areas may have been recoded from urban to rural or vice versa in this 30 year period as the classification is based on population size (see Technical Notes). However, changes in distribution were similar for capital city statistical divisions (SDs), which have had essentially stable boundaries during this period, with the proportion of the Indigenous population living in capital cities increasing from 10% to 31%. The proportion of the total population in capital city SDs remained relatively constant over this period, ranging from 62% to 64% (CBCS 1973a–g, ABS unpublished census data).

3.11 URBAN AND CAPITAL CITY INDIGENOUS POPULATION, 1966–96



(a) Urban includes population clusters of 1,000 or more people, including urban clusters in Capital City Statistical Divisions.
(b) Capital City Statistical Divisions. 1966 figures exclude Tasmania, the Northern Territory and the Australian Capital Territory as data are not available.
Note: Proportion of total Indigenous population. Place of enumeration data. 1966 figures exclude Torres Strait Islanders. 1986, 1991 and 1996 figures exclude overseas visitors.
Source: CBCS 1969, ABS 1982a, unpublished census data.

3.12 URBAN POPULATION(a), 1966–96

	Indigenous	*Total Australian*
	%	%
1966(b)	27.30	82.94
1971	44.34	85.57
1976	59.57	85.99
1981	58.37	85.71
1986(c)	66.51	85.35
1991(c)	67.60	85.09
1996(c)	72.59	85.95

(a) Urban includes population clusters of 1,000 or more people. Urban population expressed as a percentage of the total applicable population.
(b) Excludes Torres Strait Islanders.
(c) 1986, 1991 and 1996 figures exclude overseas visitors.

Source: CBCS 1969, ABS 1979c, 1982a, 1983, unpublished census data.

EUROPEAN SETTLEMENT PATTERNS

Analysis of Census results in the US has shown that Indian population growth in recent times has been greatest in states where there have historically been low post-colonial Indian populations, ie those without reservations (Eschbach 1995). Eschbach comments:

> At the turn of the twentieth century most non-Indian observers assumed that Indian identity was tied to the structural segregation of reservation and was fated to vanish (Eschbach 1995 p91).

In the Australian context, perhaps an equivalent distinction can be framed in terms of European settlement patterns. In areas where there was early European settlement Indigenous populations have subsequently been low. For instance, it is estimated that in 1901, 86% of Indigenous people lived in Queensland, Western Australia and the Northern Territory where European settlement was generally later than in the south east (table 1.3).

For the purposes of this analysis, Australia was divided into two categories—'early' and 'late' European settlement—based on the extent of European settlement at around 1860 (Powell 1988, see Technical Notes for details). The focus of this geographic split is not first contact but continual interaction between Indigenous and non-Indigenous people. Figure 3.13 shows the boundaries used for this analysis. Broadly, early settlement areas are in the east and southeast, in the southwest corner and a small area around Townsville. Further details of this methodology are found in the Technical Notes.

3.13 EARLY EUROPEAN SETTLEMENT

EUROPEAN SETTLEMENT PATTERNS *continued*

In 1981, the earliest year for which data have been aggregated according to the early and late European settlement classification, 48% of Indigenous people resided in late settlement areas; by 1996 this was 34%. For each intercensal period between 1981 and 1996 increases in the Indigenous census count were consistently higher for early settlement areas than for late settlement areas, with the Indigenous population count increasing over two and a half times in early settlement areas, whereas the population in late settlement areas increased just over one and a half times.

In areas with a longer history of close contact between Indigenous and non-Indigenous Australians there is a large group of people with both Indigenous and non-Indigenous ancestry. This is also true in the American context where Eschbach has commented:

> Before mid-century most observers assumed that this population had largely melted into the common pot and the Census Bureau assigned White race in most cases. However, as thinking about racial categories has changed, this population was available to adopt the powerful symbol of indigenous ethnicity (Eschbach 1995 p91).

In Australia, as noted in chapter 1, 'half-castes' were considered assimilable and were included in census counts prior to the 1967 Referendum. It is likely that many of these people of mixed descent may have passed as non-Indigenous. In the period after the Referendum and the social changes which it represented, the possibility of reconsidering Indigenous identity was open to this group of people.

3.14 INDIGENOUS CENSUS COUNTS(a), EARLY AND LATE EUROPEAN SETTLEMENT AREAS, 1981–96

	CENSUS COUNT(b)			
	1981(c)	1986	1991(c)	1996(d)
	no.	no.	no.	no.
Early settlement	82 295	134 267	160 618	231 209
Late settlement	77 301	92 837	104 475	119 802
Total	**159 596**	**227 104**	**265 093**	**351 011**
	PROPORTION OF TOTAL INDIGENOUS COUNT			
	1981	1986	1991	1996
	%	%	%	%
Early settlement	51.56	59.12	60.59	65.87
Late settlement	48.44	40.88	39.41	34.13
Total	**100.00**	**100.00**	**100.00**	**100.00**
	INCREASE IN CENSUS COUNT			
	1981–86	1986–91	1991–96	1981–96
	%	%	%	%
Early settlement	63.15	19.63	43.95	180.95
Late settlement	20.10	12.54	14.67	54.98
Total	**42.30**	**16.73**	**32.41**	**119.94**

(a) Place of usual residence data.
(b) Offshore and migratory, undefined capital city, undefined rest of state and no usual address are excluded.
(c) SLA of usual residence 'not stated' responses in 1981 and 1991 have been allocated to SLA of enumeration. See Technical Notes.
(d) Christmas and Cocos (Keeling) Islands are included as late settlement for 1996.

Source: ABS unpublished census data.

REGIONAL DISTRIBUTION

Increases in regional counts correspond closely to the broad early and late settlement distinction discussed above. The ATSIC Regions with increases in counts of over 50% between 1991 and 1996 were all in the south east or south west (Brisbane, Queanbeyan, Coffs Harbour, Hobart, Sydney and Perth).

The general pattern of Indigenous population distribution across ATSIC Regions has changed little between 1991 and 1996. Ranking of ATSIC Regions with respect to their share of the Indigenous population has not changed with the top five ATSIC Regions being Sydney, Brisbane, Coffs Harbour, Perth and Wagga Wagga. However the proportional share of the Indigenous population accounted for by these five regions has increased between 1991 and 1996 with 30% of Indigenous people residing in these regions in 1991, compared to 35% in 1996.

3.15 INDIGENOUS CENSUS COUNTS, ATSIC REGIONS(a)(b), 1991–96

AREG code	AREG name	1991(c) no.	1991(c) %	1996 no.	1996 %	Increase 1991–96 %
1	Queanbeyan	5 698	2.15	9 008	2.55	58.09
2	Bourke	6 339	2.39	7 639	2.16	20.51
3	Coffs Harbour	15 856	5.98	25 038	7.09	57.91
4	Sydney	22 840	8.61	34 422	9.75	50.71
5	Tamworth	8 574	3.23	10 763	3.05	25.53
6	Wagga Wagga	12 458	4.69	17 791	5.04	42.81
7	Wangaratta	8 173	3.08	10 367	2.94	26.84
8	Ballarat	8 532	3.22	11 136	3.15	30.52
9	Brisbane	16 128	6.08	27 763	7.87	72.14
10	Cairns	11 214	4.23	14 749	4.18	31.52
11	Mount Isa	5 362	2.02	5 853	1.66	9.16
12	Cooktown	5 402	2.04	5 440	1.54	0.70
13	Rockhampton	8 103	3.05	11 287	3.20	39.29
14	Roma	6 310	2.38	8 800	2.49	39.46
15	Torres Strait Area	6 389	2.41	6 971	1.97	9.11
16	Townsville	11 161	4.21	14 511	4.11	30.02
17	Adelaide	9 426	3.55	12 589	3.57	33.56
18	Ceduna	1 521	0.57	1 865	0.53	22.62
19	Port Augusta	5 277	1.99	5 967	1.69	13.08
20	Perth	11 907	4.49	17 888	5.07	50.23
21	Broome	3 089	1.16	3 328	0.94	7.74
22	Kununurra	3 886	1.46	4 155	1.18	6.92
23	Warburton	2 916	1.10	2 978	0.84	2.13
24	Narrogin	5 511	2.08	6 290	1.78	14.14
25	South Hedland	3 550	1.34	3 727	1.06	4.99
26	Derby	3 719	1.40	3 995	1.13	7.42
27	Kalgoorlie	2 806	1.06	3 340	0.95	19.03
28	Geraldton	4 457	1.68	5 019	1.42	12.61
29	Hobart	8 915	3.36	13 929	3.95	56.24
30	Alice Springs	3 601	1.36	3 750	1.06	4.14
31	Jabiru	7 677	2.89	8 238	2.33	7.31
32	Katherine	6 005	2.26	6 720	1.90	11.91
33	Aputula	6 878	2.59	8 213	2.33	19.41
34	Nhulunbuy	6 080	2.29	7 128	2.02	17.24
35	Tennant Creek	2 773	1.04	3 481	0.99	25.53
36	Darwin	6 838	2.58	8 832	2.50	29.16
	Australia	**265 371**	**100.00**	**352 970**	**100.00**	**33.01**

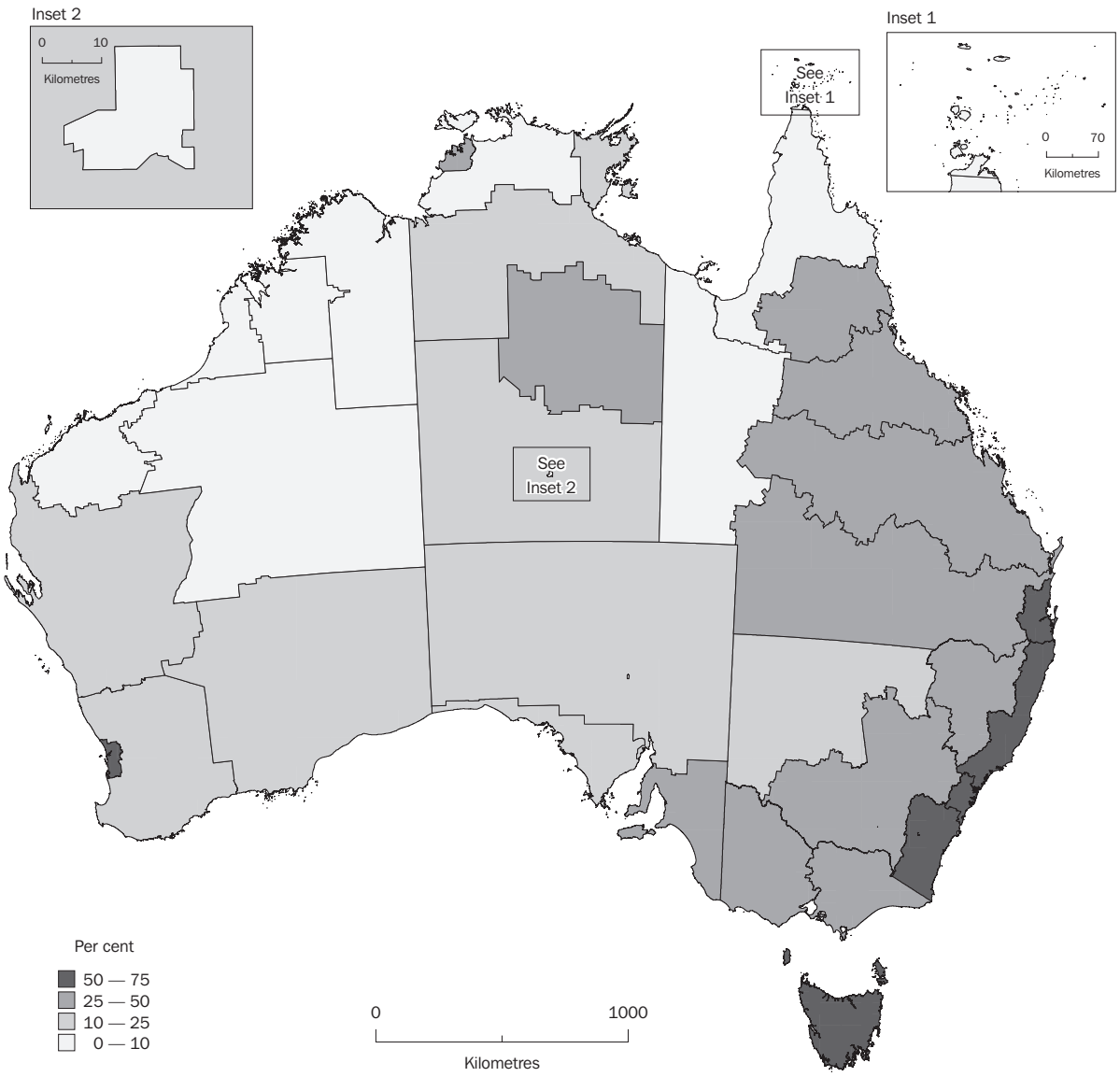
(a) See Technical Notes for reference map of ATSIC Regions.

(b) Place of usual residence.

(c) 1991 'not stated' responses to SLA of usual residence have been assigned an ATSIC Region of usual residence the same as their ATSIC Region of enumeration. See Technical Notes.

Source: ABS unpublished census data.

3.16 INCREASE IN INDIGENOUS CENSUS COUNT(a), ATSIC REGIONS, 1991–96



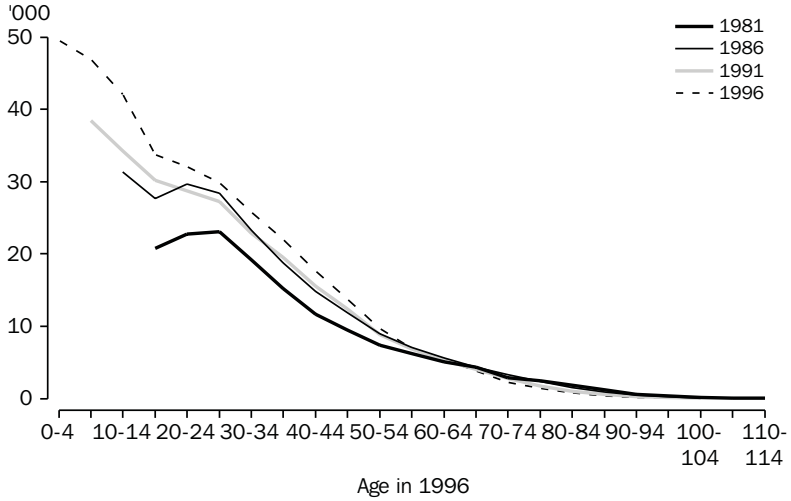
(a) Place of usual residence data. See technical notes for reference map of ATSIC Regions.

Age cohorts

A cohort analysis of a closed, biological population will indicate fewer and fewer survivors in each age cohort as the population ages. Thus, if the persons who were born in a particular year were followed each census, there would be fewer people in that cohort in each successive census. Indigenous census counts by age cohort for the last four censuses are shown in figure 3.17. The age groups shown are in 1996 ages. For example, the persons shown as aged 0–4 years were born in the 1991–96 period, so there are no data shown for this group for previous censuses. The age group 15–19 years in 1996 were aged 10–14 years in 1991, 5–9 years in 1986 and 0–4 years in 1981. Thus at the 15–19 years point in the graph, census counts for these four years are shown together. In a demographically closed population the 1981 line should be higher than the 1986, the 1986 should be higher than the 1991 and the 1991 higher than the 1996. For example, if persons in the 0–4 years cohort in 1981 were followed, there should be fewer in 1986 (aged 5–9), fewer again in 1991 (aged 10–14) and still fewer in 1996 (aged 15–19).

However, census data for the Indigenous population do not follow the normal demographic pattern. The 1996 line is higher than the 1991 meaning that people have entered the population by means other than birth (since increases are not confined to the youngest age group) or migration (as discussed in chapter 2).

3.17 INDIGENOUS CENSUS COUNTS BY AGE COHORT, 1981–96(a)



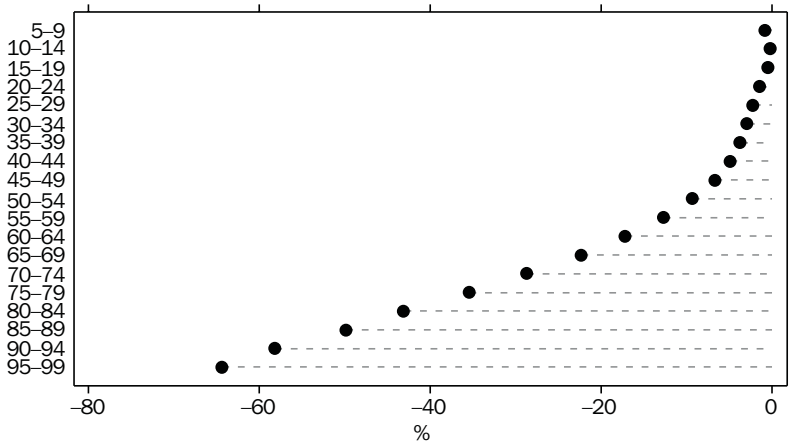
(a) Excludes persons for whom age was imputed. For further information see technical notes.

Source: ABS unpublished census data.

Age cohorts *continued*

In order to estimate the difference between the actual changes in cohorts and what would be expected of a closed population, an experimental life table of the Indigenous population for Australia for the 1991–96 period was applied to 1991 Census counts (figure 3.18). The proportion of each age surviving for five years, derived from the life table, was applied to the corresponding count for each age in 1991. Thus, if the Indigenous population were a closed population then the decreases in cohorts presented in figure 3.18 are what could be expected for the five years 1991–96. For example, for persons aged 0–4 years in 1991 (who were aged 5–9 years in 1996), 99.15% were expected to survive five years until 1996, a loss of 0.85%. At older age groups, the expected losses are much higher. For instance, for those people who were 60–64 years in 1991, 22% were not expected to survive until 65–69 years in 1996.

3.18 EXPECTED CHANGE IN INDIGENOUS AGE COHORTS, 1991–96(a)

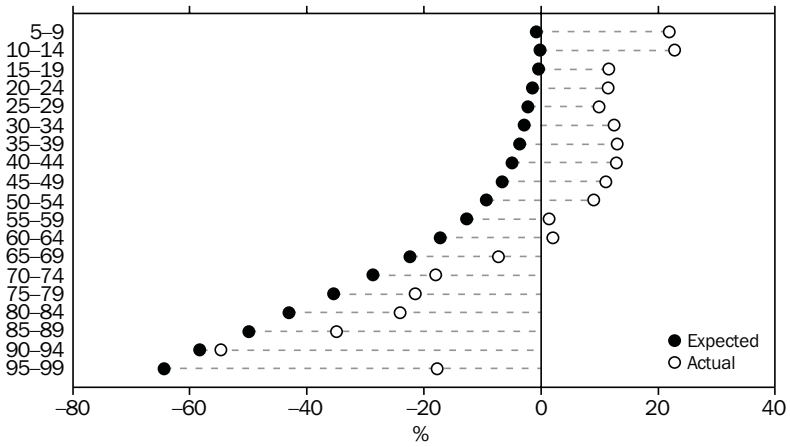


(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96.

Source: ABS unpublished life tables and census data.

Figure 3.19 compares the expected and actual changes in each age cohort. In all age groups the actual change does not match the expected and for all age groups under 65 the direction of the change is positive. That is, the number of people counted increased rather than decreased; in a closed population the only increases are the result of births (relevant to the youngest age group only) or migration. As discussed previously, migration from overseas is a very small component of the increase in Indigenous counts (table 2.6).

3.19 CHANGE IN INDIGENOUS AGE COHORTS, 1991–96(a)

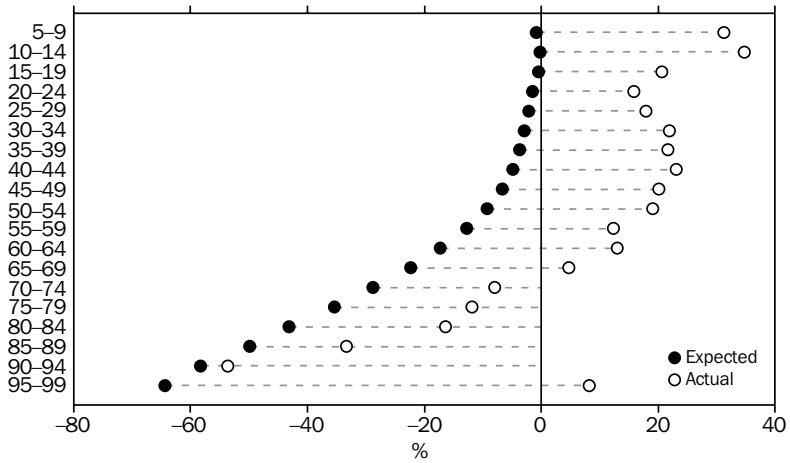


(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96.

Source: ABS unpublished life tables and census data.

The difference between expected and actual changes in age cohorts for early and late European settlement areas are shown in figures 3.20 and 3.21. The differences between expected and actual changes for early settlement areas follow the same pattern as that for the total Indigenous population, although the magnitude of the actual changes is greater for early settlement areas. In contrast, the expected and actual changes for late settlement areas show a reasonably close alignment, suggesting that the population in these areas approaches a closed one.

3.20 CHANGE IN INDIGENOUS AGE COHORTS, 1991–96(a), Early settlement areas

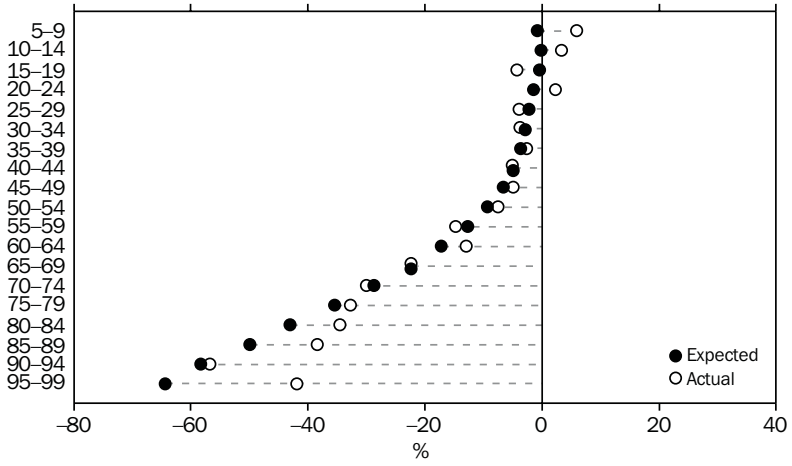


(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Note: See technical notes for details of early and late settlement classification.

Source: ABS unpublished life tables and census data.

3.21 CHANGE IN INDIGENOUS AGE COHORTS, 1991–96(a),
Late settlement areas



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Note: See Technical Notes for details of early and late settlement classification.

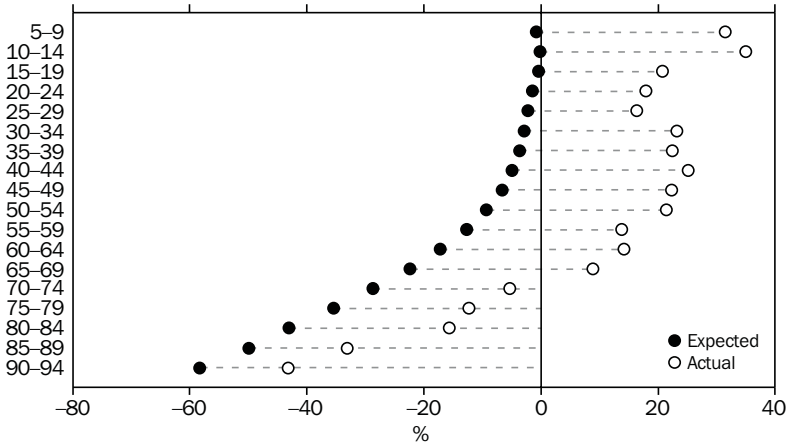
Source: ABS unpublished life tables and census data.

While inter-state migration has no effect at the national level it may have some effect on age distributions at the state and territory level. Any such effect is likely to be small, however. For instance, while Queensland recorded the largest net gain (2,176 people) from migration, this was only 2% of that state's Indigenous count in 1996 (table 2.7). The only other state with a large percentage gain from migration was the Australian Capital Territory where net migration was 7% of the 1996 count.

Figures 3.22–3.29 show the difference between actual and expected changes in age cohorts for each state and territory. Data for the 95–99 year age group have been excluded due to very small numbers of people in this group. In addition, persons over 65 years have been excluded from the graph for the Australian Capital Territory for the same reason. There was considerable variation amongst states and territories with the Northern Territory, Western Australia and South Australia reporting changes in age cohorts closer to what could be expected than was seen in other states. The largest variations were observed in Tasmania and the Australian Capital Territory. However, the life table used in this analysis is for Australia as a whole. Thus, age data for states and territories are compared to a national life table, ignoring any state or territory differences in life expectancy.

Babies and small children are frequently under-reported in censuses (ABS 1998c). These children then appear in the count for subsequent censuses. Thus, some increase in numbers of the 5–9 years and 10–14 years age groups could be expected in 1996. However, the actual increases are far greater than could be explained by this form of under-reporting. Similar under-reporting has been observed for young adults, who are recorded in the count at young ages, drop out as young adults and then reappear at older ages. In the total population this effect is observed most strongly for the age range of 20–29 years (ABS 1997b).

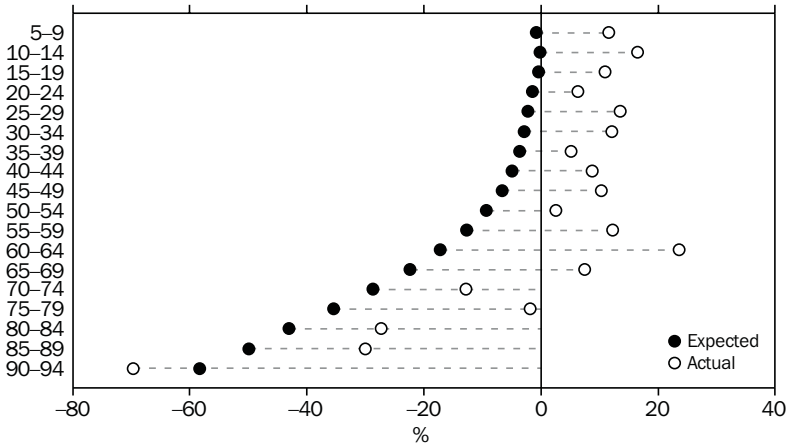
3.22 CHANGE IN INDIGENOUS AGE COHORTS, NSW—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

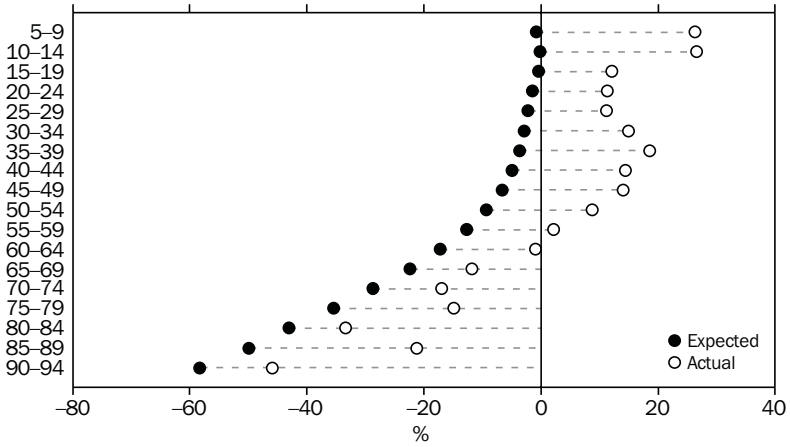
3.23 CHANGE IN INDIGENOUS AGE COHORTS, VIC.—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

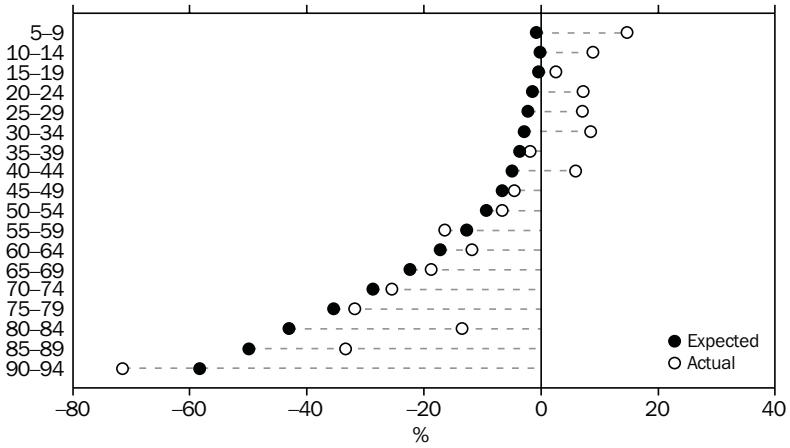
3.24 CHANGE IN INDIGENOUS AGE COHORTS, QLD—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

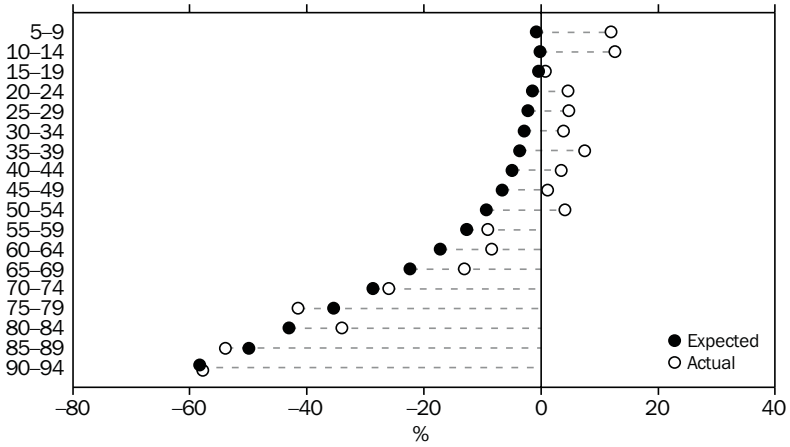
3.25 CHANGE IN INDIGENOUS AGE COHORTS, SA—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

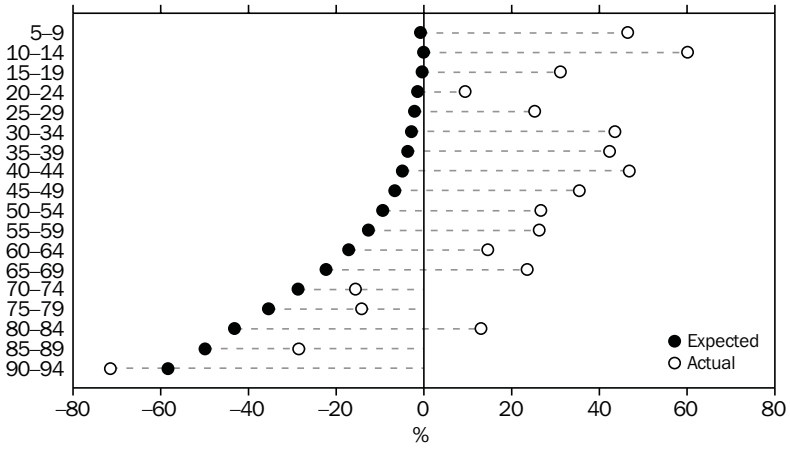
3.26 CHANGE IN INDIGENOUS AGE COHORTS, WA—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

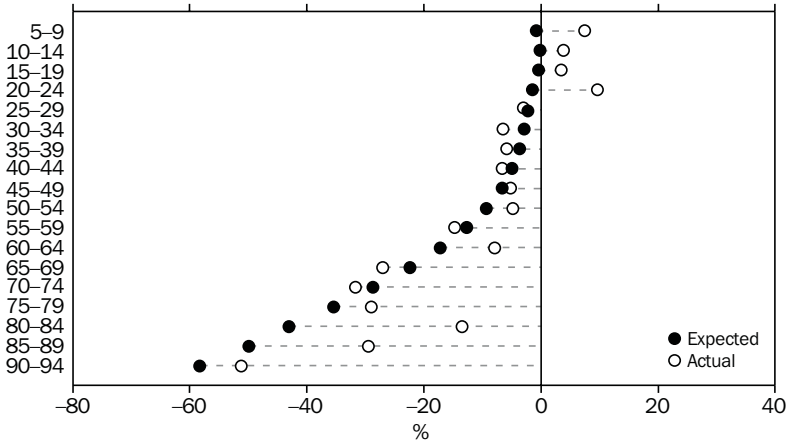
3.27 CHANGE IN INDIGENOUS AGE COHORTS, TAS.—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

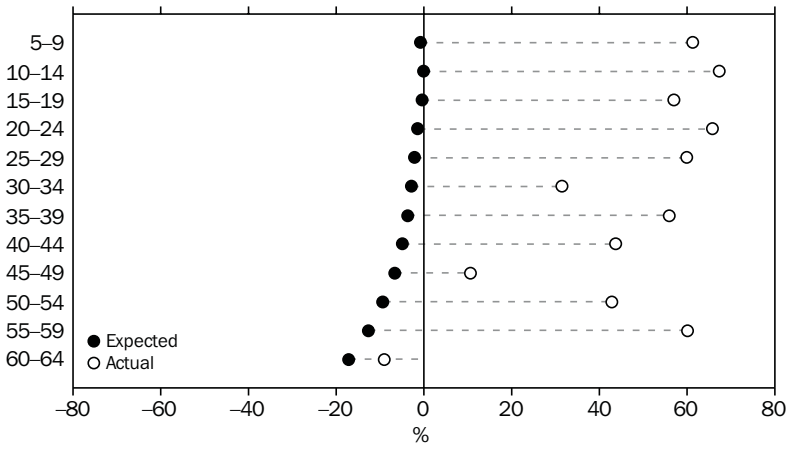
3.28 CHANGE IN INDIGENOUS AGE COHORTS, NT—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

3.29 CHANGE IN INDIGENOUS AGE COHORTS, ACT—1991–96(a)



(a) Excludes persons for whom age was imputed. Age is that reported in 1996. Based on life tables for 1991–96. Place of usual residence.

Source: ABS unpublished life tables and census data.

The largest increase in counts, both in absolute and percentage terms, for each intercensal period from 1981 to 1996 are for the two youngest age cohorts, i.e. 5–9 years and 10–14 years at the later census date. That is, the 0–4 and 5–9 year age cohorts have reported the largest increase in the next census year, in which they have become the 5–9 and 10–14 year age cohorts. This was true even for the 1986–91 period when the Indigenous count came closest to behaving like a closed population, with decreases in most cohorts (table 3.30).

Age cohorts *continued*

The magnitude of these increases suggests that children are a group for whom change in identification may have occurred. It is likely that for most children, a parent will fill in the Census form. Thus the changing identification of children by their parents may account for at least some of the unexplained increase in census counts. A comparison of the error of closure and increases for these cohorts shows a consistent relationship between high errors of closure and large increases at young age groups (table 3.31).

3.30 INCREASE IN COUNT OF INDIGENOUS CHILDREN BY AGE COHORT, 1981–96(a)

	1981–86	*1986–91*	*1991–96*
	no.	no.	no.
Absolute increase			
5–9	6 875	2 941	8 446
10–14	6 910	2 582	7 824
	%	%	%
Proportional increase			
5–9	33.13	9.39	21.94
10–14	30.33	9.35	22.83

(a) Excludes persons for whom age was imputed. Age is that reported in the later Census year. Place of usual residence.

Source: ABS unpublished census data.

3.31 INCREASE IN CENSUS COUNT FOR CHILD AGE COHORTS AND THE ERROR OF CLOSURE, 1991–96

			Increase in cohort 1991–96(a)	
	Total increase 1991–96(b)	*Error of closure 1996(c)*	*5–9 years*	*10–14 years*
	%	%	%	%
Low error of closure				
Northern Territory	16.32	3.18	7.42	3.78
Western Australia	21.16	3.55	12.01	12.60
South Australia	25.85	7.99	14.65	8.90
Victoria	28.75	6.47	11.59	16.46
Medium error of closure				
Queensland	36.11	12.97	26.30	26.54
High error of closure				
New South Wales	45.21	20.69	31.51	34.97
Tasmania	56.29	28.32	46.37	60.03
Australian Capital Territory	79.66	25.42	61.23	67.32
Australia(d)	**33.01**	**12.57**	**21.94**	**22.83**

(a) Age is that reported in 1996.
(b) Place of usual residence. Total includes all ages.
(c) Error of closure as a percentage of 1996 population.
(d) 1996 figures include other territories in the Australia total.

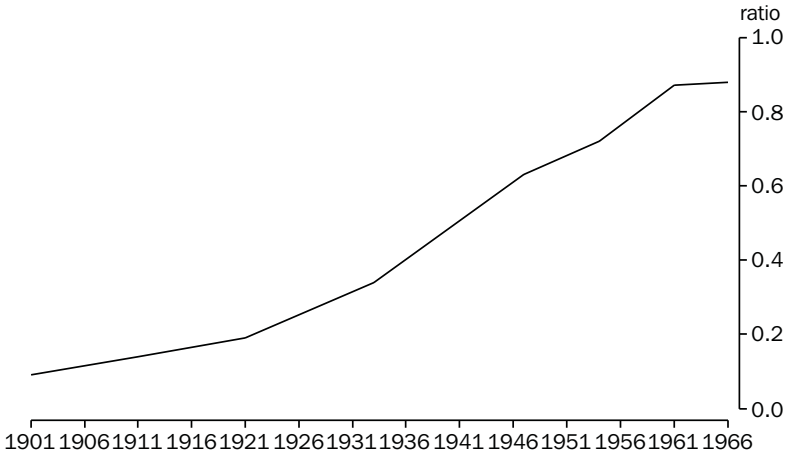
Source: Table 2.10, ABS unpublished census data.

INTERMARRIAGE

A possible reason for such large increases in counts of Indigenous young people is intermarriage between Indigenous and non-Indigenous people. The children of such couples, having at least two identities available to them, therefore need to choose (or have chosen for them) when filling in the Census form, which one will be reported. The extent of the 'inter-generational transmission of identification' (Eschbach 1995 p92) is a possible explanation of at least some of the unexplained increase in Indigenous census counts.

That the effects of intermarriage are not a new phenomenon is evidenced by data from early censuses. Figure 3.32 and table 3.33 show the ratio of Indigenous people of mixed descent to those of solely Indigenous descent from 1901 to 1966. After the 1966 Census, the ABS ceased asking for race in terms of fractions or 'half-caste' etc. Whilst all these data have associated data quality concerns (see Smith 1980), this may have been especially apparent for the 1961 and 1966 Censuses where the distinction between more than 50% Aboriginal and less than 50% Aboriginal was considered unreliable by the Commonwealth Bureau of Census and Statistics (CBCS 1969). Nevertheless, in general these data suggest that more and more Indigenous people were of mixed descent, with the ratio of mixed to sole descent approaching 1 in 1961 and 1966. Data vary by state, with New South Wales and Victoria reporting the highest ratio of mixed to sole descent people for all census years. The proportion of mixed descent people in the Northern Territory was the lowest of any state or territory and was consistently small. Data for Tasmania and the Australian Capital Territory are not presented as there were very small numbers of Indigenous people of solely Indigenous ancestry enumerated in this period.

3.32 RATIO OF MIXED DESCENT TO SOLE DESCENT INDIGENOUS PEOPLE(a)



(a) Number of mixed descent Indigenous persons for every sole descent Indigenous person. Census years were 1901, 1911, 1921, 1933, 1947, 1954, 1961 and 1966.

Source: Smith 1980.

3.33 RATIO OF MIXED DESCENT TO SOLE DESCENT INDIGENOUS PEOPLE(a), 1901–66

	1901	*1911*	*1921*	*1933*	*1947*	*1954*	*1961*	*1966*
	ratio	*ratio*	*ratio*	*ratio*	*ratio*	*ratio*	*ratio*	*ratio*
NSW	0.97	2.24	2.87	6.77	11.13	7.69	8.88	4.04
Vic.	1.41	2.28	3.07	8.40	5.14	8.89	6.10	2.92
Qld	0.06	0.13	0.22	0.43	0.79	0.65	0.82	0.80
SA	0.18	0.20	0.50	0.79	1.39	0.99	1.28	1.12
WA	0.03	0.06	0.08	0.13	0.29	0.59	0.81	0.84
NT	0.01	0.01	0.03	0.04	0.09	0.11	0.13	0.17
Aust.	**0.09**	**0.14**	**0.19**	**0.34**	**0.63**	**0.72**	**0.87**	**0.88**

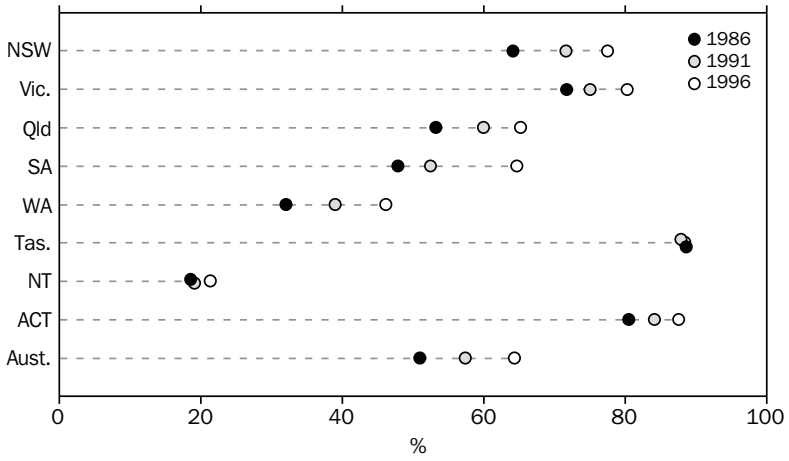
(a) Number of mixed descent Indigenous persons for every sole descent Indigenous person.

Source: Smith 1980.

For censuses after 1966, it is possible to measure, at least approximately, some aspects of intermarriage by analysing the number of two-parent families where one partner is Indigenous and the other is not. Figure 3.34 shows the proportion of mixed couples (that is, with one Indigenous and one non-Indigenous partner) as a proportion of all Indigenous couples (that is, where at least one partner is Indigenous). People who did not answer the question on Indigenous status have been categorised as non-Indigenous in this analysis.

Mixed couples as a proportion of all Indigenous couples have increased steadily over the 1986–96 decade. In 1986 51% of Indigenous couples had only one Indigenous partner, by 1996 this proportion was 64% (figure 3.34). As has been seen for other characteristics, differences by state and territory are large. The jurisdiction with the lowest level of intermarriage is the Northern Territory where the proportion of mixed couples has remained around 20%. Those states with the highest proportion of mixed couples were, with the exception of Victoria, also those with the highest errors of closure, suggesting that high intermarriage, and thus large numbers of children with more than one ancestry, is linked to rapid increases in Indigenous census counts (table 3.35).

3.34 MIXED COUPLES, PERCENT OF ALL INDIGENOUS COUPLES



Note: Mixed couple refers to one Indigenous partner and one non-Indigenous partner. Indigenous couples include all opposite-sex couples where at least one partner was Indigenous and both partners were at home on Census night.

Source: ABS unpublished census data.

3.35 MIXED COUPLES AND THE ERROR OF CLOSURE, 1991–96

	Total increase 1991–96(a)	*Error of closure 1996(b)*	*Mixed couples 1996(c)*
	%	%	%
Low error of closure			
Northern Territory	16.32	3.18	21.37
Western Australia	21.16	3.55	46.13
South Australia	25.85	7.99	64.62
Victoria	28.75	6.47	80.21
Medium error of closure			
Queensland	36.11	12.97	65.20
High error of closure			
New South Wales	45.21	20.69	77.41
Tasmania	56.29	28.32	88.31
Australia Capital Territory	79.66	25.42	87.52
Australia(d)	**33.01**	**12.57**	**64.30**

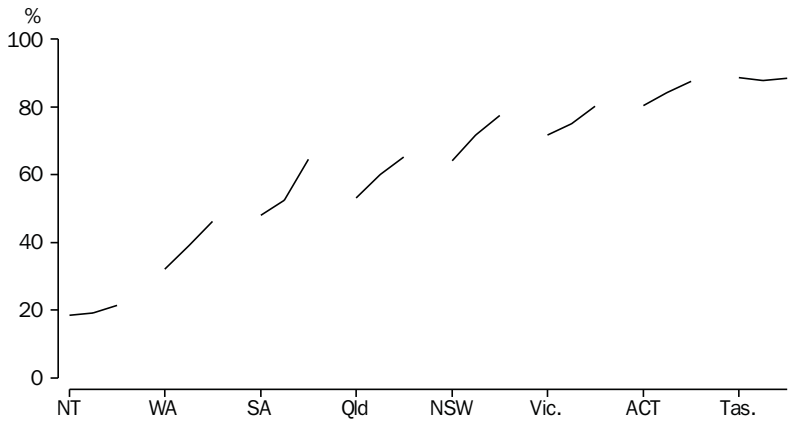
(a) Place of usual residence.
(b) Error of closure as a percentage of 1996 population.
(c) Place of enumeration. Number of mixed couples expressed as a percentage of all Indigenous couples.
(d) 1996 figures include Other Territories in the Australia total.

Source: Table 2.10, ABS unpublished census data.

The Northern Territory and Tasmania represent the two extremes of intermarriage. Figure 3.36 reorganises the data in figure 3.34 in order of magnitude by state. There is a continuum of change between the Northern Territory and Tasmania. The Northern Territory has, demographically, a largely segregated population with little intermarriage and thus a much smaller pool of individuals of mixed descent. In contrast, Tasmania can be seen as having a close to fully integrated population, in demographic terms, with most Indigenous people forming intimate relationships across the Indigenous/non-Indigenous boundary, as discussed in the American context by Eschbach (1995). This process of

demographic integration may nearly be complete in Tasmania as for the last three censuses there has been little variation in the proportion intermarried. However, the Northern Territory has hardly begun this process of demographic integration; in 10 years to 1996 the percentage of mixed couple families was low and rose only slightly. Data for early and late European settlement areas reflect these extremes with mixed couples representing 77% of Indigenous couples in early settlement areas but only 32% in late settlement areas (figure 3.37).

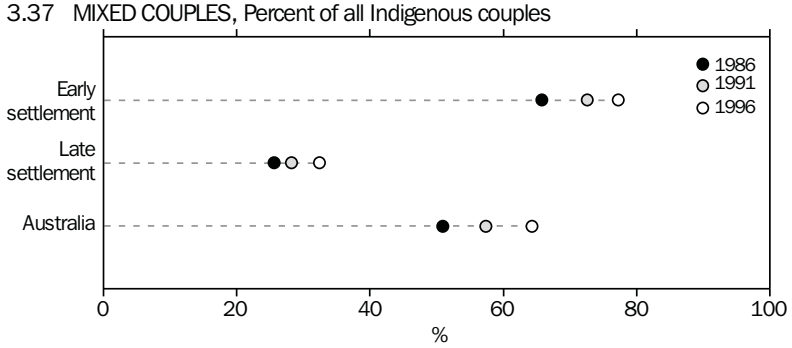
3.36 MIXED COUPLES, Percent of all Indigenous couples—1986–96



Note: Mixed couple refers to one Indigenous partner and one non-Indigenous partner. Indigenous couples include all opposite-sex couples where at least one partner was Indigenous and both partners were at home on Census night.

Source: ABS unpublished census data.

3.37 MIXED COUPLES, Percent of all Indigenous couples



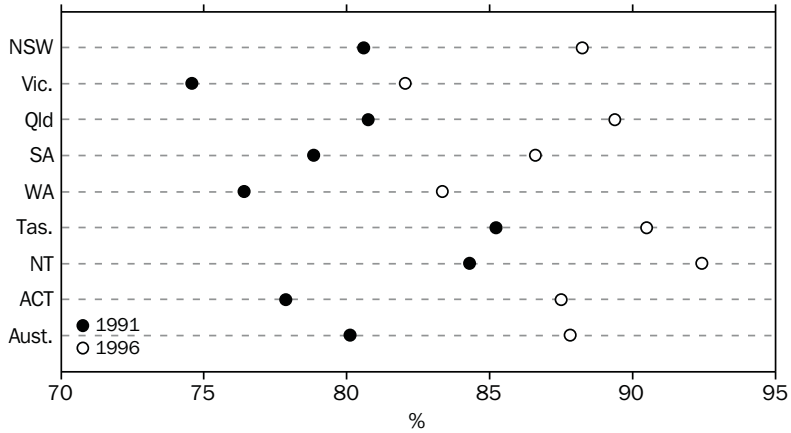
Note: Mixed couple refers to one Indigenous partner and one non-Indigenous partner. Indigenous couples include all opposite-sex couples where at least one partner was Indigenous and both partners were at home on Census night.

Source: ABS unpublished census data.

Even with high proportions of intermarried couples, increases in Indigenous counts will not result unless the identity of the Indigenous partner is transmitted to the children of the couple. In the US high rates of intermarriage are associated with low rates of transmission of identification as American Indian from parents to children (Eschbach 1995). In the following analysis of Australian data, the population is restricted to natural or adopted children (between whom the census makes no distinction) in couple families with at least one Indigenous parent. Single parent families are excluded, even though similar effects may occur, as the census records no information about the other parent. Same-sex couple families are excluded.

For most children, the census form will be answered for them by a parent, thus the proportion of children in mixed couple families who are reported as Indigenous rather than non-Indigenous is an indicator of the rate of transmission of identification as Indigenous. Unlike the US, transmission of identification among Indigenous people in Australia does not decrease as intermarriage increases. In fact, recorded transmission of Indigenous identification from parents to child in mixed couple families is high and relatively similar across states, ranging from 82% to 92% in 1996 (figure 3.38). The transmission rate rose from 80% to 88% for Australia as whole, between 1991 and 1996; similar increases were recorded for all states and territories. In addition, there was little variation in transmission rate by the age of the child (figure 3.39). There was no clear relationship between transmission rates and errors of closure (table 3.40).

3.38 TRANSMISSION RATE(a), 1991–96

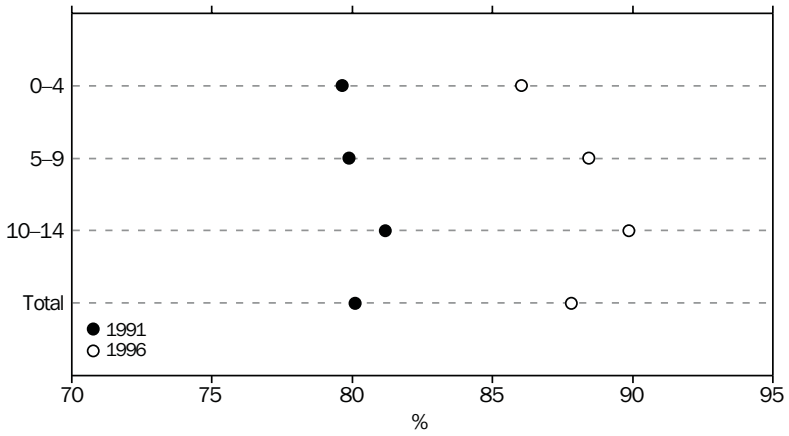


(a) Indigenous children as a percentage of all children in mixed couple families.

Note: Mixed couple refers to one Indigenous partner and one non-Indigenous partner in opposite-sex primary couple families where both partners were at home on Census night. Children refers to natural or adopted children aged 0–14 years.

Source: ABS unpublished census data.

3.39 TRANSMISSION RATE BY AGE OF CHILD(a), 1991–96



(a) Indigenous children as a percentage of all children in mixed couple families.

Note: Mixed couple refers to one Indigenous partner and one non-Indigenous partner in opposite-sex primary couple families where both partners were at home on Census night. Children refers to natural or adopted children aged 0–14 years.

Source: ABS unpublished census data.

3.40 MIXED COUPLES, TRANSMISSION RATE AND THE ERROR OF CLOSURE, 1991–96

	Total increase 1991–96(a)	*Error of closure 1996(b)*	*Mixed couples 1996(c)*	*Transmission rate 1996(d)*
	%	%	%	%
Low error of closure				
Northern Territory	16.32	3.18	21.37	92.42
Western Australia	21.16	3.55	46.13	83.34
South Australia	25.85	7.99	64.62	86.61
Victoria	28.75	6.47	80.21	82.05
Medium error of closure				
Queensland	36.11	12.97	65.20	89.37
High error of closure				
New South Wales	45.21	20.69	77.41	88.24
Tasmania	56.29	28.32	88.31	90.48
Australian Capital Territory	79.66	25.42	87.52	87.50
Australia(e)	**33.01**	**12.57**	**64.30**	**87.81**

(a) Place of usual residence.

(b) Error of closure as a percentage of 1996 population.

(c) Place of enumeration. Number of mixed couples expressed as a percentage of all Indigenous couples.

(d) Number of Indigenous children in mixed couple families expressed as a percentage of all children in mixed couple families.

(e) 1996 figures include Other Territories in the Australia total.

Source: Table 2.10, ABS unpublished census data.

Transmission rates increased for all states by an average of 8% between 1991 and 1996. In table 3.41 the effect of this change in transmission rate is estimated. If there had been no change in transmission rate between 1991 and 1996, 2,902 fewer children would have been recorded as Indigenous in 1996. This is an average increase of almost 10% in the number of Indigenous children in mixed couple families.

Although this analysis only applies to children in mixed couple families with natural or adopted children aged 0–14 years, the effect on the error of closure is significant for those states where there are high rates of mixed couple families, that is the Australian Capital Territory, Tasmania, New South Wales and Victoria. The impact of the change in transmission rate for states and territories where there were low rates of mixed couple families was smaller. If these 2,902 children are added to the explainable component of the increase in count then the explainable proportion of the increase in count rises to 53% and the error of closure for Australia falls by nearly 1% (table 3.42).

The estimated contribution of children in mixed couple families to the increase in count is likely to be conservative. The analysis only considered children aged 0–14 years whereas the same changes in identification may occur for older children. Single parent families are also excluded as no information is collected on the other parent in the census. Some children in single parent families will be children of mixed couples and therefore may also have a choice as to which identity to record in the census. On the other hand, the inclusion of 'not stated' codes with non-Indigenous may have resulted in the incorrect categorisation of a small number of couples as mixed if the 'not stated' partner was Indigenous.

3.41 EFFECT OF TRANSMISSION RATES ON NUMBER OF INDIGENOUS CHILDREN(a), 1996

		Transmission rate(c)		*Indigenous children 1996*		*Increase in number of Indigenous children due to increase in transmission rate*	
	Total children 1996(b)	*1991*	*1996*	*Using 1991 transmission rate*	*Using 1996 transmission rate*		
	no.	*%*	*%*	*no.*	*no.*	*no.*	*%(d)*
NSW	13 746	80.60	88.24	11 079	12 129	1 050	9.48
Vic.	3 186	74.58	82.05	2 376	2 614	238	10.00
Qld	10 334	80.75	89.37	8 345	9 236	891	10.68
SA	1 859	78.85	86.61	1 466	1 610	144	9.83
WA	3 542	76.41	83.34	2 707	2 952	245	9.07
Tas.	3 119	85.23	90.48	2 658	2 822	164	6.15
NT	1 359	84.29	92.42	1 145	1 256	111	9.65
ACT	480	77.86	87.50	374	420	46	12.38
Aust.(e)	**37 630**	**80.10**	**87.81**	**30 142**	**33 044**	**2 902**	**9.63**

(a) Applicable families are opposite-sex primary couple families where one partner is Indigenous and one is non-Indigenous and both partners are at home on Census night, with natural or adopted children aged 0–14 years. Place of enumeration data.

(b) Total number of Indigenous and non-Indigenous children in mixed couple families.

(c) Indigenous children as percentage of total children in mixed couple families.

(d) Percentage of children in mixed couple families.

(e) 1996 figures include Other Territories in the Australia total.

Source: ABS unpublished census data.

3.42 EXPLAINABLE INCREASE DUE TO CHANGE IN TRANSMISSION RATE, 1991–96

	Increase in count 1991–96(a)		Explainable increase: Natural increase, census edits, migration		Explainable increase: Change in transmission rate		Explainable increase: Total explainable		Revised error of closure	
	no.	%	no.	%(b)	no.	%(b)	no.	%(b)	no.	%(c)
NSW	31 643	45.21	10 611	33.53	1 050	3.32	11 661	36.85	19 982	19.66
Vic.	4 802	28.75	3 411	71.03	238	4.95	3 649	75.98	1 153	5.36
Qld	25 302	36.11	12 931	51.11	891	3.52	13 822	54.63	11 480	12.04
SA	4 194	25.85	2 563	61.11	144	3.44	2 707	64.55	1 487	7.28
WA	8 855	21.16	7 056	79.68	245	2.77	7 301	82.46	1 554	3.06
Tas.	5 017	56.29	1 073	21.39	164	3.26	1 237	24.65	3 780	27.14
NT	6 505	16.32	5 033	77.37	111	1.70	5 144	79.07	1 361	2.94
ACT	1 261	79.66	538	42.66	46	3.67	584	46.33	677	23.79
Aust.(d)	**87 599**	**33.01**	**43 243**	**49.36**	**2 902**	**3.31**	**46 145**	**52.68**	**41 454**	**11.74**

(a) Place of usual residence.
(b) Percent of increase 1991–96.
(c) Error of closure as a percentage of 1996 population.
(d) Includes Other Territories.

Source: ABS unpublished census data.

CHAPTER 4 CONCLUSION

Just over half of the increase in Indigenous count from 1991 to 1996 can be explained by the demographic factors of births and deaths, migration and changes in transmission rate, and the non-demographic factor of changes to census editing procedures (table 3.42). There was considerable variation by state and territory in the explained proportion of the increase and in the errors of closure calculated. Natural increase appeared to drive the increase in the Northern Territory and Western Australia but not in the Australian Capital Territory or Tasmania. Over a quarter of the increase in Victoria was attributable to changes in census editing procedures. Interstate migration, although not responsible for the change in distribution of Aboriginal and Torres Strait Islander people, was a significant component of the explainable increase for both Queensland and the Australian Capital Territory. Errors of closure were lowest where the growth rate due to natural increase was highest and vice versa (table 2.10). As reliable births and deaths information is not available for Aboriginal and Torres Srait Islander Commission (ATSIC) Regions, errors of closure were not calculated for regions; however it is expected that they would also show great variation.

While this paper has focussed on the quantifiable aspects of the increase in census count, there are at least three other factors, introduced at the end of chapter 2, which are not as readily measured but which constitute the unexplainable component of the increase. These are undercount, non-response and changes in answers to Indigenous status.

Some people are missed each census and some are counted more than once. Considerable effort is made to determine the difference between the true population and the census count; this is referred to as net undercount. The net undercount for the total Australian population has declined from 1.9% in 1986 to 1.8% in 1991 and 1.6% in 1996 (ABS 1997b). The Northern Territory has consistently reported the highest net undercount rate. The methodology used to calculate net undercount can not be reliably applied to the Indigenous population. However, the net undercount for Indigenous people for 1996 has been estimated at just over 7% (ABS 1997b). This is higher than that estimated for 1991 although these figures should be treated with caution as there are high sampling errors associated with both estimates. If the undercount was in fact higher in 1996 than in 1991, it would mean that the effective increase in the Indigenous count was even higher than the 33% recorded.

In addition to those people who are not enumerated by the census, some people who are enumerated may not answer some or all questions. There have been more people who did not answer the Indigenous status question than who responded positively as 'Indigenous' in all censuses since 1976 (see Technical Notes). Some of the people coded as 'not stated' (non-respondents) will be Indigenous. It is not known what proportion of non-respondents are actually Indigenous. The non-response rate and the actual number of non-respondents in 1996 was slightly lower

than in 1991. Again, it is not known whether the people who answered the question in 1996 but not in 1991 were more likely or not to be Indigenous. If this possibility were known, then it could be used to explain a further portion of the increase in Indigenous count.

The way some people answer the Indigenous status question can change over time. People may move between any of the categories of Indigenous status, including between Indigenous and non-Indigenous. There is evidence that this may occur, even over short periods of time, from the Post-Enumeration Survey (PES). The PES is conducted, by personal interview of any responsible adult in the household, shortly after the census and is designed to measure undercount. It also includes the Indigenous status question. Responses from the PES can, therefore, be compared with census responses for the same individuals. Although the PES sample was not designed specifically to include Aboriginal and Torres Strait Islander people, there was a small sample of urban Indigenous people. There were 1,482 persons in the PES sample who reported Indigenous origin in the census; 16% of these changed their response to non-Indigenous when re-questioned in the PES (ABS 1997a).

Improvements to the ABS' Indigenous Enumeration Strategy (IES) may underlie these three, difficult to quantify, factors. The IES in 1996 continued the use of interviews with simplified forms in remote Aboriginal and Torres Strait Islander communities which have been used in at least some states and territories since the 1976 Census. In 1996, interview forms were used in parts of Queensland, South Australia, Western Australian and the Northern Territory. In some of these states and territories town camps in urban areas were also enumerated by interview. In other urban areas Indigenous assistants were available to assist Indigenous respondents and Census collectors with the completion of forms if necessary. A new feature of the IES for 1996 was the employment of a State Indigenous Manager (SIM) in most states and territories to oversee Census arrangements for Indigenous people and promote awareness of the census amongst Indigenous people and organisations. The promotional work done by the SIMs in each state and territory in encouraging Indigenous people to answer the question affirmatively may have had a large impact on the census count for some states and territories. However, the effectiveness of the strategy is very difficult to measure. As mentioned above, net undercount rates are not a reliable measure of the success of the IES and more work needs to be done to identify reasons for the reduction in non-response to the Indigenous status question.

The primary force behind the unexplained component of the increase appears to be related to what has been termed by Passel and Berman as 'recruitment' or changes in self-identification (Passel and Berman 1986 p164). The changes in the transmission of Indigenous identity from parents to children in mixed couple families is evidence that, in at least one section of the population, recruitment into the Indigenous

population is not only possible but did occur between 1991 and 1996. Data on age structures in chapter 3 suggest that recruitment must have taken place in adult age groups as well. More information on how individuals change their identification over time is needed before the role of recruitment in Indigenous population growth can be estimated.

Whilst the PES also shows that changes in self-identification occurred in a particular context it does not provide data on the extent of this over a longer period of time, nor the influences of differing collection methodologies.

The largest proportional increases in census counts for Indigenous people were in the highly urbanised south-eastern states. These areas are linked by historically earlier European settlement than other areas. Longer contact between Indigenous and non-Indigenous people and higher rates of intermarriage resulted in a larger pool of persons of mixed ancestry than in areas where European settlement was later. It is this mixed ancestry group for whom it is likely that identification as Indigenous can be changed over time and in different situations.

This paper is not concerned with the social changes which enable and/or encourage people to change their identification. However, some context is necessary to explain the motivations behind such a change. In the United States, Nagel (1995) has described three areas of social change which may explain the role of recruitment. The first area is federal Indian policy which passed from assimilation through acculturation to self-determination. The second is American ethnic politics, characterised by the civil rights movement, the movement of American Indians off reservations, 'the symbolic allure of Indian ethnicity' (p955), and material incentives. The final area is American Indian activism which encompasses two types of ethnic renewal. The first is the reaffirmation of ethnicity which does not involve a change to identity; the second describes those people who formerly passed as non-Indian, asserting their ethnicity for the first time. It is the second group who are probably reflected in the increases in native American census counts (Nagel 1995 p954–57). Another American author has commented that in modern America 'the symbol of indigenous descent has come to convey a status that it formerly did not have, or that in the past was counterbalanced by costs imposed by the hegemony of European Americans' (Eschbach 1995 p91).

In the Australian context, the 1967 Referendum marked the beginning of a period of activism;

> the referendum, as an event, helped to create a climate of opinion which provided an activist federal government with a mandate: it bestowed upon the Whitlam and subsequent governments the moral authority required to expand the Commonwealth's role in Aboriginal affairs and implement a major programme of reform (Attwood and Markus 1997 p63).

CONCLUSION *continued*

The increase in Indigenous census counts between 1966 and 1996 are far greater than can be explained by demographic factors, census editing procedures or improvements in enumeration. The changes in census count probably chart the movement of ethnicity from the biological to the social realm. The census, as an historical document, reflects the changing perceptions of Aboriginal and Torres Strait Islander people, both by others and by themselves. As a social category, Indigenous identity is 'subject to a great deal of flux and change—both intergenerationally, over the life course, and situationally' (Waters 1996 p1).

It should be remembered that change in identification is not a phenomenon restricted to indigenous peoples. For example Hout and Goldstein (1994) showed that similar processes occur for Irish Americans. It is unlikely, given the changes in Indigenous census counts over the past 30 years, that this process is at an end. Whilst the level of intermarriage is high in Tasmania, it is very low in the Northern Territory. Thus, if the trend towards intermarriage and the primacy of Indigenous identity over non-Indigenous identity were to continue, the Indigenous population of Tasmania would increase predictably while the Indigenous count in the Northern Territory would, at some time in its future, experience large increases of the kind recently observed in Tasmania. The recasting of Indigenous identity as a fluid variable necessitates further study of the mechanisms of recruitment into the Indigenous population, in both quantitative and qualitative terms.

APPENDIX MAKING USE OF INDIGENOUS STATISTICS FROM CENSUS DATA—GUIDELINES

This appendix presents a set of guidelines concerning the use of census data about Indigenous Australians. The guidelines were prepared and widely circulated following a workshop held on this topic in early 1998. They should be attributed to the Working Group to Establish Guidelines for Interpreting Indigenous Census Data.

Background

On 26 February 1998, 24 people (see attached list) with a particular interest in Indigenous statistics met at University House, Australian National University for a one day workshop on 'Establishing Guidelines for Interpreting Indigenous Census Data'. The workshop was organised by the National Centre for Aboriginal and Torres Strait Islander Statistics (NCATSIS) of the Australian Bureau of Statistics (ABS) in response to concerns expressed by some people about the implications of the large increase in the count of Indigenous people in the 1996 Census relative to the 1991 Census.

The increase in the number of Indigenous people counted in the Census between 1991 and 1996 is larger than can be explained by the combined effects of demographic factors such as births, deaths and migration and the population expanding effects of mixed Indigenous and non-Indigenous parentage. The size of the increase and the reasons for it are important in their own right for those with an interest in Indigenous population numbers (e.g. those agencies which allocate resources based on formulae involving population numbers). They are also of concern for anyone using ratio statistics derived from Census-based denominators. Difficulties are compounded when comparisons are made using statistics from successive Censuses.

During the day of the workshop, some 13 short presentations were given. Some of these considered technical, methodological or conceptual issues while others presented the results of analyses undertaken to explore similarities and differences between 1991 and 1996 Indigenous Census characteristics with respect to a series of variables including geographic distribution, age, household characteristics, family composition, income, employment, and age at which people left school. These presentations and the discussions which followed highlighted a number of points which are relevant to the use and interpretation of Indigenous Census statistics. These points may be of interest to users of ABS statistics and the most significant of them are summarised below.

From the various issues which emerged during the day it was not possible to prepare tight guidelines which, if followed by users, would allow them to avoid analytical difficulties and would overcome interpretation problems. However, the group felt that five specific guiding principles should be set down and recommended to users. These are presented at the end of this document.

If you wish to know more about the workshop or wish to discuss any of the issues raised in these notes further, please contact NCATSIS through Tony Barnes (Director), Joan Cunningham (Director of Research), Kate Ross (Manager of Indigenous Census Project);
telephone 08 8943 2190; fax 08 8941 0715; emails
tony.barnes@abs.gov.au; joan.cunningham@abs.gov.au;
kate.ross@abs.gov.au.

Factors To Consider When Undertaking Analysis Of Census Data About Indigenous People

For Australia as a whole the count of Indigenous people derived from the 1996 Census appears to be the best ever count of the Indigenous population. Factors possibly contributing to this include improved enumeration practices by ABS in the 1996 Census and greater willingness of Indigenous people to record their Indigenous status on Census forms.

The increase between 1991 and 1996 in counts of Indigenous people, although larger in absolute terms than in any previous intercensal period, does not appear outstanding when compared with intercensal increases since 1971. That is, this is not the first time we have seen growth above that which can be explained by natural increase. Similar increases in census counts have been observed for indigenous peoples from other developed countries at various times during the twentieth century, notably the United States and New Zealand.

Approximately half of the 33% increase in counts of Indigenous people from 1991 to 1996 can be accounted for as the consequences of normal demographic factors associated with the population previously counted as Indigenous in 1991. This includes births where both parents are Indigenous as well as births in which only one parent is Indigenous.

The question on the Census form which is used to determine the Indigenous count is 'Are you of Aboriginal or Torres Strait Islander origin?' It has been used almost unchanged for 20 years but there is some uncertainty about how respondents might interpret it when determining their answers. It is also uncertain whether peoples' responses to this question might differ if the method of administering the question were to be changed (e.g. from self-completed questionnaire to response to a question asked by an interviewer, whether Indigenous or non-Indigenous).

Although the number of people who said they were Indigenous in 1996 was higher than ever before (352,970), it was still much lower than the number of non-responses to the Indigenous status question (525,403). Just under half (45%) of these non-responses occurred for people who did not fill out a Census form at all. Forms were created for these people as a result of other information gained in the field.

From the results of a special interview survey conducted by ABS a few weeks after each Census (the Post-Enumeration Survey) there is some evidence of inconsistency in data on Indigenous status. At least two possibilities may explain the results:

- the way in which Indigenous status data are collected (i.e. self-recorded or interview response) can influence the number of people responding as Indigenous;
- peoples' responses to repeat administration of the Indigenous status question separated by a few weeks can be inconsistent sufficiently frequently to be of importance.

These possibilities are not mutually exclusive; both may have occurred.

There were marked differences in the magnitude of the increases in the counts of Indigenous people in different parts of the country. Census data on the movement of Indigenous people between states indicate that migration is not sufficient to account for the differences. The remote parts of Australia, in which many Indigenous communities are located, showed little or no increase above that expected as a result of normal demographic factors. In contrast, many urban and metropolitan areas had large increases which could not be explained by demographic factors.

In contrast to the high variation in increases in Indigenous counts across geographic regions, the increases were fairly similar regardless of either the year of birth or the age at which schooling was completed.

Of all the variables, other than geography, examined to date, the largest changes between 1991 and 1996 were found with respect to household size and household composition (i.e. the balance between Indigenous households comprised completely of Indigenous people and those consisting of Indigenous and non-Indigenous people).

Census counts of Indigenous people are not presented by ABS as the best estimates of the size of the Indigenous population. They are, however, the starting point in determining estimates. Population estimates are prepared by ABS as the 'estimated resident population' (ERP) or, in the case of the Indigenous population, the 'experimental' Indigenous ERP. (The Indigenous ERP is referred to as 'experimental' because there is still considerable uncertainty about a number of components of the estimation procedure.) The ERP for a Census year is based on the Census count for that year. This is adjusted to take account of various factors such as:

- the difference in the date of Census (6 August) and the date for which the ERP is estimated (typically 30 June);
- the allocation of people who did not answer the question on Indigenous status;

- accounting for improbable 'Indigenous people' e.g. those with both parents born overseas; and
- adjusting for Indigenous people not counted at all at Census time.

The Indigenous experimental ERP for June 30 1996 (final) was released by ABS on 31 March 1998 and, for the whole of Australia, is 386,049.

Like all Census counts, counts of Indigenous people refer to the number of people who indicate a certain response on the Census form (or who have a response indicated for them). The accuracy of counts is dependent on any factors which influence how people respond to questions on Census forms. Some misrepresentation, intentional or otherwise, on Census forms undoubtedly does occur. However, intentional misrepresentation is not thought to be one of the more important data quality concerns for Indigenous status or for other Census variables. In particular, it should be noted that:

- 'nonsense' responses to Census data are very rare;
- no individual obtains any financial advantage (or disadvantage) as a result of his or her response to the Indigenous status question;
- some unlikely combinations of responses (for example, Indigenous people who report both parents born overseas) are detected and edited prior to estimating ERP.

Rate and ratio statistics which use denominators derived from Census counts (i.e. ERP) and numerators derived from other sources (e.g. death notifications, hospital separations, and school attendance data) are subject to additional errors if the method of determining Indigenous status for the numerator collection differs from, or if the quality of data is different to, Census collections.

Guiding Principles For Interpreting Indigenous Census Data

In view of the issues raised above it is not possible to construct a set of tight and specific guidelines which, if followed by users, would indicate how to make valid comparisons between the 1991 and 1996 Censuses with respect to Indigenous statistics. There is unfortunately no prescription which will provide guaranteed protection against making inappropriate interpretations. However, a few guiding principles may be of assistance to users.

1 User beware

Any Indigenous statistical comparisons made between two Censuses must be made with caution and should not be accepted at face value until the user has explored, to his/her satisfaction, the possibility that the differences might be solely or largely a consequence of the non-demographic increase in Census counts. Failure to do this could lead users to draw incorrect conclusions about whether changes in social conditions have occurred.

2 Use percentages

Users should present their statistical estimates as percentages where both numerator and denominator are data from the same Census. Analyses of intercensal statistical differences should be made by comparing percentages from two times, rather than directly comparing counts or numbers. In most instances appropriate percentages will be less biased than the numerator and denominator counts. In particular, percentages are estimated without bias, if the bias in the counts is the same in percentage terms for the numerator and denominator.

3 Use specific geography

Any analysis conducted on data pertaining to all Indigenous people in Australia and undertaken to detect changes between Censuses may be subject to biases if the variable of interest displays significantly different patterns among urban and remote areas. Biases may be reduced considerably for analyses which are restricted to remote geographical regions where the changes in Indigenous population counts between Censuses are largely accountable in standard demographic terms.

4 Consider household size and composition

Factors which might be associated with household size and composition (i.e., the mix of Indigenous and non-Indigenous people) should be treated with the same caution as geographical variations.

5 Consider your population

When using Indigenous population figures, users should ensure they have the most appropriate set of numbers for their purposes. This will generally be as follows:

- If the population figure is to provide a denominator in a ratio statistic that is being calculated from a Census-derived numerator then use a Census count;
- If the population figure is to provide a denominator for analyses of data acquired from surveys or other collections (e.g. administrative collections) in the past then use an experimental Indigenous ERP. The most appropriate ERP is the ERP for the same year as the data were collected. This ERP should be based on the Indigenous Census counts from the Census conducted closest in time to the date of the data collection.
- If the population figure is to provide an indication of the Indigenous population in the future then use a population projection. Depending on the purpose of the work, users may require a projection based on no change in people's propensity to identify themselves as Indigenous on Census forms, or a projection which incorporates an alternative estimate of the change in propensity to identify on Census forms.

Details Of Known Errors In Indigenous Census Data

Participants who attended the workshop also felt that it would be helpful to users to have all significant known data quality issues for Indigenous Census data collected within one single document. The list below represents this document at the time of writing these Guidelines.

1 Indigenous Locations and Areas with poor data quality

The ABS developed a specific geographical classification for Indigenous people for use with 1996 Census data. This classification is based around Aboriginal and Torres Strait Islander Commission (ATSIC) Regions. There are two lower levels in the geography—Indigenous Areas and Indigenous Locations. Due to problems in the collection phase of the Census there are a number of Indigenous Areas and Indigenous Locations for which data are of poor quality. Age imputation rates for Indigenous people (i.e. the percentage of Indigenous persons whose age was not stated on the Census form) were used as an indicator of data quality and no standard products, such as the Indigenous Profile, will be released for Areas and Locations with an age imputation rate of greater than 25%. A list of these appears below. Although no characteristics data will be released for these Areas and Locations, population counts for them can be found in *Population Distribution, Indigenous Australians* (ABS Cat. no. 4705.0). Data for these Areas and Locations are included in the data for the appropriate ATSIC Region.

INDIGENOUS AREAS AND LOCATIONS WITH POOR DATA QUALITY

Code	*Name*
	INDIGENOUS AREAS
1506	Yam Island(a)
1901	Balance AP lands
1902	Indulkana (Iwantja)
1903	Fregon (Kaltitji & Irintata)
1904	Amata & homelands(b)
2203	Wyndham-EKimb: Oombulgurri
3202	Warlpiri/Redgum/Wallaby camps
3204	Rockhole
	INDIGENOUS LOCATIONS
150601	Yam Island(a)
190101	Pipalyatjara
190102	Kalka & homelands
190103	Murputja homelands
190201	Indulkana (Iwantja)
190301	Fregon (Kaltitji & Irintata)
190401	Amata & homelands(b)
220301	Wyndham-EKimb: Oombulgurri
310603	Daly balance
320201	Warlpiri/Redgum/Wallaby camps
320401	Rockhole
322002	Yugul Mangi balance
361802	Belyuen o/s—Cox Peninsula

(a) See section 2 below.
(b) See section 3 below.

2 Yam Island, Torres Strait

The population of Yam Island in the Torres Strait (CD 3010108) was imputed at the Data Processing Centre based on information from Census field workers. A total of 150 people were imputed for Yam Island. However, by error, these records were imputed as Aboriginal rather than Torres Strait Islander.

This has had the effect of artificially doubling the Aboriginal population of the Torres Strait ATSIC Region. The 1996 Census shows 304 Aboriginal people and 5,760 Torres Strait Islanders (including people of both Aboriginal and Torres Strait Islander origin). Accounting for the Yam Island error these figures should be 154 Aboriginal people and 5,910 Torres Strait Islanders.

3 Amata, South Australia

The community of Amata (CDs 4010109 and 4010114) in the Anangu Pitjantjatjara lands was enumerated using the records of Nganampa Health (Nganampa Health 1995). Age and sex were transcribed to the Census forms on the basis of Nganampa records resulting in an almost exact correspondence between Indigenous population figures in the Nganampa 1994–95 annual report (536 people) and Census counts (537). As age was transcribed, it acquired an imputation flag of 'stated'. Thus, using the age imputation criterion outlined in section 1, data for Amata is of acceptable quality. However, data for all other variables is recorded as not stated. For this reason, data for Amata is regarded of poor quality.

The inclusion of Amata as an Indigenous Location or Area with poor data quality means that more than 25% of the person records in Port Augusta ATSIC Region are of poor quality. Data for Port Augusta ATSIC Region will not be suppressed but should be treated with caution.

4 Bindi Bindi, Western Australia

Bindi Bindi Aboriginal Community is within the town of Onslow (CD 5010501) in Ashburton SLA. The Special Indigenous Forms (SIF) completed for this community were incorrectly assigned to CD 5010510. CD 5010510 surrounds CD 5010501. A total of 141 Indigenous people were affected by this error. The 1996 Census results record 70 Indigenous people in CD 5010501 and 169 in CD 5010510. These figures should be 211 in CD 5010501 and 28 in CD 5010510.

5 Community Development Employment Projects (CDEP)

Community Development Employment Projects (CDEP) scheme data were collected for the first time in the 1996 Census. This information is output as part of the variable 'GNGP Industry Sector'.

CDEP figures are reasonably good for areas where Special Indigenous Forms (SIFs) were used, as there was a particular response category for CDEP. SIFs were used in discrete Aboriginal and Torres Strait Islander communities in Qld, SA, WA and NT, particularly in remote areas where respondents were enumerated by personal interview.

CDEP data for other areas are generally of poor quality as people were not coded to CDEP unless they had written on the form 'CDEP', even though their employer may have been a solely CDEP employer.

The following table shows Census counts of persons employed in the CDEP scheme and figures of CDEP participants from ATSIC for 1996. The nature of CDEP work can be sporadic and although a person is recorded by ATSIC as being a CDEP participant this does not mean that he or she will be working in any given week. CDEP participants who did not work in the week prior to Census will not be recorded as employed although they will be recorded by ATSIC as a participant. It has been estimated that the ratio of 60:40 be used when converting ATSIC figures on CDEP participants to CDEP employees (Deloitte Touche Tohmatsu 1993 and Taylor, J. 1993). Also see Employment Outcomes for Indigenous Australians (ABS and CAEPR 1996 pp 15–16) for more information.

Thus, the quality of Census CDEP data can be considered to be good when the Census CDEP figure is around 60% or more of the ATSIC figure.

PERSONS EMPLOYED IN THE CDEP SCHEME, 1996

AREG code	*AREG name*	*ATSIC, October 1996*	*Census, August 1996(a)*	*Census figures as percent of ATSIC figures*
1	Queanbeyan	116	14	12.07
2	Bourke	971	125	12.87
3	Coffs Harbour	917	78	8.51
4	Sydney	225	35	15.56
5	Tamworth	785	164	20.89
6	Wagga Wagga	444	89	20.05
7	Wangaratta	227	20	8.81
8	Ballarat	143	9	6.29
9	Brisbane	30	7	23.33
10	Cairns	1 226	548	44.70
11	Mount Isa	604	341	56.46
12	Cooktown	3 063	1 593	52.01
13	Rockhampton	0	15	. .
14	Roma	474	191	40.30
15	Torres Strait Area	1 355	713	52.62
16	Townsville	584	483	82.71
17	Adelaide	519	94	18.11
18	Ceduna	683	190	27.82
19	Port Augusta	1 487	456	30.67
20	Perth	209	13	6.22
21	Broome	1 143	496	43.39
22	Kununurra	1 508	636	42.18
23	Warburton	1 334	569	42.65
24	Narrogin	631	88	13.95
25	South Hedland	415	153	36.87
26	Derby	1 679	927	55.21
27	Kalgoorlie	156	51	32.69
28	Geraldton	518	112	21.62
29	Hobart	0	0	. .
30	Alice Springs	432	105	24.31
31	Jabiru	1 312	970	73.93
32	Katherine	1 512	983	65.01
33	Aputula	982	659	67.11
34	Nhulunbuy	1 689	942	55.77
35	Tennant Creek	593	335	56.49
36	Darwin	50	55	110.00
	Australia	**28 016**	**12 259**	**43.76**

(a) Indigenous persons only.

Source: ATSIC CDEP section, ABS unpublished census data.

References

ABS Australian Bureau of Statistics
CAEPR Centre for Aboriginal Economic Policy Research

Australian Bureau of Statistics and Centre for Aboriginal Economic Policy Research 1996, *National Aboriginal and Torres Strait Islander Survey 1994: Employment Outcomes for Indigenous Australians*, Cat. no. 4199.0, ABS, Canberra.

Deloitte Touche Tohmatsu 1993, *No Reverse Gear: A National Review of the Community Development Employment Projects Scheme,* Report to the Aboriginal and Torres Strait Islander Commission, Canberra.

Nganampa Health Council 1995, Annual Report, 1994–95.

Taylor, J. 1993, *The Relative Economic Status of Indigenous Australians, 1986–91,* CAEPR Monograph No. 6, Centre for Aboriginal Economic Policy Research, Australian National University, Canberra.

List of Workshop Participants

Michael Adena, INTSTAT Statistical Data Analysts

Bill Allen, Demography Section, Australian Bureau of Statistics (ABS)

Stephanie Allen, Methodology Division, ABS

Tony Barnes, National Centre for Aboriginal and Torres Strait Islander Statistics (NCATSIS), ABS

Martin Bell, University of Adelaide

Phillip Bell, Methodology Division, ABS

Martin Butterfield, Census, ABS

Tim Carlton, Demography Section, ABS

Joan Cunningham, NCATSIS, ABS

Glen Heyen, Demography Section, ABS

Boyd Hunter, Centre for Aboriginal Economic Policy Research (CAEPR), Australian National University (ANU)

Guy Johnstone, Census, ABS

Roger Jones, Quantitative Evaluation and Design (QED) Pty Ltd

Christine Kilmartin, Australian Institute of Family Studies (AIFS)

Peter McDonald, Demography Department, ANU

John Paice, Demography Section, ABS

Kate Ross, NCATSIS, ABS

Len Smith, National Centre for Epidemiology and Population Health (NCEPH), ANU

John Taylor, CAEPR, ANU

Sue Taylor, Demography Section, ABS

Phil Trickett, Australian Institute of Health and Welfare (AIHW)

Paul Williams, Census, ABS

Frank Yu, Methodology Division, ABS

TECHNICAL NOTES

POPULATION ESTIMATES AND PROJECTIONS

The most important use of census data is in the production of population estimates and projections. In turn, estimates and projections are used as the basis for the calculation of rate and ratio statistics using data from Australian Bureau of Statistics (ABS) surveys and administrative data collections. Experimental estimates of the Indigenous population were first published by the ABS in 1994 for the years 1986 to 1991 (ABS 1994) and were followed in 1996 by experimental projections for 1991 to 2001 (ABS 1996b). New estimates for 1991 to 1996 and projections for 1996 to 2006, both based on the 1996 Census, were published in 1998 (ABS 1998b, 1998c). The estimated Indigenous population as at June 1996 was 386,049 (ABS 1998c), which is higher than the 1996 Indigenous census count of 352,970.

The basis for population estimates is the census usual residence count. The census count is adjusted for several factors, primarily persons missed in the census (using an estimate of the net Indigenous undercount in the 1996 Census); an allocation of persons who did not answer the Indigenous status question to either the Indigenous or non-Indigenous category; and adjustments for age mis-reporting. Additional factors are taken into account for the production of projections, namely births to Indigenous parent(s), deaths of Indigenous people, migration and any changes in the probability of an Indigenous person answering the census question affirmatively (this change has generally been assumed to be zero). For more information see ABS 1998b and 1998c.

OTHER TERRITORIES

Following changes to the definition of geographic Australia in 1992, a new category, 'Other Territories', was formed to cover Jervis Bay Territory, Christmas Island and Cocos (Keeling) Islands. This new statistical geography was used in the 1996 Census. Prior to the 1996 Census, Christmas Island and Cocos (Keeling) Islands were out of scope. In addition, prior to the 1996 Census Jervis Bay Territory was included as part of the Australian Capital Territory.

In this publication for 1996 Census data, 'Other Territories' is used to describe Jervis Bay Territory, Christmas Island and Cocos (Keeling) Islands. For all censuses prior to 1996, 'Other Territories' includes Jervis Bay Territory only. Jervis Bay Territory, therefore, is not included with the Australian Capital Territory for censuses prior to 1996; data in this publication may therefore differ from other published data. For more information on the definition of Australia for geographic purposes see ABS 1996c.

CENSUS DATA QUALITY CONSIDERATIONS

There are aspects of the methodology of each census which need to be considered in analysis, in particular in relation to the Indigenous population. These are discussed below and summarised in table T1.

1966

The 1966 Census was the first time an effort was made to obtain complete coverage of the Indigenous population; however, the CBCS itself, as well as Aboriginal agencies, expressed doubts as to the quality and completeness of the data collected (CBCS 1969 p4, Smith 1980 p44).

The question used asked for 'Race', as well as specific fractions if 'of more than one race' (figure 1.1). In addition, the race of persons who did not give an answer was imputed based on information from answers to other questions.

1971

The question was changed to 'What is this person's racial origin' (figure 1.1). A racial origin was imputed for persons who did not answer the question, based on responses given to other questions such as name, birthplace and parents' racial origin (ABS 1979d, Choi and Gray 1985 p17).

1976

Not all census forms were completely processed. Information on the racial origin question, like all questions about characteristics of the population, was sampled. All forms for non-private dwellings and the Northern Territory were processed. However only 50% of forms for private dwellings in the other states and territories were processed. The sampling was by dwelling rather than person; that is, every second dwelling was selected and all persons in the selected dwellings were processed. Indigenous status was considered to be likely to be clustered by dwelling; that is, Indigenous status was likely to be the same for all persons in a dwelling and different for persons in different dwellings. Thus there was a greater chance that Indigenous status was undersampled or oversampled; relative standard errors for Indigenous status estimates were higher than for characteristics which were not clustered by dwelling (ABS 1979c). It appears that Indigenous people in urban areas in New South Wales, Victoria and South Australia were oversampled (ABS 1982a).

The question used remained the same as in 1971. However, persons whose responses were 'not stated' to the racial origin question remained not stated. Non-response was quite high at 8.4% (ABS 1979d).

The 1976 Census was the first time that interview procedures, rather than self-completed forms, were used to enumerate Aboriginal people, although this was limited to remote areas of the Northern Territory.

1981 The question was changed to 'Is the person of Aboriginal or Torres Strait Islander origin?' (figure 1.1). The use of interview forms was extended to parts of the Northern Territory, South Australia and Western Australia.

Some instances of non-response were resolved by reference to birthplace of the persons' parents. If both parents were born overseas the 'not stated' code was changed to 'non-Indigenous'. All other cases of non-response remained not stated (Choi and Gray 1985).

This process reduced the non-response rate to 3.8%, which although high, was a significant improvement over the 1976 Census (ABS 1982b). The 1981 Census non-response rate may also have been affected by the positioning of the Indigenous status question towards the bottom of a page and at a later position on the form (ABS 1989 p3).

The 1981 Census introduced a processing edit which could change the stated responses of persons from Indigenous to non-Indigenous. In cases where both parents of an individual were born overseas, the 'Indigenous' response was changed to 'non-Indigenous' (ABS 1982b).

1986 The 1986 Census included a question on ancestry as well as the same Indigenous status question as that used in 1981. Interview forms were again used in parts of the Northern Territory, South Australia and Western Australia.

Responses from the ancestry question were used to derive a response in some cases where the Indigenous status question was not answered; that is, if a person had responded 'Aboriginal' or 'Torres Strait Islander' to the ancestry question, this response was used to assign a code to the Indigenous status question. These measures resulted in a much lower non-response rate of 1.7% (ABS 1989).

In addition, if a person's ancestry was reported as an overseas origin, Indigenous status was set to non-Indigenous, regardless of the stated response. If the stated response was 'Aboriginal' at least one parent had to be born in Australia or the response was changed to 'non-Indigenous'. As well, persons whose stated response was 'Torres Strait Islander' and both parents were not born in Australia, were resolved on a case by case basis using information such as birthplace, ancestry and language (ABS 1989 p5).

1991 The same question as in 1981 and 1986 was used. The use of interviews was extended to include parts of Queensland as well as the Northern Territory, South Australia and Western Australia.

Some cases of non-response were changed to non-Indigenous if either the individual or both parents were born overseas. The non-response rate was 3.2% (ABS 1997a).

Edits were again applied to some responses to the Indigenous status question. If a person's stated response was Indigenous and his or her birthplace was overseas or if both parents were born overseas, the response was changed to non-Indigenous (figure 2.2).

1996 The question remained the same as in 1981, 1986 and 1991; however, the accompanying instruction was altered slightly (figure 1.1). Interview forms continued to be used in parts of the Northern Territory, South Australia, Western Australia and Queensland.

A more restricted set of rules was applied to resolving cases of non-response than in 1991. If both parents were born overseas or if the individual and one parent were born overseas then non-response was changed to non-Indigenous. The non-response rate fell slightly to 3.0% (ABS 1997a).

The edits used to change some Indigenous responses to non-Indigenous were different to those used in 1991 (figure 2.2). The only edit applied was in the case where the birthplaces of individual and both parents were overseas.

The special procedures used to enumerate Indigenous people were extended to some urban areas. As well, a manager was appointed in each state and territory (New South Wales and the Australian Capital Territory were combined, as were Victoria and Tasmania) to co-ordinate the collection effort and to promote the census amongst Indigenous people and organisations.

T1 SUMMARY OF INDIGENOUS CENSUS DATA QUALITY CONSIDERATIONS

	Question used(a)	*Imputation of non-response*	*Non-response rate* %	*Edits to change Indigenous to non-Indigenous*	*Partial use of interview forms*
1966	Race.	All non-response imputed to either Indigenous or non-Indigenous	. .	No	None
1971	What is this person's racial origin?	All non-response imputed to either Indigenous or non-Indigenous	. .	No	None
1976	What is each person's racial origin?	None	8.4	No	NT
1981	Is the person of Aboriginal or Torres Strait Islander origin?	Some non-response imputed to non-Indigenous	3.8	Yes	NT, WA, SA
1986	Is the person of Aboriginal or Torres Strait Islander origin?	Some non-response imputed to non-Indigenous	1.7	Yes	NT, WA, SA
1991	Is the person of Aboriginal or Torres Strait Islander origin?	Some non-response imputed to non-Indigenous	3.2	Yes	NT, WA, SA, Qld
1996	Is the person of Aboriginal or Torres Strait Islander origin?	Some non-response imputed to non-Indigenous	3.0	Yes	NT, WA, SA, Qld

(a) See figure 1.1.

USUAL RESIDENCE ON CENSUS NIGHT

Unless otherwise specified all person level data in this paper are on a place of usual residence basis. A question on address of usual residence was first asked in the 1971 Census and has been included in every Census since. The treatment of persons who did not answer the usual residence question has varied. A summary of the procedures used in the 1981 to 1996 Censuses appears below.

1981 Persons who did not answer the usual residence question remained coded as 'not stated'. There was no imputation of either State or SLA of usual residence. Thus there was only one 'not stated' category.

1986 Both state and SLA of usual residence were imputed where no response was given. Children were given the same usual residence code as their mother or father; spouses were given the code of their partner. If a parent or partner was not present or did not answer the usual residence question, or for persons not in a family, usual residence was imputed to the state and SLA of enumeration (ABS 1986).

1991 In cases of non-response only state of usual residence was imputed. For persons aged 15 years or more state of usual residence was set to state of enumeration. Persons aged less than 15 were assigned the usual residence of their mother or sole parent. If the parent was not present, or in all other cases where usual residence was not stated, state of usual residence was set to state of enumeration. Thus there was a not stated category for each state and territory, that is, 'NSW SLA not stated', 'Victoria SLA not stated' etc.

1996 Both state and SLA of usual residence were imputed where no response was given. The rules for imputation were more complex than in previous censuses and varied according to dwelling type (private dwelling, non-private dwelling), and relationship in household or non-private dwelling (ABS 1996a).

In addition to codes of 'not stated' which were possible for the 1981 and 1991 Censuses, there are a number of other usual residence codes which are not defined geographic areas. These are undefined capital city, undefined rest of state, no usual address and offshore and migratory. Collectively, they are referred to as 'special purpose codes'. Undefined capital city, undefined rest of state and offshore and migratory have been valid codes for all censuses between 1981 and 1996. 'No usual address' was allowed for the 1991 and 1996 Censuses. The numbers of Indigenous people coded to each of these codes is shown in table T2.

T2 SPECIAL PURPOSE SLA CODES, INDIGENOUS COUNT, 1981–96

	1981	*1986*	*1991*	*1996*
Undefined capital city	80	66	66	26
Undefined rest of state	150	373	97	374
No usual address	. .	. .	89	1 516
Offshore and migratory	12	50	25	43
Not stated	2 831	. .	2 760	. .
Total	*3 073*	*489*	*3 037*	*1 959*

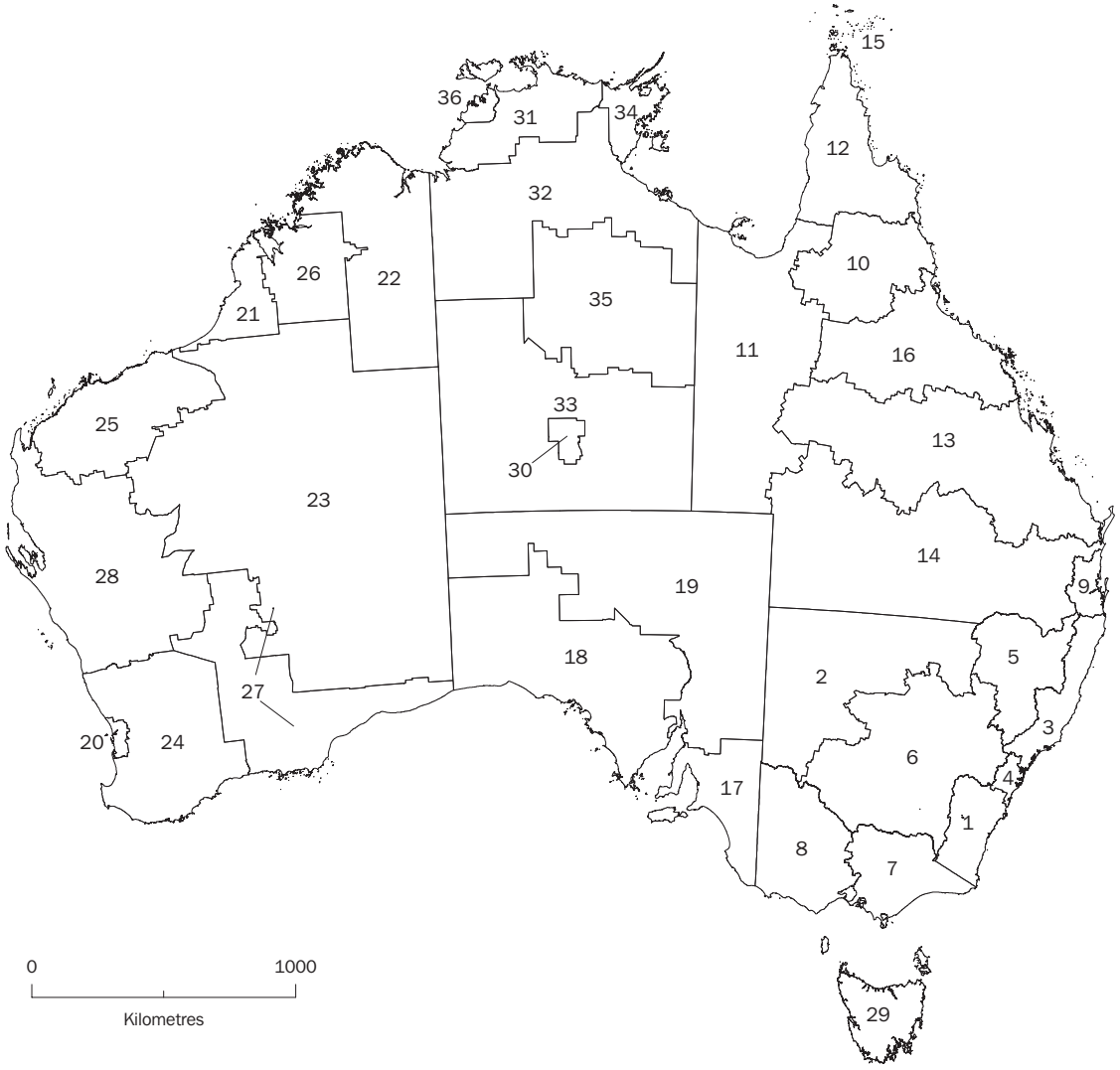
SLA—DERIVED ATSIC REGIONS

ATSIC Regions (AREG) are the administrative regions of the Aboriginal and Torres Strait Islander Commission, and are used by the ABS as a standard geographic area for output of Indigenous statistics. In most standard Census output, data for ATSIC Regions are based on place of enumeration. The ABS has created a concordance between 1996 Collection Districts (CDs) and AREGs for this purpose. Details of the CD-AREG concordance are found in *Australian Indigenous Geographical Classification* (ABS 1998d).

However, there are limitations to the data that can be produced for CD-derived AREGs. In particular, usual residence data are not available for CDs. Usual residence data were recorded in the census for Statistical Local Areas (SLAs) which are aggregates of CDs. As usual residence data for AREGs were required for this paper, a 1996 SLA-AREG concordance was created.

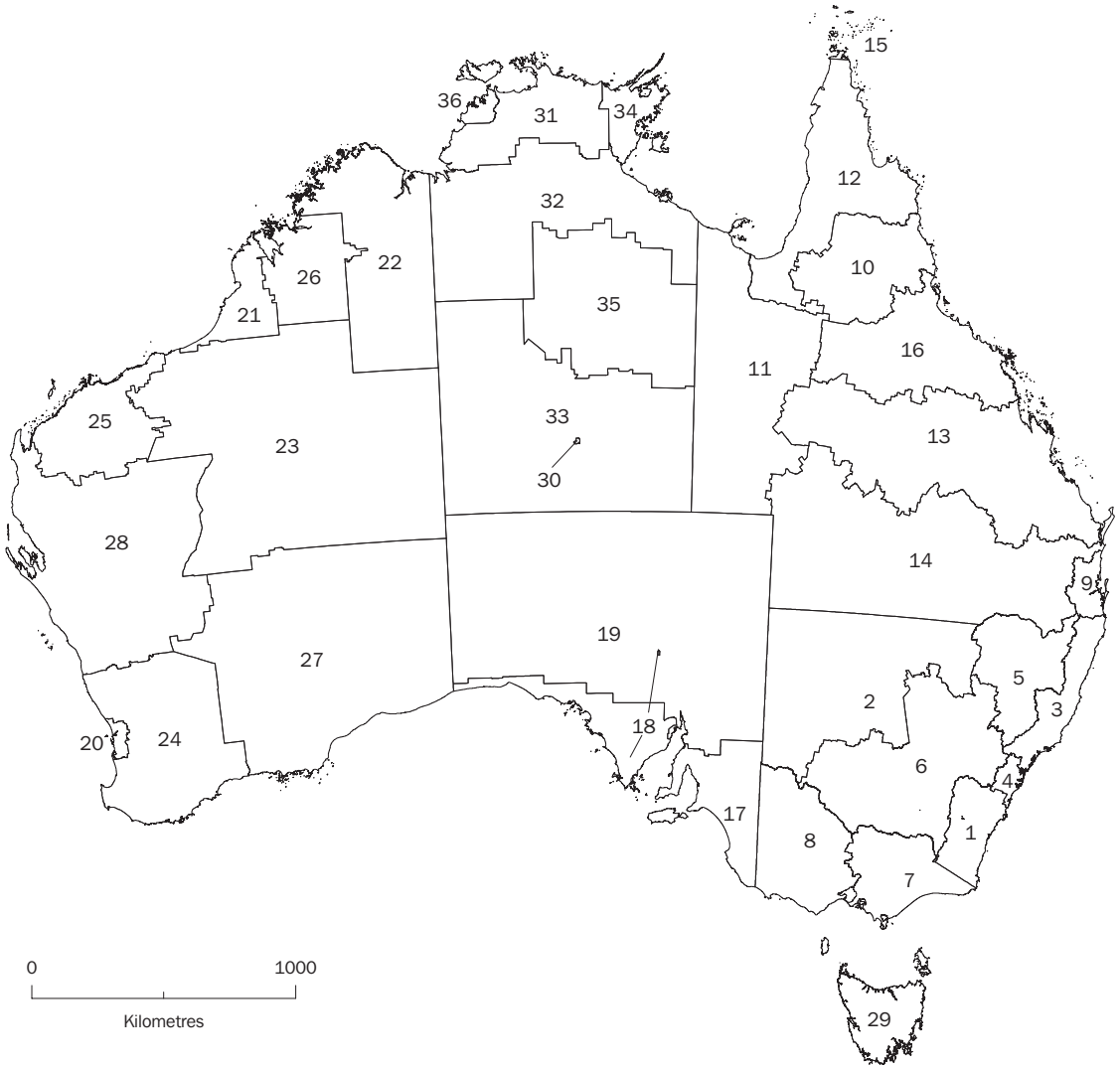
The concordance between AREGs and SLAs was based on obtaining the closest possible match to the ABS' CD-derived AREG. Thus SLAs were allocated to the CD-derived AREG in which the entire SLA was contained; or in the case where SLAs crossed CD-derived AREG boundaries, to the AREG which contained the majority of the SLA's Indigenous population. Each SLA was assigned to one and only one AREG. This classification of AREGs should be described as 'SLA-derived'. Although there were a number of SLAs which crossed CD-derived AREG boundaries, the advantage of SLA-derived AREGs is the ability to produce usual residence data and compare data to other SLA-based statistical collections. Comparative maps of CD-derived and SLA-derived AREGs are provided in figures T3 and T4; population counts are shown in table T6.

T3 CD-DERIVED ATSIC REGIONS, 1996



Note: See table T5 for region names.

T4 SLA-DERIVED ATSIC REGIONS, 1996



Note: See table T5 for region names.

T5 ATSIC REGION NAMES AND COUNCILS

AREG code	*AREG name*	*ATSIC Regional Council*
1	Queanbeyan	Queanbeyan
2	Bourke	Murdi Paaki
3	Coffs Harbour	Many Rivers
4	Sydney	Sydney
5	Tamworth	Kamilaroi
6	Wagga Wagga	Binaal Billa
7	Wangaratta	Binjirru
8	Ballarat	Tumbukka
9	Brisbane	South East Queensland Indigenous
10	Cairns	Cairns and District
11	Mount Isa	Gulf and West Queensland Indigenous
12	Cooktown	Peninsula
13	Rockhampton	Central Queensland
14	Roma	Goolburri
15	Torres Strait Area	Torres Strait Regional Authority
16	Townsville	Townsville
17	Adelaide	Patpa Warra Yunti
18	Ceduna	Wangka-Wilurrara
19	Port Augusta	Nulla Wimila Kutju
20	Perth	Perth Noongar
21	Broome	Kullarri
22	Kununurra	Wunan
23	Warburton	Western Desert
24	Narrogin	Kaata–Wangkinyiny
25	South Hedland	Ngarda–Ngarli–Yarndu
26	Derby	Malarabah
27	Kalgoorlie	Wongatha
28	Geraldton	Yamatji
29	Hobart	Tasmanian Regional Aboriginal
30	Alice Springs	Alice Springs
31	Jabiru	Jabiru
32	Katherine	Garrak-Jarru
33	Aputula	Papunya
34	Nhulunbuy	Miwatj
35	Tennant Creek	Yapakurlangu
36	Darwin	Yilli Rreung

T6 INDIGENOUS COUNTS, ATSIC REGIONS, 1996(a)

AREG code	AREG name	CD–derived no.	SLA–derived no.	Difference no.	Difference %(b)
1	Queanbeyan	9 123	9 123	0	0.00
2	Bourke	7 344	7 543	199	2.71
3	Coffs Harbour	25 058	25 058	0	0.00
4	Sydney	34 286	34 286	0	0.00
5	Tamworth	10 711	10 711	0	0.00
6	Wagga Wagga	18 047	17 848	–199	–1.10
7	Wangaratta	10 395	10 395	0	0.00
8	Ballarat	11 079	11 079	0	0.00
9	Brisbane	27 635	27 635	0	0.00
10	Cairns	14 712	15 017	305	2.07
11	Mount Isa	6 658	5 893	–765	–11.49
12	Cooktown	5 635	5 309	–326	–5.79
13	Rockhampton	11 332	11 332	0	0.00
14	Roma	8 804	8 804	0	0.00
15	Torres Strait Area	6 064	6 850	786	12.96
16	Townsville	14 678	14 678	0	0.00
17	Adelaide	12 689	12 689	0	0.00
18	Ceduna	1 867	1 820	–47	–2.52
19	Port Augusta	5 888	5 935	47	0.80
20	Perth	17 998	17 998	0	0.00
21	Broome	3 423	3 423	0	0.00
22	Kununurra	4 088	4 088	0	0.00
23	Warburton	2 688	2 956	268	9.97
24	Narrogin	6 204	6 204	0	0.00
25	South Hedland	4 298	3 733	–565	–13.15
26	Derby	3 958	3 958	0	0.00
27	Kalgoorlie	3 152	3 439	287	9.11
28	Geraldton	5 006	5 016	10	0.20
29	Hobart	13 873	13 873	0	0.00
30	Alice Springs	4 449	3 911	–538	–12.09
31	Jabiru	7 746	8 136	390	5.03
32	Katherine	7 122	6 732	–390	–5.48
33	Aputula	7 518	8 056	538	7.16
34	Nhulunbuy	7 001	7 001	0	0.00
35	Tennant Creek	3 449	3 449	0	0.00
36	Darwin	8 992	8 992	0	0.00
	Australia	**352 970**	**352 970**	**0**	**0.00**

(a) Place of enumeration. Excludes overseas visitors.
(b) Percentage of CD-derived AREG count.

Source: ABS 1997a, unpublished census data.

SLA—DERIVED ATSIC REGIONS *continued*

The special purpose SLA codes of undefined capital city, undefined rest of state, no usual address and offshore and migratory were generally allocated to capital city AREGs in each state (table T7).

T7 ALLOCATION OF UNDEFINED, NO USUAL ADDRESS & OFFSHORE & MIGRATORY SLA CODES(a)

	AREG code	*AREG name*
New South Wales	4	Sydney
Victoria	8	Ballarat
Queensland	9	Brisbane
South Australia	17	Adelaide
Western Australia	20	Perth
Tasmania	29	Hobart
Northern Territory	36	Darwin
Australian Capital Territory	1	Queanbeyan
Other Territories	20	Perth

(a) Allocation of these codes in each state to an AREG.

A concordance was also produced between 1991 SLAs and 1996 SLA-derived AREG boundaries. This enables comparison to be made between the 1991 and 1996 Censuses, using 1996 SLA-derived AREG boundaries. Persons who did not answer the usual residence question in 1991 were assigned to their SLA-derived AREG of enumeration. There were 2,760 Indigenous people in this group in 1991 (table T2).

All ATSIC Region tables in this paper are based on SLA-derived ATSIC Regions and, unless otherwise stated, are on a place of usual residence basis.

SECTION OF STATE

The ABS' section of state classification divides Australia into Major urban centres, Other urban centres, Bounded Localities and the Rural balance. In data presented in chapter 3, Major urban and Other urban have been combined, as have Bounded Localities and Rural balance to give a simple urban/rural split. Urban in this context describes a population cluster of 1,000 persons or more. 'Offshore and migratory' has been included with rural.

The delineation of urban centres is revised after each census. Therefore, some urban areas will have passed from 'rural' to 'urban' over time as their population has grown. Thus it is possible for a person to be classified as rural one census and urban the next without having moved. To account for some of this movement a second series of data is used based on capital city Statistical Divisions (SDs) and the remainder of each state. Capital city SDs have had relatively stable boundaries in the 1966–96 period.

EARLY AND LATE EUROPEAN SETTLEMENT AREAS

The classification of Australia into early and late European settlement areas is based on the extent of European settlement at around 1860. The delineation of these two regions is based on maps appearing in works by Powell (1988), Roberts (1968), Taylor (1959) and the Division of National Mapping (1980). The focus of this geographic division is not first contact but continual interaction between Indigenous and non-Indigenous people. For this reason, routes of the early explorers are excluded from the early settlement category. Broadly, early settlement areas are in the east and southeast, in the southwest corner and a small area around Townsville.

The classification was based on SLAs in order that usual residence data could be produced. The special purpose SLAs (undefined capital city, undefined rest of state, no usual address and offshore and migratory) have been excluded from this classification.

The classification was produced for all censuses from 1981 to 1996. There were minor variations in boundaries between these censuses. Persons who were coded as 'not stated' for SLA of usual residence in 1981 and 1991 were allocated to either early or late settlement areas based on their place of enumeration. Details of the classification for early settlement areas for 1996 Census geography are shown in table T7. All other areas were classified as late settlement.

T8 EARLY EUROPEAN SETTLEMENT AREAS, 1996(a)

Area code	*Area name*
	New South Wales
Statistical divisions	
105	Sydney
110	Hunter
115	Illawarra
120	Richmond-Tweed
125	Mid-North Coast
130	Northern (NSW)
140	Central West (NSW)
145	South Eastern (NSW)
150	Murrumbidgee
155	Murray
Statistical subdivisions	
13505	Central Macquarie
13510	Macquarie-Barwon
Statistical local area	
11750	Cobar (A)
	Victoria
State/Territory	
2	Victoria
	Queensland
Statistical divisions	
305	Brisbane
310	Moreton
315	Wide Bay-Burnett
320	Darling Downs
Statistical local areas	
30350	Banana (S)
30650	Bendemere (S)
32101	Calliope (S)—Pt A
32104	Calliope (S)—Pt B
33154	Fitzroy (S)—Pt B
33350	Gladstone (C)
34550	Livingstone (S)
35350	Mount Morgan (S)
36350	Rockhampton (C)
33151	Fitzroy (S)—Pt A
31900	Burdekin (S)
33800	Hinchinbrook (S)
36804	Kirwan
36807	Thuringowa (C)—Pt A Bal
36831	Thuringowa (C)—Pt B
37001	Aitkenvale
37003	City (Townsville)
37007	Cranbrook
37012	Currajong
37014	Douglas
37015	Garbutt
37018	Gulliver
37023	Heatley
37026	Hermit Park
37027	Hyde Park-Mysterton
37033	Mt Louisa-Mt St John-Bohle
37034	Mundingburra
37038	Murray
37041	North Ward-Castle Hill
37044	Oonoonba-Idalia-Cluden

For footnote see end of table. ...continued

T8 EARLY EUROPEAN SETTLEMENT AREAS, 1996(a)—*continued*

Area code	*Area name*
	Queensland—(continued)
Statistical local areas—(continued)	
37047	Pallarenda-Shelley Beach
37051	Pimlico
37054	Railway Estate
37058	Rosslea
37062	Rowes Bay-Belgian Gardens
37065	South Townsville
37068	Stuart-Roseneath
37071	Vincent
37074	West End (Townsville)
37078	Wulguru
37084	Townsville (C)—Pt B
36801	Kelso
	South Australia
Statistical divisions	
405	Adelaide
410	Outer Adelaide
415	Yorke and Lower North
420	Murray Lands
425	South East
Statistical local areas	
40980	Carrieton (DC)
41190	Cleve (DC)
41480	Crystal Brook-Redhill (DC)
41960	Franklin Harbor (DC)
42380	Hallett (DC)
42520	Hawker (DC)
42740	Jamestown (DC)
42940	Kanyaka-Quorn (DC)
43710	Lower Eyre Peninsula (DC)
44830	Mount Remarkable (DC)
45390	Orroroo (DC)
45740	Peterborough (M)
45810	Peterborough (DC)
45950	Pirie (DC)
46090	Port Augusta (C)
46300	Port Lincoln (C)
46440	Port Pirie (C)
46950	Rocky River (DC)
47910	Tumby Bay (DC)
48540	Whyalla (C)

For footnote see end of table. ...*continued*

T8 EARLY EUROPEAN SETTLEMENT AREAS, 1996(a)—*continued*

Area code	*Area name*
	Western Australia
Statistical divisions	
505	Perth
510	South West (WA)
515	Lower Great Southern
520	Upper Great Southern
Statistical subdivisions	
52505	Moore
52510	Avon
53515	Greenough River
Statistical local areas	
51120	Bruce Rock (S)
51540	Carnarvon (S)
53360	Exmouth (S)
54410	Kellerberrin (S)
55460	Merredin (S)
55880	Mount Marshall (S)
55950	Mukinbudin (S)
56160	Murchison (S)
56370	Narembeen (S)
56860	Nungarin (S)
57420	Ravensthorpe (S)
57770	Shark Bay (S)
58400	Trayning (S)
59590	Yalgoo (S)
	Tasmania
State/Territory	
6	Tasmania
	Australian Capital Territory
State/Territory	
8	Australian Capital Territory
	Jervis Bay Territory
Statistical local area	
91009	Jervis Bay Territory

(a) All other areas are classified as late settlement.

AGE IMPUTATION

If no response was given to the age question, an age for the respondent was imputed in all censuses from 1981 to 1996. Age was assigned on the basis of the age distribution of those who did state their age. In 1996, separate distributions were applied for the Indigenous and non-Indigenous populations, males and females, states and territories, and dwelling type (private and non-private dwellings). Age may also have been imputed in circumstances where the stated ages would lead to inconsistent family relationships, for example a 17 year old parent with a 30 year old child.

The rate of age imputation for Indigenous people over the last four Censuses has varied between 1.7% and 3.1%. Table T9 shows the difference in median age for those who stated an age and those whose age was imputed. For all censuses from 1981 to 1996, there was a significant difference in the median age of those whose ages were stated and those whose ages were imputed. However, as the number of Indigenous persons whose age was imputed was very small, there was no difference between the median age for age-stated Indigenous persons and total Indigenous persons for the 1981–91 Censuses. There was a difference of one year for the 1996 Census. In the analyses of age structure presented in chapter 3, persons for whom age was imputed have been excluded.

T9 AGE IMPUTATION, INDIGENOUS PERSONS, 1981–96(a)

	no.	*%*	*Median age*
1981			
Age stated	154 905	96.91	17
Age imputed	4 944	3.09	26
Total	*159 849*	*100.00*	*17*
1986			
Age stated	220 672	96.96	18
Age imputed	6 921	3.04	25
Total	*227 593*	*100.00*	*18*
1991			
Age stated	260 824	98.29	19
Age imputed	4 547	1.71	12
Total	*265 371*	*100.00*	*19*
1996			
Age stated	344 103	97.49	19
Age imputed	8 867	2.51	24
Total	*352 970*	*100.00*	*20*

(a) Excludes overseas visitors.

Source: ABS unpublished census data.

LIST OF REFERENCES

ABS Australian Bureau of Statistics
ALRC Australian Law Reform Commission
CAEPR Centre for Aboriginal Economic Policy Research
CBCS Commonwealth Bureau of Census and Statistics
DAA Department of Aboriginal Affairs
HREOC Human Rights and Equal Opportunity Commission

Attwood, Bain and Markus, Andrew 1997, *The 1967 referendum, or when Aborigines didn't get the vote,* In collaboration with Dale Edwards and Kath Schilling, Aboriginal Studies Press, Canberra.

Australian Bureau of Statistics 1979a, *Preliminary views on the nature and content of the census,* ABS, Canberra.

Australian Bureau of Statistics 1979b, *Topic evaluation and proposed questions: 1981 Census of Population and Housing,* ABS, Canberra.

Australian Bureau of Statistics 1979c, *1976 Census: Population and Dwellings, Summary Tables*, Cat. no. 2417.0, ABS, Canberra.

Australian Bureau of Statistics 1979d, *1976 Population Census Information Paper: Racial Origin,* Cat. no. 2124.0, ABS, Canberra.

Australian Bureau of Statistics 1982a, *Census of Population and Housing: Counts of Aboriginals and Torres Strait Islanders, Australia, States and Territories 30 June 1971, 1976, 1981,* Cat. no. 2164.0, ABS, Canberra.

Australian Bureau of Statistics 1982b, *Census 81—Aboriginals and Torres Strait Islanders,* Cat. no. 2153.0, ABS, Canberra.

Australian Bureau of Statistics 1983, *Census of Population and Housing, 30 June 1981: Summary Characteristics of Persons and Dwellings, Australia,* Cat. no. 2443.0, ABS, Canberra.

Australian Bureau of Statistics 1986, *The 1986 Census Dictionary,* Cat. no. 2174.0, ABS, Canberra.

Australian Bureau of Statistics 1989, *Census 86: Data Quality—Aboriginal and Torres Strait Islander Counts,* Cat. no. 2602.0, ABS, Canberra.

Australian Bureau of Statistics 1992, *Census of Population and Housing Forms, 1911 to 1991,* Cat. no. 2911.0, ABS, Canberra.

Australian Bureau of Statistics 1994, *Experimental Estimates of the Aboriginal and Torres Strait Islander Population, June 1986 to June 1991,* Cat. no. 3230.0, ABS, Canberra.

LIST OF REFERENCES
continued

Australian Bureau of Statistics 1996a, *Census Dictionary, 1996,* Cat. no. 2901.0, ABS, Canberra.

Australian Bureau of Statistics 1996b, *Experimental Projections of the Aboriginal and Torres Strait Islander Population, June 1991 to June 2001,* Cat. no. 3231.0, ABS, Canberra.

Australian Bureau of Statistics 1996c, *Statistical Geography Volume 1: Australian Standard Geographical Classification (ASGC)*, Cat. no. 1216.0, ABS, Canberra.

Australian Bureau of Statistics 1997a, *Population Distribution, Indigenous Australians,* Cat. no. 4705.0, ABS, Canberra.

Australian Bureau of Statistics 1997b, *Information Paper: Census of Population and Housing: Data Quality—Undercount, 1996,* Cat. no. 2940.0, ABS, Canberra.

Australian Bureau of Statistics 1998a, *Information Paper: 2001 Census of Population and Housing, ABS Views on Content and Procedures,* Cat. no. 2007.0, ABS, Canberra.

Australian Bureau of Statistics 1998b, *Experimental Projections of the Aboriginal and Torres Strait Islander Population, June 1996 to June 2006,* Cat. no. 3231.0, ABS, Canberra.

Australian Bureau of Statistics 1998c, *Experimental Estimates of the Aboriginal and Torres Strait Islander Population, 30 June 1991–30 June 1996,* Cat. no. 3230.0, ABS, Canberra.

Australian Bureau of Statistics 1998d, *Australian Indigenous Geographical Classification,* Cat. no. 4706.0.30.001, ABS, Canberra.

Australian Law Reform Commission 1986, *The recognition of Aboriginal customary laws,* vol. 1, ALRC 31, AGPS, Canberra.

Choi, C.Y. and Gray, A. 1985, *An evaluation of census counts of the Aboriginal population, 1971, 1976 and 1981 Censuses,* ABS Occasional paper 1985/2, ABS, Canberra.

Commonwealth Bureau of Census and Statistics 1969, *The Aboriginal Population of Australia: Summary of Characteristics, 30 June 1966,* CBCS Ref. No.2.23, CBCS, Canberra.

Commonwealth Bureau of Census and Statistics 1973a, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, New South Wales,* Bulletin 6, CBCS Ref. no. 2.88.1, CBCS, Canberra.

Commonwealth Bureau of Census and Statistics 1973b, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, Victoria,* Bulletin 6, CBCS Ref. no. 2.88.2, CBCS, Canberra.

LIST OF REFERENCES
continued

Commonwealth Bureau of Census and Statistics 1973c, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, Queensland,* Bulletin 6, CBCS Ref. no. 2.88.3, CBCS, Canberra.

Commonwealth Bureau of Census and Statistics 1973d, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, South Australia,* Bulletin 6, CBCS Ref. no. 2.88.4, CBCS, Canberra.

Commonwealth Bureau of Census and Statistics 1973e, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, Western Australia,* Bulletin 6, CBCS Ref. no. 2.88.5, CBCS, Canberra.

Commonwealth Bureau of Census and Statistics 1973f, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, Tasmania,* Bulletin 6, CBCS Ref. no. 2.88.6, CBCS, Canberra.

Commonwealth Bureau of Census and Statistics 1973g, *Census 71: Population and Dwellings in Local Government Areas and Urban Centres, Part 1, Northern Territory and Australian Capital Territory,* Bulletin 6, CBCS Ref. nos 2.88.7 and 2.88.8, CBCS, Canberra.

Department of Aboriginal Affairs 1981, *Report on a review of the administration of the working definition of Aboriginal and Torres Strait Islander,* Constitutional Section, DAA, Canberra.

Division of National Mapping 1980, *Atlas of Australian resources,* Division of National Mapping, Canberra.

Dodson, Michael 1994, *The Wentworth Lecture: The end in the beginning: re(de)finding Aboriginality,* Australian Aboriginal Studies, 1994, no. 1, pp2–13.

Eschbach, Karl 1995, *The enduring and vanishing American Indian: American Indian population growth and intermarriage in 1990,* Ethnic and Racial Studies, vol. 18, no. 1, Jan 1995.

Gray, A. 1997, *The explosion of aboriginality: components of indigenous population growth 1991–96,* CAEPR Discussion Paper 142/1997, CAEPR, Canberra.

Gray, A.& Tesfaghiorghis, H. 1993, *Aboriginal Population Prospects,* Journal of the Australian Population Association, vol 10, no. 2, pp. 81–99

Harris, David, 1994, *The 1990 Census Count of American Indians: What Do the Numbers Really Mean?,* Social Science Quarterly, vol. 75, no. 3, pp. 580–93

LIST OF REFERENCES
continued

Hout, Michael & Goldstein, Joshua R. 1994, *How 4.5 million Irish immigrants became 40 million Irish Americans: Demographic and subjective aspects of the ethnic composition of white Americans,* American Sociological Review, vol. 59, pp. 64–82.

Human Rights and Equal Opportunities Commission 1992, *A Call for Recognition,* HREOC, Canberra.

Nagel, Joane 1995, *American Indian ethnic renewal: Politics and the resurgence of identity,* American Sociological Review, vol. 60, pp. 947–965.

Nettheim, Garth 1993, *The Laws of Australia,* Volume 1, Law Book Company, Sydney.

Passell, Jeffrey S. & Berman, Patricia A. 1986, *Quality of 1980 Census Data for American Indians,* Social Biology, vol. 33, no. 3–4, pp. 163–82.

Pool, Ian 1991, *Te Iwi Maori: A New Zealand population past, present and projected,* Auckland University Press, Auckland.

Powell, J.M. 1988, *An historical geography of modern Australia: The restive fringe,* Cambridge University Press, Cambridge.

Roberts, Stephen H. 1968, *History of Australian Land Settlement, 1788–1920,* Johnson Reprint Corporation/Macmillan, New York, first edition 1924.

Smith, Len 1980, *The Aboriginal Population of Australia,* Australian National University Press, Canberra.

Taylor, Griffith 1959, *Australia: A study of warm environments and their effect on British settlement,* 7th ed. Methuen & Co, London.

Waters, Mary 1996, *The social construction of race and ethnicity: Some examples from demography,* Paper presented at American Diversity: A demographic challenge for the twenty first century, Center for Social and Demographic Analysis Conference, SUNY, Albany, NY, April 15–16, 1994, Revised May 1996.

Legislation

The Constitution

Legal Authorities

Commonwealth v Tasmania (1983) 158 CLR 1

Gibbs v Capewell (1995) 128 ALR 577

Shaw v Wolf, unreported, Federal Court of Australia, Melbourne, 20 April 1998