

2.11 Dependency ratio

The dependency ratio is expressed as a percentage derived as follows:

$$\frac{\text{Percentage of population aged under 15 years} + \text{percentage of population aged 65 years and over}}{\text{Percentage of population aged 15-64 years}}$$

It is used as a substitute for the ratio between those who are not economically active (and therefore dependent) and those who are economically active.

The youth and aged dependency ratios can be calculated separately if required:

Youth dependency ratio

$$\frac{\text{Percentage of population aged under 15 years}}{\text{Percentage of population aged 15-64 years}}$$

Aged dependency ratio

$$\frac{\text{Percentage of population aged 65 years and over}}{\text{Percentage of population aged 15-64 years}}$$

Data sources

Census of Population and Housing

The Australian Bureau of Statistics (ABS) conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

Although the Census data are adjusted for under-count at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

The time series data presented for this measure come from the ABS Indigenous-specific 'Series B' population estimates and projections based on the 2006 Census of Population and Housing. The Census year estimate of the Indigenous population is used as the basis for revising Indigenous population figures for previous years. This adjustment removes the effects of unexplained growth between censuses from Indigenous time series, and presents growth in terms of demographic factors alone (following the development of the 2001 Indigenous population estimates, the size and structure of the Indigenous population for 1986 to 2005 were recalculated based on the 2006 estimates).

Because Indigenous population estimates by remoteness region are available only for the Census years 2001 and 2006, data by remoteness are presented for these years only.

Data analyses

Age distribution of population

- In 2010 for the total Australian population, 19% of people were aged under 15 years, 67% were aged 15–64 years and 14% were aged 65 years and over.
- The Indigenous population has a younger age structure than the non-Indigenous population, which is shown in the population pyramid in Figure 2.11.1. In 2010, 35% of Indigenous people were aged under 15 years compared with 19% of non-Indigenous people. People aged 65 years and over made up 3% of the Indigenous population and 14% of the non-Indigenous population. These figures reflect higher rates of fertility and deaths occurring at younger ages among the Indigenous population.

The age structures of the Indigenous and non-Indigenous populations are similar across most states and territories (Table 2.11.2).

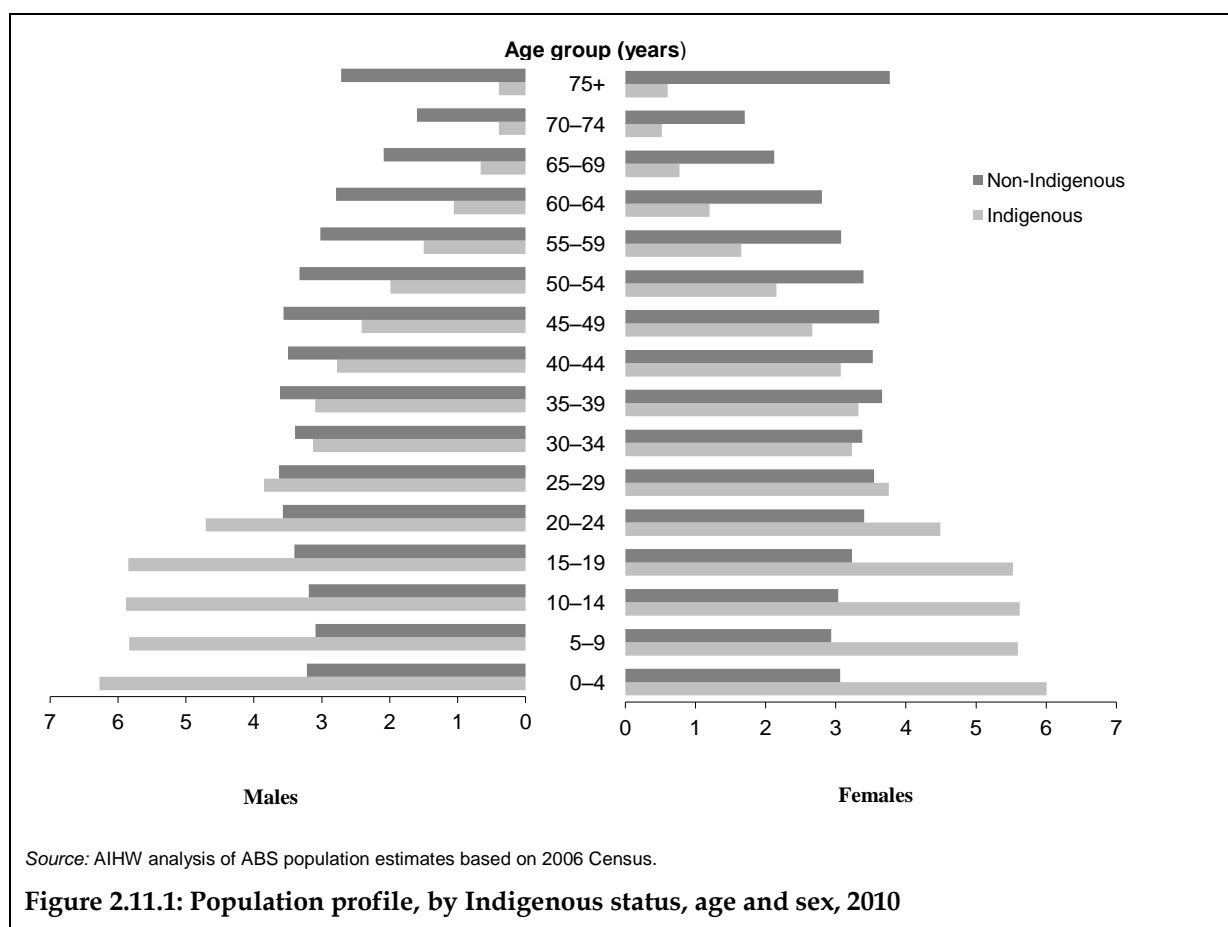


Table 2.11.1: Age distribution of Australian population, by Indigenous status and sex, 2010

	Indigenous		Non-Indigenous	
	Male	Female	Male	Female
	Per cent			
0-4	6.3	6.0	3.2	3.1
5-9	5.8	5.6	3.1	2.9
10-14	5.9	5.6	3.2	3.0
15-19	5.9	5.5	3.4	3.2
20-24	4.7	4.5	3.6	3.4
25-29	3.8	3.8	3.6	3.5
30-34	3.1	3.2	3.4	3.4
35-39	3.1	3.3	3.6	3.7
40-44	2.8	3.1	3.5	3.5
45-49	2.4	2.7	3.6	3.6
50-54	2.0	2.2	3.3	3.4
55-59	1.5	1.7	3.0	3.1
60-64	1.1	1.2	2.8	2.8
65-69	0.7	0.8	2.1	2.1
70-74	0.4	0.5	1.6	1.7
75+	0.4	0.6	2.7	3.8
Total	49.8	50.2	49.7	50.3

Source: AIHW analysis of ABS population estimates based on 2006 Census.

Table 2.11.2: Age distribution of population, by age group, state/territory and Indigenous status, 2010

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia ^(a)	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	Per cent																	
0–4	12.7	6.1	11.9	6.3	12.8	6.5	11.6	6.4	11.6	5.8	12.3	6.4	12.3	6.4	11.4	7.1	12.3	6.3
5–9	11.3	6.0	11.2	5.9	11.9	6.3	11.1	6.1	11.2	5.6	10.3	5.9	10.6	5.8	11.5	6.1	11.4	6.0
10–14	11.7	6.2	11.3	6.1	11.8	6.5	11.5	6.4	11.7	6.0	11.2	6.3	11.0	5.9	10.5	5.9	11.5	6.2
15–19	11.7	6.5	11.8	6.6	11.5	6.8	10.9	6.7	11.6	6.5	12.1	6.6	11.6	6.9	10.3	6.0	11.4	6.6
20–24	9.0	6.9	9.5	7.2	8.9	6.9	9.4	7.1	9.7	6.7	9.9	6.0	10.0	8.5	9.6	7.6	9.2	7.0
25–29	7.2	7.2	7.6	7.3	7.4	7.1	8.0	7.1	7.8	6.7	7.5	5.8	8.7	8.6	8.5	9.1	7.6	7.2
30–34	5.8	6.9	5.9	6.9	6.3	6.7	6.9	6.8	6.3	6.2	5.6	5.6	6.6	7.5	7.6	8.4	6.4	6.8
35–39	6.1	7.3	6.2	7.4	6.5	7.3	6.6	7.4	6.4	6.8	5.7	6.5	7.1	7.6	7.1	8.6	6.4	7.3
40–44	5.7	6.8	5.8	7.1	5.8	7.1	6.1	7.3	5.8	7.0	5.7	6.6	5.9	7.1	6.3	7.9	5.8	7.0
45–49	5.2	7.1	5.0	7.1	4.9	7.2	5.2	7.4	5.1	7.2	5.4	7.3	5.0	7.2	4.9	8.0	5.1	7.2
50–54	4.3	6.7	4.2	6.6	3.9	6.7	4.3	6.9	4.1	7.0	4.6	7.3	4.2	6.6	4.1	7.4	4.1	6.7
55–59	3.3	6.1	3.3	5.9	3.0	6.1	3.1	6.2	3.0	6.5	3.5	6.9	3.4	5.9	3.0	6.4	3.2	6.1
60–64	2.5	5.6	2.4	5.4	2.1	5.7	2.2	5.5	2.1	6.0	2.6	6.5	1.6	5.2	2.1	5.0	2.3	5.6
65–69	1.6	4.3	1.7	4.1	1.3	4.2	1.4	4.0	1.4	4.5	n.p.	n.p.	n.p.	n.p.	1.3	3.1	1.4	4.2
70–74	1.1	3.4	1.0	3.3	0.8	3.1	0.9	3.1	1.0	3.7	n.p.	n.p.	n.p.	n.p.	0.8	1.7	0.9	3.3
75+	1.1	6.9	1.3	6.6	0.9	5.8	0.9	5.7	1.1	7.8	n.p.	n.p.	n.p.	n.p.	0.9	1.8	1.0	6.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Other Territories comprising Jervis Bay Territory, Christmas Island and the Cocos (Keeling) Islands.

Note: Percentages in tables may not add to 100 due to rounding.

Source: AIHW analysis of ABS population estimates based on 2006 Census.

Dependency ratios

The dependency ratio is the percentage of the population aged under 15 years and aged 65 years and over divided by the percentage of the population aged 15–64 years. The proportion of children is the main influence on the dependency ratio for the Indigenous population, whereas the proportion of older people influences the dependency ratio much more strongly for the non-Indigenous population. Therefore, it is necessary to look at the youth dependency ratio (percentage of the population aged under 15 years divided by the percentage of the population aged 15–64 years) and the aged dependency ratio (percentage of the population aged 65 years and over divided by the percentage of the population aged 15–64 years) separately for the Indigenous and non-Indigenous populations.

- In 1996, 2001, and 2006, the youth dependency ratio was higher for Indigenous Australians than for non-Indigenous Australians, whereas the aged dependency ratio was lower for Indigenous Australians than for non-Indigenous Australians (Table 2.11.3).
- In 2006, the youth dependency ratio for Indigenous people ranged from 0.56 in the Northern Territory to 0.67 in Queensland, and the aged dependency ratio for Indigenous people was 0.02 in the Australian Capital Territory and between 0.05 and 0.07 in all other states and territories (Table 2.11.3).
- In 2006, the youth dependency ratio for Indigenous people was lowest in *Remote* and *Very remote* areas (0.60 and 0.56) and highest in *Inner* and *Outer regional* areas (0.70 and 0.66). In contrast, the aged dependency ratio was similar across all remoteness categories (between 0.05 and 0.06) (Table 2.11.4).
- For non-Indigenous Australians, the youth dependency ratio in 2006 was similar across all remoteness categories (0.3). The aged dependency ratio for non-Indigenous Australians was lowest in *Remote* and *Very remote* areas (between 0.11 and 0.15), and highest in *Inner* and *Outer regional* areas (0.24 and 0.21) (Table 2.11.4).

Table 2.11.3: Total, youth and aged dependency ratios, by state/territory and Indigenous status, 1996, 2001 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia^(a)
					1996				
Indigenous									
Dependency ratio	0.77	0.75	0.77	0.75	0.75	0.82	0.71	0.68	0.75
Youth dependency ratio	0.72	0.69	0.71	0.70	0.69	0.77	0.70	0.63	0.70
Aged dependency ratio	0.05	0.06	0.05	0.06	0.05	0.05	0.01	0.05	0.05
Non-Indigenous									
Dependency ratio	0.50	0.50	0.49	0.48	0.52	0.53	0.41	0.36	0.50
Youth dependency ratio	0.31	0.31	0.32	0.32	0.30	0.33	0.31	0.31	0.31
Aged dependency ratio	0.19	0.19	0.17	0.16	0.22	0.20	0.10	0.05	0.18
					2001				
Indigenous									
Dependency ratio	0.75	0.72	0.74	0.72	0.75	0.73	0.64	0.63	0.72
Youth dependency ratio	0.69	0.66	0.69	0.67	0.69	0.68	0.63	0.58	0.67
Aged dependency ratio	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.05
Non-Indigenous									
Dependency ratio	0.50	0.49	0.48	0.47	0.52	0.53	0.41	0.35	0.49
Youth dependency ratio	0.30	0.30	0.31	0.30	0.30	0.31	0.28	0.30	0.30
Aged dependency ratio	0.20	0.19	0.18	0.17	0.22	0.22	0.12	0.06	0.19

(continued)

Table 2.11.3 (continued): Total, youth and aged dependency ratios, by state/territory and Indigenous status, 1996, 2001 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
	2006								
Indigenous									
Dependency ratio	0.71	0.68	0.71	0.65	0.66	0.66	0.59	0.60	0.68
Youth dependency ratio	0.65	0.61	0.67	0.60	0.60	0.60	0.57	0.56	0.63
Aged dependency ratio	0.06	0.07	0.05	0.05	0.06	0.06	0.02	0.05	0.05
Non-Indigenous									
Dependency ratio	0.49	0.48	0.47	0.46	0.50	0.52	0.39	0.34	0.48
Youth dependency ratio	0.28	0.28	0.29	0.28	0.27	0.29	0.26	0.26	0.28
Aged dependency ratio	0.20	0.20	0.18	0.18	0.23	0.23	0.13	0.07	0.20

(a) Includes Other Territories comprising Jervis Bay Territory, Christmas Island and the Cocos (Keeling) Islands.

Source: AIHW analysis of ABS population estimates based on 2006 Census.

Table 2.11.4: Total, youth and aged dependency ratios, by remoteness and Indigenous status, 2001 and 2006

	Major cities	Inner regional	Outer regional	Remote	Very remote
2001					
Indigenous					
Dependency ratio	0.70	0.79	0.75	0.69	0.66
Youth dependency ratio	0.65	0.75	0.70	0.63	0.60
Aged dependency ratio	0.04	0.05	0.05	0.06	0.06
Non-Indigenous					
Dependency ratio	0.47	0.56	0.53	0.47	0.39
Youth dependency ratio	0.28	0.33	0.33	0.34	0.29
Aged dependency ratio	0.18	0.22	0.20	0.14	0.10
2006					
Indigenous					
Dependency ratio	0.66	0.75	0.72	0.65	0.62
Youth dependency ratio	0.62	0.70	0.66	0.60	0.56
Aged dependency ratio	0.05	0.05	0.05	0.05	0.06
Non-Indigenous					
Dependency ratio	0.46	0.55	0.52	0.45	0.37
Youth dependency ratio	0.27	0.31	0.31	0.30	0.26
Aged dependency ratio	0.18	0.24	0.21	0.15	0.11

Source: AIHW analysis of ABS population estimates based on the 2006 Census.

Time series analyses

Table 2.11.5 and Figure 2.11.2 present the youth and aged dependency ratios for Indigenous and non-Indigenous Australians over the period 2006–2010.

- Over the period 2006–2010, there was a significant decline in the youth dependency ratio for both Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly decline in the ratio of around 0.02 for Indigenous Australians (equivalent to a 10% decline over the period) and 0.002 for non-Indigenous Australians (equivalent to a 3% decline over the period).
- Over the same period, there was a significant increase in the aged dependency ratio for both Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly increase of around 0.001 for Indigenous Australians (equivalent to a 5% increase over the period) and 0.003 for non-Indigenous Australians (equivalent to a 6% increase over the period).

Table 2.11.5: Youth dependency ratio and aged dependency ratio, by Indigenous status, 2006–2010

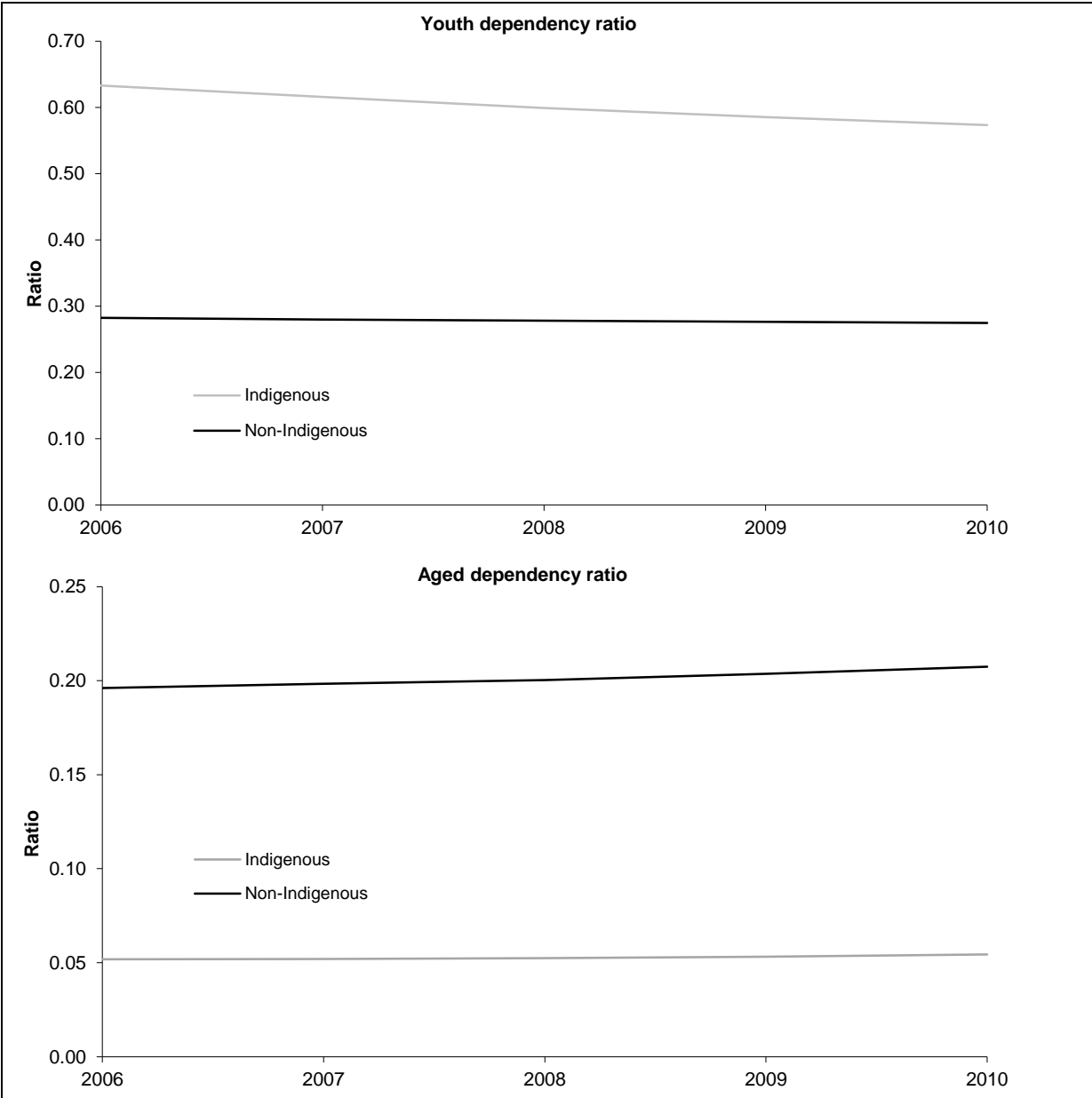
Ratio	2006	2007	2008	2009	2010	Annual change ^(a)	Per cent change ^(b)
Indigenous							
Youth dependency	0.63	0.62	0.60	0.59	0.57	–0.015*	–9.5*
Aged dependency	0.05	0.05	0.05	0.05	0.05	0.001*	4.7*
Non-Indigenous							
Youth dependency	0.28	0.28	0.28	0.28	0.27	–0.002*	–2.7*
Aged dependency	0.20	0.20	0.20	0.20	0.21	0.003*	5.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2006–2010.

(a) Average annual change in ratios determined using linear regression analysis.

(b) Per cent change between 2006 and 2010 based on the average annual change.

Source: AIHW analysis of ABS population estimates and projections based on the 2006 Census.



Source: AIHW analysis of ABS population estimates and projections based on the 2006 Census.

Figure 2.11.2: Youth dependency rate and aged dependency rate, by Indigenous status, 2006–2010

Data quality issues

Census of Population and Housing

The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplainable growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are undercounted (ABS 1996).

For the 2002 National Aboriginal and Torres Strait Islander Social Survey, it was estimated that there were 165,700 Indigenous households compared with 144,700 enumerated in the 2001 Census. Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

ABS population estimates

The ABS refers to Indigenous population estimates and projections as 'experimental' because of concerns about the quality of the data on which they are based, particularly the quality of the Indigenous status identification in the Census and in birth and death records (ABS 2004).

The ABS's policy of backcasting data from successive censuses retrospectively takes into account changes in the level of Indigenous identification, as occurred between the 1991 and 1996, 1996 and 2001 and the 2001 and 2006 censuses.

List of symbols used in tables

- n.a. not available
- rounded to zero (including null cells)
- 0 zero
- .. not applicable
- n.e.c. not elsewhere classified
- n.f.d. not further defined
- n.p. not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 1996. Occasional paper. Population issues: Indigenous Australians. ABS cat. no. 4708.0. Canberra: ABS.

ABS 2004. Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians, 1991 to 2009. ABS cat. no. 3238.0. Canberra: ABS.

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