

# 2 Determinants of health

## 2.1 Environmental factors

### 2.1.1 Fluoridated water

#### Summary of findings

Available data indicate that the percentage of localities with reticulated water supplies that are adequately fluoridated declines with remoteness. Over 80% of localities in Major Cities had reticulated water supplies that were adequately fluoridated, compared with 30–40% of those in regional and Remote areas, and 25% of those in Very Remote areas.

Because the data set is an aggregation of data that has been collected over a period of a decade or more, the findings are likely to be indicative, rather than highly accurate.

#### Background

Fluoride augmentation of domestic water supplies reduces the risk of dental caries in children and in later life. Opportunity for public health gain exists in any area where reticulated water supplies do not contain adequate fluoride.

This indicator describes the fluoride concentration of reticulated water supplies only; it reports nothing about private water supplies. Some water (e.g. some bore water) is naturally fluoridated, whereas tank (collected rain) water contains very little fluoride.

The data set does not provide information about the percentage of water supplies that have adequate fluoride; it simply provides information about whether the fluoride in reticulated water supplies in any particular postcode is equal to or greater than the NHMRC target for adequate fluoride augmentation (NHMRC 1991). This target fluoride concentration is lower in warm climates and higher in colder climates where people are likely to drink more and less water, respectively. A desirable fluoride concentration is typically in the range of 0.6 to 1.1 parts per million.

The data set is national, with data for the various areas updated from time to time. Some data within this data set may be up to a decade old.

Data is sourced from the Fluoridated Water database, held by the Australian Research Centre for Population Oral Health, Adelaide.

#### Detailed results

The latest data available from the Fluoridated Water database show that approximately 49% of localities had reticulated water supplies with adequate fluoride augmentation. Reticulated water supplies of localities in Inner Regional, Outer Regional and Remote areas were less than half as likely to be adequately fluoridated as those in Major Cities. Reticulated water supplies of localities in Very Remote areas were one-quarter as likely.

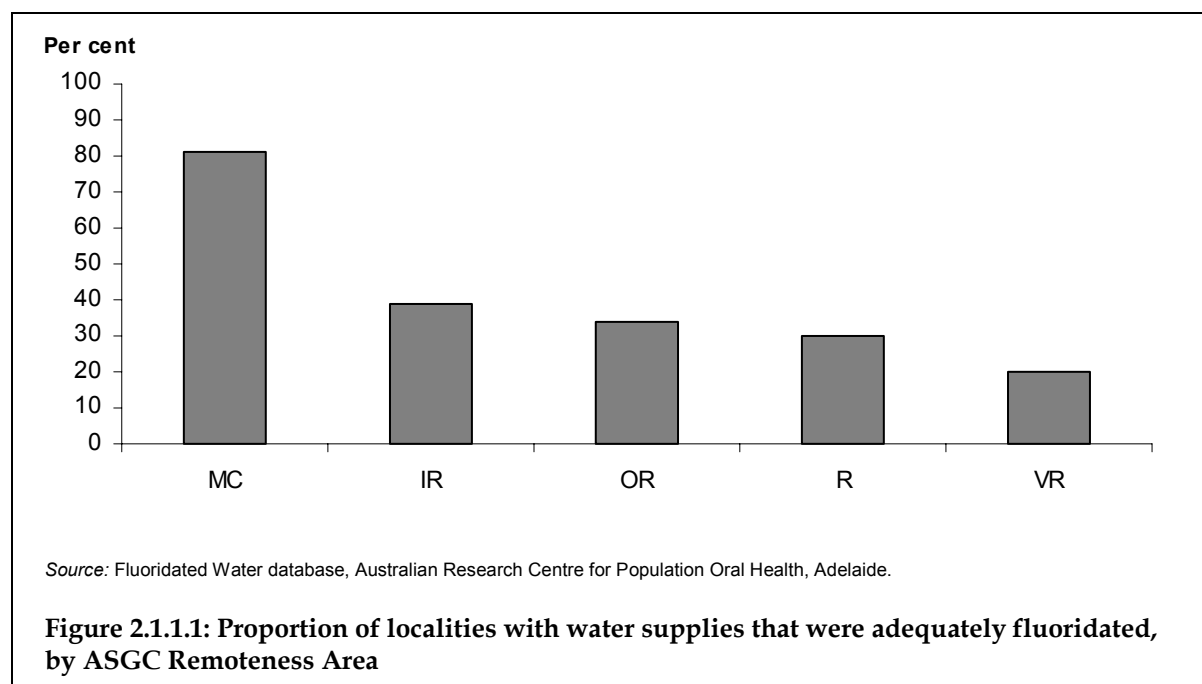
**Table 2.1.1.1: Localities with reticulated water supplies having adequate fluoridation, by ASGC Remoteness Area**

	MC	IR	OR	R	VR	Total
	<b>(per cent)</b>					
Localities having adequate fluoride augmentation	81	39	34	30	20	49
	<b>(number)</b>					
Number of localities with reticulated water supplies that are adequately fluoridated	3050	1882	1268	167	56	6423
Number of localities with reticulated water supplies <sup>(a)</sup>	3776	4871	3700	554	283	13184
	<b>(ratio)</b>					
Comparison of percentage with Major Cities	1.00	0.48	0.42	0.37	0.25	0.60

(a) There were 714 locations for which information on fluoride concentration was not available.

Note: The data relate to a broad time period, with fresh data being added or updated periodically.

Source: Fluoridated Water database, Australian Research Centre for Population Oral Health, Adelaide.



## 2.2 Socioeconomic factors

### 2.2.1 Educational status of the adult population

#### Summary of findings

##### High school education

The likelihood of adults having finishing school at Year 12 or equivalent has increased over time.

People from Major Cities were more likely to have finished Year 12 than those in regional and remote areas. In 2001, persons aged 20 years and over living in Major Cities (48%) were more likely to leave school at Year 12 or equivalent than those living in Inner Regional areas (32%), Outer Regional (30%), Remote (32%) and Very Remote areas (26%).

Indigenous people were less likely than non-Indigenous people to have finished Year 12 or equivalent.

Inter-regional differences were also evident for both Indigenous and non-Indigenous people:

- Whereas 27% of Indigenous people aged 20 years and over in Major Cities finished Year 12 or equivalent, this figure declined to almost 20% in regional areas, 14% in Remote areas and 9% in Very Remote areas.
- Non-Indigenous people from Major Cities (48%) were more likely to have completed Year 12 or equivalent than those in regional (32% and 31%) or remote (33% and 36%) areas.

##### Tertiary qualifications

In 2001, adults from regional and especially remote areas were less likely to have a tertiary qualification than adults from Major Cities:

- 19% of adults from Major Cities had a bachelor's degree or higher, compared with 11%, 9%, 9% and 8% from Inner Regional, Outer Regional, Remote and Very Remote areas, respectively.
- 55% of adults from Major Cities had no tertiary qualifications, compared with 61%, 65%, 65% and 73% from the other four areas, respectively.

Indigenous Australians are less likely to have tertiary qualifications than non-Indigenous Australians.

The proportions of both the Indigenous and non-Indigenous populations with no tertiary qualifications appeared to be related to remoteness:

- In 2001, 71% of Indigenous people in Major Cities aged 20 years and over had no tertiary qualification, compared with 76%, 82%, 86% and 94% in Inner and Outer Regional, Remote and Very Remote areas, respectively.
- Of non-Indigenous people in Major Cities aged 20 years and over, 55% had no tertiary qualifications, fewer than in Inner and Outer Regional, Remote and Very Remote areas, where 61%, 65%, 64% and 61%, respectively, had no such qualifications.

## Background

Three educational indicators have been described in this report. This one reports the educational status of adults who live in regional and remote areas. The other two (Sections 2.2.2 and 2.2.3) refer to educational opportunities for young people.

Educational status is relevant because it, as well as income, influences health status through a range of factors including risk factors and access to services. People with a higher educational status are less likely to have a poor risk factor profile (e.g. are less likely to smoke), tend to have higher incomes providing them with greater access to health services, and are more likely to be aware of health issues and of available services.

In this indicator, educational status has been described for three age groups because community expectations and work-related educational requirements have increased with time.

The data have been sourced from the 1991, 1996 and 2001 censuses. However, the definition of 'the highest level of schooling' attained changed between 1996 and 2001; in 1991 and 1996, highest level of schooling was defined as the age at which the individual left school, whereas in 2001 it was defined as the school year (e.g. Year 12) during which the individual left school. In 6% of records, there was insufficient information to allocate a level of tertiary education; these records have been omitted from the analysis.

## Detailed results

Two sets of results are presented here:

- high school completion rates
- highest level of qualification completed.

### High school completion rates

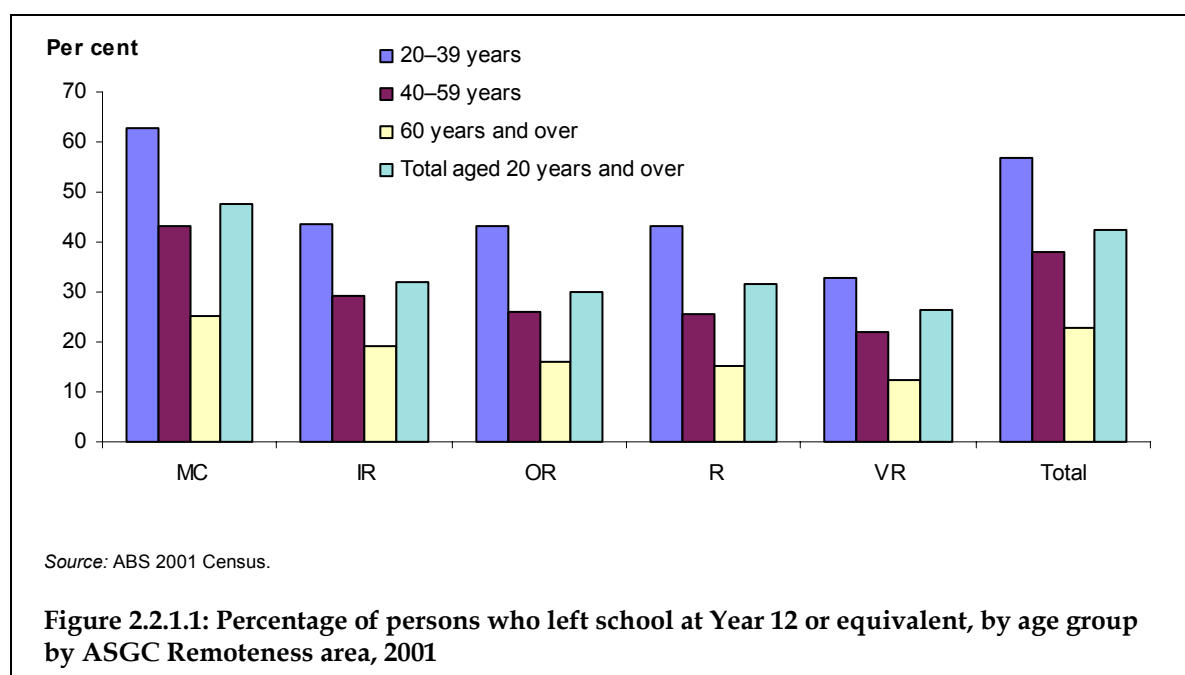
There has been a general trend towards more Australians finishing school at Year 12 or equivalent and more attaining tertiary qualifications. This has been in response to the increased demands of the economy for skilled labour and decreased demands for unskilled labour.

The likelihood of adults having finishing school at Year 12 or equivalent has increased over time (Table 2.2.1.1 and Table 2.2.1.2). In 1991 and 1996, respectively, 35% and 39% of people aged 20 years and over had left school when they were 17 years and over. In 2001, 42% of people aged 20 years and over had left school in Year 12 or equivalent. This trend is also illustrated using data from the 2001 Census; 57%, 38% and 23%, of persons aged 20–39 years, 40–59 years and 60 years and over, respectively, finished school at Year 12 or equivalent (Table 2.2.1.1).

People from Major Cities were more likely to have finished Year 12 than those in regional and remote areas (Table 2.2.1.1). In 2001, persons aged 20 years and over living in Major Cities (48%) were more likely to have left school at Year 12 or equivalent than those living in Inner Regional areas (32%), Outer Regional (30%), Remote (32%) and Very Remote areas (26%).

This pattern is repeated in the three individual age groups (Table 2.2.1.1).

Although there were substantial differences between Major Cities and the other areas, the differences between regional and remote areas are relatively small (Table 2.2.1.1 and Table 2.2.1.2).



**Table 2.2.1.1: Proportion of persons who left school at Year 12 or equivalent by ASGC Remoteness Area, 2001**

Age group	MC	IR	OR	R	VR	Total
	(per cent)					
20–39 years	63	44	43	43	33	57
40–59 years	43	29	26	26	22	38
60 years and over	25	19	16	15	13	23
Total (20 years and over)	48	32	30	32	26	42

Source: ABS, 2001 Census.

**Table 2.2.1.2: Proportion of persons who left school at 17 years or over, by ASGC Remoteness Area, 1991 and 1996**

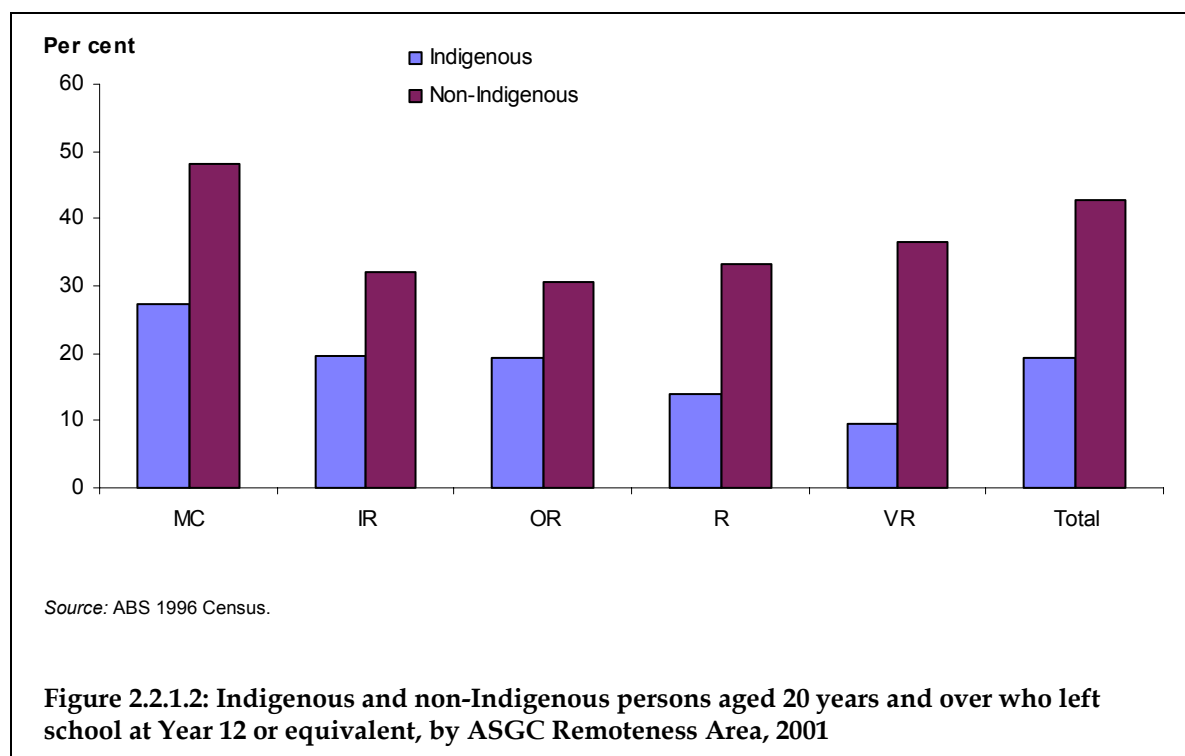
Age group/year	MC	IR	OR	R	VR	Total
	(per cent)					
<b>20–39 years</b>						
1991	55	40	38	36	35	50
1996	60	45	42	42	39	55
<b>40–59 years</b>						
1991	30	21	19	18	19	27
1996	37	27	24	23	23	33
<b>60 years and over</b>						
1991	16	12	11	10	10	14
1996	17	12	10	10	11	15
<b>Total (20 years and over)</b>						
1991	39	27	26	27	28	35
1996	43	31	29	30	30	39

Source: ABS, 1991 and 1996 Census.

In 2001, Indigenous people were less likely than non-Indigenous people to have finished Year 12 or equivalent (Table 2.2.1.3). Overall, 19% of Indigenous people, compared with 43% of non-Indigenous people, completed Year 12; 25% versus 58% of 20–39-year-olds, 11% versus 38% of 40–59-year-olds and 6% versus 23% of those aged 60 years and over.

Inter-regional differences were also evident for both Indigenous and non-Indigenous people (Figure 2.2.1.2 and Table 2.2.1.3):

- Although 27% of Indigenous people aged 20 years and over in Major Cities finished Year 12 or equivalent, the proportion declined to almost 20% in regional areas, 14% in Remote areas and 9% in Very Remote areas.
- Non-Indigenous people from Major Cities (48%) were more likely to have completed Year 12 or equivalent than those in regional (32% and 31%) or remote (33% and 36%) areas.



**Table 2.2.1.3: Indigenous and non-Indigenous persons who left school at Year 12 or equivalent, by ASGC Remoteness Area, 2001**

Age group/ Indigenous/Non-Indigenous	MC	IR	OR	R	VR	Total
(per cent)						
<b>20–39</b>						
Indigenous	34	26	26	19	12	25
Non-Indigenous	63	44	44	46	48	58
All persons	63	44	43	43	33	57
<b>40–59</b>						
Indigenous	17	12	10	8	6	11
Non-Indigenous	43	30	27	27	29	38
All persons	43	29	26	26	22	38
<b>60 years and over</b>						
Indigenous	11	8	4	3	2	6
Non-Indigenous	25	19	16	16	17	23
All persons	25	19	16	15	13	23
<b>Total (20 years and over)</b>						
Indigenous	27	20	19	14	9	19
Non-Indigenous	48	32	31	33	36	43
All persons	48	32	30	32	26	42

Source: ABS, 2001 Census.

**Highest level of tertiary qualification completed**

Classification of data collected in 1991 and 1996 is different from that collected in 2001. Although the categories are similar, they are not identical, so data for the two periods (1991 and 1996, and 2001) have been presented separately.

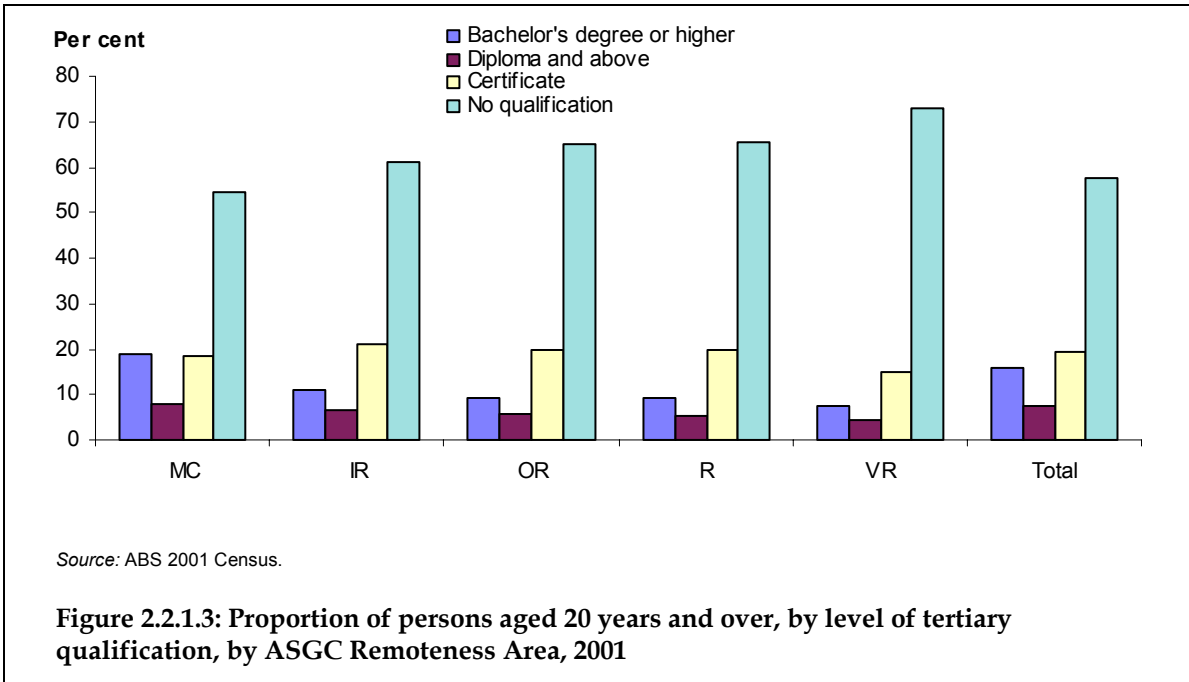
In 2001, 16% of persons aged 20 years and over had a bachelor’s degree or higher, 7% had a diploma or above, 19% had a certificate and 57% had no tertiary qualifications (Table 2.2.1.4 and Figure 2.2.1.3).

In 2001, adults from regional and especially remote areas were less likely to have a tertiary qualification than adults from Major Cities:

- 19% of adults from Major Cities had a bachelor’s degree or higher, compared with 11%, 9%, 9% and 8% from Inner Regional, Outer Regional, Remote and Very Remote areas, respectively.
- 55% of adults from Major Cities had no tertiary qualifications, compared with 61%, 65%, 65% and 73% from Inner Regional, Outer Regional, Remote and Very Remote areas, respectively.

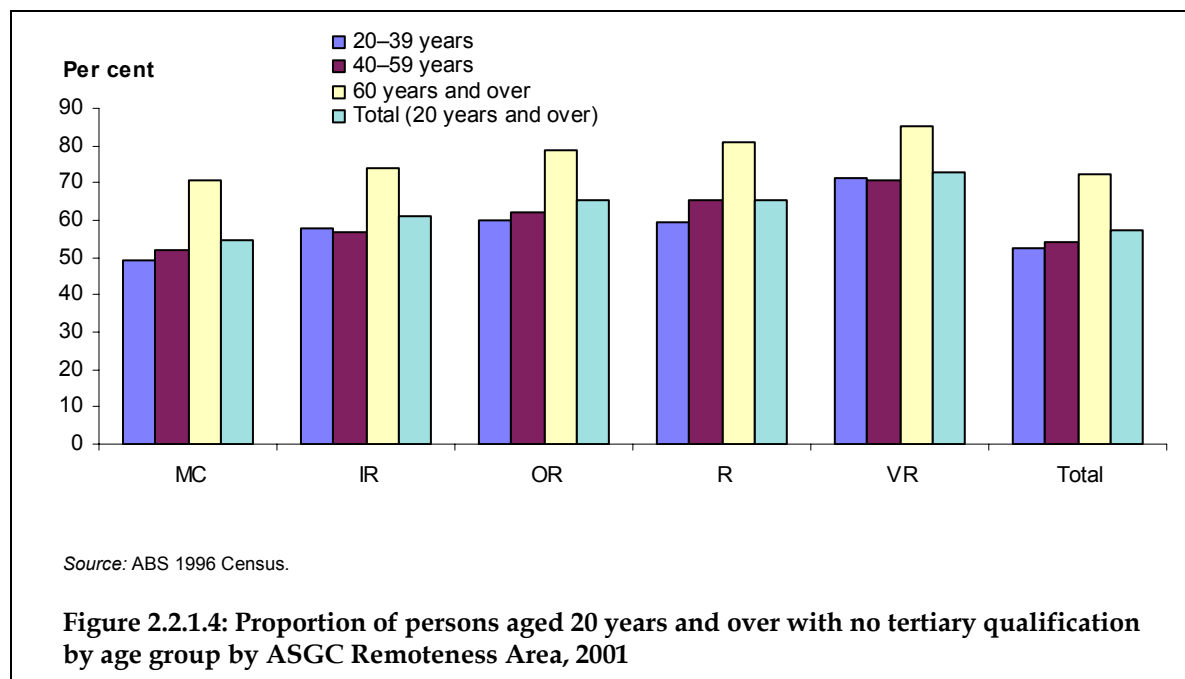
Older people were less likely than younger people to hold a tertiary qualification.

These patterns are similar to those in 1991 and 1996 (Table 2.2.1.5)



People aged 20–39 years in Inner Regional, Outer Regional and Remote areas were more likely to hold a certificate than those in Major Cities and Very Remote areas.

For those aged 40–59, the pattern was similar, but weaker, and in this age group and for this level of qualification there was greatest consistency. The likelihood of holding a certificate was in the narrow range between 16% and 22% across the regions.



**Table 2.2.1.4: Age group by highest qualification by ASGC Remoteness Area, 2001**

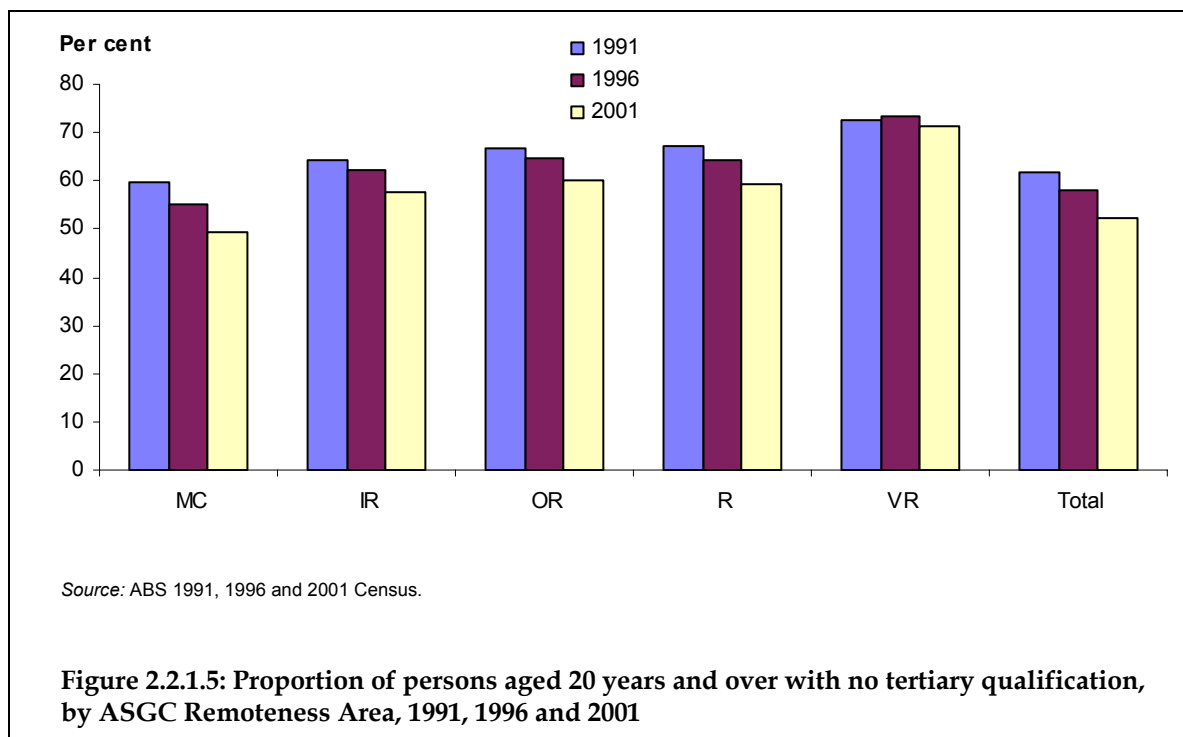
Age group/highest qualification	MC	IR	OR	R	VR	Total
(per cent)						
<b>20–39 years</b>						
Bachelor's degree or higher	23	12	11	12	9	19
Diploma and above	8	6	5	5	4	8
Certificate	19	25	23	24	16	21
No tertiary qualification	49	58	60	59	71	52
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>40–59 years</b>						
Bachelor's degree or higher	20	13	10	9	8	17
Diploma and above	9	8	7	6	5	8
Certificate	19	22	21	19	16	20
No tertiary qualification	52	57	62	66	71	54
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>60 years and over</b>						
Bachelor's degree or higher	8	6	4	4	3	7
Diploma and above	6	5	4	4	3	5
Certificate	15	15	13	12	9	15
No tertiary qualification	71	74	79	81	85	72
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Total (20 years and over)</b>						
Bachelor's degree or higher	19	11	9	9	8	16
Diploma and above	8	7	6	5	4	7
Certificate	18	21	20	20	15	19
No tertiary qualification	55	61	65	65	73	57
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: ABS, 2001 Census.

**Table 2.2.1.5: Age group by highest qualification by ASGC Remoteness Area, 1991 and 1996**

Age group/highest qualification	MC	IR	OR	R	VR	Total
	(per cent)					
<b>20–39 years</b>						
Bachelor's degree or higher						
1991	14	8	7	7	6	12
1996	19	10	9	10	8	16
Undergraduate diploma/Associate diploma						
1991	7	7	6	6	6	7
1996	9	7	6	6	5	8
Skills/Basic vocational						
1991	19	21	20	20	16	19
1996	17	21	20	20	14	18
No qualification						
1991	60	64	67	67	73	62
1996	55	62	65	64	73	58
<b>40–59 years</b>						
Bachelor's degree or higher						
1991	12	7	6	4	4	10
1996	16	10	8	7	6	14
Undergraduate diploma/Associate diploma						
1991	8	8	7	6	5	8
1996	9	9	7	7	5	9
Skills/Basic vocational						
1991	18	18	16	15	14	18
1996	17	18	17	16	13	17
No qualification						
1991	63	67	72	75	78	65
1996	58	63	68	71	76	60
<b>60 years and over</b>						
Bachelor's degree or higher						
1991	5	3	2	1	1	4
1996	6	4	3	2	2	5
Undergraduate diploma/Associate diploma						
1991	4	4	4	3	2	4
1996	5	5	4	3	2	5
Skills/Basic vocational						
1991	12	11	9	8	6	11
1996	12	12	10	9	6	12
No qualification						
1991	79	82	85	87	90	81
1996	76	80	84	85	89	78
<b>Total (20 years and over)</b>						
Bachelor's degree or higher						
1991	11	6	6	5	5	10
1996	15	9	7	8	7	13
Undergraduate diploma/Associate diploma						
1991	7	7	6	6	5	7
1996	8	7	6	6	5	8
Skills/Basic vocational						
1991	17	18	16	17	14	17
1996	16	18	17	17	13	17
No qualification						
1991	65	69	72	72	76	67
1996	60	66	70	69	76	63

Source: ABS, 1991 and 1996 Census.

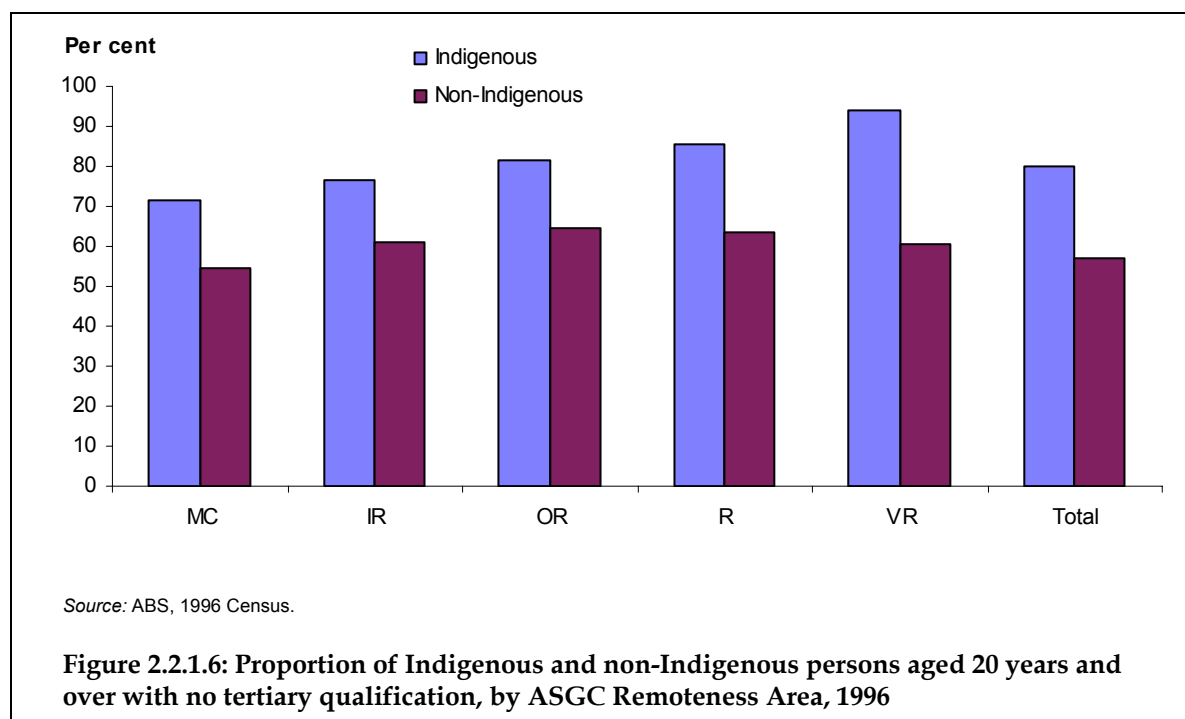


Indigenous Australians are less likely to have tertiary qualifications than non-Indigenous Australians (Table 2.2.1.6 and Figure 2.2.1.6). In 2001, 80% of Indigenous Australians aged 20 years and over had no qualifications (down from 90% in 1991), compared with 57% of non-Indigenous Australians (down from 66% in 1991).

The proportion of the population with no tertiary qualifications appeared to be related to remoteness, strongly so in the Indigenous population, less strongly in the non-Indigenous population.

In 2001, 71% of Indigenous people in Major Cities aged 20 years and over had no tertiary qualification, compared with 76%, 82%, 86% and 94% in Inner and Outer Regional, Remote and Very Remote areas, respectively.

Of similar aged non-Indigenous people in Major Cities, 55% had no tertiary qualifications, fewer than in Inner and Outer Regional, Remote and Very Remote areas, where 61%, 65%, 64% and 61% had no such qualifications.



**Table 2.2.1.6: Proportion of Indigenous and non-Indigenous persons without tertiary qualifications, by age group, by ASGC Remoteness Area, 2001**

Age group/ Indigenous/Non-Indigenous	MC	IR	OR	R	VR	Total
	(per cent)					
<b>20–39 years</b>						
Indigenous	70	76	80	84	94	79
Non-Indigenous	49	57	59	56	54	52
<b>40–59 years</b>						
Indigenous	70	74	81	85	93	79
Non-Indigenous	52	56	62	64	62	54
<b>60 years and over</b>						
Indigenous	84	87	93	96	99	91
Non-Indigenous	71	74	78	80	79	72
<b>Total (20 years and over)</b>						
Indigenous	71	76	82	86	94	80
Non-Indigenous	54	61	65	64	61	57

Source: ABS, 2001 Census.

## 2.2.2 High school apparent retention rates

### Summary of findings

In 2001, 17-year-olds living in Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.84, 0.72, 0.44 and 0.23 times as likely to be high school students as those in Major Cities.

Indigenous 17-year-olds living in Major Cities, Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.72, 0.65, 0.54, 0.33 and 0.18 times as likely as non-Indigenous 17-year-olds to still be at school.

Non-Indigenous 17-year-olds in Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.85, 0.73, 0.45 and 0.33 times as likely to still be at school as their non-Indigenous counterparts living in Major Cities.

### Background

In Australia's competitive job market, students who leave before completing secondary school face greater obstacles to obtaining work and remaining employed than those who complete secondary school.

This indicator attempts to describe the percentage of children from each Remoteness Area who will still be at school when they are 17 years old – this is a different statistic from the percentage of 17-year-olds in each area who are currently still at school.

This indicator uses 1996 and 2001 ABS census data to describe the apparent rate at which students remain at school. A crude rate can be calculated based on the number of 17-year-olds who reported being at school or not being at school in each census. However, some 17-year-olds who have left school may move to a larger centre in order to obtain work, so such a method may overstate retention rates in remote and regional areas, and understate retention rates in Major Cities.

To adjust for this possibility, retention rates have been calculated using a denominator equal to the number of 10–14-year-olds in each population in 1996, divided by 5, to yield an estimate of the number of children in the cohort who would be aged 17 years in 2001.

Available population data for ASGC Remoteness Areas were available in 5-year age groups only. The number of 12-year-olds in 1996 has been estimated to be one-fifth of the number of 10–14 year-olds in each Remoteness Area in that year. The resultant denominator will be approximately (not exactly) correct, but substantially more appropriate than the number of 17-year-olds living in each area in each census year, for the reason stated above.

Some students leave their home area to complete their schooling in another area, thereby artificially lowering the rates in the first area and inflating them in the second. No allowance has been made for this.

Only full-time students were included in this analysis; part-time students were not included. This may have had a small effect on the results. For Indigenous students, 11% were part time, with little variation between areas. For non-Indigenous students, however, there was some variation; 6% of non-Indigenous students from Major Cities were part time, and 8% of those in regional areas and 11% and 14% in Remote and Very Remote areas, respectively, were part time.

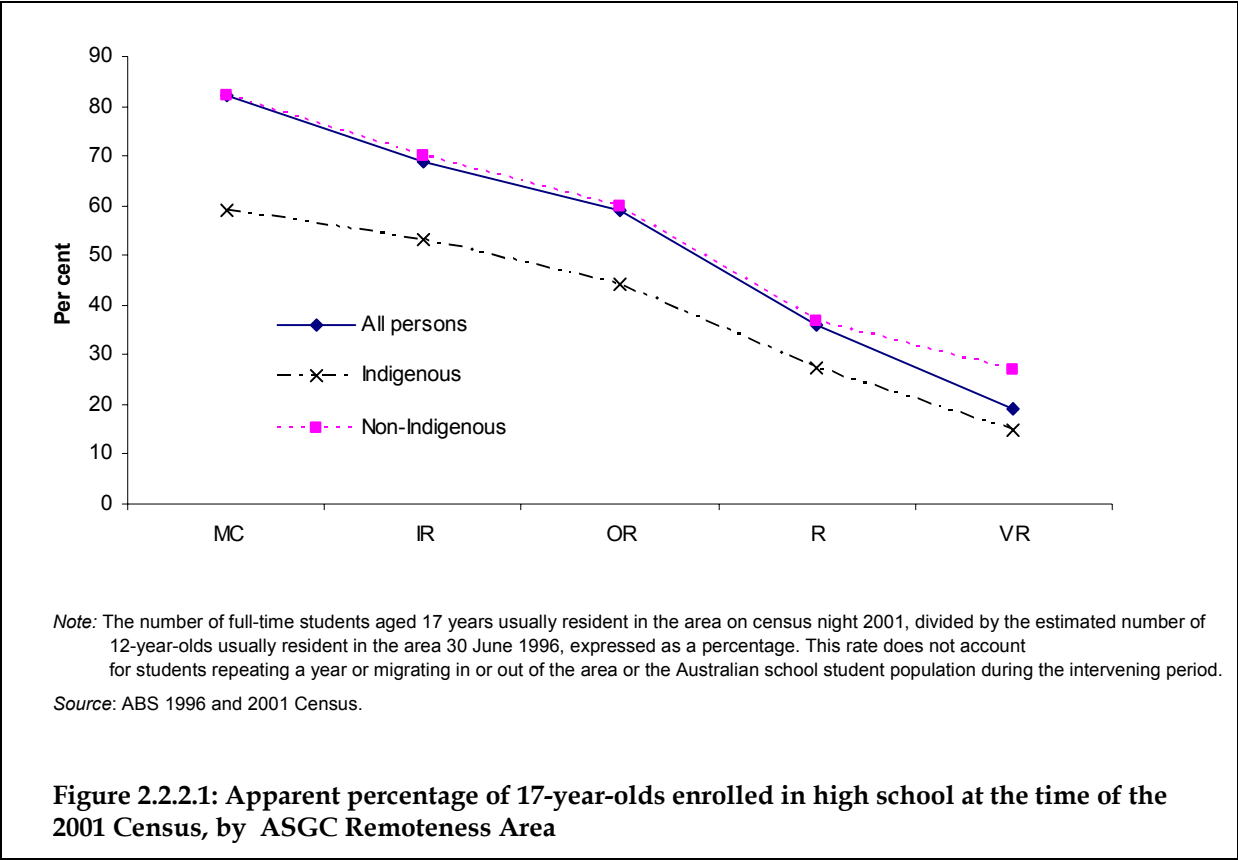
Rates for Indigenous and non-Indigenous people in each area are presented for this indicator. It is assumed that identification during the census, although not perfect, is likely to be adequate, because identification problems affecting the numerator will equally affect the denominator.

Because the data were collected in August 2001, the 17-year-olds described in this indicator are younger than the 17-year-olds who commenced tertiary studies at the start of the calendar year, described in the next indicator (Section 2.2.3).

**Detailed results**

In 2001, 17-year-olds from regional and remote areas were less likely to still be attending high school than their counterparts in Major Cities (Table 2.2.2.1 and Figure 2.2.2.1). People of this age in Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.84, 0.72, 0.44 and 0.23 times as likely to be high school students as those in Major Cities.

Indigenous 17-year-olds were less likely to still be at school than their non-Indigenous counterparts, especially in more remote areas (Table 2.2.2.1 and Figure 2.2.2.1). In Inner and Outer Regional, Remote and Very Remote areas they were, respectively, 0.90, 0.75, 0.46 and 0.25 times as likely to still be at school as their Indigenous counterparts living in Major Cities. However, Indigenous 17-year-olds from Major Cities, Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.72, 0.65, 0.54, 0.33 and 0.18 times as likely to still be at school as their non-Indigenous counterparts from Major Cities.



The inter-regional pattern for non-Indigenous 17-year-olds was similar (Table 2.2.2.1 and Figure 2.2.2.1). Non-Indigenous 17-year-olds in Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.85, 0.73, 0.45 and 0.33 times as likely to still be at school as their counterparts in Major Cities.

**Table 2.2.2.1: Apparent percentage of 17-year-olds at school in each Remoteness Area, 2001**

	MC	IR	OR	R	VR	Total
	Apparent percentage					
All persons	82	69	59	36	19	75
Indigenous	59	53	44	27	15	39
Non-Indigenous	82	70	60	37	27	74

*Note:* The number of full-time students aged 17 years usually resident in the area on census night 2001, divided by the estimated number of 12-year-olds usually resident in the area 30 June 1996, expressed as a percentage. This rate does not account for students repeating a year or migrating in or out of the area or the Australian school student population during the intervening period.

*Source:* ABS, 1996 and 2001 Census.

## 2.2.3 Progression from school to university and TAFE

### Summary of findings

The likelihood of commencing tertiary studies for young people decreases with increasing remoteness.

In the period 1998–2001, young people from Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.68, 0.60, 0.38 and 0.25 times as likely to commence tertiary education (TAFE/university) as those whose home address was in Major Cities.

In 2001, young non-Indigenous people from Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.69, 0.61, 0.33 and 0.53 times as likely to commence tertiary education as those whose home address was in Major Cities.

In 2001, young Indigenous people were 0.3 times as likely to commence tertiary education as young non-Indigenous people.

### Background

This indicator measures relative educational disadvantage between the areas. The number of people enrolled in tertiary education is an indicator of future employment, socioeconomic status and health. It is also a measure of the educational opportunity afforded to young people in each area.

Progression to tertiary education, particularly university, is influenced by marks, motivation and money, all three of which are at least partially interrelated (Heaney 1999). Marks are influenced by home and school environment, motivation and innate capacity. In many cases, attendance at university presumes an ability to afford the extra costs of living away from home (potentially an issue for students from regional and remote areas). Motivation is influenced by a range of factors including family expectations, perceptions of available jobs and expectations of the likely affordability of attendance. Students in regional and remote areas are likely to be at a disadvantage in relation to all of these.

Tertiary education commencement rates have been calculated using:

- the number of 17–20-year-olds from each Remoteness Area (assigned on the basis of their home address as opposed to their term address) commencing tertiary studies in each year as the numerator
- the estimated number of 12-year-olds in the population of each Remoteness Area 7 years previously as the denominator.

The number of 17–20-year-olds is used as the numerator because a student can start tertiary education at any age; although it is most usual to start at age 17 or 18, it is not uncommon to enrol at age 19 or 20. Within this age group, 85% were 17 or 18, 10% were 19 and 5% were 20. Also, the home address on the student data files of these students is more likely to be their parents' home address, indicative of where the students are 'from', than would be the case for older commencing students. Individuals who commence tertiary studies at an older age will therefore not be included.

The number of 12-year-olds estimated to be in the population 7 years earlier has been used as the denominator because the current size of the population of 17–20-year-olds, based on ABS estimates of 15–19-year-olds in the current year, would tend to understate the number of young people in the population in regional and remote areas. This is because young people

tend to move out of these areas in search of work and to attend tertiary institutions. The number of 12-year-olds is calculated as the number of 10–14-year-olds divided by 5.

A second method has also been used. Available data allow the calculation of commencement rates for the total, the Indigenous and the non-Indigenous populations of 17–20-year-olds in 2001 only. This method is simpler than the cohort method described above, and involves dividing the number of students aged 17, 18, 19 and 20 commencing in 2001 by the average population of 12-year-olds in 1994. Indigenous status was not recorded for a number of commencements, and so these have been allocated proportionally to the ratio of Indigenous to non-Indigenous in the 10–14 population in each Remoteness Area.

Although the statistic generated for this indicator is not precisely valid, sensitivity analyses suggest that it is likely to closely reflect reality.

## Detailed results

Nationally, just over one-third (33.6%) of persons born in 1981 commenced TAFE or University during the 1998–2001 period.

Young people from Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.68, 0.60, 0.38 and 0.25 times as likely to commence tertiary education as those whose home address was in Major Cities (Table 2.2.3.1). This pattern is almost identical to the inter-regional pattern for the previous three cohorts.

**Table 2.2.3.1: Apparent TAFE and university commencement rates<sup>(a)</sup> for 17–20-year-olds by ASGC Remoteness Area**

	MC	IR	OR	R	VR	Total
	(per cent)					
Cohort 1 <sup>(b)</sup> – born in 1978 – commenced 1995–1998	36.4	27.5	22.3	12.3	9.4	31.6
Cohort 2 <sup>(b)</sup> – born in 1979 – commenced 1996–1999	37.0	27.8	21.6	16.1	9.0	32.4
Cohort 3 <sup>(b)</sup> – born in 1980 – commenced 1997–2000	38.5	27.0	21.6	12.4	7.6	33.0
Cohort 4 – born in 1981 – commenced 1998–2001	39.1	26.6	23.5	14.7	9.6	33.6
Commencement in 2001	38.6	26.5	22.6	11.8	10.4	33.1
Commencement in 2001 (non-Indigenous) <sup>(d,e)</sup>	39.0	26.9	23.8	13.0	20.7	33.9
Commencement in 2001 (Indigenous) <sup>(d,e)</sup>	n.p.	n.p.	n.p.	n.p.	n.p.	10.1

(a) Commencement rates are here defined as the number of commencements per 100 people in the cohort; equivalent to percentage of the population.

(b) The number of persons born in a particular year who commenced university or TAFE at either 17, 18, 19 or 20 years of age, divided by the number of 12-year-olds who lived in the area 7 years prior to their commencement (the same age cohort), expressed as a percentage.

(c) Estimated resident population data by Remoteness Area for 1988, 1989 and 1990 was not available. To calculate the denominator for these proportions an assumption has been made that the annual rate of increase in the populations apparent between 1991 and 1994, also applied to the populations in 1988, 1989 and 1990.

(d) The denominator uses the 1996 Indigenous population of 12-year-olds (data available for the closest available year). Thus the non-Indigenous denominator is taken as the total population of 12-year-olds in 1994 minus the corresponding Indigenous population in 1996.

(e) Indigenous status was not recorded on a number of records. These records were allocated Indigenous status in proportion to the populations of Indigenous and non-Indigenous people in the 10–14-year age group in each Remoteness Area.

Source: Calculations based on Department of Education Science and Training, TAFE and university enrolments 1995 to 2001.

The last three rows of Table 2.2.3.1 compare commencement rates in 2001. Statistics were calculated using the second method described in the Background and allow comparison of rates for Indigenous and non-Indigenous students.

The inter-regional pattern calculated for commencements in 2001 using the second method (Table 2.2.3.1) is similar to the pattern described using the first method (although numbers from Remote areas in that year were lower than in previous years).

Using the second method, rates of commencement for non-Indigenous people are slightly higher than for people overall, particularly in Very Remote areas. Young people from Inner and Outer Regional, Remote and Very Remote areas were, respectively, 0.69, 0.61, 0.33 and 0.53 times as likely, overall, to commence tertiary education as those whose home address was in Major Cities.

The accuracy of Indigenous identification in each area is unknown, and so rates for Indigenous people are presented for the Australian population only. Young Indigenous people were 0.3 times as likely to commence tertiary (TAFE/university) education as young non-Indigenous people.

## 2.2.4 Employment

### Summary of findings

In 2001:

- the unemployment rate was higher in regional (8–9%) areas and lower in remote (5–6%) areas than in Major Cities (7%).
- a slightly lower proportion of the population in regional (71–72%) and Very Remote (68%) areas, and a slightly higher proportion of the population in Remote (75%) areas aged 15 years and above were working or looking for work (i.e. participating in the labour force) than those in Major Cities (73%).
- the employment-to-population ratio (the percentage of the population who are employed) was lower in regional (65–66%) and Very Remote (64%) areas and higher in Remote (70%) areas than in Major Cities (68%).

The employment patterns across the five areas differed between the Indigenous and non-Indigenous populations. Unemployment rates for Indigenous people were higher in regional areas (22% and 21%), and lower in Very Remote areas (8%) than they were in Major Cities (17%) or Remote areas (18%). Unemployment rates for non-Indigenous people were also higher in regional areas (8%), but were lower in Remote (5%) and Very Remote areas (4%) than they were in Major Cities (7%).

Participation rates for Indigenous people were lower in regional (53% and 52%) and Remote (52%) areas and even lower in Very Remote areas (48%) than in Major Cities (58%). For non-Indigenous people, participation rates were slightly lower in regional areas (72% and 73%), and substantially higher in remote areas (78% and 82%), than in Major Cities (74%).

The percentage of the Indigenous population employed was lower in regional (41%) and remote (42% and 45%) areas than in Major Cities (48%). The percentage of the non-Indigenous population employed was lower in regional areas (66% and 68%) but higher in Remote (74%) and Very Remote (79%) areas than in Major Cities (69%).

#### Box 2.1: Employment status – concepts and definitions

*The working-age population (those aged 15 years and over) is divided into three mutually exclusive groups: the employed, the unemployed and those not in the labour force. The employed and the unemployed together make up the **labour force**, which is the number of people contributing to, or willing to contribute to, the supply of labour at a given time. The remainder are **not in the labour force**. The employed and the unemployed are defined according to a specific set of rules:*

***Employed persons** are those who worked for at least 1 hour in the reference week for pay, profit, commission or payment-in-kind, in a job or business or on a farm (and comprise employees, employers and own-account workers); or worked for at least 1 hour without pay in a family business or farm; or were employees who had a job but were away from work for certain defined reasons (such as off roster, on strike, on paid leave etc.).*

***Unemployed persons** are those who were not employed and had actively looked for work (according to defined criteria) and were available to start work or were about to start work.*

***Persons not in the labour force** may be keeping house, retired, voluntarily inactive, permanently unable to work; those in institutions; members of certain religious orders; and those whose only activity was jury service or unpaid voluntary work for a charitable organisation.*

*During periods of low employment, some who would otherwise wish to work cease actively looking, and thereby move from the 'unemployed' category to 'not in the labour force'. Conversely, when employment prospects improve, some start looking for work and move into the 'unemployed' category.*

## Background

Employment gives people a sense of function, of integration with the community and of self-worth, as well as delivering the financial resources to provide for necessities.

Employment opportunities and types of jobs are often more restricted in non-metropolitan areas. This limits the opportunities for people to find employment in rural communities and may require people to move to less remote centres or accept less favourable employment options.

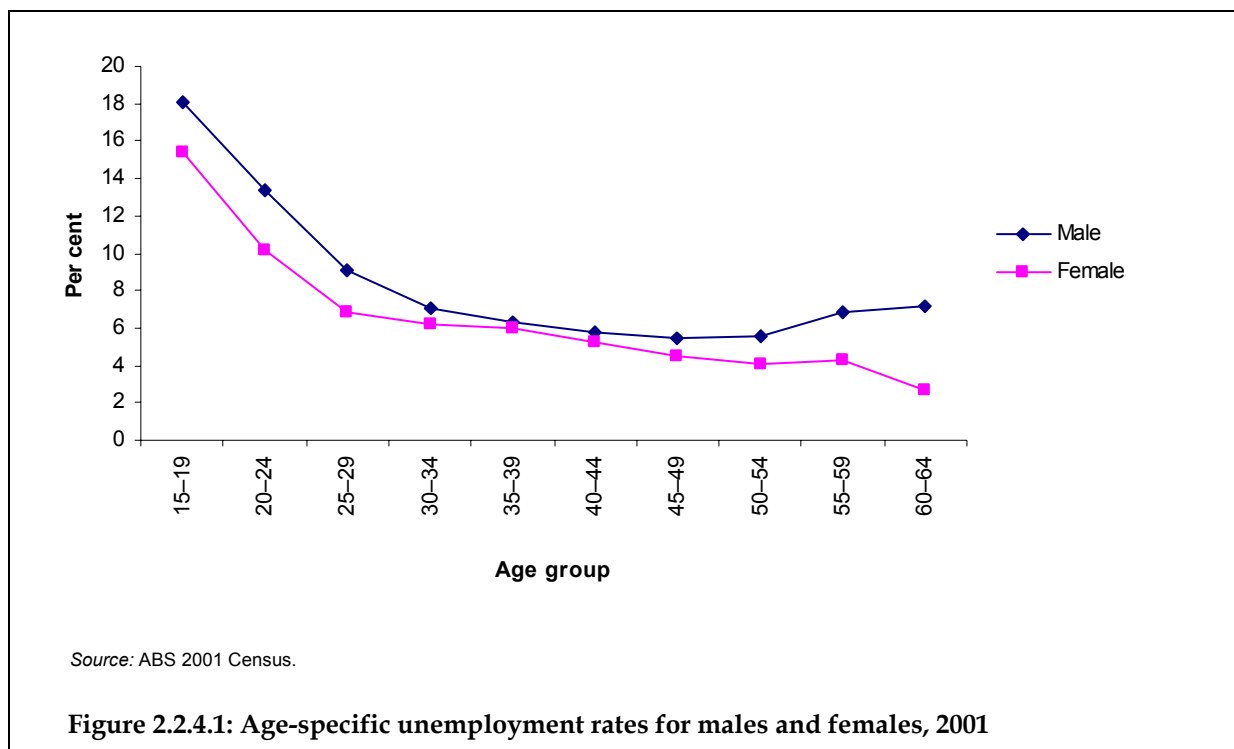
Data presented here are sourced from the 1991, 1996 and 2001 ABS Censuses. Three rates are provided for this indicator:

- The participation rate: the percentage of the population of working age who are in the labour force. This measures the proportion of people working or seeking work.
- The unemployment rate: the percentage of those people in the labour force who are not employed. This measures the 'unmet demand' for employment. As noted in Box 2.1 on the previous page, there is considerable movement between the ranks of the unemployed and those not in the labour force. Paradoxically, when employment prospects improve after a period of low employment, people who had wanted to work but had felt discouraged from seeking work, start actively looking for work again, thus maintaining the prevailing unemployment rates for a period.
- The employment-to-population ratio: the percentage of the population who are employed. This measures the relative proportions of those actually contributing to the economy and those who are not. It can be used as a quasi measure of the proportion with the burden of supporting the entire community, but this does not take into account those who, although not working, have sufficient means to support themselves.

All three rates can be calculated for the entire working-age population (either as crude rates or standardised for factors such as age and sex) or for specific age groups. For this indicator, the age range is restricted to those aged 15–64 years.

To control for different age and sex structures in each of the populations, the presented percentages have been directly age-standardised (see method section on page 302). These age-standardised percentages will vary from the crude percentages usually described. They do not describe the actual percentage of the population who are out of work (crude rates do this). Instead, age-standardised rates allow a more realistic comparison of the chances of an average person being unemployed in each area.

Figure 2.2.4.1 describes age-specific unemployment rates for males and females, as measured in the 2001 ABS Census. Males are more likely to be unemployed than females, and younger people more likely to be unemployed than older people.



For about 4% of records in the 2001 Census, employment status was not stated. Table 2.2.4.1 describes the percentage of records in which employment status was not stated, by Indigenous status and by ASGC Remoteness Area. These unknowns have been excluded from the calculation of percentages (i.e. from both the numerator and the denominator). If there is little or no systematic bias associated with non-response to the questions on employment status, then the higher percentages not responding associated with Indigenous people and with more remote areas are unlikely to have any substantial effect on inter-regional comparisons. It is unclear whether such bias is likely to exist.

**Table 2.2.4.1: Crude percentage of records with employment not stated, by Indigenous status and ASGC Remoteness Area, 2001**

	MC	IR	OR	R	VR	Total
	(Per cent)					
Indigenous	3	2	3	5	4	3
Non-Indigenous	1	1	1	1	1	1
Total	4	4	4	6	8	4

Source: ABS 2001 Census.

## Detailed results

In 1991, 1996 and 2001, the unemployment rate was higher in regional areas and lower in remote areas than in Major Cities. At the time of the Census in 2001, 7% of the labour force in Major Cities was unemployed, compared with 9% and 8% in regional areas, 6% in Remote areas and 5% in Very Remote areas (Table 2.2.4.2 and Figure 2.2.4.2).

In 1991, 1996 and 2001, a slightly lower proportion of the population in regional and Very Remote areas, and a slightly higher proportion of the population in Remote areas aged 15 years and above were working or looking for work (i.e. participating in the labour force) compared with those in Major Cities. At the time of the Census in 2001, 73% of people in Major Cities were participating in the labour force, compared with 71% and 72% in regional areas, 75% in Remote areas and 68% in Very Remote areas (Table 2.2.4.2 and Figure 2.2.4.3).

In 1991, 1996 and 2001, the employment-to-population ratio was lower in regional and Very Remote areas and higher in Remote areas than in Major Cities. At the time of the Census in 2001, 68% of people in Major Cities aged 15 years and over were employed, compared with 65% and 66% in regional areas, 70% in Remote areas and 64% in Very Remote areas (Table 2.2.4.2 and Figure 2.2.4.4).

**Table 2.2.4.2: Age-standardised unemployment rates, participation rates and employment-to-population ratios for persons aged 15–64 years, by ASGC Remoteness Area, 1991, 1996, 2001**

	MC	IR	OR	R	VR	Total
	(per cent)					
<b>Unemployment rate</b>						
2001	7	9	8	6	5	7
1996	9	11	10	7	7	9
1991	11	13	13	10	9	12
<b>Participation rate</b>						
2001	73	71	72	75	68	73
1996	73	71	72	75	69	72
1991	74	71	72	75	70	73
<b>Employment-to-population ratio</b>						
2001	68	65	66	70	64	67
1996	67	63	65	70	65	66
1991	65	62	63	68	64	65

Source: ABS, 1991, 1996 and 2001 Census.

Unlike unemployment rates and employment-to-population ratios, age-standardised participation rates did not change substantially between 1991 and 2001 (except in Very Remote areas where they decreased by 2 percentage points during the period). Age-standardised unemployment rates declined substantially in all areas, by about 4 or 5 percentage points. Employment-to-population ratios increased in most areas by about 3 percentage points, but negligibly in Very Remote areas over the 10-year period.

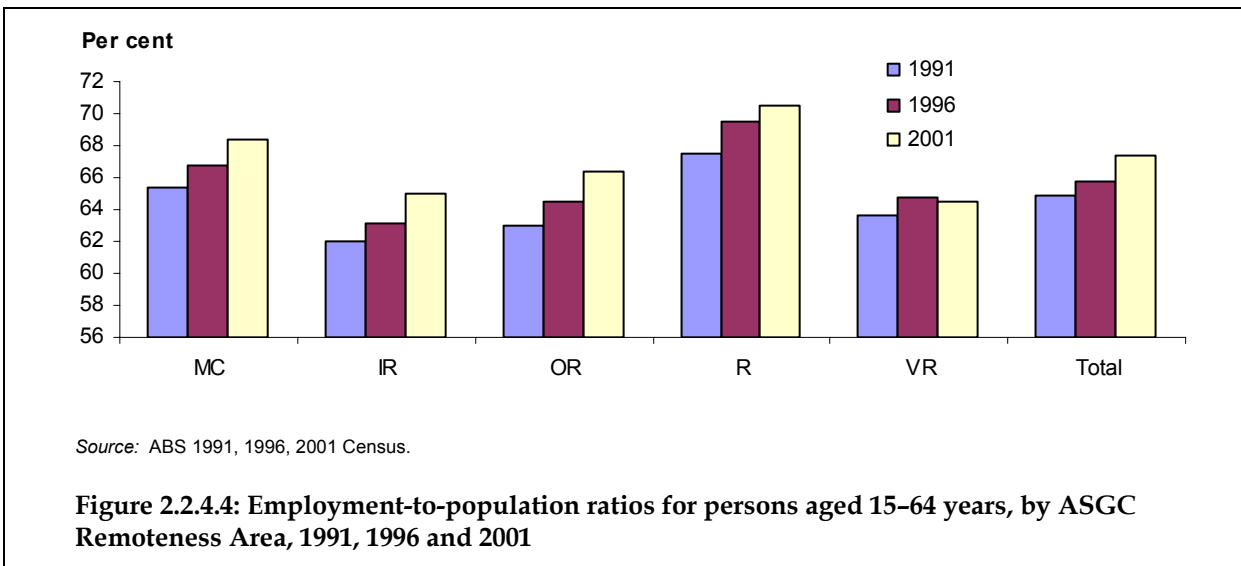
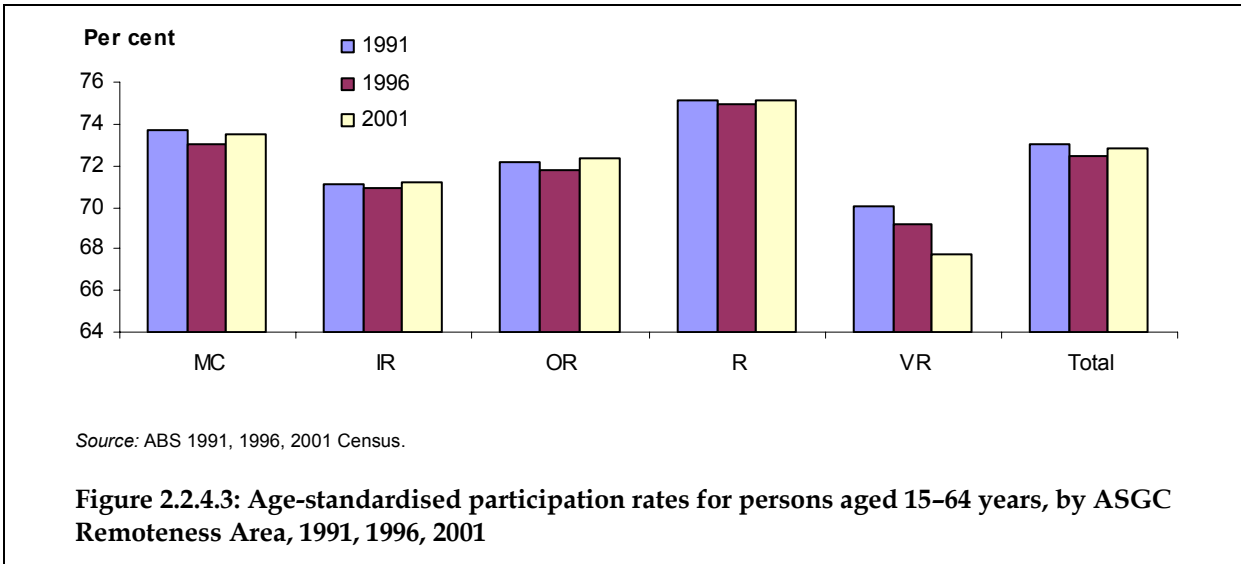
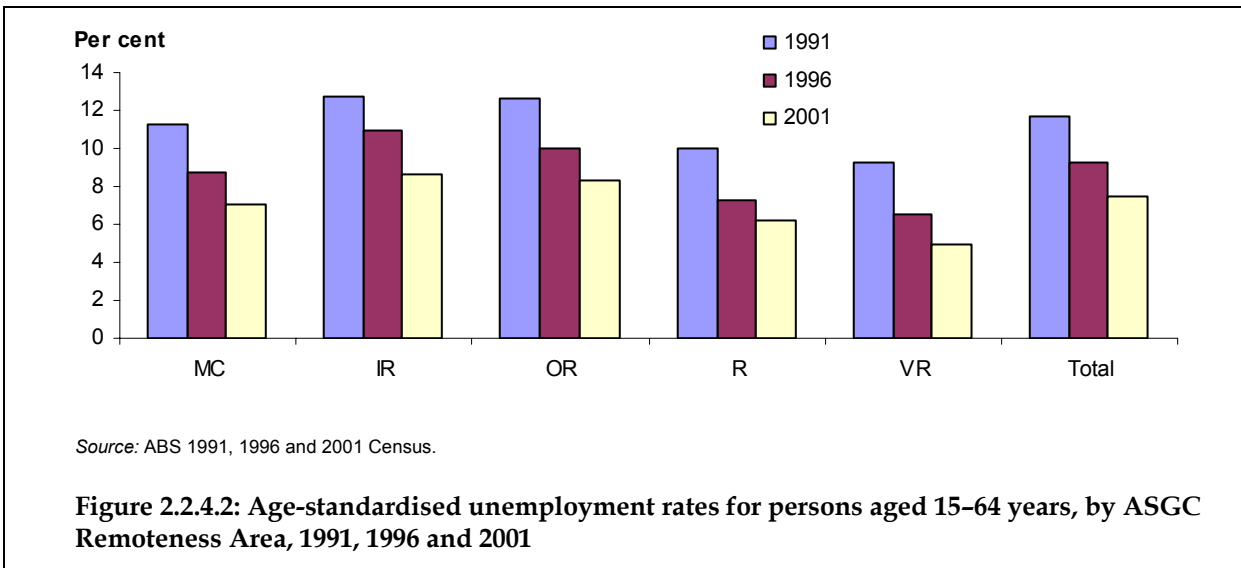


Table 2.2.4.3 compares crude and age-standardised unemployment rates. Crude rates describe the actual percentage of the population who are employed, whereas age-standardised rates describe what the average person within the population experiences. Some (e.g. Indigenous) populations have larger proportions of young people than others, and some (e.g. remote area) populations have proportionally more males than others. Because unemployment (and labour force participation) is influenced by age and by sex, populations with identical age-specific unemployment rates may appear to have different overall crude unemployment rates. For this reason, age-standardised, rather than crude, rates have been described in this indicator.

**Table 2.2.4.3: Comparison of crude and age-standardised unemployment rates for persons aged 15–64 years, by Indigenous status and ASGC Remoteness Area, 2001**

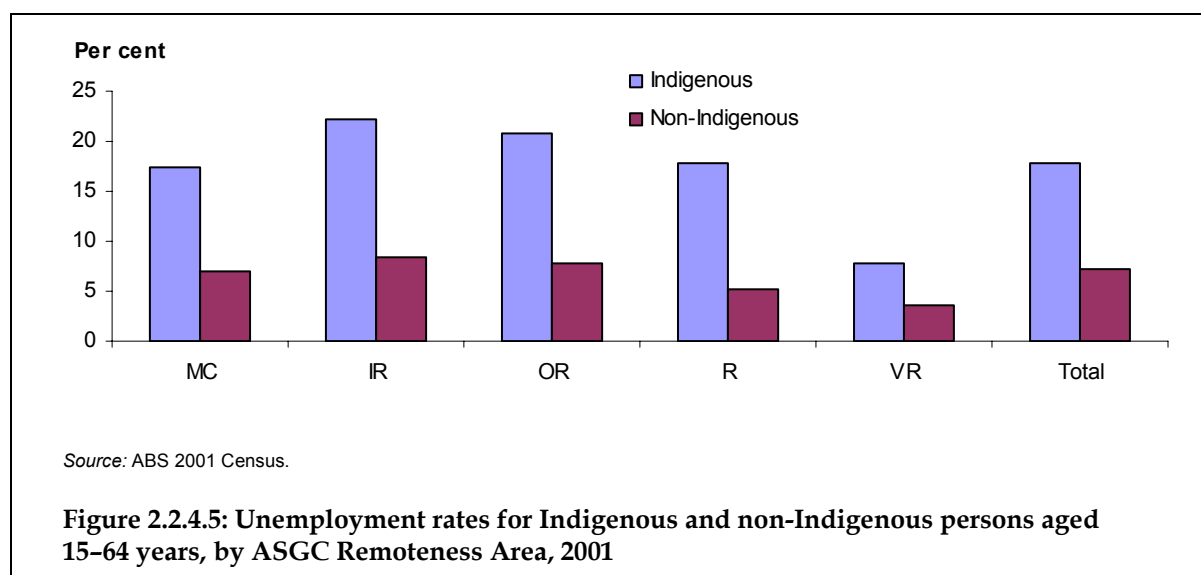
	MC	IR	OR	R	VR	Total
	(Per cent)					
<b>Indigenous</b>						
Crude	20	25	23	19	8	20
Age-standardised	17	22	21	18	8	18
<b>Non-Indigenous</b>						
Crude	7	8	7	5	3	7
Age-standardised	7	8	8	5	4	7
<b>Total</b>						
Crude	7	8	8	6	5	7
Age-standardised	7	9	8	6	5	7

Source: ABS 2001 Census.

In 2001, unemployment rates for Indigenous people were higher than those for non-Indigenous Australians. The overall unemployment rate for Indigenous people aged 15–64 years was 18% compared with 7% for non-Indigenous people (Table 2.2.4.4 and Figure 2.2.4.5).

Unemployment rates for Indigenous people were higher in regional areas (22% and 21%), and lower in Very Remote areas (8%) than they were in Major Cities (17%) or Remote areas (18%).

Unemployment rates for non-Indigenous people were also higher in regional areas (8%), but were lower in Remote (5%) and Very Remote areas (4%) than they were in Major Cities (7%).



**Table 2.2.4.4: Age-standardised unemployment rates, participation rates and employment-to-population ratios for Indigenous and non-Indigenous persons aged 15-64 years by ASGC Remoteness Area, 2001**

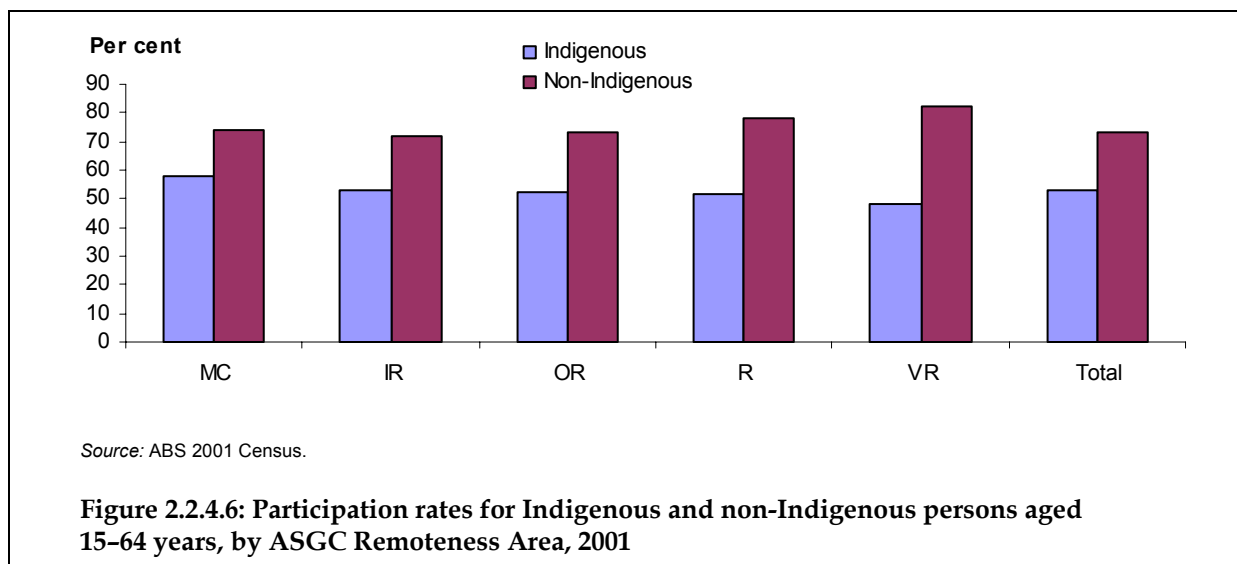
	MC	IR	OR	R	VR	Total
<b>Unemployment rate</b>						
Indigenous	17	22	21	18	8	18
Non-Indigenous	7	8	8	5	4	7
All persons	7	9	8	6	5	7
<b>Participation rate</b>						
Indigenous	58	53	52	52	48	53
Non-Indigenous	74	72	73	78	82	73
All persons	73	71	72	75	68	73
<b>Employment-to-population ratio</b>						
Indigenous	48	41	41	42	45	44
Non-Indigenous	69	66	68	74	79	68
All persons	68	65	66	70	64	67

Source: ABS 2001 Census

In 2001, the overall participation rate was lower for Indigenous people (53%) than for non-Indigenous people (73%) (Table 2.2.4.4 and Figure 2.2.4.6).

Participation rates for Indigenous people were lower in regional (53% and 52%) and Remote (52%) areas and especially lower in Very Remote areas (48%) than in Major Cities (58%).

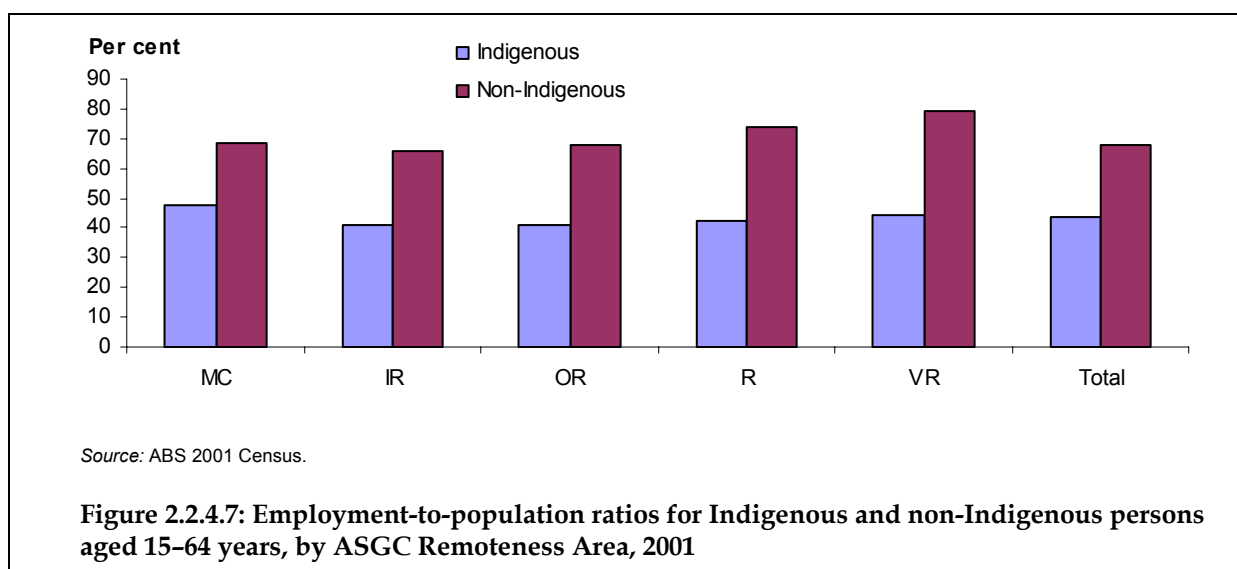
For non-Indigenous people, participation rates were slightly lower in regional areas (72% and 73%), and substantially higher in remote areas (78% and 82%), than in Major Cities (74%).



In 2001, the overall employment-to-population ratio was lower for Indigenous people (44%) than for non-Indigenous people (68%) (Table 2.2.4.4 and Figure 2.2.4.7).

The percentage of the Indigenous population employed was lower in regional (41%) and remote (42% and 45%) areas than in Major Cities (48%).

The percentage of the non-Indigenous population employed was lower in regional areas (66% and 68%) but higher in Remote (74%) and Very Remote (79%) areas than in Major Cities (69%).



## 2.2.6 Household income and the gap between rich and poor

### Summary of findings

In 1999, equivalised after-tax household incomes in regional areas were about 80% of those in Major Cities (i.e. they were less).

Between 1996 and 1999:

- mean equivalised after-tax household incomes (EATH incomes) increased in each area, by 13%, 14% and 3% in Major Cities, Inner Regional and Outer Regional areas, respectively.
- P10 EATH incomes (low incomes) increased in each area, by 5%, 6% and 12% in Major Cities, Inner Regional and Outer Regional areas, respectively
- P90 EATH incomes (high incomes) increased in each area, by 14%, 14% and 4% in Major Cities, Inner Regional and Outer Regional areas, respectively.

#### **Box 2.2: Equivalised after-tax household (EATH) income – concepts and definitions**

*Equivalised after-tax household (EATH) income is the combined income of all wage earners sharing a household after tax has been subtracted, divided by a factor reflecting the number of adults and children in that household (1.0 for the first adult aged 15 years and above, plus 0.5 for each additional adult, plus 0.3 for each child aged 0–14 years – the modified OECD scale (De Vos & Zaidi 1997)).*

*P10 refers to the EATH income of the household containing the person whose EATH income is greater than 10% of all other people, and lower than 90% of all other people (i.e. P10 is quite a low income).*

*P90 refers to the EATH income of the household containing the person whose EATH income is greater than 90% of all other people, and lower than 10% of all other people (i.e. P90 is quite a high income).*

*P20, P50 and P80 are similarly defined.*

*P90/P10 ratio is calculated as the high (P90) income divided by the low (P10) income. A large ratio indicates a wide range of income; a small ratio indicates a narrow range of income in the population.*

Between 1996 and 1999, P90/P10 ratios (the ratio of high incomes to low incomes, indicative of the 'gap' between rich and poor) increased by about 8% in Major Cities (from 3.72 to 4.03) and Inner Regional areas (from 3.22 to 3.46), but decreased by about 7% in Outer Regional areas (from 3.80 to 3.53), i.e. income inequality became greater in the former, but less in the latter.

Income inequality is greater in Major Cities than it is in regional areas. In 1999:

- the P90/P10 ratio was close to 4 in Major Cities and close to 3.5 in regional areas (indicating greater income inequality between the richest and the poorest in Major Cities than in regional areas)
- the P80/P20 ratio was about 2.6 in Major Cities and about 2.5 in regional areas (indicating only slight inter-regional differences in the income inequality of the moderately affluent and the moderately poor)

- the P80/P50 and P20/P50 ratios were similar in all three areas (1.54–1.55 and 0.59–0.63 respectively), indicating similar levels of inequality in each of the areas within the majority of the population (the middle-income earners).

The inter-regional pattern in 1996 was similar, with the exception that all ratios in Outer Regional areas were similar to or higher than they were in Major Cities, indicating similar or higher levels of income inequality in Outer Regional areas at that time compared with Major Cities.

Comparable information on income inequality is not available for remote areas.

## Background

Income from employment (or other personal income such as investments or superannuation) or via social security provides for necessities such as food, clothing, shelter, security, education, transport and health care. It also provides people with choices as well as control over their own lives. The 'less skilled' nature of work opportunities in more remote settings and the higher level of competition for jobs, as well as lower prevalence of employment, act to keep income at lower levels. Higher levels of fertility and larger families, along with greater prevalence of Indigenous people, who tend to have larger households, may require income to be assessed more cautiously than measures based merely on average 'household income'.

Income is relative; relative to the income of others and relative to the cost of goods and services. Indicators of income need to be interpreted in the light of information about the costs of goods and services across geographic areas (see cost of living indicator – page 206).

Concerns about the quality and comparability of data pertaining to income in the 1991, 1996 and 2001 Censuses, and the lack of information about after-tax incomes, prevent reporting of income from these data sources. Data from the ABS Survey of Income and Housing Costs have been used instead.

The level of income inequality as well as income per se has been suggested as a determinant of health (Kawachi & Kennedy 1999), although such a relationship is still being debated (Wagstaff & van Doorslaer 2000). It is well known that the health of poor people is worse than that of wealthy people. This additional relationship between income inequality and health suggests that people (mostly those in the lower income groups) in populations with a wide range of individual incomes can be expected to have poorer average health outcomes than people in populations where individual incomes tend to be similar.

One way to measure the gap between rich and poor within an area is to use the P90/P10, P80/P20, P80/P50 and P20/P50 ratios of equivalised after-tax household income (hereafter referred to as 'EATH income').

Ratios of highest to lowest income are much smaller when EATH income is used rather than gross household income (i.e. where household size is not taken into account). For example, when using pre-tax household income data from the 1996 Census, the household at the P90 level earned 8.45 times more than the household at the P10 level. Using equivalised after-tax household income from the 1996 Survey of Income and Housing costs reduces this figure to 3.65 times.

Data are taken from the ABS Survey of Income and Housing Costs, a random survey conducted face-to-face with each member of the selected households aged at least 15 years. The survey was conducted on a yearly basis from 1994–95 to 1997–98, and in 1999–2000, 2000–01 and 2002–03. The survey asks respondents about rents, mortgages, other housing

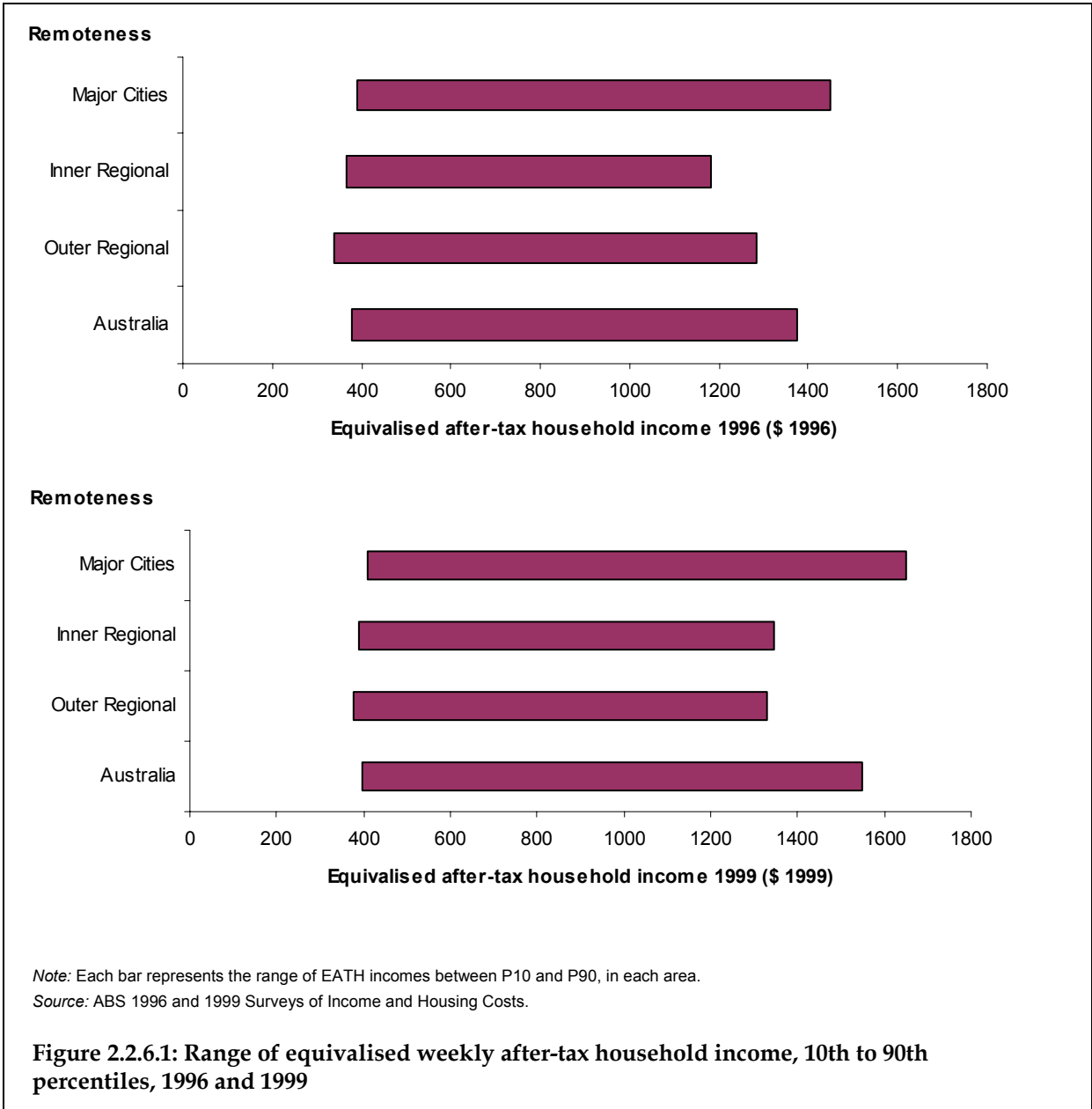
costs and income. Sampling is not conducted in remote areas. Data from the 1996–1997 and 1999–2000 surveys are presented in this report.

Lack of sampling in remote areas restricts reporting here to Inner and Outer Regional areas only. The relatively small numbers of respondents in regional (especially Outer Regional areas) suggests caution in interpreting the numbers.

**Detailed results**

In 1999, Major Cities had the highest mean EATH income of \$972 per week, followed by Inner and Outer Regional areas with mean EATH incomes of \$807 and \$787 per week, respectively.

Between 1996 and 1999 the mean EATH income in Major Cities and Inner Regional areas grew by 13% and 14% respectively, and in Outer Regional areas it grew by 3%.



Income inequality based on P90/P10 and P80/P20 ratios of EATH income is greater in Major Cities than in other areas. In 1999 the P90/P10 ratio in Major Cities was 4.03. This means that people at the P90 level had an equivalised after-tax household income 4.03 times that of people at the P10 level. In comparison, the P90/P10 ratios for Inner Regional areas and Outer Regional areas in 1999 were 3.46 and 3.53 respectively (i.e. the 'gap' was smaller). In Major Cities the P80/P20 ratio was 2.63, compared with 2.45 in Inner Regional areas and 2.5 in Outer Regional areas (i.e. income inequality between the rich and the poor in regional areas was slightly less than in Major Cities).

There was little variation between areas for the other ratios, P80/P50 tended to be 1.53–1.57 and P20/P50 was 0.59–0.63, suggesting similar levels of inequity in each area for the 60% of the population from households with moderate household incomes (P20–P80).

In Major Cities, the level of income inequality based on EATH income increased between 1996 and 1999. The P90/P10 ratio increased from 3.72 to 4.03, and the P80/P20 ratio increased from 2.53 to 2.63. In the same period, the P80 and P20 ratios moved in opposite directions away from the median EATH income, indicating that income inequality in Major Cities increased over the period (Table 2.2.6.1).

**Table 2.2.6.1: Equivalised weekly after-tax household income, 1996 and 1999**

	MC	IR	OR	Total <sup>(a)</sup>
	\$ <sup>(b)</sup>			
<b>1996</b>				
P10 <sup>(c)</sup>	389	367	338	377
P20	469	417	408	445
P50	775	620	656	721
P80	1186	972	1026	1125
P90	1448	1182	1285	1376
Mean income	858	706	764	814
<b>1999</b>				
P10	409	389	377	397
P20	507	452	442	482
P50	866	714	721	810
P80	1333	1107	1107	1268
P90	1648	1344	1330	1550
Mean income	972	807	787	915
<b>Ratio</b>				
<b>1996</b>				
P90/P10	3.72	3.22	3.80	3.65
P80/P20	2.53	2.33	2.51	2.53
P80/P50	1.53	1.57	1.56	1.56
P20/P50	0.61	0.67	0.62	0.62
<b>1999</b>				
P90/P10	4.03	3.46	3.53	3.90
P80/P20	2.63	2.45	2.50	2.63
P80/P50	1.54	1.55	1.54	1.57
P20/P50	0.59	0.63	0.61	0.60

(a) Total does not include Remote and Very Remote areas.

(b) Dollar amounts have not been adjusted for inflation. Amounts reported for 1996 are in 1996 dollars, amounts reported for 1999 are in 1999 dollars.

(c) The meaning of P10, P20, etc and of the ratios (e.g. P90/P10) are explained in Box 2.2 at the beginning of this indicator.

Source: ABS 1996 and 1999 Surveys of Income and Housing Costs.

For Inner Regional areas the P90/P10 and P80/P20 ratios increased from 3.22 to 3.46 and 2.33 to 2.45 respectively between 1996 and 1999. There was little change, or a slight decrease in the P80/P50 ratio (1.57 to 1.55), and in the P20/P50 ratio (0.67 to 0.63).

In Outer Regional areas, the level of income inequality (based on equivalised after-tax household income) declined between 1996 and 1999. The P90/P10 ratio decreased from 3.80 to 3.53. There were very small decreases (little or no change) in the P80/P20 (2.51 to 2.50), P80/P50 (1.56 to 1.54), and P20/P50 (0.62 to 0.61) ratios.

## 2.2.7 Percentage employed in each industry

### Summary of findings

People from rural and remote areas are often stereotyped as farmers, but for people aged 15 years and over who live in Inner and Outer Regional, Remote and Very Remote areas, the agriculture, forestry and fishing industries combined employed, respectively, only 4%, 10%, 15% and 11% of the adult population in 2001.

Mining, another stereotypical regional remote area industry, employed another 0.5%, 1%, 5% and 5% of the people in these areas.

Other industries that were substantial employers in regional and remote areas were:

- manufacturing – about 6% of people from regional areas and under 3% of people from remote areas
- retail – between 7% and 9% in regional and Remote areas, and 5% in Very Remote areas
- education – between 4% and 5% in each area
- health and community services – between 4% and 6% in each area
- construction – 3% to 4% in each area.

Another 18%, 17%, 18% and 14% of people aged 15 years and over in the four areas, respectively, were employed in other industries, between 3% and 5% were unemployed, and 41%, 38%, 31% and 36%, respectively, were not in the labour force (retired, studying, full-time parenting, etc).

### Background

This indicator describes the percentage of the adult population in each Remoteness Area employed in each of a range of industries. This measure briefly describes the diversity of the economy in each area.

Data are taken from the 2001 ABS Census. Presented statistics are simple percentages.

### Detailed results

In 2001, the industries in which the greatest numbers of people were employed were retail (8.6%), manufacturing (7.2%), property and business services (6.5%), health and community services (5.7%), education (4.2%) and construction (4%). A further 21.7% were employed in other industries (including agriculture, forestry, fishing and mining together employing 2.9% of the adult population), 4.7% were unemployed and 37.4% were not in the labour force.

The percentage of the population employed in several industries changed as remoteness increased:

- agriculture, forestry, fishing and mining increased in importance, occupying 4.3%, 11.0%, 9.9% and 16.4% of the adults in Inner and Outer Regional, Remote and Very Remote areas, respectively
- manufacturing decreased from 7.9% in Major Cities, to 6.6% and 5.0% in Inner and Outer Regional areas, respectively, and 3% and 1.6% in Remote and Very Remote areas, respectively
- retail decreased from 8.7% in Major Cities to 7.2% in Remote areas, and then to 4.7% in Very Remote areas

- property and business services decreased from 7.9% in Major Cities, to 4.1%, 3.6%, 3.3% and 2.0% in the other four areas, respectively
- education and construction were about equally important in each of the areas
- government administration and defence employed 12.1% of adults in Very Remote areas compared with about 3% or less in the other areas (including Major Cities)
- health and community services became relatively less important in more remote areas, declining from 5.9% in Major Cities to 5.8%, 5.1%, 4.6% and 4.2% in the other four areas.

**Table 2.2.7.1: Labour force status and industry division (ANZSIC) by ASGC Remoteness Area, 2001**

	MC	IR	OR	R	VR	Total
	(per cent)					
Employed	59.1	54.1	57.2	65.0	60.6	57.9
Agriculture, forestry & fishing	0.4	3.8	9.8	14.7	11.0	2.3
Mining	0.3	0.5	1.1	5.2	5.4	0.5
Manufacturing	7.9	6.6	5.0	3.0	1.6	7.2
Electricity, gas & water supply	0.4	0.6	0.5	0.5	0.3	0.4
Construction	4.0	4.1	3.5	4.0	3.0	4.0
Wholesale trade	3.4	2.6	2.7	2.4	1.2	3.1
Retail trade	8.7	8.8	8.2	7.2	4.7	8.6
Accommodation, cafes & restaurants	2.8	3.0	3.3	4.3	3.9	2.9
Transport and storage	2.6	2.2	2.6	2.9	2.2	2.5
Communication services	1.3	0.7	0.6	0.6	0.4	1.1
Finance and insurance	2.8	1.2	0.9	0.7	0.3	2.2
Property and business services	7.9	4.1	3.6	3.3	2.0	6.5
Government admin & defence	2.6	2.3	2.9	3.5	12.1	2.6
Education	4.2	4.3	4.1	4.7	4.5	4.2
Health and community services	5.9	5.8	5.1	4.6	4.2	5.7
Cultural & recreational services	1.6	1.1	0.9	0.9	0.7	1.4
Personal and other services	2.2	2.0	1.8	2.1	2.7	2.1
Non-classifiable economic units	0.4	0.3	0.3	0.4	0.4	0.3
Unemployed	4.5	5.1	5.0	4.1	3.2	4.7
Not in the labour force	36.4	40.9	37.9	30.9	36.2	37.4
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: ABS 2001 Census.

In 2001, the pattern for Indigenous people was different. The percentage of Indigenous people unemployed (10.6%) or not in the workforce (48.7%) was higher than for the non-Indigenous population (4.6% and 36.9%, respectively).

For Indigenous people, major differences in the pattern of economic activity across Remoteness Areas were that:

- manufacturing decreased in importance, from employing 4.8% of Indigenous people in Major Cities, to 4.2%, 2.6%, 1.2% and 0.2%, respectively, in Inner and Outer Regional, Remote and Very Remote areas

- retail trade decreased in importance, from employing 5.4% of Indigenous people in Major Cities, to 4.9%, 3.5%, 2.7% and 1.3%, respectively, in Inner and Outer Regional, Remote and Very Remote areas
- government administration and defence increased from 4.3% in Major Cities, to 3.2%, 6.2%, 8.9% and 23.7% in the four other areas
- health and community services remained similar in most areas, with just over 5% of Indigenous adults in all areas employed in this sector (3.4% in Very Remote areas)
- only a small percentage (2.6%) of Indigenous people were employed in agriculture, forestry, fishing and mining.

**Table 2.2.7.2: Labour force status and industry division (ANZSIC) of Indigenous persons by ASGC Remoteness Area, 2001**

	MC	IR	OR	R	VR	Total
	(per cent)					
Employed	45.0	38.1	38.0	39.7	41.2	40.8
Agriculture, forestry & fishing	0.4	1.6	3.2	2.5	1.8	1.8
Mining	0.2	0.3	0.6	2.1	0.8	0.6
Manufacturing	4.8	4.2	2.6	1.2	0.2	3.0
Electricity, gas & water supply	0.2	0.3	0.2	0.2	0.1	0.2
Construction	3.2	2.7	1.9	2.2	0.9	2.3
Wholesale trade	2.1	1.6	1.3	0.8	0.2	1.4
Retail trade	5.4	4.9	3.5	2.7	1.3	3.9
Accommodation, cafes & restaurants	2.3	2.1	1.8	1.6	0.5	1.7
Transport and storage	2.1	1.4	1.4	1.2	0.5	1.4
Communication services	1.2	0.4	0.3	0.2	0.0	0.6
Finance and insurance	0.9	0.4	0.2	0.1	0.1	0.4
Property and business services	4.2	2.8	2.5	2.4	1.0	2.8
Government admin & defence	4.3	3.2	6.2	8.9	23.7	8.4
Education	3.7	3.6	3.9	3.7	2.4	3.5
Health and community services	5.4	5.4	5.1	5.3	3.4	4.9
Cultural & recreational services	1.5	0.8	0.9	0.9	0.4	1.0
Personal and other services	2.5	1.9	2.0	3.2	3.6	2.5
Non-classifiable economic units	0.5	0.4	0.5	0.5	0.3	0.4
Unemployed	11.7	13.2	11.9	9.8	3.9	10.6
Not in the labour force	43.3	48.7	50.1	50.4	54.8	48.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: ABS 2001 Census.

For non-Indigenous people the pattern was largely similar to that for the total population, except in Very Remote areas where:

- 25.9% were engaged in agriculture, forestry, fishing and mining as opposed to 11.0% for the total population
- 7.0% were engaged in retail trade versus 4.7% in the total population
- 6.3% were employed in hospitality versus 3.9% for the total population

- 4.7% were employed in government administration and defence compared with 12.1% for the total population in these areas.

**Table 2.2.7.3: Labour force status and industry division (ANZSIC) of non-Indigenous persons by ASGC Remoteness Area, 2001**

	MC	IR	OR	R	VR	Total
	(per cent)					
Employed	59.5	54.6	58.1	67.9	75.1	58.5
Agriculture, forestry & fishing	0.4	3.8	10.1	16.0	17.3	2.4
Mining	0.3	0.5	1.2	5.5	8.6	0.5
Manufacturing	7.9	6.7	5.1	3.1	2.6	7.3
Electricity, gas & water supply	0.4	0.6	0.5	0.6	0.5	0.4
Construction	4.0	4.2	3.6	4.2	4.5	4.0
Wholesale trade	3.4	2.7	2.7	2.6	2.0	3.1
Retail trade	8.8	9.0	8.4	7.7	7.0	8.7
Accommodation, cafes & restaurants	2.8	3.0	3.4	4.6	6.3	2.9
Transport and storage	2.6	2.2	2.7	3.1	3.4	2.6
Communication services	1.3	0.7	0.6	0.6	0.7	1.1
Finance and insurance	2.8	1.2	0.9	0.7	0.5	2.3
Property and business services	7.9	4.2	3.6	3.4	2.7	6.6
Government admin & defence	2.6	2.3	2.8	3.0	4.7	2.5
Education	4.3	4.4	4.2	4.9	6.0	4.3
Health and community services	5.9	5.8	5.1	4.6	4.8	5.8
Cultural & recreational services	1.6	1.1	1.0	0.9	0.8	1.5
Personal and other services	2.2	2.1	1.8	2.0	2.2	2.1
Non-classifiable economic units	0.4	0.3	0.3	0.4	0.5	0.3
Unemployed	4.5	4.9	4.7	3.6	2.8	4.6
Not in the labour force	36.1	40.5	37.1	28.6	22.2	36.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: ABS 2001 Census.

## 2.2.8 Socioeconomic Indexes for Areas (SEIFA)

### Summary of findings

For the three indexes of relative socioeconomic disadvantage, economic resources, and education & occupation, outcomes are better in Major Cities than in regional and Remote areas.

In 1996, 34% of people in Major Cities lived in Australia's least disadvantaged areas, compared with 14%, 8%, 10% and 2% of people in Inner and Outer Regional, Remote and Very Remote areas, respectively. Conversely, 20% of people in Major Cities lived in Australia's most disadvantaged areas, compared with between 26% and 33% of people in regional and Remote areas, and 53% of people in Very Remote areas.

In 1996, while 38% of people in Major Cities lived in the parts of Australia best supplied with economic resources, 13%, 7%, 10% and 5% of people in the other four areas, respectively, lived in such places. While 17% of people from Major Cities lived in parts of Australia with the lowest supply of economic resources, 26%, 37%, 38% and 69% of people in the other four areas, respectively, lived in such places.

In 1996, while 34% of people in Major Cities lived where educational and occupational attainment levels were high, only 10%, 5%, 3% and 1% of people in the other four areas, respectively, lived in such locations. Of people from Major Cities, 19% lived where educational and occupational attainment was low, compared with 31%, 39%, 36% and 44% of people in the other four areas, respectively.

### Background

Socioeconomic Indexes for Areas provide a summary measure of the socioeconomic conditions in an area.

The indexes are applied at the finest level of area – the Australian Census Collection Districts (CDs). There are many CDs within each ASGC Remoteness Area. This indicator attempts to find the proportion of people in each of the five Remoteness Areas who live in CDs ranked in four groups according to three separate (but related) indexes of disadvantage. In other words, this indicator describes the percentage of the population in each Remoteness Area, who score highest, high, low, and lowest on three socioeconomic indexes:

- the Index of Relative Socioeconomic Disadvantage
- the Index of Economic Resources
- the Index of Education and Occupation.

Percentages were calculated from 1996 ABS Census data by:

- listing all Australian Census Collection Districts (CDs) in order from lowest to highest SEIFA score
- identifying the 25th, 50th and 75th quartiles, thereby dividing the CDs into four groups of equal number – ranked from lowest to highest SEIFA scores
- allocating a Remoteness Area category (Major Cities, Inner Regional, etc.) to each CD
- for each SEIFA quartile and each Remoteness Area, summing the total number of people
- calculating the simple percentage of people in each Remoteness Area in each SEIFA quartile.

The resultant percentages describe the proportion of each Remoteness Area's population who live in Australia's most and least disadvantaged areas.

For example, the 25% of Census collection districts with the lowest index scores are placed in the first quartile of each index. Areas in the first quartile of the:

- Index of Relative Socioeconomic Disadvantage have the highest proportions of socioeconomically disadvantaged individuals and families (ABS 1998).
- Index of Economic Resources have the largest proportions of households on low incomes and living in small dwellings. These areas also have relatively high proportions of households in public housing.
- Index of Education and Occupation have the largest proportions of people who have low educational attainment, work in unskilled occupations or are unemployed.

There is much overlap between these three indexes.

## Detailed results

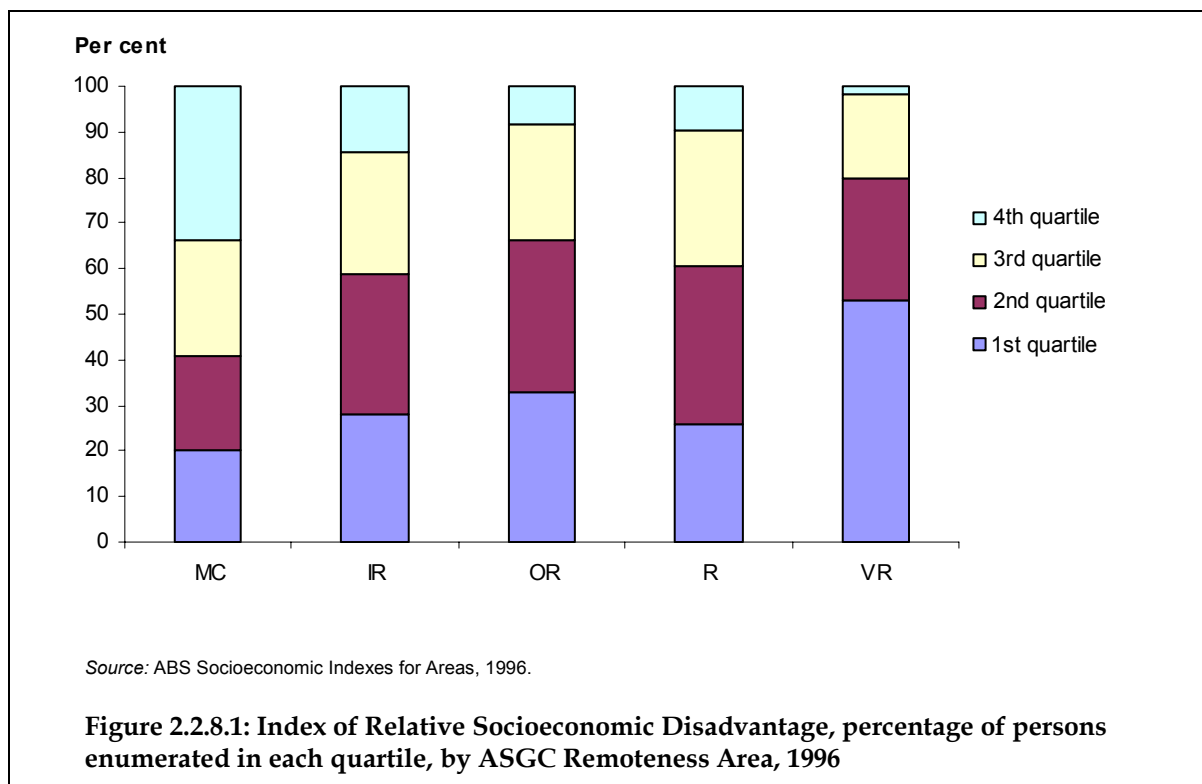
### SEIFA Index of Relative Socioeconomic Disadvantage

**Table 2.2.8.1: Index of Relative Socioeconomic Disadvantage, percentage of persons enumerated in each quartile, by Remoteness Area, 1996**

Quartile of socioeconomic disadvantage	MC	IR	OR	R	VR	Total
			(per cent)			
4th quartile (least disadvantaged areas)	34	14	8	10	2	26
3rd quartile	25	27	26	30	18	25
2nd quartile	21	31	33	35	27	24
1st quartile (most disadvantaged areas)	20	28	33	26	53	24
Total	100	100	100	100	100	100

Source: ABS Socioeconomic Indexes for Areas, 1996.

In 1996, as remoteness increased, the proportion of people living in least disadvantaged areas decreased and the proportion in the most disadvantaged areas increased. For example, whereas 34% of people in Major Cities lived in areas classified as most advantaged, 14%, 8%, 10% and 2% of people in Inner Regional, Outer Regional, Remote and Very Remote areas, respectively, lived in such areas. Whereas 20% of people from Major Cities lived in areas classified as most disadvantaged, 28%, 33%, 26% and 53% of people in Inner Regional, Outer Regional, Remote and Very Remote areas, respectively, lived in such areas.

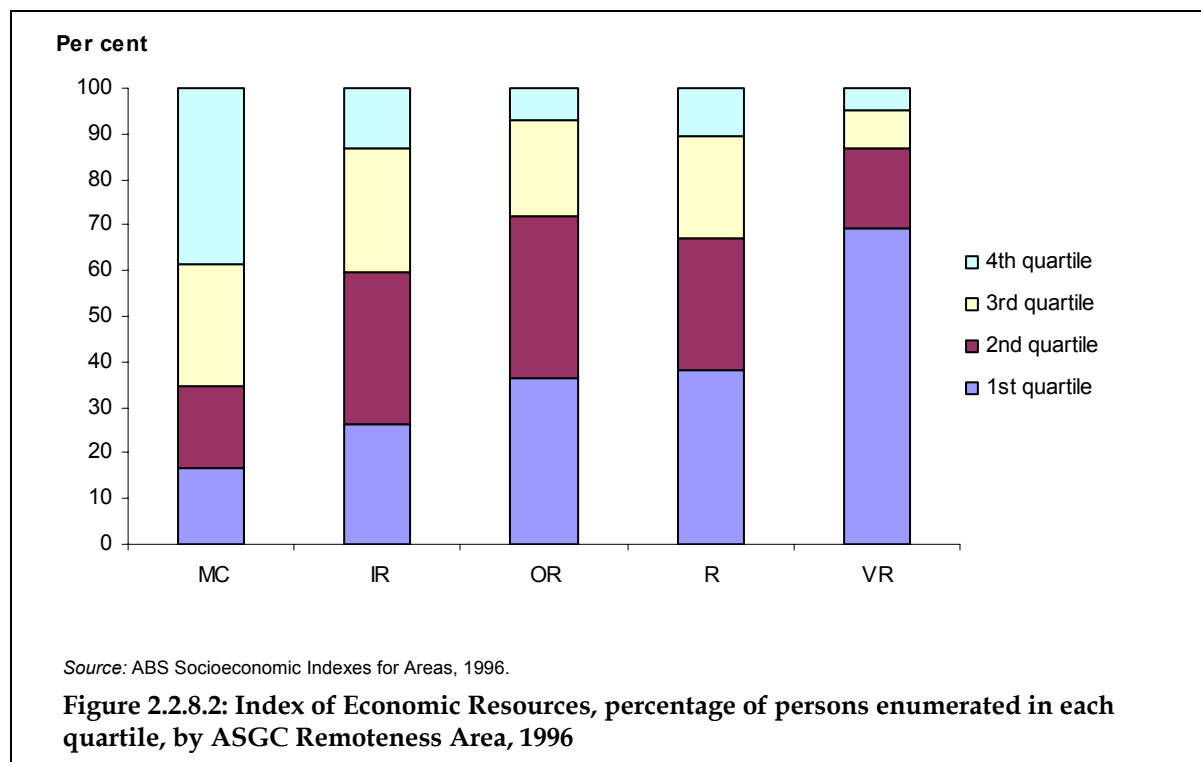


## SEIFA Index of Economic Resources

**Table 2.2.8.2: Index of Economic Resources, percentage of persons enumerated in each quartile, by Remoteness Area, 1996**

Quartile of economic resources	MC	IR	OR	R	VR	Total
	(per cent)					
4th quartile (most economic resources)	38	13	7	10	5	29
3rd quartile	27	27	21	23	8	26
2nd quartile	18	33	36	29	17	23
1st quartile (least economic resources)	17	26	37	38	69	22
Total	100	100	100	100	100	100

Source: ABS Socioeconomic Indexes for Areas, 1996.



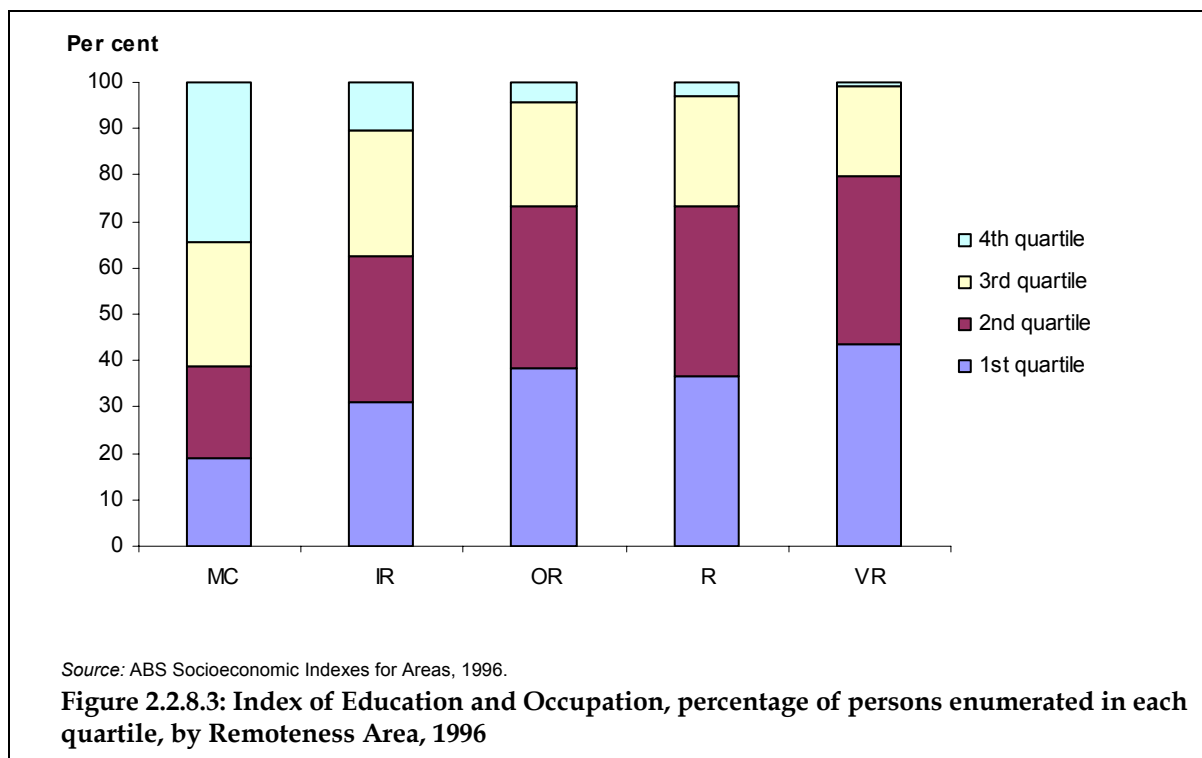
In 1996, as remoteness increased, the proportion of people living in areas with the most economic resources decreased and the proportion living in areas with the least economic resources increased. Whereas 38% of people in Major Cities lived in areas classified as well supplied with economic resources, only 13%, 7%, 10% and 5% of people in Inner Regional, Outer Regional, Remote and Very Remote areas, respectively, lived in such areas. Whereas 17% of people from Major Cities lived in areas classified as poorly supplied with economic resources, 26%, 37%, 38% and 69% of people in Inner Regional, Outer Regional, Remote and Very Remote areas, respectively, lived in such areas.

### SEIFA Index of Education and Occupation

**Table 2.2.8.3: Index of Education and Occupation, percentage of persons enumerated in each quartile, by Remoteness area, 1996**

Quartile of education and occupation	MC	IR	OR	R	VR	Total
	(per cent)					
4th quartile (high educational and occupational attainment)	34	10	5	3	1	25
3rd quartile	27	27	22	23	20	26
2nd quartile	20	32	35	37	36	25
1st quartile (low educational and occupational attainment)	19	31	39	36	44	24
Total	100	100	100	100	100	100

Source: ABS Socioeconomic Indexes for Areas, 1996.



In 1996, as remoteness increased, the proportion of people living in areas in which educational and occupational attainment was highest decreased and the proportion living in areas with low levels of educational and occupational attainment increased. Whereas 34% of people in Major Cities lived in areas classified as having high educational and occupational attainment, only 10%, 5%, 3% and 1% of people in Inner Regional, Outer Regional, Remote and Very Remote areas, respectively, lived in such areas. Whereas 19% of people from Major Cities lived in areas classified as having low educational and occupational attainment, 31%, 39%, 36% and 44% of people in Inner Regional, Outer Regional, Remote and Very Remote areas, respectively, lived in such areas.

In 1996, 63%, 73%, 73% and 80% of people in Inner and Outer Regional, Remote and Very Remote areas lived in areas classified as having the lowest educational and occupational attainment (i.e. in the lowest two quartiles), compared with 39% in Major Cities.