



# Technical appendix

## Chapter 2 Welfare services expenditure

### Disability factors

A disability factor is the extent of the disability that a State faces for a particular aspect of an area of expenditure relative to the Australian average. Different disability factors are applied to different functions. In the welfare services area, the disability factors used include:

#### *Relevant population*

This is the proportion of the population in the target group for the service (such as school age children).

#### *Administrative scale*

This factor measures the differences between States in the cost effects of size of operation in policy development and administration in central offices, and in specialised State-wide services provided centrally.

#### *Age/sex composition*

This factor measures the expenditure impact of differences between States in the relative size of age-sex groups known to require more or less resources to service than others.

#### *Socioeconomic composition*

This factor measures the budgetary impact of differences between States in the relative size of certain ethnic or socioeconomic groups which are known to be more or less expensive to service than the rest of the population.

#### *Dispersion*

This factor measures the influence on costs of differences between States in the geographical distribution of their populations.

#### *Input costs*

This factor measures the differences between States in the unit costs of the inputs of labour, accommodation and electricity.

Disability factor ratios for the Commonwealth Grants Commission category of 'aged and disabled welfare' are illustrated in Table TA2.1 below.

Tasmania, with an older population, had the highest global disability factor of 1.2577. The Northern Territory, with a younger population, had the lowest global disability factor of 0.4658. In 1995-96, standardised expenditure for Tasmania was, therefore, the

**Table TA2.1: Disability factor ratios for 'aged and disabled welfare'**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Administrative scale	0.9946	0.9946	0.9946	1.0065	1.0105	1.0304	1.0463	1.1139
Age/sex composition	1.0061	1.0028	0.9975	0.9820	1.0258	1.0123	0.9461	0.7849
Input costs	1.0029	0.9979	0.9949	1.0029	0.9999	0.9959	1.0049	1.0219
Relevant population	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Socioeconomic composition	1.0616	0.9974	0.9456	0.8961	1.0639	1.2119	0.6231	0.5218
Global factor adjusted to Australian average	1.0644	0.9917	0.9326	0.8875	1.1017	1.2577	0.6193	0.4658

*Source:* CGC unpublished data.

highest, at \$153.42 per person (1.2577 \* the national average expenditure of \$121.98), while that of the Northern Territory was the lowest, at \$56.82 per person (0.4658 \* \$121.98) (Table 2.10).

The difference between standardised expenditure and the Australian average (standard) expenditure identifies disability or need in relation to the national average. A negative value for need means that it costs less than the national average for the State or Territory to provide an average standard of service. In contrast, a positive value for need means it costs more than the national average for these States and Territories to provide an average standard of service. For aged and disabled welfare services, States and Territories with 'negative need' for 1995–96 were the Northern Territory, the Australian Capital Territory, Western Australia, Victoria and Queensland. Those States with 'positive need' were New South Wales, South Australia, and Tasmania.

## Chapter 5 Housing assistance

### Issues in defining and measuring housing assistance

#### Data sources

There is currently no single national housing assistance data collection and data on housing assistance are highly fragmented. The coherence of data across housing assistance areas is restricted by a range of technical issues relating to data definitions and quality and the availability of appropriate analytical tools and expertise.

The data issues facing the examination of housing assistance can be summarised as follows:

- There is a need for better and more consistent data, as illustrated by
  - the considerable number of qualifications on the data used in the public housing performance indicators for the 1997 Review of Government Service Provision (SCRCSSP 1997:264–319); and
  - the large inconsistencies between ABS survey data and DSS administrative data on rent assistance (see Box TA5.1).
- There are data gaps—currently available data do not measure the breadth of housing assistance; in particular, data on assistance to home owners are inadequate.
- There are often poorly developed information links between housing assistance and
  - other welfare services (such as crisis services, aged care services, services for persons with a disability and family services); and
  - income support payments.
- A lack of time series data—there is a need for data to be developed that will provide continuous measurement of the effectiveness of housing assistance.

These issues are illustrated in SCRCSSP (1997) where the performance information for affordability, accessibility and appropriateness were all highly qualified between jurisdictions, and the data were not considered as comprising national comparable performance information. In particular, the accessibility indicator reflecting aspects of adequacy of access was:

- based on two different assumptions of what comprised a household in need;
- used two different definitions of occupancy standards for matching household composition to the size of the dwelling occupied; and
- used data from three different data sources: jurisdiction data, DSS data and 1991 ABS Census data, which utilise different definitions and relate to different time periods.

Similarly, there are significant differences between population survey data and administrative data on housing assistance in relation to the number of recipients of assistance and the value of assistance they receive. For example, the 1993–94 ABS Household Expenditure Survey estimated that there were 472,700 households renting from State or Territory housing authorities (ABS 1996f:22), while the State and Territory housing authorities actually reported 383,600 households (SCRCSSP 1995:126).

### **Box TA5.1: Underestimation of Rent Assistance recipient households, using the 1994 AHS**

According to DSS, in December 1994 there were some 930,000 'recipients' of Rent Assistance (DSS 1995:109), with an additional 40,000 recipients of Rent Assistance through DVA (DVA unpublished). From the 1994 Australian Housing Survey it is estimated that some 516,000 households were receiving some Rent Assistance at the time of the survey. Even after considering the differences in these two data sources, as discussed below, it is evident that the AHS data significantly understate the number of Rent Assistance recipients in households:

- Respondents representing an estimated additional 94,000 or so households were in receipt of pensions or benefits associated with Rent Assistance but their rent/board was not stated, so it could not be determined whether they received assistance or not.
- There was some under-identification of receipt of pensions and benefits in the 1994 AHS, particularly the age pension and unemployment benefits, which would again lead to an understatement of receipt of assistance.

Taking these points into account it is estimated that some 625,000 households received Rent Assistance at the time of the survey in 1994. This excludes those living in non-private accommodation, such as nursing homes, hostels and boarding houses, who receive Rent Assistance.

However, the DSS figure given above is not directly comparable with the AHS-based figure for several reasons:

- persons in nursing homes and aged person hostels, around 90,000 persons in 1994 (Jenkins, 1996), and other non-private dwellings are included in this figure;
- because of the way Rent Assistance is paid there may be double-counting of couple-only families—from the AHS it is estimated that there were 40,000 double recipient couple-only income units; and
- except for the two groups above, in general 'recipients' correspond to income units, several of which may be in the same household. Among households identified in the AHS as receiving Rent Assistance, 29% were in multi-income unit households.

Taking these differences into account suggests that the combined DSS/DVA figure of 970,000 'recipients' corresponds to about 840,000 income units (970,000 minus 90,000 in non-private dwellings and 40,000 double-counted) or about 754,000 households living in private dwellings. (Note that this figure still includes recipients of Rent Assistance living in non-private dwellings other than nursing homes and aged person hostels, such as boarding houses.)

As at December 1995, a total of 894,000 income units were receiving Rent Assistance (DSS 1996f:298). Using the relationships above, this corresponds to about 894,000–90,000=804,000 income units in private dwellings, or 722,000 households.

The data relationships between expenditure and income in major data sets are poorly understood, affecting the reliability of examining the relationship between housing

costs and income. For example, the observation in household expenditure and income data that, for the lowest income groups, expenditure on goods and services, on average, exceeds the income of the household suggests an incomplete picture of the household's true command over goods and services and raises the issue of the reliability of analysis via population surveys of housing affordability (ABS 1985:4–5). Similarly, in ABS Population Census and survey data, there are a significant number of households that have reported incomes substantially below the DSS statutory levels. This may either reflect ineligibility for assistance or a reporting error, but which of these cannot be determined from the data.

There is substantial development work yet to be undertaken to obtain reliable and generally acceptable measures of the need for and provision of housing assistance. Progress is being made through the CSHA and Report of Government Service Provision work on performance measurement. The Institute is working with States and Territories, the Department of Social Security, the Australian Bureau of Statistics and the Industry Commission to further improve these measures.

Because of the lack of national consistent data on housing assistance, Chapter 5 uses the 1994 ABS Australian Housing Survey as the main source of data for examining services, with data from DSS, CSHA and State collections being used where appropriate.

#### **Data and assumptions**

The 1994 ABS Australian Housing Survey (AHS) is used as the primary source of data in the discussion of households with housing problems. The AHS surveyed 14,500 households in September and October of 1994. In addition to detailed information on housing costs, conditions and housing history, it contains data on household composition and income.

When determining the extent of housing problems, a number of assumptions have to be made. For this analysis:

- To determine housing costs, we have adopted the definition used by the ABS in published AHS results: '[housing costs] comprise rates (general and water) payments, rent, mortgage repayments, body corporate fees, repayments on loans for alterations and additions, and repairs and maintenance expenses' (ABS 1996e:62). AHS respondents buying their home did not report interest and principal payments separately, nor were housing insurance costs asked for, and so these factors could not be taken into account. As well, repairs and maintenance undertaken by renters were not recorded in the survey.
- Assistance is not treated as income—rent net of assistance is compared with income excluding any assistance. This approach was taken due to the difficulty in identifying in the 1994 AHS the value of assistance received by public renters and because DSS Rent Assistance is considered to be a contribution towards rent payments only. Whether assistance is treated as a rebate or income can affect the affordability status allocated to a household (see below).
- The analysis has been undertaken at the household level.
- Allowances have been made for the needs of families of different sizes and types using Simplified Henderson equivalence scales (ABS 1996c:49–50).

- All households in private dwellings, that is not in hostels, nursing homes barracks, etc., are included in the analysis. Households with self-employed persons have not been excluded (see below).

Some of these assumptions are discussed further below. General matters that affect the interpretation of estimates derived from the AHS are given in Box TA5.2.

### **Box TA5.2: General points to consider when interpreting estimates derived from the ABS 1994 Australian Housing Survey**

- *Figures are weighted population estimates and are therefore subject to sampling error. Sampling errors are relatively large for estimates based on a small number of respondents. (For discussion on the relative size of standard errors for the AHS, see ABS 1996e.) Estimates with relative standard errors of between 25% and 50% are indicated by a single asterisk next to the figure, while those with relative standard errors greater than 50% have two asterisks.*
- *For renters, incidence of unaffordable housing is after receiving rental assistance, that is any rental assistance is not included as income.*
- *For tables showing characteristics of recipients of rental assistance (Section 5.3 and related appendix tables), percentages are based on all respondents, unless stated otherwise.*
- *For tables showing incidence of housing problems (in sections other than 5.3), percentages are based on respondents with valid values only, unless stated otherwise.*
- *Household income was only unknown for households for whom it was not known whether or not they received DSS/DVA Rent Assistance (1.4% of households). However, to reduce bias in estimates, rather than excluding only low-income households with missing housing costs data, all households with missing housing costs data were excluded when deriving estimates of households with affordability problems. As a result, a total of 8.8% of households were excluded from the affordability analysis.*
- *As is generally the case with estimates, numbers may not add due to rounding.*
- *In tables by household type, 'other household' includes group households (usually a group household comprises unrelated people), households with extended families (e.g. grandparents, parents and children) and households with multiple families.*
- *In tables by tenure type, 'public renter' refers to those who rented from a State or Territory housing authority or trust; 'private renter' to those who rented from a real estate agent, a parent/other relative not in the same household or another person not in the same household; 'other' tenure includes 'other renter', 'rent-free' and 'other': 'other renter' refer to those who rented from an owner/manager of a caravan park, a government authority employer, another employer, a housing cooperative/community/church group, another type of landlord or rented but did not state their landlord. 'Other' households are those occupants who do not consider themselves as owners, purchasers, renters or rent-free.*

## Methodological issues

### The sensitivity of the NHS measure to equivalence scales

Table TA5.1 shows that, at the broad level, the two measures give similar results, with 13% of all households being classified as low-income with unaffordable housing.

**Table TA5.1: Incidence of affordability problems, using two National Housing Strategy-type measures, 1994<sup>(a)</sup>**

Affordability measure <sup>(b)</sup>	Households (%)				Households ('000s)	
	Low-income			All households	With missing data	Total
	Unaffordable housing	Affordable housing	Other income groups <sup>(c)</sup>			
Original National Housing Strategy affordability ratio	13.4	27.0	59.6	100	586.4	6,677.9
Equivalent National Housing Strategy affordability ratio	13.3	26.9	59.8	100	586.4	6,677.9

(a) Estimates are derived from the ABS 1994 AHS. See Technical Appendix, especially Box TA5.2, for discussion of issues that affect interpretation.

(b) For a description of the affordability measures, see Box 5.2.

(c) Because of missing values for housing costs, the table does not show exactly 40% of households as low-income.

Source: The database used in this analysis was the ABS 1994 AHS, confidentialised unit record file.

While the two measures result in similar proportions considered to be living in unaffordable housing, they do not identify the same households as being in need. The affordability status of nearly 10% of households is different under the two measures, with over 340,000 households moving from being low-income to not low-income and the same number moving the opposite way.<sup>1</sup> Using equivalent income rather than original income has the greatest effect among lone person households and couple with children households, with some 218,000 lone person households no longer being considered low-income and 285,000 couple with children households becoming low-income. Around three-quarters of the changes in affordability status occur within these two household types which account for only 56% of all households.

As a result of these flows, the percentages of lone person households and couple with children households with affordability problems are markedly different under the two measures. The proportion of lone person households in unaffordable housing drops from 23% to 18% when using the equivalent NHS measure, while for couples with children the proportion in unaffordable housing increases from 8% to 12% (Table TA5.2). As a consequence, the distribution of household types with unaffordability problems also changes. Under the first approach, lone person households are the numerically largest group in need, but under the second approach it is couples with children who become the major group (numerically) in need.

1 Note that the flows have to cancel out because by definition 40% of households are low-income.

**Table TA5.2: Proportion of each household type in unaffordable housing, using the two NHS measures<sup>(a)</sup>**

Household type	In low-income, unaffordable housing <sup>(b)</sup>		All households	
	Original NHS	Equivalent NHS	Original NHS	Equivalent NHS
	% all households		% households in need within household type	
Lone person	38.3	29.6	22.9	17.5
Couple only	17.5	16.0	9.1	8.3
Couple with children	21.7	32.1	8.4	12.3
One-parent family	17.5	17.0	27.9	26.8
Other household	5.0	5.3	7.7	8.1
<b>All households</b>	<b>100</b>	<b>100</b>	<b>13.4</b>	<b>13.3</b>

(a) Estimates are derived from the ABS 1994 AHS. See Technical Appendix, especially Box TA5.2, for discussion of issues that affect interpretation.

(b) For a description of the affordability measures see Box 5.2.

Source: The database used in this analysis was the ABS 1994 AHS, confidentialised unit record file.

### Treatment of assistance as income or rebate

An important issue when looking at the effect of housing assistance on affordability is whether or not assistance is treated as income or as a rebate. In the former approach, the full rent is compared to income including any assistance, while in the latter approach rent net of assistance is compared to income excluding any assistance.

Whether assistance is treated as a rebate or income can affect the affordability status allocated to a household. Treating assistance as income results in fewer households being considered to have low income. However, when using affordability ratios treating assistance as income rather than a rebate results in more households being considered to have housing affordability problems. This is a result of the fact that adding a constant (rebate) to both the numerator (net rent) and denominator (income) of a fraction leads to a larger fraction, thus including assistance as income leads to greater affordability ratios.

Since Rent Assistance for private renters depends on the rent they are paying and is considered to be a contribution towards their rent payments, both public rent rebates and DSS/DVA Rent Assistance are treated here as rebates.

For the analysis of AHS data, private renters receiving Rent Assistance were identified using data on the receipt of DSS/DVA pensions, benefits or allowances and comparing paid rents to the Rent Assistance payment schedule. Because of understatement in the survey of persons receiving age pensions and unemployment benefits, the number of households estimated as receiving Rent Assistance is thought to be understated by about 110,000 (Box TA5.1). As a result, affordability ratios will be overstated for households which receive Rent Assistance but which have not been identified and the number of households not considered to be low-income will be overestimated.

The Institute is currently undertaking analysis of the sensitivity of estimates to different definitions of affordability.

### Treatment of self-employed persons

In analyses using poverty lines, income units with a self-employed reference person are often excluded because of the difficulty of establishing their true income standing. This practice is not usually adopted when examining affordability ratios, and so has not been used in the current analysis. In 1994, some 743,000 (or 11%) households had a reference person whose main source of income was their own business or partnership.

While 'self-employed' households are less likely than other households to be low-income, if they are low-income their reported income is very low. As a result, while they have a similar incidence to other households of spending too great a proportion of their income on housing, they are more likely to have income that is considered very low. Overall, including these households has little effect on affordability ratio-based estimates (Table TA5.3).

**Table TA5.3: Effect of including self-employed<sup>(a)</sup> in estimates of incidence of affordability problems, using the equivalent NHS affordability ratio,<sup>(b)</sup> 1994<sup>(c)</sup>**

	Affordability status (%)			Total	Total Households ('000s)
	Low-income, unaffordable housing	Low-income, affordable housing	Not low-income		
Households with self-employed reference person	13.6	14.3	72.1	100	743.3
All households excluding those with self-employed reference person	13.3	28.4	58.3	100	5,924.6
All households	13.3	26.9	59.8	100	6,677.9

(a) 'Self-employed' persons are those whose main source of income was reported as 'own business/partnership'.

(b) For a description of the affordability measure, see Box 5.2.

(c) Estimates are derived from the ABS 1994 AHS. See Technical Appendix, especially Box TA5.2, for discussion of issues that affect interpretation.

Source: The database used in this analysis was the ABS 1994 AHS, confidentialised unit record file.

### Suitability of dwelling size: sensitivity to the Canadian occupancy standard

The specification of any measure of overcrowding is sensitive to how the factors are taken into consideration. The Canadian measure takes only number of bedrooms into account. However, in 1994 more than half the households in Australia (58%) reported one or more rooms which were 'additional' to the bedrooms, kitchen, bathroom and first lounge or dining room. These rooms were extra family rooms, studies or other rooms (Table TA5.4).

Among the estimated 303,700 households who lived in overcrowded conditions, using the bedroom standard nearly half (48%) had one or more extra rooms. These included about one-third (33%) who had two or more family/lounge rooms, 22% who had one or more studies/sunrooms, and 12% who had one or more other rooms. Had the households used or reported these additional rooms as bedrooms, then the proportion living in overcrowded dwellings would have decreased from 4.6% to 2.7%.

**Table TA5.4: Additional rooms in dwelling, by crowding status of household,<sup>(a)</sup> 1994<sup>(b)</sup>**

Crowding status	With extra rooms (%)					Households ('000s)
	No extra rooms (%)	Two or more family/ lounge rooms	One or more studies/ sunrooms	One or more 'other' rooms <sup>(c)</sup>	Total with one or more extra rooms	
Overcrowded	52.1	33.0	21.9	11.9	47.9	303.7
Not overcrowded	42.1	45.1	23.2	11.0	57.9	6,374.3
<b>Total</b>	<b>42.5</b>	<b>44.5</b>	<b>23.2</b>	<b>11.1</b>	<b>57.5</b>	<b>6,677.9</b>

(a) For a definition of crowding status, see Box 5.3.

(b) Estimates are derived from the ABS 1994 AHS. See Technical Appendix, especially Box TA5.2, for discussion of issues that affect interpretation.

(c) 'Other' rooms exclude bedrooms, kitchens, bathrooms/ensuites/toilets, laundries, lounge/dining rooms and studies/sunrooms.

Source: The database used in this analysis was the ABS 1994 AHS, confidentialised unit record file.