Information Paper

Information Paper: Survey of Income and Housing, User Guide, Australia

Australia

2007–08

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INTRODUCTION

This User Guide contains details about the Survey of Income and Housing (SIH) conducted in 2007–08. The SIH was conducted continuously from 1994–95 to 1997–98, and then in 1999–2000, 2000–01, 2002–03, 2003–04, 2005–06 and 2007–08. The 2007–08 SIH collected information from a sample of approximately 9,345 households over the period August 2007 to June 2008. The SIH is conducted every two years.

The Guide includes information about the purpose of the survey, its concepts and contents, and the methods and procedures used to collect the data and derive the estimates. It also outlines the differences between the 2007–08 survey and earlier surveys. Its purpose is to help users of the data understand the nature of the survey, and its potential in meeting user needs.

The ABS has revised its standards for household income statistics following the adoption of new international standards in 2004 and review of aspects of the collection and dissemination of income data. The 2007–08 income estimates from the Survey of Income and Housing (SIH) presented in this publication apply the proposed new income standards. For further details see Appendix 4 'Improvements to Income Statistics'.

The next SIH is being conducted in 2009–10. The content is similar to the 2007–08 SIH. However, the additional net worth data is included (last collected in 2005–06 SIH) while the additional housing content included in 2007–08 is not being collected. The SIH 2009–10 is integrated with Household Expenditure Survey (HES), as it was in 2003–04.

PART 1 CONCEPTS AND DEFINITIONS

CONCEPTS AND
DEFINITIONS

Part 1 of this User Guide describes the concepts and definitions used in the 2007–08
Survey of Income and Housing (SIH) including:

- the data items of income, loans, housing, and child care
- summary statistics such as the Gini coefficient
- the units of analysis supported by the survey, that is, households, income units,
  persons and loans.

Terms and definitions used in describing this survey and its data are provided in the
Glossary.

Changes to concepts and definitions introduced in 2007–08 are described in Part 4
'Changes from previous surveys'.

1.1 GROSS, DISPOSABLE AND FINAL INCOME

INCOME

Household income consists of all current receipts, whether monetary or in kind, that are received by the household or by individual members of the household, and which are available for, or intended to support, current consumption.

Income includes receipts from:
- wages and salaries and other receipts from employment (whether from an employer or own incorporated enterprise), including income provided as part of salary sacrifice and/or salary packaged arrangements
- profit/loss from own unincorporated business (including partnerships)
- net investment income (interest, rent, dividends, royalties)
- government pensions and allowances
- private transfers (e.g. superannuation, workers' compensation, income from annuities, child support, and financial support received from family members not living in the same household).

Receipts that are excluded from income include the following:
- capital transfers such as inheritances and legacies, maturity payments on life insurance policies, lump sum retirement benefits, compensation (except for foregone earnings), capital repayment of loans from other households
- certain current transfers offset against expenditures e.g. lottery and other gambling winnings, non-life insurance claims, government reimbursements of expenditure such as Medicare and Child Care Tax Rebates
- capital gains and losses.

More detail on the various components of income are included in Section 1.4 'Components of income'.

GROSS INCOME

Gross income is the sum of the income from all sources before income tax, the Medicare levy and the Medicare levy surcharge have been deducted. Prior to 2005–06, family tax benefit paid through the tax system or as a lump sum was excluded from gross income for practical reasons. In 2005–06 and 2007–08 these payments have been included in gross income.

DISPOSABLE INCOME

Disposable income better represents the economic resources available to meet the needs of households. It is derived by deducting estimates of personal income tax and the Medicare levy from gross income. Medicare levy surcharge was also calculated for the first time in 2007–08 and was deducted from gross income while calculating disposable income.

Income tax are estimated for all households using taxation criteria for 2007–08 and the income and other characteristics of household members reported in the survey.

Prior to 2005–06 the derivation of disposable income also included the addition of family tax benefit paid through the tax system or as a lump sum by Centrelink since for practical reasons it was not included in the gross income estimates.

Note that child support and financial support paid to other family members not living in the same household are not deducted from the incomes of the households making the transfers in deriving disposable income.

FINAL INCOME

A more detailed analysis of 'final' income, which looks at the impact of government social transfers in kind (ie non-cash government benefits) and taxes on production, requires detailed information on expenditure patterns which are not available in the SIH. For details of this type of 'final' income analysis see *Government Benefits, Taxes and Household Income, Australia, 2003–04* (cat. no. 6537.0).

COMPARISON WITH AUSTRALIAN SYSTEM OF NATIONAL ACCOUNTS

The concepts of income used in SIH have many similarities to the household income definition used in the Australian System of National Accounts (ASNA), but also differ in some respects. A detailed comparison of 1997–98 SIH and ASNA estimates was published as an appendix to the 1997–98 issue of *Income Distribution, Australia, 1997–98* (cat. no. 6523.0). Comparison of SIH data from 1994–95 to 2007–08 with ASNA data indicated that the relationship between the two estimates had not changed significantly over that period.

CURRENT AND ANNUAL
INCOME

Current income is the income received by respondents at the time data are collected from them.

For wage and salary earners and recipients of government pensions and allowances such as Centrelink payments, current income is generally based on their most recent payment, as long as that payment is usual. Additional questions are used to obtain information about receipts which may not have been included in the most recent payment. For example, for wage and salary earners information is collected on irregular overtime, bonuses and non-cash benefits and for recipients of government pensions and allowances information is collected on reductions to payments due to lump sum advances and one-off payments such as the Baby Bonus.

Annual income provides a somewhat longer term perspective of income, providing data about income obtained from all sources over a period of a whole year. It has the advantage of being less sensitive to short term variations in income, such as a person having little or no current income for a short period of non-employment, but for which they have adequate resources from past employment or prospective employment to avoid economic hardship. However, annual income has the potential to be limited in its relevance to the current situation of respondents, especially when analysing the combined income of a household which gained or lost adult members during the course of the year. There are also practical difficulties in collecting annual income, for example where respondents have had short periods of time in different jobs, or have received Centrelink payments for short periods of time.

A more detailed study of the differences between current and annual income is provided in Appendix 1 'Current and annual income'.

WEEKLY INCOME

Income is collected using a number of different reporting periods, such as the whole financial year for own unincorporated business and investment income, and the usual payment for a period close to the time of interview for wages and salaries, other sources of private income and government pensions and allowances. The income reported is divided by the number of weeks in the reporting period. Estimates of weekly income in this publication do not therefore refer to a specific week within the reference period of the survey.

EQUIVALISED HOUSEHOLD
INCOME

A major determinant of economic wellbeing for most people is the level of income they and other family members in the same household receive. While income is usually received by individuals, it is normally shared between partners in a couple relationship and with dependent children. To a lesser extent, it may be shared with other children, other relatives and possibly other people living in the same household, for example through the provision of free or cheap accommodation. This is particularly likely to be the case for children other than dependants and other relatives with low levels of income of their own. Even when there is no transfer of income between members of a household, nor provision of free or cheap accommodation, members are still likely to benefit from the economies of scale that arise from the sharing of dwellings. Therefore household income measures are usually used for the analysis of people's economic wellbeing.

Larger households normally require a greater level of income to maintain the same material standard of living as smaller households, and the needs of adults are normally greater than the needs of children. The income estimates are therefore adjusted by equivalence factors to standardise them for variations in household size and composition, while taking into account the economies of scale that arise from the sharing of dwellings. The resultant estimates are known as equivalised household income. Equivalised disposable income is calculated by adjusting disposable income by the application of an equivalence scale. This adjustment reflects the requirement for a larger household to have a higher level of income to achieve the same standard of living as a smaller household. Where disposable income is negative, it is set to zero equivalised disposable income.

When household income is adjusted according to an equivalence scale, the equivalised income can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household, it is equal to income received. For a household comprising more than one person, equivalised income is an indicator of the household income that would be required by a lone person household in order to enjoy the same level of economic wellbeing as the household in question.

The concept of equivalised household income is applicable to both households and the persons comprising those households, that is, each person in a household has the same level of equivalised household income as the household itself. The difference between using households or persons as the unit of analysis is discussed in section 1.8 'Household, income unit, person and loan data'.

Published SIH output includes estimates of equivalised disposable household income but not estimates of equivalised gross household income, although the latter can also be produced.

For more information on equivalised income see Appendix 2 'Equivalised household income'.

1.4 COMPONENTS OF INCOME

COMPONENTS OF INCOME

In the SIH, income is collected by separate components. This section describes the definitions used for each of those components, and also describes some components of income that are not included in the aggregate income measures included in SIH publications. Data for some of the excluded components are available from the surveys. Each of the detailed income data items available, and the alternate aggregate measures of income, are included in the data item list referred to in section 2.3 'Data collection and data item description'.

The ABS has revised its standards for household income statistics following the adoption of new international standards in 2004 and review of aspects of the collection and dissemination of income data. The 2007–08 income estimates from the Survey of Income and Housing (SIH) apply the proposed new income standards which are reflected in the following definitions of the components of income.

Changes in the income measures being used in the survey are:
- Employment income now includes all payments received by individuals as a result of their current or former involvement in paid employment. In addition to the regular and recurring cash receipts previously included, the new income measures now include additional salary sacrifice items, other non–cash benefits, bonuses, termination payments and payments for irregular overtime worked.
- Interest paid on money borrowed to purchase shares or units in trusts has been netted off income earned from these sources.
- Changes to the classification of income earned as a silent partner in a partnership and some private trust income to investment income rather than to incorporated business income has improved the reporting of income from these sources.
- The inclusion of lump sum workers' compensation receipts in addition to regular compensation payments.
- A wider range of data on financial support received from family members not living in the same household. In addition to regular payments previously collected, financial support has been extended to include non–capital goods and services received which were purchased by others e.g. rent, education, food, clothing, car registration and utilities.
- Reported amounts of Commonwealth Rent Assistance (CRA) were added to the relevant reported pension where it was identified that a respondent received CRA but hadn't included the amount of CRA in their reported pension.

More detail on the nature and impact of the new income measure is available in Appendix 4 'Improvements to income statistics'.

Employment income

Employment income is collected in the SIH from each person aged 15 years and over who worked for an employer or in his/her own limited liability business. It comprises all payments received by individuals as a result of their current or former involvement in paid employment.

The aggregate current income estimates produced from the SIH include the usual pay that respondents received in the most recent pay period. They include wages and salaries, amounts salary sacrificed, tips, commissions, piecework payments, penalty payments and shift allowances, remuneration for time not worked (e.g. sick and holiday pay) and workers' compensation paid through the payroll. In addition, other

Employment income
continued

components such as non-cash benefits, bonuses, termination payments and payments for irregular overtime worked are all included.

The aggregate annual income estimates produced from the SIH include total income from all jobs in the financial year prior to the survey. Appendix 1 'Current and annual income' illustrates the differences between the current and annual estimates of wage and salary income.

Own unincorporated
business income

Own unincorporated business income is collected from all persons aged 15 years and over who are working as owners or partners in unincorporated enterprises. Own business income is the share or profit/loss of the enterprise accruing to the person. Profit/loss consists of the value of the gross output of the enterprise after the deduction of operating expenses and an allowance for depreciation of assets used in producing the output. Losses occur when operating expenses and depreciation are greater than gross receipts and are treated as negative incomes.

Since profit or loss calculations are often only made by businesses on a quarterly or annual basis, it is not possible to collect data on current income in the same way as can be done for wages and salaries or current cash transfer income. Instead, survey respondents are requested to provide an estimate of their own business income they expect to receive in the current financial year. Responses are likely to be less accurate when collected early in the year and more accurate when collected later in the year, and there is some likelihood that responses will tend to be too optimistic or too pessimistic, resulting in some bias in the aggregate estimate. However, this methodology gives better results than the methodology used in surveys up to and including 2002–03 that simply extrapolated reported own business income from the previous financial year onto the current period. Under the previous methodology, estimates could also have a strong downwards bias, particularly for new businesses, but could also be significantly upwardly biased if the current business circumstances had turned down from the previous year. The new methodology results in far fewer households being recorded with current business incomes that are negative, zero or only slightly positive.

Investment income

Investment income includes interest and dividend income received as a result of the ownership of financial assets such as bank accounts and shares, and rent and royalty income received from the ownership of non-financial assets. The rent component of investment income is measured on a net basis, that is, gross rent less operating expenses and depreciation allowances. Interest paid on money borrowed to purchase shares or units in trusts is also netted off income earned from these sources. All other components, for which associated expenses are normally relatively small, are on a gross basis.

Rent comprises receipts from residential properties, other than owner-occupied dwellings, and from non-residential properties. Operating expenses deducted from gross rent include repairs and maintenance expenses, rates, interest payments and the like. If the operating expenses plus depreciation allowances are greater than the gross rent, net rental income is negative.

Investment income
continued

Current investment income is collected by asking survey respondents for an estimate of their total expected income in the financial year, as described above for own unincorporated business income.

Government pensions and allowances

Government pensions and allowances are cash transfer payments made by government entities to persons under social security and related government programs. They are primarily paid by Centrelink, the Family Assistance Office or the Department of Veterans' Affairs, and include pensions paid to aged persons, Newstart, benefits paid to veterans and their survivors, study allowances for students, family tax benefit, etc.

Some government payments are excluded from income as they are considered to be either a reimbursement of expenditure or a capital transfer. In deciding whether a government payment should be included in income, the intent of the government payment is considered. Examples of government payments which are not considered income include reimbursements for expenditure such as the Medicare rebate and Child Care Rebate and receipts from the First Home Owner Grant Scheme which are regarded as capital transfers as they are designed to help first home buyers purchase their own home.

However, the one-off payment to seniors paid in 2000–01 and further such payments since 2005–06, the one-off payment to families paid in 2003–04 and the one-off payments to carers paid since 2003–04 are included as income as they were primarily a supplement to existing income support payments. The Baby Bonus (formerly known as the maternity payment) introduced in July 2004 is also included as income recognising that the intention of the payment is to offset some of the extra consumption costs incurred with the birth of a child. Similarly, Child Disability Assistance Payment paid to recipients of carer allowance in 2007 is also included as part of income.

Values of family tax benefit paid as a lump sum and one-off payments regarded as income are annualised, that is, treated as though they were paid evenly through the year. Therefore the amount included in current weekly income is the total payment for the year divided by 52.14, the average number of weeks in a year. The payments are assigned to all respondents who would have met the eligibility criteria at the time that they were interviewed, even if the payments were only announced after the interview took place. (See also section 2.5 'Income tax and other modelled data items'.) If an annualised approach was not taken, a few respondents receiving the benefit would include a large amount in the current income, and most people eligible for the benefit would not include any payment because it was not received in the fortnight before the interview.

All pensions received from overseas are included under government pensions and allowances.

Other income

Other income includes non-government pensions such as superannuation and life insurance pensions, regular annuity benefits, private scholarship or study allowances, workers' compensation not paid through the payroll, child support payments (non-government), income from accident/sickness insurance, and other current transfers received from family members living in other households such as parental allowances paid to students living away from home.

Other income continued

Note that, while child support and financial support received from other family members not living in the same household are included in the income of the households receiving the transfers, they are not deducted from the disposable income of the households making the transfers.

Children's income

Estimates of the income of children aged less than 15 years are not available from the SIH. Children's income was collected in the 2003–04 HIES and is also expected to be collected in the 2009–10 HIES.

Income tax and Medicare levy

In the SIH, estimates of income tax, the Medicare levy and Medicare levy surcharge relate to the liability associated with the income being reported by respondents, regardless of when it is actually paid. In other words, an accrual rather than cash based concept is used.

LOW INCOME
HOUSEHOLDS

While income generally provides a useful indicator of economic wellbeing, there are some circumstances which present particular difficulties. Some households report extremely low and even negative income in the survey, which places them well below the safety net of income support provided by social security pensions and allowances such as those available from Centrelink. Households may under report their incomes in the survey at all income levels, including low income households. However, households can correctly report low levels of income if they incur losses in their unincorporated business or have negative returns from their other investments.

For some time, the ABS has noted that households at the very lowest end of the income distribution have average expenditures higher than those households with somewhat higher average levels of income. Due to this observation, the ABS has adopted the practice of describing the characteristics of persons in the second and third deciles of the income distribution when describing the characteristics of low income people.

In order to gain a better understanding of the characteristics of households at the lowest end of the income distribution, the ABS has used data from the 2003–04 HES analysing the relationship between income, wealth and expenditure of these households. The estimates of income, net worth and expenditure have been adjusted for differences in household size and composition, that is, they are on an equivalised basis. The purpose of this is to maximise the comparability of the three aggregates. The process used to equivalise net worth and expenditure is the same as that used in the equivalisation of income. For more information on equivalised income see Appendix 2 'Equivalised household income'.

In 2003–04, average expenditure by households in the lowest income decile was higher than the average expenditure by households in the second income decile. Households in the lowest income decile also had higher average net worth than households in the second decile. As might be expected, the households with relatively higher net worth also had relatively higher expenditure, even when they had similar income levels. In addition the gap between expenditure and income was markedly greater for households that owned an unincorporated business or rental property but had low income, strongly suggesting that these households had access to economic resources other than income, such as lines of credit.

Since the average level of expenditure of households in the lowest income decile was higher than that of households in the second income decile, it can be expected that the households in the lowest income decile had a higher average standard of living than the households in the second income decile.

However, nearly half the people living in households in the lowest income decile who did not own an unincorporated business or rental property were also in the lowest net worth quintile and had mean expenditure lower than the corresponding households in the second income decile. These people were likely to have had lower average standards of living than people in households in the second income decile. They predominantly relied on government pensions and allowances as their principal source of income and rented their dwellings. Lone person households were the most common households in this population, with over half being lone persons under 65 years of age. The next largest category was one parent families with dependent children. It is also true that some households with low income that had their own unincorporated business or rental

property would not have had access to other economic resources and would also have had low standards of living.

There are a variety of other circumstances where households in the lowest income decile may not face economic hardship. Some households have very low consumption requirements, particularly if their housing costs are low. Some respondents report nil or low income because they are between jobs, were waiting to start a new job, or were on holidays without pay. For these people their current incomes do not fully reflect their overall economic circumstances.

See Appendix 4 of *Household Wealth and Wealth Distribution, Australia, 2005–06* (cat. no. 6554.0) for a more detailed analysis of the income, expenditure and net worth of low income households.

1.6 GINI COEFFICIENT AND OTHER MEASURES OF INCOME DISTRIBUTION

INTRODUCTION

There are many ways to illustrate aspects of the distribution of income and to measure the extent of income inequality. In the SIH, five main types of indicator are used – means and medians, frequency distributions, percentile ratios, income shares, and Gini coefficients. This section describes how these indicators are derived.

MEAN AND MEDIAN

Mean household income (average household income) and median household income (the midpoint when all persons or households are ranked in ascending order of household income) are simple indicators that can be used to show income differences between subgroups of the population.

The main income measure used in published SIH output is equivalised disposable household income, and the means and medians are person weighted. That is, they are calculated with respect to the relevant number of persons. This enables people in large households to have the same contribution to the mean/median as people living alone, and is possible because equivalised disposable household income is an indicator of the economic resources available to each individual in a household.

The method for calculating person weighted means and medians is described in section 2.7 'Calculation of population counts, means, medians and other estimates'.

In some tables describing households, the mean and median of gross household income are also shown. These measures are calculated with respect to the relevant number of households, not persons. They are sometimes known as household weighted measures.

FREQUENCY DISTRIBUTION

A frequency distribution illustrates the location and spread of income within a population. It groups the population into classes by size of household income and gives the number or proportion of people in each income range. A graph of the frequency distribution is a good way to portray the essence of the income distribution. Graph 1.6.1 below shows the proportion of people within $50 household income ranges.

1.6.1 DISTRIBUTION OF EQUIVALISED DISPOSABLE HOUSEHOLD INCOME, 2007–08
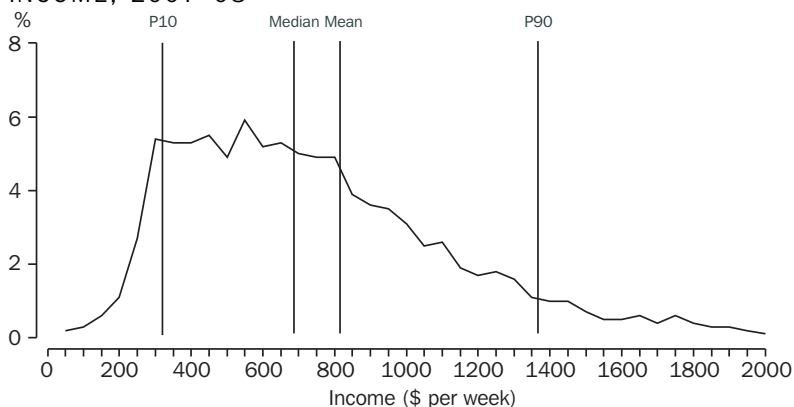
Note: Persons with an income between $25 and $2,025 are shown in $50 ranges on the graph.
Source: *Household Income and Income Distribution, Australia, 2007–08 (6523.0)*

Frequency distributions can provide considerable detail about variations in the income of the population being described, but it is difficult to describe the differences between two frequency distributions. They are therefore often accompanied by other summary statistics, such as the mean and median. Taken together, the mean and median can

1.6 GINI COEFFICIENT AND OTHER MEASURES OF INCOME DISTRIBUTION *continued*

FREQUENCY
DISTRIBUTION *continued*

provide an indication of the shape of the frequency distribution. As can be seen in the graph above, the distribution of income tends to be asymmetrical, with a small number of people having relatively high household incomes and a larger number of people having relatively lower household incomes. The greater the asymmetry, the greater the difference between the mean and the median.

QUANTILE MEASURES

When persons (or any other units) are ranked from the lowest to the highest on the basis of some characteristic such as their household income, they can then be divided into equally sized groups. The generic term for such groups is quantiles.

Quintiles, deciles and percentiles

When the population is divided into five equally sized groups, the quantiles are called quintiles. If there are 10 groups, they are deciles, and division into 100 groups gives percentiles. Thus the first quintile will comprise the first two deciles and the first 20 percentiles.

SIH publications frequently present data classified into income quintiles, supplemented by data relating to the 2nd and 3rd deciles combined. The latter is included to enable quintile style analysis to be carried out without undue impact from very low incomes which may not accurately reflect levels of economic wellbeing. (See section 1.5 'Low income households').

Equivalised disposable household income is the income measure used to define the quantiles shown in SIH publications, and the quantiles each comprise the same number of persons, that is, they are person weighted.

Upper values, medians and percentile ratios

In some analyses, the statistic of interest is the boundary between quantiles. This is usually expressed in terms of the upper value of a particular percentile. For example, the upper value of the first quintile is also the upper value of the 20th percentile and is described as P20. The upper value of the ninth decile is P90. The median of a whole population is P50, the median of the 3rd quintile is also P50, the median of the first quintile is P10, etc.

Percentile ratios

Percentile ratios summarise the relative distance between two points on the income distribution. To illustrate the full spread of the income distribution, the percentile ratio needs to refer to points near the extremes of the distribution, for example, the P90/P10 ratio. The P80/P20 ratio better illustrates the magnitude of the range within which the incomes of the majority of the population fall. The P80/P50 and P50/P20 ratios focus on comparing the ends of the income distribution with the midpoint (the median).

INCOME SHARES

Income shares can be calculated and compared for each income quintile (or any other subgrouping) of a population. The aggregate income of the units in each quintile is divided by the overall aggregate income of the entire population to derive income shares.

GINI COEFFICIENT

The Gini coefficient is a single statistic which summarises the distribution of income across the population.

The Gini coefficient can best be described by reference to the Lorenz curve. The Lorenz curve is a graph with the horizontal axis showing the cumulative proportion of the persons in the population ranked according to household income and with the vertical axis showing the corresponding cumulative proportion of equivalised disposable household income. The graph then shows the income share of any selected cumulative proportion of the population, as can be seen below in graph 1.6.2.

1.6.2 LORENZ CURVES
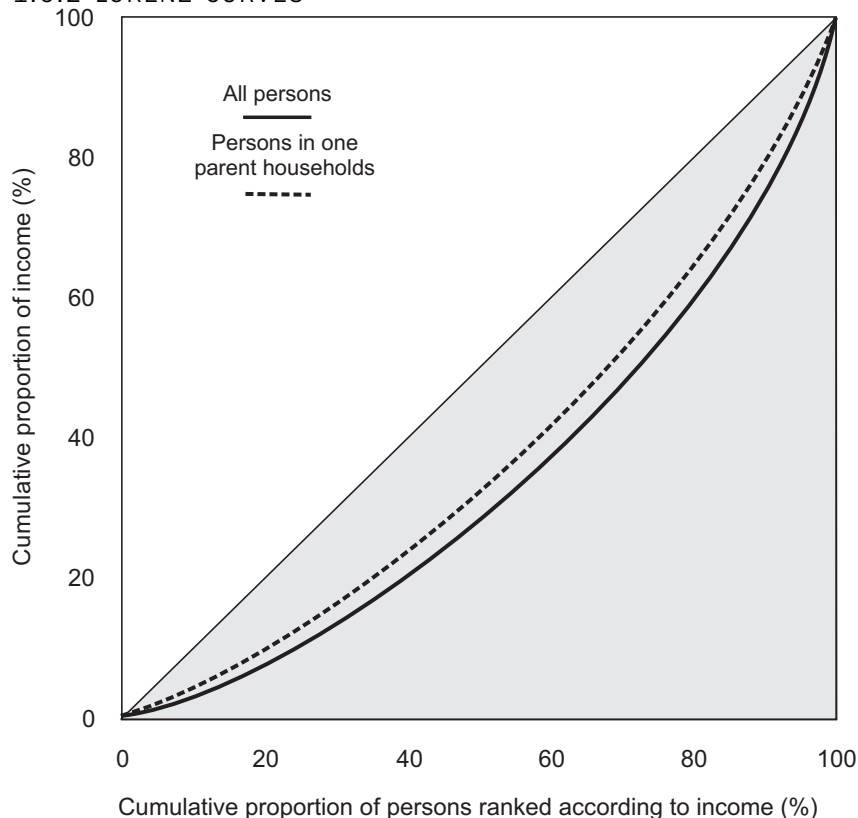
If income were distributed evenly across the whole population, the Lorenz curve would be the diagonal line through the origin of the graph. The Gini coefficient is defined as the ratio of the area between the actual Lorenz curve and the diagonal (or line of equality) and the total area under the diagonal. The Gini coefficient ranges between zero when all incomes are equal and one when one unit receives all the income, that is, the smaller the Gini coefficient the more even the distribution of income.

Normally the degree of inequality is greater for the whole population than for a subgroup within the population because subpopulations are usually more homogeneous than full populations. This is illustrated in the graph above, which shows two Lorenz curves from the 2007–08 SIH. The Lorenz curve for the whole population of the survey is further from the diagonal than the curve for persons living in one parent, one family households, with at least one dependent child. Correspondingly, the calculated Gini coefficient for all persons was 0.331 while the coefficient for the persons in the one parent households included here was 0.270.

1.6 GINI COEFFICIENT AND OTHER MEASURES OF INCOME DISTRIBUTION *continued*

The Gini coefficient is discussed in more detail, along with the Theil index and Atkinson index, in Appendix 3 'Gini coefficient and other single statistic summaries of income distribution'.

1.7 CHILD CARE

CHILD CARE

Data on child care including: usage; costs; and barriers to labour force participation due to child care related reasons, were included in the Survey of Income and Housing (SIH) for the first time in 2007–08. These topics were added to the SIH due to meet user requirements and provide data items looking at the interactions between child care use, income and labour force participation. These data items are not intended to provide a detailed exploration of child care such as can be found in *Childhood Education and Care, June 2008* (cat. no. 4402.0).

DATA COLLECTION

Child care information was collected from households containing resident children aged 0–12 years. The information was obtained from an adult who permanently resided in the household and was deemed to be the 'best person' able to provide this information. In the majority of cases this was the child's parent, step-parent or guardian.

Questions about type(s) of child care used (formal, informal and other), pattern of care with other parent living elsewhere, school attendance, preschool attendance and cost of care were asked in relation to each child aged 0–12 in the household. If formal or informal care was used by a child in the last four weeks, further questions about cost, child care benefit and hours used were asked for each episode of care.

DEFINITIONS

Data was collected on child care used in the 4 weeks prior to the personal interview, and as such most data items relate to 'last 4 weeks'. In addition, data is available for care types used 'in the last week' where the number of hours of care used last week was one or more.

Formal and informal child care

Formal care is defined as regulated care away from the child's home. The main types of formal care are before and/or after school care, long day care, family day care, occasional care and vacation care.

Informal care is defined as non-regulated care, arranged by a child's parent/guardian, either in the child's home or elsewhere. It comprises care by (step) brothers or sisters, care by grandparents, care by other relatives (including a parent living elsewhere) and care by other (unrelated) people such as friends, neighbours, nannies or babysitters. It may be paid or unpaid.

Cost of care

The cost, gross of Child Care Benefit, to parents for a child to attend care. In most cases, where the Child Care Benefit was paid directly to the child care service provider, the cost of care was directly collected in the survey. In a small number of cases, where the Child Care Benefit was not paid directly to the provider, the Child Care Benefit was estimated. Information on the Child Care Tax Rebate was not included as part of the survey.

Child Care Benefit (CCB)

Assistance in the form of a payment made by the Australian Government to help with the costs of child care for families who use either approved or registered child care. The CCB was introduced on 1 July 2000, when it replaced the Childcare Cash Rebate and Childcare Assistance.

Child Care Tax Rebate (CCTR)	A tax offset, passed by Parliament in December 2005. In general terms, as a result of the Child Care Tax Rebate, families with a tax liability will be eligible for 30 percent, as at June 2008, of out–of–pocket expenses incurred for approved child care, up to a maximum of $4,354 per child per year. The CCTR applies to out–of–pocket expenses for approved child care. The CCTR is available for families who receive Child Care Benefit (CCB) and meet the CCB work, study and training test.
Barriers to labour force participation due to child care related reasons	Data on barriers to labour force participation due to child care related reasons was collected from parents/guardians of children aged 0–12 years old in the selected household who were unemployed, did not have a job or worked part time. The data collected includes if people would like a job if child care was available, if they would like to work more hours if child care was available, if child care prevents them from working/working more hours, and what are all and the main reason child care prevents them for working/working more hours. This detail is available at the person level.

USING THE DATA

Units for analysis

The income unit is the preferred level of analysis as other income unit characteristics, such as income and number of persons etc, can be cross-classified at this level. Like households, resources at the income unit level is normally shared between partners in a couple relationship and with dependent children. However, there are limitations on the data provided at this level. At the income unit level child care data are aggregated from lower levels and as such may apply to more than one child in an income unit. For example, in an income unit where more than one child was cared for by a parent living elsewhere with differing frequencies of care, the item 'Most frequent pattern of care with child's other parent living elsewhere' relates to the most frequent care pattern used by one of the children.

More than one type of care could be selected, therefore some items are multi-response in nature.

1.8 HOUSEHOLD, INCOME UNIT, PERSON AND LOAN DATA

HOUSEHOLD, INCOME
UNIT, PERSON AND LOAN
DATA

The SIH collects information with respect to households and all the people comprising those households. It is therefore possible to produce aggregate data from the survey to households, to persons, or with respect to combinations of persons within the household such as income units. Analysts can choose the unit of analysis most suited to their purposes. The data item list referred to in section 2.3 'Data collection and data item description' shows which data items are available for each unit type supported by the SIH.

Households

A household consists of one or more persons, at least one of whom is at least 15 years of age, usually resident in the same private dwelling. The persons in a household may or may not be related. They must live wholly within one dwelling. A group of people who make common provision for food and other essentials of living but live in two separate dwellings are in two separate households.

Most of the published output from the SIH uses the household as the unit of analysis and relates to characteristics of the households.

Income units

An income unit is one person or a group of related persons within a household, whose command over income is assumed to be shared. Income sharing is assumed to take place within married (registered or de facto) couples, and between parents and dependent children. The income unit is similar, but not identical, to the unit used in determining the eligibility of people for many government pensions and allowances such as Centrelink payments.

Income data and selected income unit characteristics are available on an income unit basis from the SIH, although they are not included in any published output from the survey.

Persons

Data at the person level are available for each person aged 15 years and over usually resident in the households included in the SIH. Data relating to characteristics of children under the age of 15 are only available at the household level.

Loans

A household may have one or more loans, and data are available for characteristics of each loan, such as the main purpose, security, amount borrowed, principal outstanding and weekly repayment, although they are not included in detail in any published output from the survey.

*Units used in SIH
published output*

Analysis of income data is usually carried out using household income measures. As explained in section 1.3 'Equivalised household income', it is normally most appropriate to examine household income when considering economic wellbeing, because of the sharing that occurs between members of households. That section also explains that income comparisons are improved if the household income measure is adjusted to reflect the size and composition of the household.

However, when analysing income distribution, it is the number of people who belong to households with particular characteristics, rather than the number of households with those characteristics, that is of primary interest. This leads to the preference for the equal representation of those persons in such analysis. For example, if the person is used as the unit of analysis rather than the household, then the representation in the income

Units used in SIH
published output continued

distribution of each person in a household comprising four persons is the same as that for each person in a household comprising two persons. In contrast, if the household were to be used as the unit of analysis, each person in the four person household would only have half the representation of each person in the two person household. Therefore, the income distribution measures from the SIH are all calculated with respect to persons, including children. Such measures are sometimes known as person weighted estimates because the unit of analysis is the person, even though all the characteristics being described are characteristics of the household to which the person belongs. The method of calculation is described in section 2.7 'Calculation of population counts, means, medians and other estimates'.

1.9 REFERENCE PERSON

REFERENCE PERSON

In some analyses it is useful to describe a household or income unit using characteristics that are in essence attributes of persons. For example, the analyst may wish to classify households into 'older households' and 'younger households'. One approach often used is to designate one member of the household or income unit as the reference person, and assume that the characteristics of that person are descriptive of the household or income unit more generally. The reference person is chosen through a set of operating procedures designed to identify a person most likely to be representative of the household or income unit. Households or income units can then be classified according to the age of the reference person, occupation of the reference person, country of birth of the reference person, etc.

Household reference person

The reference person for each household is chosen by applying, to all household members aged 15 years and over, the selection criteria below, in the order listed, until a single appropriate reference person is identified:

- the person with the highest tenure when ranked as follows: owner without a mortgage, owner with a mortgage, renter, other tenure
- one of the partners in a registered or de facto marriage, with dependent children
- one of the partners in a registered or de facto marriage, without dependent children
- a lone parent with dependent children
- the person with the highest income
- the eldest person.

For example, in a household containing a lone parent (owner with a mortgage) with a non–dependent child, the one with the higher tenure will become the reference person. However, if both individuals have the same tenure (eg a couple, owners with a mortgage), the one with the highest income will become the reference person.

Income unit reference person

The reference person for an income unit is the male partner in a couple income unit, the parent in a one parent income unit and the person in a one person income unit.

1.10 HOUSING STATISTICS

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HOUSING UTILISATION

The concept of housing utilisation derived for the SIH is based upon a comparison of the number of bedrooms in a dwelling with a series of household demographics such as the number of usual residents, their relationship to one another, age and sex. There is no single standard of measure for housing utilisation. However the Canadian National Occupancy Standard (CNOS) derived for the SIH is widely used internationally.

The Canadian National Occupancy Standard for housing appropriateness is sensitive to both household size and composition. The measure assesses the bedroom requirements of a household by specifying that:
- there should be no more than two persons per bedroom
- children less than 5 years of age of different sexes may reasonably share a bedroom
- children less than 18 years of age and of the same sex may reasonably share a bedroom
- single household members 18 years and over should have a separate bedroom, as should parents or couples
- a lone person household may reasonably occupy a bed sitter.

The CNOS variable on the file compares the number of bedrooms required with the actual number of bedrooms in the dwelling. Households living in dwellings where this standard cannot be met are considered to be overcrowded.

HOUSING COSTS AND HOUSING STRESS

Housing costs are recurrent outlays by household members in providing for their shelter. The data collected on housing outlays in the SIH are limited to major cash outlays on housing, that is, mortgage repayments, rent, property and water rates as well as body corporate fees.

Only payments which relate to the dwelling occupied by the household at time of interview, that is, a respondent's usual place of residence, are included. Housing costs only include mortgage/loan payments if the purpose of the loan at the time it was initially taken out was primarily to buy, build, add to or alter the occupied dwelling.

There are a number of limitations to the housing costs information obtained in the SIH, due to practical data collection considerations. These limitations should be especially borne in mind when comparing the housing costs of different tenure and landlord types, that is, when comparing the costs of owner occupiers with the costs of renting households, and when comparing the costs of households renting from state and territory housing authorities with the costs of other renters.
- Households are sometimes reimbursed some or all of their housing costs. Commonwealth Rent Assistance (CRA), paid by the Australian Government to qualifying recipients of income support payments and family tax benefit, is the most important type of reimbursement of relevance to these statistics. If rent assistance receipts were subtracted from gross housing costs, it has been estimated that the housing costs of households receiving rent assistance would be about 30% lower on average, and the housing costs of all households renting from landlords other than the state/territory authorities would be about 10% lower on average.

- Mortgage repayments made by owners with a mortgage include both the interest component and the principal or capital component. For many purposes it is more appropriate to consider repayments of principal as a form of saving rather than as a recurrent housing cost. It reflects the purchase of a housing asset by increasing the equity in the property held by the household and is an addition to the wealth of the occupants. The 2007–08 SIH indicated that about 32% of the housing costs of owners with a mortgage comprised repayments of the principal on loans. The equivalent proportions in 2005–06 and 2003–04 were 36% and 40% respectively.

- A fuller measure of housing costs would include a range of outlays not collected in the SIH, but which are necessary to ensure that the dwelling can continue to provide an appropriate level of housing services. These include repairs, maintenance, and dwelling insurance, and are costs that tend to be incurred by owner occupier households but not by renting households. Previous HES data shows that if these costs were added to SIH housing costs estimates, the estimates of average housing costs would be more than doubled for owners without a mortgage and would increase by about 15% for owners with a mortgage.

Housing costs and household income

Housing costs can be a major component of total living costs. Therefore housing costs are often analysed as a proportion of total income, sometimes referred to as affordability ratios. However, comparisons between these measures are subject to the limitations of housing cost estimates obtained in the SIH that are described in the previous paragraph. Housing affordability ratios derived from SIH data are further impacted by the inclusion of CRA in the value of income collected. In earlier research CRA has been estimated, on average, to represent about 8% of the reported income of households receiving CRA and about 2% of the reported income of all households renting from landlords other than the state/territory authorities.

To illustrate the difficulties discussed above, consider two households that are renting their dwellings. Both receive government pensions of $400 per week. One rents from a public housing authority and pays rent of $100 per week. The other pays $135 rent per week to a private landlord and receives Commonwealth Rent Assistance of $35. In SIH, the housing costs of the latter household would be recorded as $135 and their income would be recorded as $435. The couple renting from the public housing authority has a housing costs/income ratio of 25%. The housing costs/income ratio for the latter household would be derived as 31%. If CRA receipts are excluded from housing costs and income the housing costs/income ratio for the latter couple is also 25%, highlighting that there is no substantive difference between the housing costs or income situation of the two couples. This anomaly is of particular concern when considering changes in affordability ratios over time, since there has been a shift from providing public housing to providing CRA as a means of supplying affordable housing to low income people.

While housing costs can be a major component of total living costs, the difference between the housing costs of a larger household and a smaller household would not be expected to be as great as the difference in many other costs, such as food or clothing. In other words, larger households can be expected to experience economies of scale in the supply of housing. This means that if a larger household and smaller household both have the same standard of living, it could be expected that on average the larger household will have a lower housing costs/income ratio. Therefore relatively high

Housing costs and household income continued

housing costs/income ratios are more of a concern with respect to larger households than smaller households. This should be borne in mind when comparing ratios across different household sizes.

In comparing households' housing costs with their income, it should be noted that households have a variety of housing preferences. Some people may choose to live in an area with high land values because it is close to their place of employment and therefore they have lower transport costs. Some people choose to incur relatively high housing costs because they prefer a relatively high standard of housing instead of other consumption possibilities. High mortgage repayments might reflect a choice to purchase a relatively expensive home, or pay off a mortgage relatively rapidly, as a form of investment.

Housing stress

Households with relatively low income and housing costs greater than a certain proportion of income, often 30%, are sometimes said to be in 'housing stress'. The ABS does not use that term in its published output from SIH to label households meeting those criteria because of the lack of comparability of the housing affordability ratios across tenure and landlord types, and the difficulties of comparing across different household sizes, as described in the previous paragraphs.

ADDITIONAL HOUSING CONTENT COLLECTED IN 2007–08

The SIH 2007–08 included additional housing topics to enable reporting on the broader housing circumstances of non-Indigenous Australians. The ABS will collect additional information on housing in the SIH every six years. For 2007–08, housing topics include: housing mobility, housing condition and dwelling characteristics, home purchase for first home buyers, household finances of owners with a mortgage, rental arrangements and the affairs of renters, and neighbourhood.

Refer to Appendix 6 'Additional Housing Topics', for more information on additional housing data.

PART 2 SURVEY METHODOLOGY

SURVEY METHODOLOGY

Part 2 of this User Guide describes the methodology used for the 2007–08 Survey of Income and Housing (SIH), including:

- information about the scope, coverage and sample
- data collection and processing
- benchmarks and weighting
- estimates and reliability of estimates.

Changes to survey methodology in 2007–08 are described in Part 4 'Changes from previous surveys'.

2.1 SCOPE AND COVERAGE

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SCOPE

The survey collects information by personal interview from usual residents of private dwellings in urban and rural areas of Australia (excluding very remote areas), covering about 97% of the people living in Australia. Private dwellings are houses, flats, home units, caravans, garages, tents and other structures that were used as places of residence at the time of interview. Long-stay caravan parks are also included. These are distinct from non-private dwellings which include hotels, boarding schools, boarding houses and institutions. Residents of non-private dwellings are excluded.

Usual residents excludes:
- households which contain members of non-Australian defence forces stationed in Australia, and
- households which contain diplomatic personnel of overseas governments.

For most states and territories the exclusion of people in very remote areas has only a minor impact on any aggregate estimates that are produced because they only constitute a small proportion of the population. Very remote and remote areas are defined by the assignment of an Accessibility/Remoteness Index of Australia (ARIA) score. ARIA is a remoteness value (a continuous variable between 0 and 15) that measures the physical distance which separates people in a particular area and where their goods, services and opportunities for social interaction may be accessed. The range of ARIA scores have been categorised as follows:
- Least Remote: Defined as having an ARIA score less then 5.95.
- Remote: Defined as having an ARIA score greater than or equal to 5.95 but less than 10.5.
- Very Remote: Defined as having an ARIA score greater than or equal to 10.5.

The ARIA categories and how ARIA scores are calculated are further explained in the *Australian Standard Geographical Classification (ASGC)* (cat. no. 1216.0).

COVERAGE

Information was collected only from usual residents. Usual residents were residents who regarded the dwelling as their own or main home. Others present were considered to be visitors and were not asked to participate in the survey.

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2.2 SELECTED SAMPLE AND FINAL SAMPLE

SAMPLE DESIGN

The sample was designed to produce reliable estimates for broad aggregates for households resident in private dwellings aggregated for Australia, for each state and for the capital cities in each state and territory. More detailed estimates should be used with caution, especially for Tasmania, the Northern Territory and the Australian Capital Territory (see Section 2.8 'Reliability of estimates').

In the 2007–08 SIH, dwellings were selected through a stratified, multistage cluster design. Selections were distributed across a eleven month enumeration period. The SIH is normally conducted over a 12 month enumeration period so that the survey results would be representative of income patterns across the year. In 2007–08 the estimates were adjusted during weighting so that the shorter enumeration period in the first quarter was compensated in the final estimates. In the final quarter of enumeration, 10% of the selected dwellings were deselected from the sample. This reduced the overall number of dwellings selected to participate in the survey. This outcome may increase the standard error in the final quarter estimates and hence the standard error in the annualised estimates. The relative change in sample size across the enumeration quarters may also introduce some bias to the annualised estimates but this is expected to be much less than the standard error.

SELECTED DWELLINGS, SAMPLE LOSS AND SELECTED HOUSEHOLDS

In the 2007–08 SIH, 11,126 dwellings were selected for the sample. This excludes dwellings removed as part of the deselection mentioned above. When field work commenced some dwellings selected for inclusion in the SIH sample were found to have no possibility of delivering a survey response. Collectively these are referred to as sample loss, and are composed of the following groups:
- dwellings which are out of scope of the survey; under construction, demolished, or converted to non-private dwellings or non-dwellings
- vacant private dwellings
- private dwellings that only contain only either out of scope residents (e.g. dwelling occupied by foreign diplomats and their dependents) or visitors.

In 2007–08 sample loss and non-response was 1,781 dwellings, 16% of the selected sample.

Sometimes dwellings that have been selected for inclusion in a survey are found to comprise more than one actual dwelling because, for example, an additional residence such as a 'granny flat' has been added to the original dwelling. In such cases, each actual dwelling becomes a separate household. Occasionally the residents of a selected dwelling request that their details be provided separately from other dwelling residents, for privacy reasons. A separate household is created for each such group of residents. In 2007–08, 33 selected dwellings were split into 2 households, 2 were split into 3, and 1 was split into 4.

RESPONDING HOUSEHOLDS AND FINAL SAMPLE

Households selected for inclusion in the survey can be categorised as responding or non-responding households. Responding households are either fully responding or partially responding. In the SIH, information missing from partially responding households is imputed, as described in 2.4 'Data processing'.

Non-responding households include:
- households affected by death or illness of a household member

- households in which the significant person(s) in the household did not respond because they could not be contacted, had language problems or refused to participate
- households in which the significant person(s) did not respond to key questions.

The final sample on which estimates were based, is composed of persons for which all necessary information is available. The information may have been wholly provided at the interview (fully-responding) or may have been completed through imputation for partially responding households. Of the selected dwellings, there were 11,126 in the scope of the survey, of which 9,345 (84.0%) were included as part of the final estimates. The final sample consists of those 9,345 households, comprising 18,326 persons aged 15 years old and over. The final sample includes 2,026 households which had at least one imputed value in income or child care expenses. For 52.4% of these households only a single value was missing, and most of these were for income from interest and investments or information relating to household loans.

Table 2.2.1 shows the distribution of the final samples between states and territories and between capital cities and the balance of state.

TABLE 2.2.1 SIH FINAL SAMPLE, Number of households—2007–08

	CAPITAL CITY		BALANCE OF STATE		TOTAL	
	Households	*Persons*(a)	*Households*	*Persons*(a)	*Households*	*Persons*(a)
	no.	no.	no.	no.	no.	no.
NSW	1 193	2 423	765	1 433	1 958	3 856
Vic.	1 309	2 633	482	936	1 791	3 569
Qld	749	1 559	828	1 588	1 577	3 147
SA	1 063	2 016	292	544	1 355	2 560
WA	965	1 896	269	513	1 234	2 409
Tas.	283	538	387	712	670	1 250
NT	268	538	64	128	332	666
ACT	428	869	—	—	428	869
Aust.	**6 258**	**12 472**	**3 087**	**5 854**	**9 345**	**18 326**

— nil or rounded to zero (including null cells)

(a) Number of persons aged 15 years and over

2.3 DATA COLLECTION AND DATA ITEM DESCRIPTION

INTERVIEW PROCEDURES

Experienced ABS interviewers were used to collect SIH data. They were given comprehensive training and were provided with detailed written instructions to complement the survey documents.

Information for each household was collected using:
- a household level computer assisted interview questionnaire which collected information on household characteristics, housing costs and certain assets and liabilities
- an individual level computer assisted interview questionnaire which collected information on income and personal characteristics from each usual resident aged 15 years and over in all households.

Interviewers made an initial contact visit, in which they obtained information on the numbers and characteristics of people usually resident in the dwelling. If a responsible adult was not available, the interviewer called back at another time. The interviewer also arranged a convenient time to call back to conduct the interviews.

During the actual survey interview, the interviewer:
- completed one household questionnaire for each household (information was provided by a household spokesperson who was nominated as the best person to provide information on the financial situation of the household)
- completed an individual questionnaire for each usual resident aged 15 years and over.

If a usual resident could not be present for the interview, additional interviews were arranged to ensure that all usual residents were covered by the survey.

DATA COLLECTION INSTRUMENTS

A representation of the computer assisted interview questionnaires used in the SIH can be downloaded as separate pdf files from the "Downloads" tab of the website entry for this publication.

DATA ITEMS AVAILABLE

A listing of all the data items available from the SIH can be downloaded from the "Downloads" tab of the website entry for this publication.

2.4 DATA PROCESSING

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DATA PROCESSING
METHODS

Computer based systems were used to process the data from the SIH with a program known as BLAISE. It was necessary to employ a variety of methods to process and edit the data which reflected the different questionnaires used to collect data from the household and individual components of the surveys. These processes are outlined below.

Coding and input editing of household and individual questionnaires

Internal system edits were applied in the computer-assisted interview (CAI) questionnaires to ensure the completeness and consistency of the responses being provided. The interviewer could not proceed from one section of the interview to the next until responses had been appropriately completed.

A number of range and consistency edits were programmed into the CAI questionnaire. Edit messages automatically appeared on the screen if the information entered was either outside the permitted range for a particular question, or contradicted information already recorded. These edit queries were resolved on the spot with respondents.

Data from the CAI questionnaires were electronically loaded to the processing database on receipt in the ABS office in each State or Territory. There, checks were made to ensure data for all relevant questions were fully accounted for and that returns for each household and respondent were obtained. Problems identified by interviewers were resolved by office staff, where possible, based on other information contained in the schedule, or on the comments provided by interviewers.

Computer-assisted coding was performed on responses to questions on country of birth, occupation and industry of employment to ensure completeness. Data on relationships between household members were used to delineate families and income units within the household, and to classify households and income units by type.

A query resolution system ensured that an accurate record of decisions was made in resolving the queries.

Additional editing

A range of edits was also applied to the household and individual information to double check that logical sequences had been followed in the questionnaires; that specific values lay within expected ranges; and that relationships between items were consistent.

Unusually high values (termed statistical outliers) were investigated to determine whether there had been errors in entering the data. Such values were also examined for their effect on aggregate estimates for Australia, and action was taken where necessary.

Imputation for missing records and values

Some other households did not supply all the required information but supplied sufficient information to be retained in the sample. Such partial response occurs when:
- income or other data in a questionnaire are missing from one or more non-significant person's records because they are unable or unwilling to provide the data
- all key questions are answered by the significant person(s) but other data are missing.

In these cases, the data provided are retained and the missing data are imputed by replacing each missing value with a value reported by another person (referred to as the donor).

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*Imputation for missing
records and values
continued*

Donor records are selected by finding fully responding persons with matching
information on various characteristics (such as state, sex, age, labour force status and
income) as the person with missing information. As far as possible, the imputed
information is an appropriate proxy for the information that is missing. Depending on
which values are to be imputed, donors are randomly chosen from the pool of individual
records with complete information for the block of questions where the missing
information occurs.

In the 2007–08 SIH, responses were imputed when not every person aged 15 or over
residing in the household responded, but the significant persons provided answers to all
key questions.

2.5 INCOME TAX AND OTHER MODELLED DATA ITEMS

MODELLED DATA ITEMS

Some data items of interest cannot reliably be collected from respondents, and some cannot be collected at all. However, in some cases it is possible to utilise other information provided by respondents as a basis for estimating the data items of interest. The process is referred to as modelling.

Income tax and the
Medicare levy

As described in Section 1.1, disposable income is calculated by deducting income tax (including the Medicare levy and surcharge) from gross income. The model is based on the liability rules described in the Tax Pack for the year concerned, the income reported by respondents, and other characteristics of household members reported in the survey.

Estimates of income tax are modelled, rather than collected from respondents, for a number of reasons.

- As noted in Section 1.4, an accruals approach is taken to estimating these items. The estimates should therefore relate to the tax liability being incurred with respect to the income being reported by the respondent in the survey. For estimates of current income (see Section 1.2 'Current, annual and weekly income'), the current income tax liability is calculated as though the current income is the average income for the whole year. If actual income fluctuates during the year, respondents are unlikely to have an actual income tax assessment that is relevant to the required estimate.
- In addition to income changes during the course of the year, full year income tax assessments may be affected by changes in family or other circumstances of the respondent which are not described in the survey, and are best ignored when deriving an income tax estimate to use with the other survey data.
- Income tax assessments are only made after the end of the financial year, and therefore are not yet available at the time that current income is collected from respondents.
- The income tax assessment of respondents may be affected by certain expenditures which they make, such as donations to charities, or other particular circumstances which are not captured in the survey. For many purposes it is desirable to exclude the impact on tax liabilities of specific influences which are not captured in the survey.
- The SIH provides sufficient relevant information to allow a relatively comprehensive model to be constructed.

In 2007–08, the Medicare Levy Surcharge was also modelled and deducted from gross income while calculating disposable income.

Family tax benefit

Family tax benefit (FTB) can be received as a fortnightly payment from the Family Assistance Office, a reduction in pay-as-you-go (PAYG) income tax deductions, a lump sum after the end of the year, or a combination of these. Payments received as fortnightly payments are collected in the SIH and are used in the derivation of "Current weekly income from family tax benefits". Benefits received in the form of reduced PAYG tax or as a lump sum are modelled using responses to the FTB questions relating to method of payment, as well as other demographic and income information. From 2005–06 income from FTB supplements has also been modelled.

Family tax benefit
continued

From 2005–06 these modelled components are included in estimates of FTB, and hence in government pension and allowances, and in gross income. Prior to 2005–06 these modelled components were treated as negative adjustments in the modelling of income tax and therefore, while not included in gross income, they were included in disposable income and equivalised disposable income.

Maternity payment

The 2007–08 SIH collected information on maternity payment received in the previous financial year, but 'current' estimates of maternity payments could not be collected in the same way as other pensions and allowances, so the estimates of current income from maternity payments were modelled. They were treated as though they were paid evenly through the year, so the payment allocated to eligible recipients was the amount of the payment divided by 52.14. The payment was assigned to each family with a child aged under 1 year old at the time of interview. The family was assigned a payment for each eligible child.

Utilities allowance and
Seniors concession
allowance

'Current income' estimates of utility allowance and senior concession allowance were modelled in 2007–08, but were assumed to be included by the respondents in reported pension amounts for the previous financial year. These allowances are paid six monthly, but the amount included in current weekly income is the total payment for the year divided by 52.14.

Utilities allowance was assigned to all recipients of age pension, wife pension, carer payment, widow allowance, disability support pension, partner allowance, parenting payment, austudy, service pension, war widow's pension and special benefit, providing they were at least 65 years old if male and at least 63 years old if female.

Seniors concession allowance was assigned to males aged 65 and over and females aged 63 and over who are not eligible for the utilities allowance, providing their income unit income (as reported in the survey) was less than $80,000 per year.

One-off payments to
carers and older
Australians

As described under Government pensions and allowances in Section 1.4 'Components of income', the one-off payments to carers and older Australians were treated as income as they were primarily a supplement to existing income support payments.

The one-off payments to carers and to older Australians paid in 2007–08 were modelled and included in the current estimates of gross income. Similar one-off payments in 2006–07 were assumed to be included by the respondents in reported pension amounts for previous financial year. These payments are paid once in the year, but the amounts were modelled as weekly payments through the year.

In the model, the payments are assigned to all respondents expected to have met the eligibility criteria at the time they were interviewed. The one-off payment to carers was assigned to recipients of carer payment and carer allowance. The one off payment to older Australians was assigned to recipients of utilities allowance and seniors concession allowance.

Child Disability Assistance Payment paid to recipients of carer allowance in 2007 is also included as part of income in the 2007–08 estimates, recognising that the intention of the payment is to offset the extra costs of caring for children. The payment was modelled as paid through out the year.

2.6 BENCHMARKS AND WEIGHTING OF SURVEY RESULTS

BENCHMARKS AND
WEIGHTING

Weighting is the process of adjusting results from a sample survey to infer results for the total in scope population whether that be persons or households. To do this, a 'weight' is allocated to each sample unit e.g. a person or a household. The weight is a value which indicates how many population units are represented by the sample unit. The first step in calculating weights for each unit is to assign an initial weight, which is the inverse of the probability of being selected in the survey. For example, if the probability of a household being selected in the survey was 1 in 600, then the household would have an initial weight of 600 (that is, it represents 600 households).

An adjustment is then made to the initial weights to account for changes in the sample across the four quarters of survey enumeration; the sum of the weights after this initial adjustment of households in each quarter is equal.

The initial weights are then calibrated to align with independent estimates of the population of interest, referred to as 'benchmarks'. Weights calibrated against population benchmarks ensure that the survey estimates conform to the independently estimated distribution of the population rather than to the distribution within the sample itself.

In the 2007–08 SIH, all persons in each household were assigned a weight. This differs from the 2005–06 where children aged 0–14 years were not given separate weights, but household counts of the number of children were benchmarked to population totals.

The SIH survey was benchmarked to the in scope estimated resident population (ERP) and the estimated number of households in the population. The 2007–08 cycle has used population and household benchmarks based on the 2006 Census instead of the 2001 Population Census estimates used for the 2003–04 and 2005–06 SIH. The differences in the estimated population that occur due to this change are outlined in the following table.

	2001 Census	2006 Census
Population benchmark		
Australian Population Benchmark(a)	21 074 415	21 178 235
Persons in Non Private Dwellings Excluded	392 257	371 636
Persons in Very Remote Excluded	173 102	163 470
Total Population Exclusions	565 359	535 106
Final Population Benchmark	*20 509 056*	*20 643 129*
Household benchmark		
Australian Household Benchmark(a)	8 247 769	8 136 593
Households in Very Remote Excluded	61 690	61 348
Final Household Benchmark	*8 186 079*	*8 075 244*

(a)   at 31 December 2007

The benchmarks used in the calibration of the final weights for the 2007–08 SIH were:
- number of persons —
  - by state or territory by age by sex;
    - five year age groups up to 80+ years for the states
    - five year age groups up to 75+ years for the ACT
    - five year age groups up to 60+ years for the NT
  - by state or the ACT by labour force status ('Employed', 'Unemployed' and 'Not in the labour force');
  - by state by capital city/balance of state;

■ numbers of households —
  ■ by household composition (number of adults (1,2 or 3+) and whether or not the household contains children)

More detailed age groupings have been used where possible in 2007–08 SIH. Previously in the 2003–04 SIH, ten year age groups up to 65 years and over were used . In SIH 2005–06 five year age groups were used up to 75 years and over, except for NT where the age groups were 15–24, 25–44, 45 and over. The 2007–08 age groups have been refined further where possible, five year age groups up to 80 years or older in all states. The two territories have used five year age groups age up to 75 or older for the ACT and 60 or older for the NT. The expanded detail for age groups in SIH 2007–08 aims to improve estimates across those ages. The impact of this change on all other estimates not involving age is expected to be minimal.

The person and household benchmarks were based on preliminary estimates of numbers of persons and households in Australia (excluding very remote areas) in 2007–08 based on the 2006 Population Census. The benchmarks used include households and persons residing in occupied private dwellings only and therefore do not, and are not intended to, match estimates of the total Australian resident population published by the ABS.

Estimation

Estimates produced from the survey are usually in the form of averages (e.g. average weekly income of couple households with dependent children), or counts (e.g. total number of households that own their dwelling or total number of persons living in households that own their own dwelling). For counts of households, the estimate was obtained by summing the weights for the responding households in the required group (e.g. those owning their own dwelling). For counts of persons, the household weights were multiplied by the number of persons in the household before summing. The SIH collects data on the number of people, including children, in each household but separate records with income and other detailed data were only collected for people 15 years and older. Therefore, counts of persons cannot be obtained by summing the weights of all persons.

Average income values are obtained in two different ways, depending on whether mean gross household income or mean equivalised disposable household income is being derived. Estimates of mean gross household income are calculated on a household weighted basis. They are obtained by multiplying the gross income of each household by the weight of the household, summing across all households and then dividing by the estimated number of households. For example, the mean gross household income of couple households with dependent children is the weighted sum of the gross income of each such household divided by the estimated number of those households. Estimates of mean equivalised disposable household income are calculated on a person weighted basis. They are obtained by multiplying the equivalised disposable income of each household by the number of people in the household (including children) and by the weight of the household, summing across all households and then dividing by the estimated number of people in the population group. Appendix 3 illustrates the differences between mean gross household income calculated on a household weighted basis and mean equivalised disposable household income calculated on a person weighted basis.

2.7 CALCULATION OF POPULATION COUNTS, MEANS, MEDIANS AND OTHER ESTIMATES

COUNTS

Counts of income units or households are derived by summing the weights assigned to each income unit or household record of interest. Counts of persons can also be obtained this way if only persons over 15 years of age are required. However, there are not separate records for persons under the age of 15, and therefore counts of persons including those under 15 years have to be derived by first multiplying each household weight by the number of persons in the household and then summing the products.

MEANS

The mean, or average, value of a data item is usually calculated by selecting all the survey records for the population of interest, multiplying the value of the data item in each record by the weight of the record and summing the resultant products, and then dividing the total by the sum of the weights of the records. For example, the mean gross income of Queensland households is the weighted sum of the gross income of each such household divided by the sum of the weights relating to each such household.

However, for some purposes means for a household variable may be required with respect to all people in a population group, including children aged under 15. Such measures (referred to as person weighted measures) are often used when analysing equivalised household income. Estimates of mean equivalised disposable household income in SIH published output are obtained by multiplying the equivalised disposable income of each household by the number of people in the household (including children) and by the weight of the household, summing across all households and then dividing by the estimated number of people in the population group. (The estimated number of people in the population group is calculated as outlined above in the section 'counts', by first multiplying each household weight by the number of persons in the household and then summing the products).

MEDIANS

Medians divide the population of interest into halves. To identify the median record, the population is first ranked in ascending order according to the data item of interest. Except for person weighted measures of household variables, the weights of the records are then accumulated until half the population is accounted for. The record at which this occurs is the median record, and its value for the data item of interest is the median value. For person weighted measures of household variables, the household weights are multiplied by the number of persons in the household before accumulation.

OTHER ESTIMATES

An analagous approach is used for other quantile measures.

Calculation of the Gini coefficient is included in Appendix 3 'Gini coefficient and other single statistic summaries of income distribution'.

2.8 RELIABILITY OF ESTIMATES

The estimates provided in the SIH are subject to two types of error, non-sampling and sampling error.

Non-sampling error

Non-sampling error can occur in any collection, whether the estimates are derived from a sample or from a complete collection such as a census. Sources of non-sampling error include non-response, errors in reporting by respondents or recording of answers by interviewers and errors in coding and processing the data.

Non-sampling errors are difficult to quantify in any collection. However, every effort is made to reduce non-sampling error to a minimum by careful design and testing of the questionnaire, training of interviewers and data entry staff and extensive editing and quality control procedures at all stages of data processing.

One of the main sources of non-sampling error is non-response by persons selected in the survey. Non-response occurs when people cannot or will not cooperate or cannot be contacted. Non-response can affect the reliability of results and can introduce a bias. The magnitude of any bias depends upon the level of non-response and the extent of the difference between the characteristics of those people who responded to the survey and those who did not.

The following methods were adopted to reduce the level and impact of non-response:
- face-to-face interviews with respondents
- the use of interviewers who could speak languages other than English, where necessary
- follow-up of respondents if there was initially no response
- imputation of missing values
- ensuring that the weighted data is representative of the population (in terms of demographic characteristics) by aligning the estimates with population benchmarks.

Sampling error

The estimates are based on a sample of possible observations and are subject to sampling variability. The estimates may therefore differ from the figures that would have been produced if information had been collected for all households. A measure of the sampling error for a given estimate is provided by the standard error, which may be expressed as a percentage of the estimate (relative standard error).

The estimates in the SIH are based on information obtained from the occupants of a sample of dwellings. Therefore, the estimates are subject to sampling variability and may differ from the figures that would have been produced if information had been collected for all dwellings.

One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied because only a sample of dwellings was included. There are about two chances in three that the sample estimate will differ by less than one SE from the figure that would have been obtained if all dwellings had been included, and about 19 chances in 20 that the difference will be less than two SEs. Another measure of the likely difference is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate.

Sampling error continued

For estimates of population sizes, the size of the SE generally increases with the level of the estimate, so that the larger the estimate the larger the SE. However, the larger the sampling estimate the smaller the SE in percentage terms (RSE). Thus, larger sample estimates will be relatively more reliable than smaller estimates.

In the survey only estimates with RSEs of 25% or less are considered reliable for most purposes. Estimates with RSEs greater than 25% but less than or equal to 50% are annotated by an asterisk to indicate they are subject to high SEs and should be used with caution. Estimates with RSEs of greater than 50%, annotated by a double asterisk, are considered too unreliable for general use and should only be used to aggregate with other estimates to provide derived estimates with RSEs of 25% or less.

RSEs for all tables are provided. The RSEs have been derived using the group jackknife method. If needed, SEs can be calculated using the estimates and RSEs.

COMPARATIVE ESTIMATES
Proportions and percentages

Proportions and percentages, which are formed from the ratio of two estimates, are also subject to sampling errors. The size of the error depends on the accuracy of both the numerator and the denominator. For proportions where the denominator is an estimate of the number of households in a grouping and the numerator is the number of households in a sub-group of the denominator group, the formula for the RSE is given by:

$$RSE\%\left(\frac{x}{y}\right) = \sqrt{[RSE\%(x)]^2 - [RSE\%(y)]^2}$$

Differences between estimates

The difference between survey estimates is also subject to sampling variability. An approximate SE of the difference between two estimates (x–y) may be calculated by the formula:

$$SE(x-y) = \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

This approximation can generally be used whenever the estimates come from different samples, such as two estimates from different years or two estimates for two non-intersecting subpopulations in the one year. If the estimates come from two populations, one of which is a subpopulation of the other, the standard error is likely to be lower than that derived from this approximation, but there is no straightforward way of estimating how much lower.

Significance testing

Statistical significance testing can be undertaken to determine whether it is likely that there is a difference between two estimates from different samples. The standard error for the difference between two estimates can be calculated using the formula in the paragraph above. This standard error is used to calculate the following test statistic:

$$\frac{|x-y|}{SE(x-y)}$$

If the value of this test statistic is greater than 1.96 then there are 19 chances in 20 that there is a real difference in the two populations with respect to that characteristic. Otherwise, it cannot be stated with confidence that there is a real difference between the populations.

PART 3 DATA AVAILABILITY

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DATA AVAILABILITY

Part 3 of this User Guide describes the range of data available from the SIH 2007–08 in both published and unpublished form. More detailed information can also be obtained by telephoning the Living Conditions Client Services team on (02) 6252 7457, or by emailing <living.conditions@abs.gov.au>.

3.1 PUBLICATIONS

The publications available from the 2007–08 SIH are listed below. All can be downloaded free of charge from the ABS website.

Household Income and Income Distribution (cat. no. 6523.0) presents estimates of income received by households, classified by various characteristics. Also includes summary measures of the distribution of household income in Australia. Classifications used to describe households include income quintile, principal source of household income, family composition, tenure type, and geographic location. For each category of household, estimates of household size and other characteristics are provided in addition to the estimates of income.

Housing Occupancy and Costs (cat. no. 4130.0) contains data from the SIH on Australian housing occupancy and costs, and relates these to characteristics of occupants and dwellings such as tenure, family composition of household, dwelling structure, age, income and principal source of income. Also includes value of dwelling estimates and information on recent home buyers.

Housing Mobility and Conditions (cat. no. 4130.0.55.002) contains data from the SIH on Australian housing mobility and dwelling conditions. The selected housing topics include length of time in dwelling, number of times moved in last five years, reasons for moving, and characteristics of the previous dwelling occupied. They include aspects of the dwelling occupied, such as any major structural problems, repairs and maintenance carried out in the past 12 months, and sources of energy and water. For first home buyers, data on home deposits paid and any monetary assistance received for the purchase are provided.

Information Paper: Survey of Income and Housing, User Guide, Australia, 2007–08 (cat. no. 6553.0) describes the definitions, concepts, methodology and estimation procedures used in collecting and processing the data from the SIH. It enables users to make informed choices on the suitability of the estimates for particular uses. It also provides a list of all data items available from the survey and a copy of the survey questionnaire.

Survey of Income and Housing - Confidentialised Unit Record File, Technical Manual, 2007–08 (cat. no. 6541.0) contains details of the confidentialised unit record file (CURF), including a list of all data items on the file, and background information about the survey.

The earlier publications on experimental estimates relating to the SIH are listed below. All can be downloaded free of charge from the ABS website.

Experimental Estimates of Imputed Rent, Australia, 2003–04 and 2005–06 (cat. no. 6525.0) This Information Paper presents household level estimates of the imputed rent for owner-occupied dwellings derived from the 2003–04 and 2005–06 Surveys of Income and Housing and the 2003–04 Household Expenditure Survey.

Estimates of Personal Income for Small Areas, 2001–02 to 2005–06 (cat. no. 6524.0.55.002) These data cubes contain estimates of the sources of personal income people received for each year from 2001–02 to 2005–06. Each of the tables provide a breakdown of total personal income by the following sources - wage & salary, own unincorporated business, investment, superannuation and annuity, and other income.

3.2 SPECIAL DATA SERVICES

SPECIAL DATA SERVICES

The published data are only a small portion of the data collected in the survey. The ABS offers specialised consultancy services to assist clients with more complex statistical information needs. Clients may wish to have the unit record data analysed according to their own needs, or require tailored tables incorporating data items and populations as requested by them. A wide range of data items are available — the detailed list of possible data items is contained in Appendix 7 'Data item listing'.

Tables and other analytic outputs can be made available electronically or in printed form. However, as the level of detail or disaggregation increases with detailed requests, the number of contributors to data cells decreases. This may result in some requested information not being able to be released due to confidentiality or sampling variability constraints. All specialist consultancy services attract a service charge, and clients will be provided with a quote before information is supplied. For further information, contact ABS information consultants on 1300 135 070 (international callers +61 2 9268 4909). For clients with specific requirements, customised tables can be produced.

3.3 SUPPORTING MATERIAL

SUPPORTING MATERIAL

To assist clients in analysing the data from the survey, a representation of the computer assisted interview questionnaire used in the SIH is available on the ABS website. It can be downloaded from the "Downloads" tab of the website entry for this publication.

3.4 CONFIDENTIALISED UNIT RECORD FILES (CURFS)

CONFIDENTIALISED UNIT
RECORD FILES (CURFs)

For clients wanting to produce their own tabulations and conduct manipulations of survey estimates a file containing unit records relating to almost all the survey respondents can be supplied. To protect the confidentiality of individual persons and households some data items are removed from the file and the level of detail for some items is reduced.

Two microdata files are available from this survey:
- a basic SIH CURF available on CD-ROM or through the Remote Access Data Laboratory (RADL)
- an expanded SIH CURF accessible only through the RADL.

The expanded CURF contains more detailed data for some variables than the basic CURF, as well as some additional variables. Persons have been removed from large households to reduce the expanded CURF to maximum household size of 8 and the basic CURF to a maximum household size of 6.

The RADL is a secure on-line data query service that clients can access via the ABS website. Because the CURFs are kept within the ABS environment, the ABS is able to release more detailed data via the RADL than can be made available on CD-ROM.

Accessing the CURF

All clients wishing to access the SIH 2007–08 basic and expanded CURF should refer to the ABS Website <http://www.abs.gov.au> (see Services, CURF Microdata) and read the CURF Microdata Entry Page, and other linked information, before downloading the appropriate Guide, Application and Undertaking forms and applying for access.

AUSTRALIAN UNIVERSITIES

University clients should refer to the ABS web site <www.abs.gov.au> (see Services, Services for Universities). The SIH 2007–08 basic and expanded CURF can be accessed by universities participating in the ABS/Universities Australia CURF Agreement for research and teaching purposes.

OTHER CLIENTS

Other prospective clients should contact the Microdata Access Strategies Section of the ABS at <microdata.access@abs.gov.au> or on (02) 6252 7714.

PART 4 CHANGES FROM PREVIOUS SURVEYS

There have been a number of changes made to the SIH since it was first conducted in 1994–95. These may have an impact on the assessment of changes over time.

The 2007–08 SIH content was largely similar to the 2005–06 SIH, but there were some changes in questions, definitions and methodology. Key changes to the collection topics included: detailed data about assets and liabilities were not collected in 2007–08; additional data on housing topics and child care were collected; and person and income unit tenure data was collected for the first time since SIH 2002–03. There were also improvements made to the collection of income statistics. Section 4.1 outlines the main changes between the two surveys.

The 2005–06 SIH was similar to the 2003–04 SIH, but there were some changes in definitions and methodology. Section 4.2 outlines the main changes between the two surveys.

A number of major changes were introduced in the 2003–04 SIH. The changes were largely designed to improve survey quality but may impact on the comparability between the 2003–04 estimates and earlier data. It is generally not possible to quantify the extent of the discontinuity. Section 4.3 outlines the main changes.

The surveys from 1994–95 to 2002–03 are comparable. Section 4.4 provides information on the minor differences.

The final sample size for SIH cycles from 1994–95 is shown in Table 4.1. The sample size can give an indication of the reliability of the estimates produced from the surveys.

TABLE 4.1 PREVIOUS SIH SAMPLE SIZES

	Capital city	Balance of state	Total
	no.	no.	no.
1994–95	4 438	2 381	6 819
1995–96	4 588	2 375	6 963
1996–97	4 715	2 530	7 245
1997–98	4 649	2 376	7 025
1999–2000	4 327	2 310	6 637
2000–01	4 397	2 389	6 786
2002–03	6 657	3 554	10 211
2003–04	7 077	4 284	11 361
2005–06	6 405	3 556	9 961
2007–08	6 258	3 087	9 345

CHANGES IN THE
2007–08 SIH

The 2007–08 SIH was largely similar to the 2005–06 SIH, but there were some changes in topics, definitions and methodology.

CHANGES IMPACTING ON
ALL DATA ITEMS

The main changes which could impact on all data items were:
- the final sample size of the SIH decreased from 9,961 in 2005–06 to 9,345 in 2007–08
- benchmarks based on the 2006 Census have been used for the 2007–08 SIH; in 2005–06 benchmarks were based on the 2001 Census
- more detailed age benchmarks were used when determining the weights to be allocated to each unit in 2007–08 estimates. Section 2.6 contains further information on benchmarks used for weighting.
- imputation procedures were changed: in 2007–08, as in 2003–04, all households where one or more people did not respond were imputed if the non–responding person was not a 'significant' person; in 2005–06, all households where one or more people did not respond were treated as non–responding.

CHANGES RELATING TO
SPECIFIC DATA ITEMS

There were also a number of changes that relate to specific data items.

Improvements to income measures

The ABS has undertaken a major review of its income standards, to ensure that its standards and practice appropriately reflected new international standards for household income statistics (promulgated in 2004) and suitably addressed a range of outstanding methodological and collection issues. The 2007–08 SIH income estimates are the first to apply the changes.

Changes in the income measures used in the 2007–08 survey are:
- Employment income now includes all payments received by individuals as a result of their current or former involvement in paid employment. In addition to the regular and recurring cash receipts previously included, the new income measures also include non-cash benefits, bonuses, termination payments and payments for irregular overtime.
- Interest paid on money borrowed to purchase shares or units in trusts is now netted off income earned from these sources when deriving income estimates.
- Income earned as a silent partner in a partnership and some private trust income is now classified to investment income rather than unincorporated business income. The questions developed to effect this change also improved the reporting of income from these sources.
- Lump sum workers' compensation receipts are now included.
- A wider range of data on financial support received from family members resident outside the household is now included. In addition to regular payments previously collected, financial support has been extended to include other forms of financial support , including goods and services received which were purchased by others e.g. rent, education, food, clothing, car registration and utilities. Capital transfers, such as the purchase of property or cars, were excluded.

Some limits have been placed on the new inclusions, where the magnitude of the individual amounts received exceed that likely to be used to support current consumption e.g. termination payments, workers compensation payments.

Improvements to income measures continued

Some classification changes have also been made. Commencing in SIH 2007–08, income earned as a silent partner in a partnership and some private trust income has been classified to investment income, rather than to unincorporated business income. This change does not affect trust income resulting from the recipient working in their own business, which continues to be classified as unincorporated business income. The questions developed to effect this change also improved the reporting of income from these sources.

Refer to Appendix 4 'Improvements to income statistics' for more information on the changes to income measures.

Inclusion of child care data

There were additional questions on use of child care, including preschool for a selected child, covering type, time used, costs and child care benefit received. In addition, there were new data items on barriers to labour force participation due to child-care related reasons. See Part 1 'Concepts and definitions' for further information.

Inclusion of additional housing data

The SIH 2007–08 included additional housing topics to enable reporting on the broader housing circumstances of non–Indigenous Australians. The ABS will collect additional information on housing in the SIH every six years. For 2007–08, housing topics include: housing mobility, housing condition and dwelling characteristics, home purchase for first home buyers, household finances of owners with a mortgage, rental arrangements and the affairs of renters, and neighbourhood. Refer to Appendix 6 'Additional Housing Topics' for more information on additional housing data.

Inclusion of data on ethnicity

There were additional questions relating to country of birth of each parent, first language spoken, main language spoken at home, and proficiency in spoken English.

Changes to financial support received from or provided to family members not in the household

In SIH 2007–08, a wider range of data on financial support received from and paid to family members resident outside the household was collected. Previously these were mainly limited to regular payments for spousal maintenance and child support. In 2007–08, respondents were asked to include other forms of financial support, including goods and services received which were purchased by others e.g. rent, education, food, clothing, car registration and utilities. Capital transfers, such as for the purchase of property or cars, were excluded.

Inclusion of data on tenure type for income units and persons

The 2007–08 SIH collected information on the tenure and landlord type for income units and persons. New data items have been included at the person level relating to tenure, landlord type and weekly rent payments. New data items have also been included at the income unit level relating to tenure and landlord type. The last time this information was available from the SIH was 2002–03.

Improvement in selection of household reference person

Improvements have been made in the way the household reference person is identified in the 2007–08 SIH. In 2005–06, the household reference person was identified by applying selection criteria about relationships, income and age. However, this method did not always identify the correct reference person for analytical purposes, particularly in some group households (where one person may be the owner and other unrelated individuals are also living in the dwelling) or first home buyers (where the first home buyer may not be selected as the household reference person based simply on

Improvement in selection of household reference person continued

relationship income and age. In 2007–08, tenure has been added as a criterion in determining the household reference person. See the Glossary for detailed information about the selection criteria used to identify the household reference person.

Commonwealth Rent Assistance

New data items have been included at the income unit and person levels relating to the receipt of Commonwealth Rent Assistance and the amount received. Commonwealth Rent Assistance is a non-taxable income supplement paid through Centrelink to individuals and families who rent in the private rental market. It is only paid to recipients of another government benefit or pension, and paid in conjunction with that other payment. Reported amounts of Commonwealth Rent Assistance were added to the relevant reported benefit or pension during processing where it was identified that the amount had not been included.

Loans level data

The 2005–06 SIH CURFs contained housing cost data items at the household level relating to the amounts owing on mortgages and unsecured loans for housing and other purposes. The 2007–08 SIH CURFs also contain those data items, but also include a new loans level, containing data items relating to each reported loan belonging to a household. See Appendix 1 for a list of data items available on the new loans level.

Other changes

Some changes have also been implemented within the derivation process to correct errors detected when calculating the disposable income for some households in receipt of tax offsets. Estimates for 2005–06 have been updated to rectify these errors in the 2007–08 publications.

CHANGES IN THE
2005–06 SIH

The 2005–06 SIH was similar to the 2003–04 SIH, but there were some changes in definitions and methodology.

CHANGES IMPACTING ON
ALL DATA ITEMS

- The main changes which could impact on all data items were:
- the 2003–04 SIH was integrated with the Household Expenditure Survey while the 2005–06 SIH was run as a stand alone survey
- the final sample size decreased from 11,361 households in 2003–04 to 9,961 in 2005–06
- the scope of the survey was changed slightly—in 2003–04, all people living in Indigenous communities were out of scope; in 2005–06 they were out of scope only if they were living in very remote areas
- benchmarks based on the 2001 Census were used, and the benchmarks were consistent with the scope in that people living in very remote areas in all states and territories were excluded; in 2003–04, benchmarks were based on the 1996 Census and did not exclude people living in very remote areas, except in the Northern Territory where people living in areas defined as sparse were excluded
- more detailed age benchmarks were used when determining the weights to be allocated to each unit in 2005–06 estimates;
- imputation procedures were changed—all households where one or more people did not respond were treated as non-responding; in 2003–04 these were imputed if the non-responding person was not a 'significant' person.

CHANGES RELATING TO
SPECIFIC DATA ITEMS

There were also a number of changes that relate to specific data items.

*Inclusion of all salary
sacrificed income*

In the published output from the 2005–06 survey, all amounts salary sacrificed were included in wages and salary estimates. In output from previous surveys, estimates included only some salary sacrificed amounts. The 2003–04 estimates published in the 2005–06 issue of *Household Income and Income Distribution, Australia* (cat. no. 6523.0) were also revised to include additional salary sacrificed amounts. The changed treatment of salary sacrifice did not impacted significantly on the estimates. In 2005–06 the Gini coefficient on the new method was 0.307, compared with 0.304 when compiled on the former method. Including all salary sacrifice in the income estimates for 2005–06 added 0.003 points to the Gini coefficient and $5 (0.8%) to mean weekly equivalised disposable household income.

*Improvements to family
tax benefit estimates*

Improvements were made to estimates relating to current income from family tax benefit (FTB). Prior to 2005–06, the FTB item only included FTB received as fortnightly payments. FTB paid through the tax system or as a lump sum was excluded for practical reasons. The items 'Total current weekly income from government pensions and allowances' and 'Total income from all sources' also excluded these components, but they were included in measures of disposable income. In 2005–06 the new FTB item 'Current weekly income from family tax benefits (modelled)' included all FTB payments, regardless of whether they were received fortnightly, via the tax system or as a lump sum. It also included payments of FTB supplement. Some components of the FTB item used in 2005–06 were modelled using information on income and household demographics reported in the survey. All income aggregates included the new item. It

should be noted that there was little impact on comparability of estimates of disposable income as a result of the change, since disposable income has always included modelled components relating to FTB paid through the tax system or as a lump sum.

Housing costs definition

The housing costs measure used in the 2005–06 issue of *Housing Occupancy and Costs, Australia* (cat. no. 4130.0.55.001) was slightly different from the measure used in prior issues. In prior issues housing costs comprised: rates payments for owners; rates and housing loan payments for owners with a mortgage; and rent payments for renters. In 2005–06, information on housing costs for other tenure types which was first collected in the 2003–04 survey was included. The definition of housing costs was no longer dependent on tenure — it is defined as the sum of rent payments, rates payments, and mortgage or unsecured loan payments if the initial purpose was primarily to buy, add or alter the dwelling. The revised definition added only about $1 (less than 1%) to mean weekly housing costs.

Other changes

There were changes to some pensions and allowances paid by the government, resulting in new items for maternity payment, utilities allowance, seniors concession allowance and one-off payment to older Australians.

A number of changes were made to the derivation process used to estimate income tax liability. In prior surveys estimates of imputed tax payable included an adjustment to subtract estimated FTB payments made through the tax system or as a lump sum. This ensured that FTB payments made through the tax system or as a lump sum were included in disposable income. This adjustment was no longer required since such payments are included in gross income estimates.

INTEGRATION OF HES
AND SIH

The 2003–04 SIH was integrated with the 2003–04 HES. This integration was achieved by selecting a subsample of the households in the SIH survey and asking them the additional questions required for HES purposes. The HES subsample comprised 6,957 of the 11,361 households responding to the SIH. The main advantages of integrating the surveys are:

- respondent burden is lower
- the data collection costs are lower
- the resultant dataset is richer because HES and SIH results are more comparable than previously.

However, in order to achieve this integration, some changes were required to both surveys which impact on comparability with previous surveys.

In addition, it is possible that the integration of the surveys affected the non-response bias in the SIH. The response rates for the HES subsample are lower than achieved in the SIH-only sample component because of the reluctance of some respondents to provide the extra information required in the HES part of the survey. The non respondents to the 2003–04 survey may therefore have different characteristics to the non respondents of previous SIHs, resulting in different non-response bias.

DATA ITEMS REMOVED

A few data items collected in previous surveys were not collected in the 2003–04 SIH. These include:

- income unit level tenure — in 2003–04 tenure is available at the household level only
- labour force status in each of the 7 months prior to the interview
- full-time/part-time status in each of the 7 months prior to the interview
- month left school.

CHANGES IN CONCEPTS,
DEFINITIONS AND
CLASSIFICATIONS

In previous SIHs, the household reference person was chosen from an income unit within the household that had the highest tenure type. Tenure type was collected for households but not for income units in the 2003–04 SIH. The tenure type of income units was therefore not used in determining which person in the household is to be designated as household reference person.

In the published output from the surveys, the data item "family composition of household" replaced the item "household composition". The new item better met user requirements for the treatment of households with dependent children.

CHANGES IN
METHODOLOGY
*Changes to survey
methodology*

There were a number of changes to the survey methodology introduced in 2003–04. Some of these were a consequence of the integration of the HES and SIH. The main changes which could impact on all data items were:

- previous SIH cycles had selected dwellings from those that had been respondents for eight months in the Monthly Population Survey (MPS), whereas in 2003–04 the SIH sample was drawn from dwellings not recently included in an ABS household survey (possible change in response bias)
- the sample size of the SIH was increased from 10,211 households (comprising 19,400 persons aged 15 and over) in 2002–03 to 11,361 households (comprising 22,315 persons aged 15 and over) in 2003–04 (lower sample error)
- interviewer use of a laptop computer (this may have improved data capture)

Changes to survey methodology continued

- editing and imputation procedures were changed — in particular because the SIH sample is no longer drawn from households who have participated in the MPS, responses given in the MPS are no longer available as a basis for imputation.

Changes to specific data items

The changes in survey methodology relating to specific data items were:

- current income from own unincorporated business and investments was measured using respondents' estimates of expected income in the current financial year, whereas previously these data items were estimated based only on information about reported income for the previous financial year — this change had a significant impact on the coverage of such income streams in current income measures
- the collection of details about the assets and liabilities of the household may have improved the quality of reporting of associated income streams
- the instrument wording was changed to explicitly ask that reported dividends include the value of imputation credits — previously this direction was only included in interviewer instructions
- information relating to some household loans was collected using a different methodology — for those loan accounts that have a redraw facility and have regular income (such as wages) deposited into them, respondents were not asked to provide a 'usual repayment' — instead they were asked to provide the amount that the principal outstanding usually decreases by in a 6 month period and this was used in conjunction with information collected on interest to derive a repayment amount
- details of previous financial year income were collected from all persons — in previous SIHs this information was not collected from people who had only arrived in Australia in the current financial year
- details of hours worked were collected from all employed persons — in previous SIHs, this information was only available for employees
- unlike previous SIHs, data on repayments and principal outstanding on mortgages for other purposes (ie for purposes other than building, buying, altering or adding to the selected dwelling) excludes mortgages that were used for business or investment purposes.

4.4 CHANGES IN EARLIER SURVEYS

CHANGES IN EARLIER
SURVEYS

The SIH cycles from 1994–95 to 2002–03 are comparable. These files were reprocessed in 2003 to apply consistent demographic benchmarks to all years, and to incorporate the latest demographic estimates in the benchmarks. Changes over this period are generally minor and are summarised below:

- the sample size was fairly constant at about 7,000 households from 1994–95 to 2000–01, but increased to 10,211 in 2002–03
- an extra benchmark was used in the weighting process in 1999–2000 and 2000–01 to compensate for an apparent fall in the coverage of government benefit payments in those years
- any changes to government pensions and allowances have been incorporated
- the 2nd edition of the *Australian Standard Classification of Occupations, Second Edition (ASCO)* (cat. no. 1220.0) was introduced from 1996–97 for coding of occupation.

In addition, the item nature of occupancy was replaced by tenure type from 1995–96. Prior to 1995–96 owner occupiers were classified as either owners or purchasers. A purchaser had a mortgage or loan secured against the dwelling, and the loan was used to purchase or build the dwelling. An owner had no loan secured against the dwelling for the purpose of building or purchasing. From 1995–96, owner occupiers are classified as owners without a mortgage and owners with a mortgage. This change to the classification was made to reflect the increasing diversity in financial instruments, in particular the increasing use of loans secured against dwellings being used for non-housing purposes. Such secured loans have implications for the security of tenure and a household with such a loan is classified as an owner with a mortgage in the new classification.

APPENDIX 1 CURRENT AND ANNUAL INCOME

INTRODUCTION

The SIH produces estimates of 'current' income and estimates of full year, or annual, income with respect to the 'previous financial year'. 'Current' income refers to income being received at the time the data were collected from respondents. Current income provides the most up to date information available and in some cases the most accurate information available. But it also has some disadvantages. This appendix discusses the differences in 'current' and 'annual' income measures and presents comparative estimates on both bases.

Table A1.2 in this appendix compares current gross income with previous financial year gross income for common reference years. For example, the previous financial year income for reference year 1995–96 is compiled from data collected in the 1996–97 SIH, whereas the current income for reference year 1995–96 is compiled from data collected in the 1995–96 SIH.

WAGE AND SALARY INCOME

For wage and salary income, Table A1.2 in this appendix shows that, for each reference year up until 2002–03, aggregate income collected on a previous financial year basis was greater than aggregate income collected on a current basis.

Current wage and salary income relates to usual income from the last payment received by the respondent. The reference period for any individual respondent is likely to be the previous week, fortnight or month, depending on the length of the pay period for the job(s) in which the respondent is employed. The length of the reference period is collected in the survey so that the value can be scaled to a common basis such as dollars per week (as presented in tables in the main body of this publication) or dollars per year (as presented in Table A1.2 in this appendix). Additional questions are used to obtain information about receipts which may not have been included in the most recent payment. For example, for wage and salary earners for surveys prior to 2007–08, information was collected on irregular overtime, bonuses and non-cash benefits was only collected on a previous financial year basis and for recipients of government pensions and allowances information is collected on reductions to payments due to lump sum advances and one-off payments such as the Baby Bonus.

However from 2007–08, wages and salaries are collected on a current basis, including irregular overtime, bonuses and non-cash incomes. Therefore current and previous year measures are likely to be very much closer in coverage than in previous cycles.

GOVERNMENT PENSIONS AND ALLOWANCES

Current government pensions and allowances also relate to income from the last payment received. Benefits are normally received fortnightly. As with wages and salaries, there are some benefit components, such as quarterly telephone allowance that may not be included in estimates of current income. It would be expected that estimates of current government pensions and allowances could be slightly less than previous financial year estimates, reflecting potential omission of such supplementary payment and possible part years effects in the previous year

Estimates of government pensions and allowances reported on a previous financial year basis, for the five years that can be compared, were 3.9% lower than estimates of government pensions and allowances reported as current income, as can be seen in Table A1.2 in this appendix.

In cases where it appears likely that an individual SIH respondent has failed to report previous financial year benefits, previous year benefit income is imputed. For example, where a respondent has reported receiving a current benefit such as age pension, is of an age that would qualify for the age pension in the previous year, and that person has not reported receiving significant income from other sources in the previous financial year, it can be assumed that they probably would have also received the age pension in the previous financial year. In such cases, previous financial year age pension has been

GOVERNMENT PENSIONS AND
ALLOWANCES *continued*

imputed on the basis of the amount reported as current income, adjusting for benefit rate changes over the previous 12 months.

However, imputation for previous year benefit income, based on likely ongoing entitlement, is not possible for benefits such as Newstart or youth allowance, and Table A1.2 in this appendix indicates that, in aggregate, previous financial year income falls short of current income after the implementation of the imputation procedure described in the previous paragraph.

OWN UNINCORPORATED
BUSINESS INCOME

Estimates of current income from own unincorporated business are quite different in nature to the estimates of current income for the two income sources discussed above.

The concept of business income is a net concept. It is the profit or loss derived by deducting operating expenses (including depreciation) from the value of gross output. In the past, many unincorporated businesses did not calculate profit and loss data more than once a year, and for many businesses there are revenues earned or costs incurred only infrequently during the year. Hence, in earlier surveys, SIH respondents were not asked to provide a value of current business income distinct from the value of business income received in the previous financial year.

Up to and including the 2002–03 SIH cycle, for respondents who had been in business in the previous financial year and who were currently still in business, their current own unincorporated business income was estimated to be the same amount as the previous year income (including if it was a loss), or scaled up to a full year basis if the business only operated for part of the previous year. It was implicitly assumed that any business only commencing operations in the current year would have zero income.

Since the 2003–04 SIH, respondents who currently operated an unincorporated business have been asked to estimate their income from the business for the full current financial year. In many cases, respondents could refer to the Business Activity Statements prepared for the Australian Taxation Office to help them provide an estimate. Even where this was not possible, especially for those respondents interviewed early in the financial year, the respondents are likely to be able to provide a more reasonable estimate than that generated by the methodology used in previous cycles. Under the previous methodology, estimates could have a strong downwards bias, particularly for new businesses, but could also be significantly upwardly biased if the current business circumstances had turned down from the previous year. There is also some likelihood that respondent estimates under the new methodology may be either optimistic or pessimistic and the estimates may have some bias. The new methodology has particularly resulted in far fewer households being recorded with current business incomes that are negative, zero or only slightly positive.

INVESTMENT INCOME

Investment income includes interest and dividend income received as a result of the ownership of financial assets, and rent and royalty income received from the ownership of non-financial assets. The rent component of investment income is measured on a net basis, that is, gross rent less operating expenses. Interest paid on money borrowed to purchase shares or units in trusts is also netted off income earned from these sources. All other components, for which associated expenses are normally relatively small, are on a gross basis.

As for own unincorporated business income, since the 2003–04 SIH, respondents are asked to provide an estimate of their expected investment income in the current financial year. In earlier surveys, estimates of current investment income were derived by simply assuming that current income was equal to previous financial year income.

OTHER INCOME

The remaining income sources include superannuation and life insurance pensions, child support, workers' compensation, scholarships and other current transfers received from family members living in other households. These are collected both on a current basis and on a previous financial year basis. From 2007–08, the coverage of inter household transfers has been widened to included less regular paid transfers that are intended to support current consumption.

COMPARISON OF ESTIMATES

There are two major advantages of the current income estimates compared to previous financial year income estimates. First, they are more up to date. From 2003–04, this applies to all forms of income. For previous surveys, this applies for wages and salaries, for government pensions and allowances and for 'other' income (as defined in the preceding paragraph), which together accounted for 88% of total current income in 2002–03. Second, they appear to be more accurately reported for government pensions and allowances, and may also be more accurately reported for those elements of wages and salaries that are included in current income and for 'other' income.

On the other hand, up until the 2005–06 survey, the previous financial year estimates had the major conceptual advantage of being annual estimates with more complete coverage of income components. They have a longer time perspective, which while allowing short-term fluctuations in income to have an influence, do not allow short-term situations to potentially dominate the measure being compiled. If a short-term fluctuation has an undue influence on a current income measure, the measure is not a good indicator of underlying economic wellbeing. From 2007–08 the changes to capture irregular bonuses, overtime and non-cash incomes in wages and salaries had addresses the major coverage gaps in current income measures.

The previous financial year income estimates also have the attraction of being internally consistent with respect to the time periods to which the underlying income data relate. Prior to 2003–04, the total current income estimates were compiled from a mix of data collected on a current basis and on a previous financial year basis. This short-coming was addressed in 2003–04, and subsequent years, with the current income estimates for business and investment income being the respondents' estimates of income for the full current financial year.

When analysing previous financial year data, it should be noted that the composition of the household, employment status of members of the household, etc., all relate to the current period. If the composition of the household has changed, previous financial year household income estimates relate to a quasi household. In many cases this will not have a marked effect on the data. If, for example, an additional adult joined the household, their previous financial year income will be included in total 'household' income for the previous financial year, but their presence will be reflected in the household composition data that are used for calculating the equivalising factor for that previous year, muting the impact of the artificially inflated previous year income for the household.

However, the impact of household composition changing between the previous and current years can be more marked. For example, a household may have had an additional member in the previous year and that person may have provided the bulk of the income for the household. But since SIH can only include the previous financial year income of the household members remaining at the time of interview, the household may incorrectly appear to have had very low income in the previous year, perhaps well below the levels which would have entitled members to social security benefits.

Similarly, prior to the 2003–04 SIH, previous financial year data were not collected for respondents who had only arrived in Australia in the current financial year. Therefore any previous financial year income they received while overseas did not contribute to the previous financial year income compiled for the household for 2001–02 and earlier years.

But their presence is reflected in the equivalising factor applied to the income of the rest of the household, resulting in an underestimate of equivalised income of the household. While it is possible to omit such households from income distribution calculations, that has not been done for the tables included in this appendix.

Table A1.3 in this appendix provides income distribution indicators compiled from previous financial year data. It provides alternative estimates to the current income estimates provided in Table 1 in *Household Income and Income Distribution, Australia* (cat. no. 6523.0).

Comparisons can be made between the two tables for five of the reference periods 1994–95 to 2002–2003, and a summary of the change over the 8 years span of the estimates is given in Table A1.1 below.

TABLE A1.1 SELECTED INCOME DISTRIBUTION INDICATORS, Equivalised disposable household income

		CURRENT INCOME BASIS			PREVIOUS FINANCIAL YEAR BASIS			*Difference in % change*
		1994–95	*2002–03*	*% change*	*1994–95*	*2002–03*	*% change*	
Mean income per week, in 2007–08 dollars								
Low income(a)	$	277	310	11.9	281	315	12.1	0.2
High income(b)	$	969	1 124	16.0	985	1 154	17.2	1.2
Income shares								
Low income(a)	%	10.8	10.6	–1.9	10.7	10.5	–1.9	—
High income(b)	%	37.8	38.3	1.3	37.6	38.4	2.1	0.8
Percentile ratios								
P90/P10	ratio	3.78	4.00	5.8	3.90	4.02	3.1	–2.7
P80/P20	ratio	2.56	2.63	2.7	2.62	2.63	0.4	–2.4
Gini coefficient	no.	0.302	0.309	2.3	0.302	0.312	3.3	1.0

— nil or rounded to zero (including null cells)

(a) Persons in the 2nd and 3rd income deciles after being ranked by their equivalised disposable household income

(b) Persons in the top income quintile (9th and 10th deciles) after being ranked by their equivalised disposable household income

The previous financial year estimates show stronger growth in real incomes between 1994–95 and 2002–03 for the high income group, compared with current income estimates. The previous financial year estimates show a greater decline in the income share of the low income group and a greater increase in the income share of the high income group, resulting in greater growth in the Gini coefficient. For these indicators, the previous financial year estimates show a greater increase in income inequality than the current income estimates. However, the previous financial year estimates give a smaller increase in the P90/P10 and P80/P20 ratios, indicating a smaller increase in income inequality than shown by the current income estimates.

TABLE A1.2 CURRENT AND PREVIOUS FINANCIAL YEAR GROSS INCOME(a)

	1993–94	*1994–95*	*1995–96*	*1996–97*	*1997–98*	*1998–99*	*1999–2000*	*2000–01*
	$b	$b	$b	$b	$b	$b	$b	$b
Wages and salaries								
Current income	na	194.7	199.3	211.6	223.6	na	251.1	268.3
Previous financial year income(b)	194.7	204.4	219.1	232.2	na	257.7	277.0	na
Government pensions and allowances								
Current income	na	34.3	36.5	38.6	39.0	na	41.2	46.5
Previous financial year income(b)	30.7	32.8	34.9	36.2	na	37.7	40.5	na
Own unincorporated business income								
Current income	na	18.8	23.2	21.4	23.6	na	28.7	27.7
Previous financial year income(b)	18.5	22.8	22.5	24.4	na	27.5	25.9	na
Investment income								
Current income	na	10.7	10.9	14.4	13.2	na	17.3	16.3
Previous financial year income(b)	10.9	11.0	14.3	13.0	na	17.3	15.7	na
Other								
Current income	na	7.2	7.9	8.2	9.9	na	10.5	11.7
Previous financial year income(b)	6.6	7.0	7.5	8.4	na	8.5	9.7	na
Total income								
Current income	na	265.8	277.8	294.3	309.3	na	348.9	370.5
Previous financial year income(b)	261.4	278.0	298.4	314.2	na	348.7	368.8	na

na not available

(a) Historic data in the table are not adjusted for changes in the Consumer Price Index

(b) Compiled from the Survey of Income and Housing (SIH) of the year following the reference year. There was no SIH conducted in 1998–99, 2001–02, 2004–05 or 2006–07

TABLE A1.2 CURRENT AND PREVIOUS FINANCIAL YEAR GROSS INCOME(a) *continued*

	2001–02	*2002–03*(b)	*2003–04*(b)	*2004–05*(b)	*2005–06*(b)	*2006–07*(c)	*2007–08*(c)
	$b	$b	$b	$b	$b	$b	$b
Wages and salaries							
Current income	na	308.4	341.7	na	402.1	na	513.1
Previous financial year income(d)	311.2	327.1	na	377.4	na	444.3	na
Government pensions and allowances							
Current income	na	49.6	56.3	na	61.1	na	65.9
Previous financial year income(d)	44.6	48.3	na	52.0	na	52.6	na
Own unincorporated business income							
Current income	na	33.2	31.2	na	39.4	na	40.7
Previous financial year income(d)	31.3	28.0	na	35.8	na	37.4	na
Investment income							
Current income	na	16.2	21.6	na	29.3	na	43.4
Previous financial year income(d)	16.6	19.1	na	26.4	na	33.4	na
Other							
Current income	na	15.1	17.7	na	19.7	na	31.6
Previous financial year income(d)	13.1	16.5	na	17.8	na	25.6	na
Total income							
Current income	na	422.5	468.6	na	551.6	na	694.6
Previous financial year income(d)	416.9	439.0	na	509.4	na	593.3	na

na   not available

(a)   Historic data in the table are not adjusted for changes in the Consumer Price Index

(b)   The 2002–03, 2003–04, 2004–05 and 2005–06 data have been recompiled to reflect new treatments of income, where data are available to support this calculation (see 'Time series comparisons' in Appendix 4)

(c)   Wages and salaries measured in 2007–08 on a current financial year basis, and for 2006–07 on a previous financial year basis, expressly include irregular overtime and irregular bonuses as well as non-cash wages and salaries and termination payments not collected in previous survey cycles

(d)   Compiled from the Survey of Income and Housing (SIH) of the year following the reference year. There was no SIH conducted in 1998–99, 2001–02, 2004–05 or 2006–07

TABLE A1.3 INCOME DISTRIBUTION INDICATORS, Previous financial year income(a)

Person weighted indicator		*1993–94*	*1994–95*	*1995–96*	*1996–97*	*1998–99*	*1999–2000*	*2001–02*
Mean income per week(b)								
Lowest quintile	$	194	203	209	211	214	219	217
Second quintile	$	334	338	342	339	361	366	381
Third quintile	$	467	465	471	476	509	512	531
Fourth quintile	$	623	626	629	643	681	685	713
Highest quintile	$	975	985	1 002	1 028	1 097	1 120	1 139
All persons	$	519	523	531	539	572	580	596
Second and third deciles	$	276	281	285	283	298	304	310
Income per week at top of selected percentiles(b)								
10th (P10)	$	223	228	233	234	241	245	247
20th (P20)	$	272	280	286	283	295	303	307
30th (P30)	$	334	338	341	339	361	363	379
40th (P40)	$	398	398	403	401	431	433	457
50th (P50)	$	468	464	471	475	508	512	529
60th (P60)	$	536	539	540	550	592	592	613
70th (P70)	$	613	621	627	639	678	681	710
80th (P80)	$	729	732	728	742	791	800	829
90th (P90)	$	893	889	890	910	966	996	1 009
Income share								
Lowest quintile	%	7.5	7.8	7.9	7.8	7.5	7.5	7.3
Second quintile	%	12.9	12.9	12.9	12.6	12.6	12.6	12.8
Third quintile	%	18.0	17.8	17.8	17.6	17.8	17.6	17.8
Fourth quintile	%	24.0	23.9	23.7	23.8	23.8	23.6	23.9
Highest quintile	%	37.6	37.6	37.8	38.2	38.3	38.6	38.2
All persons	%	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Second and third deciles	%	10.6	10.7	10.8	10.5	10.4	10.5	10.4
Ratio of incomes at top of selected income percentiles								
P90/P10	ratio	4.00	3.90	3.82	3.89	4.00	4.06	4.08
P80/P20	ratio	2.68	2.62	2.54	2.62	2.68	2.64	2.70
P80/P50	ratio	1.56	1.58	1.55	1.56	1.56	1.56	1.57
P20/P50	ratio	0.58	0.60	0.61	0.60	0.58	0.59	0.58
Gini coefficient	no.	0.304	0.302	0.302	0.308	0.312	0.313	0.312

(a) Compiled from data collected in the Survey of Income and Housing of the year following the reference year. Income is equivalised disposable household income

(b) In 2007–08 dollars, adjusted using changes in the Consumer Price Index

TABLE A1.3 INCOME DISTRIBUTION INDICATORS, Previous financial year income(a) *continued*

Person weighted indicator		*2002–03*(b)	*2004–05*(b)	*2006–07*(c)
Mean income per week(d)				
Lowest quintile	$	224	231	226
Second quintile	$	383	408	427
Third quintile	$	534	569	608
Fourth quintile	$	707	750	829
Highest quintile	$	1 154	1 268	1 447
All persons	$	600	645	708
Second and third deciles	$	315	332	342
Income per week at top of selected percentiles(d)				
10th (P10)	$	253	263	264
20th (P20)	$	313	330	341
30th (P30)	$	380	404	424
40th (P40)	$	459	487	518
50th (P50)	$	533	570	606
60th (P60)	$	611	652	704
70th (P70)	$	703	745	828
80th (P80)	$	824	876	970
90th (P90)	$	1 016	1 082	1 217
Income share				
Lowest quintile	%	7.4	7.2	6.4
Second quintile	%	12.8	12.6	12.1
Third quintile	%	17.8	17.6	17.2
Fourth quintile	%	23.6	23.3	23.4
Highest quintile	%	38.4	39.3	40.9
All persons	%	100.0	100.0	100.0
Second and third deciles	%	10.5	10.3	9.7
Ratio of incomes at top of selected income percentiles				
P90/P10	ratio	4.02	4.11	4.61
P80/P20	ratio	2.63	2.66	2.85
P80/P50	ratio	1.55	1.54	1.60
P20/P50	ratio	0.59	0.58	0.56
Gini coefficient	no.	0.312	0.323	0.346

(a) Compiled from data collected in the Survey of Income and Housing of the year following the reference year. Income is equivalised disposable household income

(b) The 2002–03 and 2004–05 data have been recompiled to reflect new treatments of income, where data are available to support this calculation (see 'Time series comparisons' in Appendix 4)

(c) Wages and salaries measured for 2006–07 on a previous financial year basis, expressly include irregular overtime and irregular bonuses as well as non-cash wages and salaries and termination payments not collected in previous survey cycles

(d) In 2007–08 dollars, adjusted using changes in the Consumer Price Index

EQUIVALENCE SCALES

Equivalence scales have been devised to make adjustments to the actual incomes of households in a way that enables analysis of the relative wellbeing of households of different size and composition. For example, it would be expected that a household comprising two people would normally need more income than a lone person household if the two households are to enjoy the same standard of living.

One way of adjusting for this difference in household size might be simply to divide the income of the household by the number of people within the household so that all income is presented on a per capita basis. However, such a simple adjustment assumes that all individuals have the same resource needs if they are to enjoy the same standard of living and that there are no economies of scale derived from living together.

Various calibrations, or scales, have been devised to make adjustments to the actual incomes of households in a way that recognises differences in the needs of individuals within those households and the economies that flow from sharing resources. The scales differ in their detail and complexity but commonly recognise that the extra level of resources required by larger groups of people living together is not directly proportional to the number of people in the group. They also typically recognise that children have fewer needs than adults.

When household income is adjusted according to an equivalence scale, the equivalised income can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household it is equal to household income. For a household comprising more than one person, it is an indicator of the household income that would need to be received by a lone person household to enjoy the same level of economic wellbeing as the household in question.

Alternatively, equivalised household income can be viewed as an indicator of the economic resources available to each individual in a household. The latter view underpins the calculation of income distribution measures based on numbers of people, rather than numbers of households.

CHOICE OF SCALE

While there has been considerable research by statistical and other agencies trying to estimate appropriate values for equivalence scales, no single standard has emerged. In theory, there are many factors which might be taken into account when devising equivalence scales, such as recognising that people in the labour force are likely to face transport and other costs that can affect their standard of living. It might also be desirable to reflect the different needs of children at different ages, and the different cost levels faced by people living in different geographic areas. On the other hand, the tastes and preferences of people vary widely, resulting in markedly different expenditure patterns between households with similar income levels and similar composition. Furthermore, it is likely that equivalence scales that appropriately adjust incomes of low income households are not as appropriate for higher income households, and vice versa. This is because the proportion of total income spent on housing tends to fall as incomes rise, and cheaper per capita housing is a major source of economies of scale that flow from people living together.

It is therefore difficult to define, estimate and use equivalence scales which take all relevant factors into account. As a result, analysts tend to use simple equivalence scales which are chosen subjectively but are nevertheless consistent with the quantitative research that has been undertaken. A major advantage of simpler scales is that they are more transparent to the user, that is, it is easier to evaluate the assumptions being made in the equivalising process.

CHOICE OF SCALE *continued*

In SIH publications, the 'modified OECD' equivalence scale is used. The 'modified OECD' equivalence scale has been used in more recent research work undertaken for the Organisation for Economic Co-operation and Development (OECD), has wide acceptance among Australian analysts of income distribution, and is the stated preference of key Survey of Income and Housing (SIH) users.

DERIVATION OF EQUIVALISED
INCOME

Equivalised income is derived by calculating an equivalence factor according to the chosen equivalence scale, and then dividing income by the factor.

The equivalence factor derived using the 'modified OECD' equivalence scale is built up by allocating points to each person in a household. Taking the first adult in the household as having a weight of 1 point, each additional person who is 15 years or older is allocated 0.5 points, and each child under the age of 15 is allocated 0.3 points. Equivalised household income is derived by dividing total household income by a factor equal to the sum of the equivalence points allocated to the household members. The equivalised income of a lone person household is the same as its unequivalised income. The equivalised income of a household comprising more than one person lies between the total value and the per capita value of its unequivalised income.

Equivalised household income is an indicator of the economic resources available to each member of a household. It can therefore be used for comparing the situation of individuals as well as comparing the situation of households.

When unequivalised income is negative, such as when losses incurred in a household's unincorporated business or other investments are greater than any positive income from any other sources, then equivalised income has been set to zero.

GROSS INCOME AND
EQUIVALISED DISPOSABLE
INCOME

The SIH collects data on households' gross income. However, disposable income, that is, gross income less the value of income tax and Medicare levy to be paid on the gross income, is a better indicator of the resources available to a household to maintain its standard of living. Therefore, estimates of income tax payable on gross income reported in the SIH are made by means of a tax model. The tax and Medicare estimates are subtracted from gross income to give disposable income, and the equivalence factors are applied to the estimates of disposable income. Person weighted measures of income distribution are then derived from the estimates of equivalised disposable household income. (Section 1.8 'Household, income unit and person data' describes the difference between person weighted and household weighted measures.)

Means and medians of both gross income and equivalised disposable income are shown in some tables of *Household Income and Income Distribution, Australia* (cat. no. 6523.0) to allow users to see the differences between data as collected and data as standardised to facilitate income distribution analysis. The following table (A2) shows the differences in income measures when calculated from data at different stages in the progression from gross household income to person weighted equivalised disposable household income.

TABLE A2 FROM GROSS INCOME TO PERSON WEIGHTED EQUIVALISED DISPOSABLE INCOME, 2007–08

		Gross household income per week	Income tax per week	Disposable household income per week	EQUIVALISED DISPOSABLE HOUSEHOLD INCOME PER WEEK	
					Household weighted	Person weighted
Percentile boundaries and percentile ratios						
P10	$	324	na	325	286	317
P20	$	540	na	539	365	410
P50	$	1 285	na	1 128	674	692
P80	$	2 390	na	1 962	1 091	1 079
P90	$	3 192	na	2 537	1 381	1 360
P90/P10	ratio	9.86	na	7.81	4.83	4.30
P80/P20	ratio	4.42	na	3.64	2.99	2.63
Means						
All households	$	1 649	284	1 366	803	811
One family households						
Couple family with dependent children	$	2 296	427	1 868	831	810
One parent family with dependent children	$	1 021	97	923	535	520
Couple only	$	1 626	285	1 341	896	896
Other one family households	$	2 157	336	1 820	902	916
Multiple family households	$	2 523	380	2 144	755	751
Non-family households						
Lone person	$	806	134	672	673	673
Group households	$	2 053	371	1 682	997	993

na   not available

GROSS INCOME AND EQUIVALISED DISPOSABLE INCOME *continued*

The first column in the table above shows measures calculated from gross household income, as collected in the SIH. The next column shows estimates of income tax to be paid on gross income, with the third column giving the resultant disposable household income.

Individuals with higher incomes will normally be expected to pay higher income tax than individuals with lower incomes, but this relationship is not as strong for households. A household with relatively high income may comprise only one individual with high income or it may include a number of individuals with relatively low income. The disposable income in the first situation will be lower than that in the second situation, and will result in a reranking of the households in the formation of percentiles. Therefore a household may fall into a different percentile in an analysis of disposable income compared to an analysis of gross income.

As would be expected, the difference between disposable income and gross income increases as income levels increase. At the upper boundary of the tenth percentile (P10), there is little difference, that is, the income tax to be paid by households with the lowest levels of gross income is negligible. In contrast, there is more than $655 per week difference between the P90 value for gross household income and the P90 value for disposable household income.

Disposable income relates to the household as a whole and the percentiles and means are calculated with respect to the numbers of households concerned. These are referred to as household weighted estimates. Equivalised disposable household income can also be household weighted (see the fourth column in the table), but since it can be viewed as a measure of the economic resources available to each individual in a household, income measures for equivalised estimates are generally based on numbers of people rather than numbers of households (see the fifth column in the table). This is referred to as person weighting and ensures that people in large households are given as much weight in the distribution as people in small households. While the ranking underlying

the formation of percentiles is the same for the household and person weighted estimates, the boundaries between the percentiles differ because household weighted percentile boundaries create subgroups with equal numbers of households while person weighted percentile boundaries create subgroups with equal numbers of persons. The extent to which the boundaries differ reflects the extent to which the average household size differs between percentiles.

The person weighted estimate of P10 ($317) is higher than the household weighted estimate of P10 ($286). This implies that the households with the lowest rankings of equivalised disposable household income tend to comprise a lower than average number of persons. In other words, the 10% of people with the lowest income make up more than the 10% of households with the lowest income.

For lone person households, the two measures of equivalised disposable income are the same as each other ($673) and are just a little higher than disposable income ($672). Equivalised disposable income for lone person households is approximately the same as disposable income, because the equivalising factor for such households is 1.0. The reason for the slight difference between them is that some households have negative disposable income and their values are reset to zero before equivalising is carried out.

For all other types of household composition, equivalised disposable income is lower than disposable income, since income is adjusted to reflect household size and composition. Mean equivalised disposable income for couple only households is the same for both the household weighted and the person weighted measures since there are always two and only two persons in such households. For most other multi-person households, person weighted mean income is lower than the household weighted mean. This implies that, within each type, larger households tend to have lower equivalised household income.

APPENDIX 3 GINI COEFFICIENT AND OTHER SINGLE STATISTIC SUMMARIES OF INCOME DISTRIBUTION

INTRODUCTION

Taken together, the simple measures of income distribution such as mean, median, percentile ratios and income shares (described in Section 1.6 'Gini coefficient and other measures of income distribution') can provide an indication of changes in the income distribution of a population over time, or differences in the income distributions of two separate populations. However, none of the simple measures comprises a single statistic that summarises the whole income distribution in a way that directly takes into account the individual incomes of all members of the population. This appendix considers some of the issues associated with compiling a single statistic summary of inequality, and compares a number of alternative measures. The first is the Gini coefficient, which is the most commonly used summary measure. The Gini coefficient is compared with the Theil index and a number of Atkinson indexes.

Note that the analysis in this appendix has been carried out using data from the 2002–03 and earlier SIHs.

CONCEPT OF INCOME
INEQUALITY

It is generally agreed that perfect equality in the distribution of income can be defined as the situation in which everyone in the population lives in a household with the same equivalised disposable household income (see Section 1.3 'Equivalised household income'). If any person has lower or higher equivalised disposable household income than any other person, there is inequality in the income distribution.

However, there is no unique, generally accepted way of summarising the degree to which a population does not have perfect equality, or, more practically, summarising the difference in inequality between two populations. Unequal distributions of income can occur in many different ways. The majority of people may have very similar incomes with pockets of very high or very low income. Or entire populations may be heavily clustered at the top and the bottom of the income distribution with few people receiving incomes in between these extremes. To evaluate one income distribution as having greater or lesser inequality than another income distribution, it is necessary to compare the distributions in terms of which segments of the population have a greater share of income and which segments have a lower share. It is then necessary to at least implicitly judge whether the relative gain in income by some people is more than offset or less than offset by the relative loss of income by some other people. Different observers may make different judgments about the same situation, depending on personal preferences, etc. Different summary measures of inequality embody different judgments about the relative gains and losses. As will be seen below, some measures allow the user to explicitly set a parameter to reflect the judgment of the user in this regard.

Simple examples of different patterns of inequality can be used to illustrate the issues under consideration.

For the first example, consider the equivalised disposable household income of the two populations A and B depicted in the graph A3.1, 'Frequency Distributions I'. Population A is derived from the 2000–01 SIH population after removing people in households with zero income (the reason for deleting households with zero income is explained later in this appendix). Population B covers the same people as in population A, but everyone's income is transformed in a particular way that reduces the proportional differences in income across the population while retaining the same mean income for the population. There are therefore fewer people on very low or very high incomes and more people in between these extremes, with the median for population B closer to the mean, and less spread between P10 and P90.

CONCEPT OF INCOME
INEQUALITY *continued*

A3.1 FREQUENCY DISTRIBUTIONS I
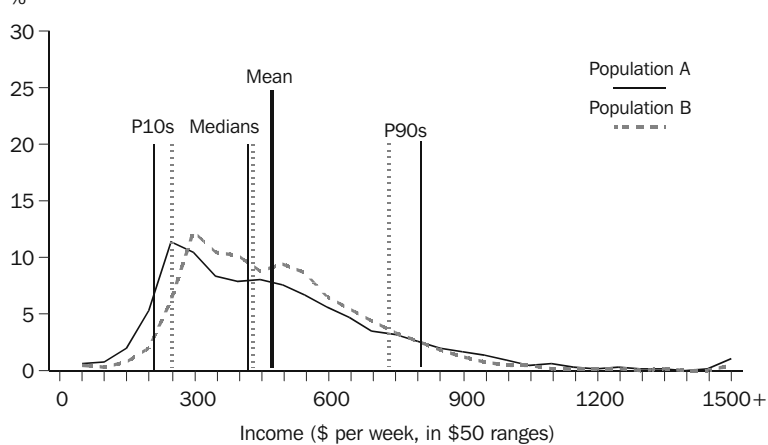
The extent to which the income distributions for populations A and B vary from equality, and from each other, can be illustrated graphically another way, using Lorenz curves.

LORENZ CURVES

The Lorenz curve is a graph with the horizontal axis showing the cumulative proportion of the persons in the population ranked according to their income and with the vertical axis showing the corresponding cumulative proportion of equivalised disposable household income. The graph then shows the income share of any selected cumulative proportion of the population. The diagonal line represents a situation of perfect equality, that is, all people have the same equivalised disposable household income. The graph A3.2, 'Lorenz Curves I' shows the Lorenz curves for the two populations described above.

A3.2 LORENZ CURVES I

Since the distribution of population B's income is uniformly less widely spread than for population A, all points of the Lorenz curve for population B are closer to the line of perfect equality than the corresponding points of the Lorenz curve for population A. In this situation, population B is said to be in a position of Lorenz dominance and can be regarded as having a more equal income distribution than population A.

However, if the Lorenz curves of two populations cross over there is no Lorenz dominance and there is no generally accepted way of defining which of the two populations has the more equal income distribution.

Consider the income distributions of the populations in a second example, as shown in the graph A3.3 'Frequency Distributions II'. Population A is the same as in the first example above. Populations C and D also cover the same people as in population A, and all have the same mean income. But the income of populations C and D are transformed in such a way that the lower income people are relatively better off than for population A

and the higher income people are also relatively better off than for population A. Conversely, the incomes of the middle of the population are relatively reduced so that the mean income of the three populations remains the same. Also the ranking of the population by income has not changed the relative position of any person. For population A, the lowest income is $1, for population C it is about $180, and for population D it is about $150. The incomes of the higher income people have received a relatively greater boost for population D than for population C.

A3.3 FREQUENCY DISTRIBUTIONS II
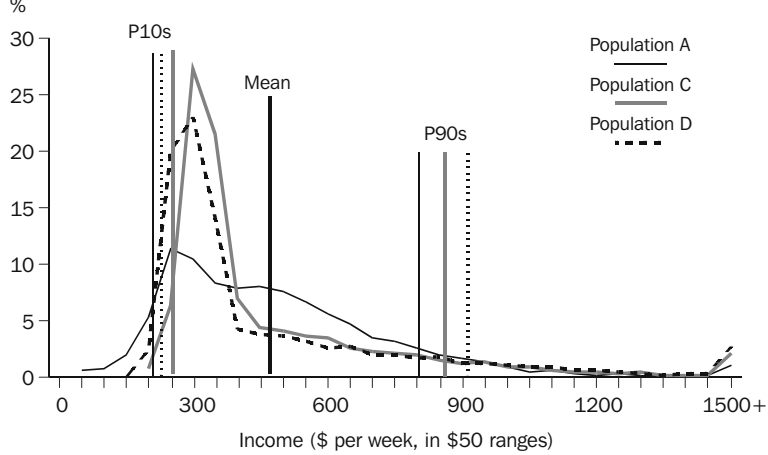
The medians (not shown in the graph) are higher for populations C and D than for A, but all are below the mean. As for population B in the earlier graph, P10 for populations C and D is above P10 for population A. However, in contrast to population B, populations C and D also have P90 above that of population A.

The graph A3.4, 'Lorenz Curves II' shows the resultant differences in the Lorenz curves, with the curves for both populations C and D crossing that of population A. Therefore there is ambiguity about whether populations C and D have greater or less income inequality than population A. Comparing populations C and D to population A, both lower and higher income people have a greater share of total income and middle income people have less. In population C, the lower income people show a relatively greater gain than the higher income people. Conversely, in population D, the higher income people show a relatively greater gain than the lower income people. However, the curve for population C does not cross that of population D, and therefore population C has Lorenz dominance over population D, that is, income is unambiguously distributed more equally in population C than in population D.

A3.4 LORENZ CURVES II
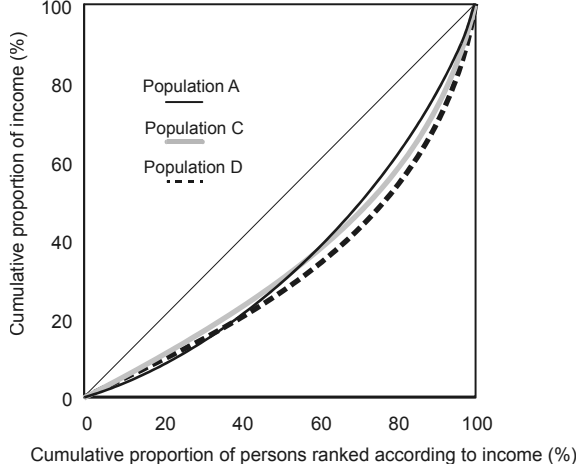
Table A3.5 shows the years for which the income distribution has Lorenz dominance
over the income distributions of other years. Table A3.5 also shows the years for which
the lack of Lorenz dominance is due only to the crossing of the Lorenz curves in the
bottom decile of the income distribution, that part of the income distribution for which
income is not necessarily a good indicator of economic wellbeing.

TABLE A3.5 LORENZ DOMINANCE BETWEEN INCOME DISTRIBUTIONS, 1994–95 TO 2002–03

Full dominance relationship
1995–96 over 1994–95, 1997–98, 1999–00, 2000–01 and 2002–03
1996–97 over 1994–95, 1997–98, 1999–00, 2000–01 and 2002–03
1997–98 over 1999–00 and 2002–03

Near dominance relationship(a)
1994–95 over 1999–00, 2000–01 and 2002–03
1997–98 over 2000–01

No dominance relationship(b)
Between 1994–95 and 1997–98
Between 1995–96 and 1996–97
Between 1999–00 and 2000–01 or 2002–03
Between 2000–01 and 2002–03

(a)   Lorenz curves only cross in the first decile of the income distribution
(b)   Lorenz curves cross at least once outside the first decile of the income
      distribution

The Lorenz curves described in this appendix are depicting the relativities between
income distributions and do not show whether incomes overall have been growing,
contracting or remaining static. Another form of Lorenz curves, known as Generalised
Lorenz curves, depict the cumulative incomes of populations after adjusting for
differences in average income between the populations. They therefore can be used to
analyse differences in the level of income as well as differences in distribution, but do not
as clearly show differences in inequality (see, for example, Deaton (1997)).

The three commonly used summary inequality measures mentioned earlier — the Gini
coefficient, the Theil index, and the Atkinson index — can be produced for populations
A, B, C and D. Table A3.6 provides the values for these measures with respect to each
population, and descriptions of the measures follow. The Atkinson index is considered
with a number of different settings of a user defined parameter, as described later.

A3.6 COMPARISON OF INEQUALITY SUMMARY STATISTICS

	Population A	Population B	Population C	Population D
Has Lorenz dominance over Population:	. .	A	D	. .
Gini coefficient	0.306	0.247	0.313	0.357
Theil index	0.069	0.045	0.084	0.108
Atkinson indexes				
$\varepsilon = 0.5$	0.077	0.051	0.084	0.107
$\varepsilon = 0.75$	0.116	0.077	0.117	0.149
$\varepsilon = 1.0$	0.155	0.103	0.146	0.185
$\varepsilon = 1.25$	0.199	0.133	0.171	0.216
$\varepsilon = 1.5$	0.253	0.167	0.193	0.242
$\varepsilon = 2.0$	0.452	0.274	0.230	0.285

. .   not applicable

GINI COEFFICIENT

The Gini coefficient can be defined by referring to the Lorenz curve. It is the ratio of the area between the actual Lorenz curve and the diagonal (or line of equality) compared to the total area under the diagonal. The Gini coefficient equals zero when all people have the same level of income and approaches one when one person receives all the income. In other words, the smaller the Gini coefficient the more equal the distribution of income, given the assumptions underlying the Gini coefficient.

Table A3.6 shows that the Gini coefficient for population B is substantially below the coefficient for population A. The coefficient for population C is a little above that for population A, and the coefficient for population D is somewhat further above. According to the Gini coefficient, therefore, population B has a more equal income distribution than population A, but populations C and D have less equal distributions.

Mathematically, the Gini coefficient can be expressed as

$$G = \left(\frac{1}{2n^2\mu} \right) \sum_{i,j}^{n} \left| y_i - y_j \right|$$

where

n is the number of people in the population

μ is the mean equivalised disposable household income of all people in the population

and y_i and y_j are the equivalised disposable household income of the ith and jth persons in the population.

The Gini coefficient is a summary of the differences between each person in the population and every other person in the population. The differences are the absolute arithmetic differences, and therefore a difference of $x between two relatively high income people contributes as much to the index as a difference of $x between two relatively low income people.

An increase in the income of a person with income greater than median income will always lead to an increase in the coefficient, and a decrease in the income of a person with income lower than median income will also always lead to an increase in the coefficient. The extent of the increase will depend on the proportion of people that have income in the range between median income and the income of the person with the changed income, both before and after the change in income. At the extremes, increasing the income of the person with the lowest income by $x or increasing the income of the person with the highest income by $x will respectively decrease and increase the Gini coefficient by the same amount (assuming the lowest income person remains the lowest income person after the change).

THEIL INDEX

Another commonly used summary statistic is the Theil index, which can be expressed mathematically as

$$T = \frac{1}{n} \sum_{i=1}^{n} \frac{y_i}{\mu} \log \frac{y_i}{\mu}$$

The Theil index ranges between zero when all incomes are equal and log n when one person receives all the income. It therefore has a higher value if one person in a larger population receives all income compared to if one person in a smaller population receives all income. However, it has the same value for two unequally sized populations if income is distributed with the same proportions in the two populations, that is, they have identical Lorenz curves. (The other single statistic summary indicators discussed in this appendix also have this characteristic.)

As for the Gini coefficient, if one population has Lorenz dominance over another population, the Theil index for the first population will be lower. Table A3.6 shows, therefore, that population B has a lower Theil index than population A, and population C has a lower Theil index than population D. The Theil index for population A is also below that for populations C and D.

The construction of the Theil index is substantially different from that of the Gini coefficient. Instead of comparing the income of each person with the income of every other person, the Theil index compares the income of each person with the mean income of the population.

ATKINSON INDEX

The Atkinson index is a more complex summary statistic. As in the Theil index, it contains a ratio comparison of each person's income with the population mean. But it also requires the user to set a parameter, ε, specifying a level of 'inequality aversion'. The mathematical expression is

$$A_\varepsilon = 1 - \left[\frac{1}{n} \sum_{i=1}^{n} \left[\frac{y_i}{\mu} \right]^{1-\varepsilon} \right]^{1/1-\varepsilon}$$

for ε not equal to one, and

$$A_1 = 1 - \prod_{i=1}^{n} \left[\frac{y_i}{\mu} \right]^{1/n}$$

for ε equal to one.

An Atkinson index always has a value between zero and one, regardless of the value of ε. For any given value of ε, a lower value of the Atkinson index implies a greater degree of equality in the income distribution.

The 'inequality aversion' parameter, ε, in effect specifies how much more benefit the user thinks an extra dollar would provide to a person with lower income compared to the benefit an extra dollar would provide to a person on a higher income. At the extreme of ε set to zero, the user has no 'inequality aversion'. The benefit of an extra dollar is assumed to be the same for everyone in the population, and the Atkinson index is always equal to zero regardless of whether the incomes in the population are widely dispersed or not.

The higher the setting of ε, the greater the relative benefit derived by a lower income person receiving an extra dollar compared to a higher income person receiving an extra dollar. Consequently, the higher the setting of ε, the more sensitive is the Atkinson index to the ratios of the lowest incomes in the population to the mean income of the population. In particular, if a population has a number of people with income very close to zero, that is, only a very small proportion of mean income, their influence can dominate the Atkinson index and it has a value close to one.

Table A3.6 presents the Atkinson index with various settings of ε between 0.5 and 2.0. As expected, the Atkinson indexes for population B are always lower than those for population A, reflecting the Lorenz dominance of population B over population A. Similarly, the Atkinson indexes for population C are always lower than those for population D. However, comparing populations C and D with populations A and B gives a mixed picture.

The higher the setting of ε, the more emphasis the Atkinson index gives to the lowest values in the income distribution. Populations A and B have some values less than one hundredth of the mean, but populations C and D do not. Therefore the Atkinson index increases more quickly for populations A and B as the setting of ε is increased. For ε set

ATKINSON INDEX *continued*

to 1.0 and above, population A is measured as having greater income inequality than population C; for ε set to 1.5 and above population A has greater income inequality than population D; and for ε set to 2.0 population B also has greater income inequality than population C.

A complicating factor is that the Atkinson index cannot be calculated for a population containing zero incomes. Over one per cent of the SIH population has zero equivalised disposable household income including reported negative incomes which are set to zero when equivalised.

COMPARISON OF SUMMARY MEASURES

Table A3.7 provides the chosen summary measures for all years in which the SIH has been conducted up to 2002–03, together with the standard errors of the estimates in 2002–03. In 1995–96, 1997–98 and 1999–2000 all indicators consistently pointed to an increase or a decrease in inequality. In the other years there was a mixed picture. Over the whole period, all indicators show an increase in inequality, although none of the movements are significant at the 95% confidence level. Standard errors for years prior to 2002–03 tend to be higher than those for 2002–03 because the 2002–03 SIH had a larger sample than the earlier SIHs.

A3.7 SUMMARY STATISTICS OF INCOME INEQUALITY, 1994–95 TO 2002–03

	1994-95	1995-96	1996-97	1997-98	1999-2000	2000-01	2002-03 Level	2002-03 Std error
Gini coefficient	0.302	0.296	0.292	0.303	0.310	0.311	0.309	0.0033
Theil index	0.069	0.065	0.063	0.070	0.076	0.073	0.073	0.0022
Atkinson indexes(a)								
ε = 0.5	0.081	0.076	0.074	0.081	0.085	0.084	0.084	0.0020
ε = 0.75	0.127	0.118	0.115	0.126	0.132	0.131	0.131	0.0032
ε = 1.0	0.186	0.170	0.166	0.184	0.191	0.191	0.192	0.0055
ε = 1.25	0.281	0.246	0.246	0.274	0.281	0.286	0.291	0.0114
ε = 1.5	0.455	0.380	0.391	0.434	0.444	0.464	0.473	0.0239
ε = 2.0	0.902	0.807	0.834	0.850	0.871	0.913	0.910	0.0237

(a) The Atkinson indexes have been compiled using data in which zero incomes have been set to $1

SENSITIVITY OF SUMMARY MEASURES TO LOW INCOMES

Table A3.8 compares the impact on selected inequality summary statistics for the 2000–01 SIH population if persons with zero equivalised disposable household income have their income set to 1 cent, to 10 cents or to $1, or if they are omitted from the population altogether. Note that population A used in the first part of this appendix was the 2000–01 SIH population, after removing persons with zero income.

The table shows that the Atkinson indexes, but not the Gini or Theil measures, are sensitive to small changes, in dollar terms, to the lowest incomes in the Australian data set. It also shows that if persons with zero income are omitted from the population altogether, all indicators are impacted, with the least impact being on the Gini coefficient, and with an impact of over 50% on the Atkinson index with ε set to 2.0.

SENSITIVITY OF SUMMARY
MEASURES TO LOW INCOMES
continued

A3.8 COMPARISON OF ALTERNATIVE TREATMENTS OF PERSONS WITH ZERO HOUSEHOLD INCOME, 2000–01

	Zero income retained	Zero income set to $0.01	Zero income set to $0.10	Zero income set to $1.00	Persons with zero income omitted
Population size (million persons)	18.86	18.86	18.86	18.86	18.70
Mean equivalised disposable household income per week ($)	469	469	469	469	473
Gini coefficient	0.311	0.311	0.311	0.311	0.306
Theil index	0.073	0.073	0.073	0.073	0.069
Atkinson indexes					
$\varepsilon = 0.5$	. .	0.085	0.085	0.084	0.077
$\varepsilon = 0.75$	. .	0.135	0.134	0.131	0.116
$\varepsilon = 1.0$	. .	0.219	0.205	0.191	0.155
$\varepsilon = 1.25$	. .	0.458	0.355	0.286	0.199
$\varepsilon = 1.5$	. .	0.879	0.665	0.464	0.253
$\varepsilon = 2.0$	. .	0.997	0.977	0.913	0.452

. .   not applicable

Given the likelihood that most of the very low incomes do not accurately represent the economic wellbeing of the respondents reporting such values, there is some doubt about the usefulness of summary indicators that are particularly sensitive to this segment of the population.

CHOICE OF SUMMARY
MEASURES

There are several implicit and explicit assumptions underlying the measures discussed above. The Atkinson index explicitly requires the user to choose an 'inequality aversion' factor, but the other measures also implicitly embody judgements about how inequality is to be quantified.

Rather than considering just one summary measure, analysts will often look at a range of measures to see whether or not they give a consistent indication about changes in inequality, especially if there is no Lorenz dominance among the distributions being compared. Comparisons can be for the same population over time, or between different populations at a point in time.

Each of the indicators has its own particular advantages. For example, the Gini coefficient can be easily understood through the graphical interpretation of the Lorenz curve, and it is probably the most widely used indicator. The Theil index is particularly useful where analysts wish to decompose the measure of income inequality in a population into the inequality that exists within subpopulations and the inequality that exists between those subpopulations. The Atkinson indexes highlight that summary measures depend on the underlying assumptions about the quantification of inequality and assist the user in varying some of those assumptions. The Gini coefficient is sometimes criticised as being too sensitive to relative changes around the middle of the income distribution. This sensitivity arises because the derivation of the Gini coefficient reflects the ranking of the population, and ranking is most likely to change at the densest part of the income distribution, which is likely to be around the middle of the distribution.

In choosing which income distribution indicators to present, whether for simple or summary measures, it is useful to recall that income alone is not a perfect measure of the economic resources available to people to maintain or enhance their wellbeing, but it is a reasonable proxy that will be suitable for most people. However, as explained in section 1.5 'Low income households', some respondents report extremely low and even negative incomes in the Survey of Income and Housing (SIH), often reflecting their business and investment arrangements rather than any distinctly low economic wellbeing

of these respondents. In other cases, incomes may be underreported either accidentally or deliberately, so again they are not a good indicator of economic inequality. It has therefore been considered inappropriate for these records to have a disproportionate influence on a summary income inequality measure being used for assessing inequality in economic wellbeing, just as the bottom decile is excluded in ABS publications from analysis of low income growth over time.

The Gini coefficient is the only single statistic summary of income distribution included in the published output from the SIH because it is not overly sensitive to the extremely low incomes that can be reported, and it is relatively simple to interpret. The other summary measures looked at in this appendix are more sensitive in the Australian context to extremely low and negative incomes that are assumed to not adequately reflect economic wellbeing.

Deaton, A. (1997). *The analysis of household surveys: A microeconomic approach to development policy*. John Hopkins University Press and The World Bank.

APPENDIX 4 IMPROVEMENTS TO INCOME STATISTICS

INTRODUCTION

The ABS has implemented new standards for household income statistics following the adoption of new international standards in 2004 and an extensive ABS review of the collection and dissemination of income statistics. The 2007–08 income estimates from the Survey of Income and Housing (SIH) presented in this publication apply the new income standards. This Appendix summarises some of the background to, as well as the nature and impact of, the changes on the income statistics included in this publication.

BACKGROUND

In recent years the ABS has implemented a range of improvements to the range and quality of household income statistics. Sample error was reduced by increasing the sample size commencing with the 2002–03 survey cycle (as a trade off to reducing the frequency from annual to biennial). From 2003–04 changes were also made in sample design (switching to independent selection of dwellings rather than from respondents leaving the monthly population survey after 8 months), and through introducing computer aided personal interviewing (CAPI). Other changes included a more detailed range of income questions (especially for current income measures), revised and consistent benchmarking methods, a refocussed analysis at the household level, and improved accuracy by ensuring that all salary sacrifice amounts were included.

Historically household income measurement has been constrained by expectations of the capacity of householders to reliably report information during an interview. Respondents have been supported by ABS advice about what documents might assist them in answering questions (including any documentation that supports their taxation reporting), by prompts linking income to assets and liabilities, and by prompts regarding very low or otherwise anomalous reporting (possible under a CAPI mode of collection). The approach adopted to income measurement was to minimise respondent burden and limit income reporting to the regular (cash) receipts of income. This was intended to exclude one-off capital gains, avoid respondents having to value in-kind transfers, and reflect the income usually available to, and easily reported by, a household, it also had the effect of excluding income that is not regular but which is generally used for current consumption purposes and is reportable by households.

NEW CONCEPTUAL DEFINITION

Household income consists of all current receipts, whether monetary or in kind, that are received by the household or by individual members of the household, and which are available for, or intended to support, current consumption by the household.

Household income includes receipts from:
- employment (employee income and income from self employment)
- property (interest, dividends, rents and royalties)
- production of household services for own consumption (owner-occupied dwellings, unpaid domestic services)
- current transfers (pensions, annuities, benefits and allowances, transfers from non profit institutions and other households).

Household income excludes capital transfers received and certain current transfers treated as (net) expenditures. It excludes receipts that reduce the net worth of the household through a reduction of its cash, the disposal of its other financial or non-financial assets, or an increase in its liabilities.

Exclusions:

- capital transfers e.g. inheritances, lump sum retirement benefits, life insurance claims (except annuities), compensation (except for foregone earnings), loan repayments
- certain current transfers offset against expenditures e.g. lottery and other gambling winnings, non-life insurance claims, government reimbursements of expenditure such as Medicare and child care rebates
- holding gains/losses resulting from changes in the value of financial and non-financial assets and liabilities
- other receipts that result from a reduction in net worth e.g. sale of assets, withdrawals from savings and loans obtained.

CHANGES IN 2007–08

The income measures in this publication are more limited in scope than the new conceptual definition, as they are still constrained by data availability and other operational considerations. The main exclusions are most production of household goods and services for own consumption or barter, unpaid domestic services, services from consumer durables, some minor transfers from other households. Services from owner-occupied dwellings (imputed rent) are shown separately from the main estimates, in line with international standards and user preferences.

Employment income

Employment income now includes all payments received by individuals as a result of their current or former involvement in paid employment. In addition to the regular and recurring cash receipts previously included, the new income measures now include non-cash benefits, bonuses, termination payments and payments for irregular overtime worked.

NON-CASH BENEFITS

Most employee remuneration is in a monetary form. However a substantial number of employees receive other benefits in the form of goods and services i.e. non-cash benefits. Examples include the use of motor vehicles, provision of a computer, subsidised child care, housing rent free or at less than normal market rent, car parking, superannuation (employer contributions above the minimum compulsory contributions) and low interest loans.

Information on non-cash benefits provided by employers has been collected from wage and salary earners and owners of incorporated businesses commencing with SIH 2003–04 (but not included in previously published aggregates), although initially the value of the benefits was imputed by ABS. In SIH 2007–08 respondents were asked to value the non-cash benefits provided through other arrangements.

As non-cash benefits do not form part of PAYG taxable income, these amounts have been excluded when estimating income tax and the Medicare levy payable, for the purpose of deriving disposable income for 2007–08.

BONUSES

Prior to SIH 2007–08, published estimates of employment income included bonuses if they were reported as part of a person's 'usual pay'. For the 2003–04 and 2005–06 SIH cycles the value of any 'regular bonuses' not already reported in wages and salaries was also collected. In SIH 2007–08, the information collected on bonuses was revised to capture all bonuses (regular or otherwise) in one question in addition to any amounts included indistinguishably in 'usual pay'. All reported bonus information is now incorporated in published estimates from 2003–04 onwards.

Employment income continued

OVERTIME

Prior to SIH 2007–08, published estimates of employment income included overtime if it was reported as part of a persons 'usual pay'. In SIH 2007–08, respondents were asked the long-standing questions about overtime included in their usual pay, as well as additional questions to capture the amount of overtime they 'expect to receive in total this financial year'. This overtime estimate replaced the reported amounts of overtime included in their usual pay, in the derivation of current employee income.

TERMINATION PAYMENTS

Termination payments include payments for unused leave when leaving a job, payments in lieu of notice, and payments as part of a redundancy or early retirement scheme. Apart from payments for unused leave, termination payments are primarily intended to support current living standards while a person is between jobs.

Most termination payments reported in SIH 2007–08 were for relatively small amounts. For larger amounts, a cut-off was applied where it was considered unlikely that the full sum would be used to support consumption in the period. The cut-off was applied at the equivalent of three months pay, based on the greater of the respondent's reported wages and salaries and average weekly earnings. Amounts up to this limit were included in income, but amounts above were excluded (effectively treated as capital accumulation).

Other income

Estimates of 'other income' for 2007–08 have been affected by the following changes to the treatment of individual income components.

Investment income

Commencing with SIH 2007–08, interest paid on money borrowed to purchase shares or units in trusts has been netted off income earned from these sources when deriving net income estimates, with a similar revision applied to results for 2003–04 and 2005–06.

Some classification changes have also been made. Commencing in SIH 2007–08, income earned as a silent partner in a partnership and some private trust income has been classified to investment income, rather than to unincorporated business income. This change does not affect trust income resulting from the recipient working in their own business, which continues to be classified as unincorporated business income.

Workers' compensation

Workers' compensation payments are made to injured employees to compensate for foregone earnings and to meet ongoing medical costs. While regular workers' compensation receipts have been included in previously published results, lump sum receipts were not. Commencing in SIH 2007–08, both forms of workers' compensation are included in the published estimates.

A cut-off has been applied to significant lump sum amounts, where it was considered likely that part of the receipt would be saved to meet future expenses, rather than to support current consumption. Two methods were applied in determining the cut-off limit. For respondents who reported some wage and salary income, the cut-off was applied at the equivalent of three months pay, based on the greater of the respondent's reported wages and salaries and average weekly earnings. For those reporting no wage or salary income, the cut-off was applied at the equivalent of 52 weeks average weekly earnings.

Financial support received from family members not living in household

In SIH 2007–08, a wider range of data on financial support received from and paid to family members resident outside the household was collected. Previously these were mainly limited to regular payments for spousal maintenance and child support. In 2007–08, respondents were asked to include other forms of financial support, including goods and services received which were purchased by others e.g. rent, education, food, clothing, car registration and utilities. Capital transfers, such as for the purchase of property or cars, were excluded.

Table A4.1 shows that implementation of the broader measure of income in 2007–08 resulted in an $85 increase in mean weekly gross household income, compared to the previous definition. The additional inclusions affected 3.4m households in total (43%).

Most of the impact was on employment income, which increased by $89 per week on average. The inclusion of non-cash employment benefits and bonuses had the most impact ($43 and $32 per week respectively).

A4.1 IMPACT OF CHANGES ON WEEKLY INCOME

	Mean gross household income	Number of households impacted	
Impact on estimates	$	'000	%
Employment income			
Non-cash benefits	43	1 627	20.1
Bonuses	32	1 467	18.2
Irregular overtime	9	1 493	18.5
Termination payments	5	389	4.8
Total	*89*	*3 377*	*41.8*
Other income			
Netting off interest from share/public unit trust income	–5	203	2.5
Lump-sum workers' compensation payments	1	23	0.3
Total	*–4*	*225*	*2.8*
Total change(a)	***85***	***3 438***	***42.6***
Overall total	1 649	8 077	100.0

(a) The impact of changes to questions on financial support from family members not living in the same household are not included in this table. A similar question relating only to regular, cash payments was asked in SIH 2005–06. As this income was included in the 2005–06 estimates, it is not being treated as a change to the 2007–08 estimates. When compared to 2005–06, the 2007–08 estimates reflect the broader coverage with a six-fold increase in the number of households reporting these transfer incomes. The mean weekly household income also increased, from $4 in 2005–06 to $15 in 2007–08

The 2003–04 and 2005–06 data in the time series tables in this publication have been recompiled to approximate the new treatments of income, where data are available to support this calculation. Information on interest paid on money borrowed to purchase shares or public unit trusts to derive net income from these sources is available, and partial data are available in respect of non-cash employment benefits and bonuses.

Table A4.2 compares estimates of mean weekly household income for 2003–04, 2005–06 and 2007–08 compiled using the best practical approximation of the former and new bases of measurement. The results in this table in part reflect the lack of data for some changed items in the earlier years or the inability to fully compile the 2007–08 information on the old basis. They also reflect a change in the valuation of non-cash benefits for motor vehicles in 2007–08.

In 2007–08, the Gini coefficient on the new basis was 0.331, which is higher than that compiled on the former basis (0.317). This reflects that most of the changes have been to the scope of employment income and at the higher end of the income distribution i.e. fourth and highest quintiles.

A4.2 WEEKLY INCOME, NEW AND FORMER BASES (a)

Period	MEAN GROSS HOUSEHOLD INCOME				MEAN EQUIVALISED DISPOSABLE HOUSEHOLD INCOME				GINI COEFFICIENT	
	New basis	Former basis	Difference		New basis	Former basis	Difference		New basis	Former basis
	$	$	$	%	$	$	$	%	ratio	ratio
2003–04	1 306	1 276	30	2.3	638	622	17	2.7	0.306	0.297
2005–06	1 420	1 386	34	2.5	699	681	18	2.7	0.314	0.305
2007–08	1 649	1 564	85	5.4	811	769	42	5.5	0.331	0.317

(a) In 2007–08 dollars, adjusted using changes in the Consumer Price Index

If the data for all three survey years are adjusted to exclude all identified bonuses, all non-cash benefits, irregular overtime and termination payements, as well as financial support received from family members not living in the same household, the Gini coefficient is 0.299 in 2003–04, 0.306 in 2005–06 and 0.319 in 2007–08.

The various components of the income measures have been collected from survey respondents at a detailed level, allowing some flexibility in the way the estimates are compiled. The additional items collected in 2007–08 are available separately on the Confidentialised Unit Record Files to be released from SIH 2007–08 (cat. no. 6541.0.30.001).

Information paper: Changes to ABS Measures of Employee Remuneration, Australia 2006 (cat. no. 6313.0)

International Labour Organisation 2004, Resolution I: Household Income and Expenditure Statistics, Seventeenth International Conference of Labour Statisticians, International Labour Organisation, Geneva <www.ilo.org>

INTRODUCTION

In May 2008 the ABS released household level estimates of imputed rent, derived from data reported in the 2003–04 and 2005–06 Surveys of Income and Housing (SIH) for the first time, (*Experimental Estimates of Imputed Rent, 2003–04 and 2005–06*, cat. no. 6525.0). This appendix presents the corresponding estimates of imputed rent in respect of 2007–08.

The availability of imputed rent estimates allows the analysis of household income to be extended to include the imputed rental incomes that flow to people living in homes owned by the occupant and those paying subsidised rent. Such imputations allow for more meaningful comparison of the income circumstances of people living in different tenure types, and to understand changes over time in income levels and the distribution of income when tenures may be changing over time.

Including imputed rent as part of household income and expenditure conceptually treats owner-occupiers as if they were renting their home from themselves, thus simultaneously incurring rental expenditure and earning rental income. Imputed rent is included in income on a net basis i.e. the imputed value of the services received less the value of the housing costs incurred by the household in their role as a landlord.

AVAILABILITY OF ESTIMATES

The unit record imputed rent estimates will be made available on the following confidentialised unit record files (CURFs), expected to be released on 20 August 2009:
- *Survey of Income and Housing, Australia: CURFs, 2007–08* (cat. no. 6541.0.30.001)

Unit record imputed rent estimates are also available in respect of 2003–04 and 2005–06 on the following CURFs:
- *Household Expenditure Survey and Survey of Income and Housing: CURFs, 2003–04 (3rd edition)* (cat. no. 6540.0)
- *Survey of Income and Housing, Australia: CURFs, 2005–06 (2nd edition)* (cat. no. 6541.0.30.001).

DATA AND METHODOLOGY

Hedonic regression is used to estimate the market value of the rental equivalent of an owner-occupied dwelling. Data from the SIH on reported rents paid by private market renters is regressed on the characteristics of their rented dwellings e.g. location and dwelling structure. The estimated coefficients are then applied to the corresponding characteristics of owner-occupied and other dwellings to produce imputed values of the gross rental equivalence for these dwellings.

Net imputed rent is estimated as gross imputed rent less reported housing costs. For owner occupiers, the housing costs subtracted are those which would normally be paid by landlords i.e. rates, mortgage interest, insurance, repairs and maintenance. For households paying subsidised rent (e.g. tenants of an employer or of a state/territory housing authority) and households occupying their dwelling rent-free, the housing costs that are subtracted are largely made up of the reported rent paid, but other housing costs incurred, such as rates, are also subtracted for some tenure types. In the case of tenants of state/territory housing authorities, the net imputed rent estimates have been benchmarked to administrative data on the mean weekly rental subsidy.

IMPUTED RENT ESTIMATES

Table A5.1 presents the estimates of gross and net imputed rent for owner-occupied dwellings and other housing tenures where a rent imputation has been made for 2003–04, 2005–06 and 2007–08. The effect of adding net imputed rent to disposable household income is also shown (on an equivalised basis).

The estimated mean gross imputed rent for owner-occupiers was higher than the mean imputation for subsidised renters or other tenure types. When housing costs were subtracted from gross imputed rent to derive net imputed rent, households who occupied their dwelling rent-free (approximately 2% of all private households) had the highest mean net imputed rent. Owners without a mortgage, who account for about a third of all private households, had the next highest mean net imputed rent.

Conversely, owners with a mortgage had the smallest net imputed rent with the mean becoming smaller over the three references periods, i.e. $21 in 2003–04, $5 in 2005–06 and $2 in 2007–08. This reflects positive net rents for about half of the mortgagor households, largely offset by the negative net imputed rents estimated for those households in this group whose housing costs exceeded their estimated gross imputed rent (40% of the mortgagor households in 2003–04, 45% in 2005–06 and 44% in 2007–08 had negative net imputed rent).

In 2007–08, the addition of net imputed rent to disposable household income contributed, on average, an extra $43 (5%) to the income of all households. The effect in 2003–04 and 2005–06 was similar. For some housing tenures the addition of net imputed rent to disposable household income saw a significant increase in their mean equivalised disposable household incomes. The largest effect was seen for households who occupied their dwelling rent-free (22% increase in 2007–08). Consistent with previous years, there were also significant increases in 2007–08 for owners without a mortgage (16%) and tenants of state / territory housing authorities (15%).

The overall effect of the addition of net imputed rent to disposable income is a reduction in the mean income disparities between housing tenures, with a significant decline in the ratio between tenures with the highest and lowest incomes. For example, in 2007–08 the ratio of the mean income of owners with a mortgage to the mean income of tenants of state/territory housing authorities declined from 2.4 to 2.0 when net imputed rent was included.

A5.1 GROSS AND NET IMPUTED RENT, BY HOUSING TENURE(a)

	Mean equivalised disposable household income (per week)	Mean reported rent paid (per week)	Mean gross imputed rent (per week)	Mean net imputed rent (per week)	Adjusted mean equivalised disposable household income, incl. imputed rent (per week)	Number of households	Average number of persons in households	Number of households in sample
	$	$	$	$	$	'000	no.	no.
2003–04(b)								
Owner without a mortgage	594	-	235	169	698	2 702.9	2.2	3 925
Owner with a mortgage	716	-	240	21	726	2 713.8	3.1	4 085
Renter								
From state/territory housing authorities	326	94	169	75	375	376.4	2.1	608
Other subsidised renter(c)	601	139	196	61	637	216.8	2.4	329
Market renter(d)	610	221	-	8	615	1 540.3	2.4	2 135
Occupied rent-free	610	-	198	180	722	152.2	2.2	225
Rent-buy/life tenure scheme	537	**21	203	*94	588	33.5	2.3	54
All households	*638*	*53*	*185*	*77*	*680*	*7 735.8*	*2.5*	*11 361*
2005–06(b)								
Owner without a mortgage	670	-	252	183	783	2 718.1	2.2	3 452
Owner with a mortgage	781	-	261	**5	783	2 772.0	3.1	3 512
Renter								
From state/territory housing authorities	382	107	195	88	433	368.8	2.3	525
Other subsidised renter(c)	576	159	219	67	616	206.0	2.3	286
Market renter(d)	658	233	-	7	662	1 686.1	2.3	1 966
Occupied rent-free	633	-	220	207	764	144.2	2.1	176
Rent-buy/life tenure scheme	439	44	198	99	499	30.9	1.8	44
All households	*699*	*59*	*197*	*76*	*740*	*7 926.2*	*2.5*	*9 961*

* estimate has a relative standard error of 25% to 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) The mean income are calculated with respect to the relevant number of persons (i.e. they are person weighted), while the mean rents are calculated with respect to the number of households (household weighted). For more information on person and household weighted measures see Appendix 1

(b) In 2007–08 dollars, adjusted using changes in the Consumer Price Index. Income estimates reflect improvements to measures of household income. For more information see Appendix 4

(c) Includes households renting from: a parent or other relative not living in the same household; an employer; a housing cooperative or community/church group

(d) Includes households renting from: a real estate agent; an unrelated person not living in the same household; or an owner/manager of a caravan park

A5.1 GROSS AND NET IMPUTED RENT, BY HOUSING TENURE(a) *continued*

	Mean equivalised disposable household income (per week)	Mean reported rent paid (per week)	Mean gross imputed rent (per week)	Mean net imputed rent (per week)	Adjusted mean equivalised disposable household income, incl. imputed rent (per week)	Number of households	Average number of persons in households	Number of households in sample
	$	$	$	$	$	'000	no.	no.
2007–08								
Owner without a mortgage	795	-	281	210	922	2 679.2	2.2	3 117
Owner with a mortgage	902	-	288	**2	902	2 835.2	3.1	3 267
Renter								
From state/territory housing authorities	382	102	196	94	440	365.1	2.1	508
Other subsidised renter(b)	689	166	255	93	744	239.5	2.3	311
Market renter(c)	759	264	-	4	761	1 795.3	2.5	1 953
Occupied rent-free	660	-	242	228	806	133.3	2.0	148
Rent-buy/life tenure scheme	474	**21	206	137	575	29.7	1.4	41
All households	*811*	*68*	*216*	*82*	*854*	*8 077.3*	*2.6*	*9 345*

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) The mean income are calculated with respect to the relevant number of persons (i.e. they are person weighted), while the mean rents are calculated with respect to the number of households (household weighted). For more information on person and household weighted measures see Appendix 1

(b) Includes households renting from: a parent or other relative not living in the same household; an employer; a housing cooperative or community/church group

(c) Includes households renting from: a real estate agent; an unrelated person not living in the same household; or an owner/manager of a caravan park

The addition of net imputed rent to disposable household income has a partial equalising effect on the distribution of household income. This result reflects that, for many home owners in lower income ranges the family home that they own is the largest asset held by the household, and the net imputed rent income from that asset is a relatively large proportion of the households' incomes. In higher income ranges the net imputed rent income is a relatively smaller proportion of the households' incomes. This equalising effect of accounting for net imputed rent in income analysis is illustrated in the following frequency distribution graph, table and discussion of a range of distribution measures. (Note: Persons with an income between $50 and $2500 are shown in $50 ranges on the graph).

GRAPH A5.2 DISTRIBUTION OF EQUIVALISED DISPOSABLE HOUSEHOLD INCOME (EDHI), WITH AND WITHOUT IMPUTED RENT, 2007–08
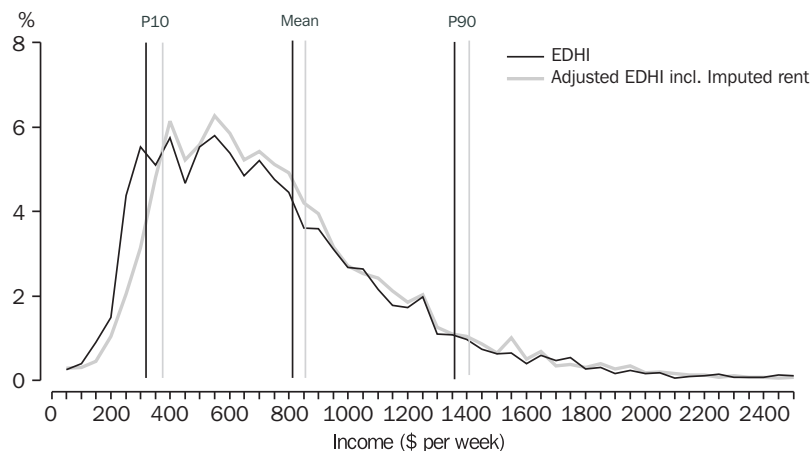
Table A5.3 shows that in 2007–08, P90 for equivalised disposable household income was $1,360 per week and P10 was $317 per week, giving a P90/P10 ratio of 4.3. When net imputed rent was added to income the P90/P10 ratio fell to 3.76.

The addition of net imputed rent saw a decrease in the Gini coefficient from 0.331 to 0.313, a decrease of 5.5%. This further indicates the inclusion of net imputed rent to income results in a more equal distribution.

A5.3 EQUIVALISED DISPOSABLE HOUSEHOLD INCOME DISTRIBUTION, 2007–08

Indicator		Equivalised disposable household income	Adjusted equivalised disposable household income, incl. imputed rent
Mean income per week			
Lowest quintile	$	299	348
Second quintile	$	504	552
Third quintile	$	692	729
Fourth quintile	$	922	954
Highest quintile	$	1 646	1 689
All persons	$	811	854
Second and third deciles	$	409	463
Median income per week	$	692	728
Income per week at top of selected percentiles			
10th (P10)	$	317	375
20th (P20)	$	410	463
30th (P30)	$	506	553
40th (P40)	$	596	634
50th (P50)	$	692	728
60th (P60)	$	793	827
70th (P70)	$	915	942
80th (P80)	$	1 079	1 121
90th (P90)	$	1 360	1 411
Income share			
Lowest quintile	%	7.4	8.2
Second quintile	%	12.4	12.9
Third quintile	%	17.0	17.1
Fourth quintile	%	22.7	22.3
Highest quintile	%	40.5	39.6
All persons	%	100.0	100.0
Second and third deciles	%	10.1	10.9
Ratio of income at top of selected percentiles			
P90/P10	ratio	4.30	3.76
P80/P20	ratio	2.63	2.42
P80/P50	ratio	1.56	1.54
P20/P50	ratio	0.59	0.64
Gini coefficient	no.	0.331	0.313

COMPARISON WITH NATIONAL
ACCOUNTS

Table A5.4 compares the household level estimates of the gross imputed rent for owner-occupied dwellings with household sector estimates included in the Australian System for National Accounts (ASNA). The SIH and ASNA estimates of gross imputed rent for owner-occupiers have been developed for different purposes but apply similar concepts and methods, i.e. they both estimate the market value of the housing services from the rental equivalent.

There are two scope differences which impact on the comparability of the SIH and ASNA estimates of gross imputed rent for owner-occupiers.

Firstly, the ASNA estimates include the gross imputed rent accruing to owner-occupiers not only from occupation of their primary residence, but also from any additional residences such as holiday homes. The ASNA estimates also include a portion of unoccupied dwellings. The SIH estimates capture only the imputed rent accruing to owner-occupiers from occupation of their primary residence. This scope difference can be quantified and is very small.

Secondly, SIH excludes households in collection districts defined as very remote. For most states and territories the exclusion of people in very remote areas has only a minor impact on the aggregate estimates because they constitute a small proportion of the population. The SIH estimates for the Northern Territory are understated as very remote households account for about 23% of its population, but the scale of this exclusion is not

clear. Because the majority of the population living in very remote households in the Northern Territory are living in discrete Indigenous communities where home ownership rates are very low, imputed rent estimates for home owners are not likely to be significantly underestimated for the Northern Territory.

In producing the ASNA imputations, a benchmark is established using the Census of Population and Housing, which gives the number of owner-occupied and rented dwellings and information about rents paid for rented dwellings. The imputed rent for owner-occupied dwellings is calculated by multiplying average private rents for unfurnished dwellings reported in the Census in various strata (defined by major urban, other urban, rural; cross classified by dwelling structure and number of bedrooms) by the number of owner-occupied dwellings in the same categories.

For intercensal and post-census periods, the estimates are interpolated / extrapolated using a range of indicator data and assuming a constant rate of change in the proportion of dwellings that are owner-occupied between Census benchmarks. For the post-census period, the rate of change in the proportion of owner-occupied dwellings observed in the previous intercensal period is used. Details are available in Section 14.41 of *Australian System of National Accounts: Concepts, Sources and Methods* (cat. no. 5216.0).

The ASNA estimates of gross imputed rent for owner-occupiers used in this appendix are those shown in Table 52 of *Australian System of National Accounts, 2007–08* (cat. no. 5204.0).

The proximity of the ASNA and SIH estimates can largely be attributed to the broadly similar methodologies applied and to the generally accurate reporting of private rents in both data sources used. The ASNA estimates are currently benchmarked to the 2001 Census and are therefore subject to revision when the 2006 Census results are incorporated.

A5.4 COMPARISON OF SIH ESTIMATES WITH ASNA ESTIMATES OF GROSS IMPUTED RENT, FOR OWNER-OCCUPIERS

		2003–04	*2005–06*	*2007–08*
ASNA estimate	$	60 511	68 523	81 867
SIH estimates(a)	$	59 561	68 971	81 826
Difference	%	*–1.6*	*0.7*	*–0.1*

(a) SIH estimates are presented as Australian level annual aggregates. This was calculated by multiplying the mean annual value of gross imputed rent by the estimated number of in scope owner-occupied Australian households (5,514,400 for 2007–08)

For further information refer to *Experimental Estimates of Imputed Rent, 2003–04 and 2005–06* (cat. no. 6525.0).

APPENDIX 6 ADDITIONAL HOUSING TOPICS, 2007–08

INTRODUCTION

In the Survey of Income and Housing (SIH), conducted by the ABS every two years, a comprehensive range of housing occupancy and costs data is regularly collected. This includes information for Australian households on tenure type, housing costs, housing utilisation, housing loans and dwelling structure. These data are released in *Housing Occupancy and Costs, Australia, 2007–08* (cat. no. 4130.0) and on the SIH Confidentialised Unit Record Files (CURFs).

The ABS household survey program provides for the inclusion of an expanded range of housing data in every third SIH cycle i.e. every six years, to provide periodic updates of the housing circumstances of Australians following the 1999 Australian Housing Survey. The collection of additional housing topics with SIH 2007–08 enables comparisons of the non-Indigenous results with similar items collected in respect of Indigenous Australians in the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

The additional housing topics selected for inclusion in SIH 2007–08 were determined through consultation with major users of Australian housing statistics. Potential topics were prioritised and tested before the final selection of topics was made.

ADDITIONAL TOPICS

The additional housing topics selected for inclusion in SIH 2007–08, including main data items, are set out below:

- Housing mobility
  - Number of years lived in current dwelling
  - Number of times moved in the last 5 years
  - Structure of previous dwelling
  - Location of previous dwelling
  - Tenure and landlord type of previous dwelling
  - Reasons for last move
  - Likelihood of moving in the next 12 months
  - Barriers to moving
- Housing condition and dwelling characteristics
  - Major structural problems
  - Repairs and maintenance undertaken in past 12 months
  - Sources of water and energy
  - Satisfaction with current dwelling
  - Smoke alarm fitted
- Home purchase for first home buyers
  - Sources of home deposit
  - Size of home deposit
  - Sources of monetary assistance to purchase dwelling
  - Purchase price of dwelling
- Household finances of owners with a mortgage
  - Whether re-financed loan for property in the last 2 years
  - Reasons for re-financing
  - Whether paid above minimum repayments
  - Number of years remaining on loan contract
- Rental arrangements and the affairs of renters
  - Length of lease
  - Length of time remaining on lease
  - Amount of bond paid
  - Non-monetary exchanges provided by or to the tenant
  - Whether have been refused rental accommodation in last five years
  - Whether on public housing waiting list
  - Number of years that respondent has rented (in all rentals)

ADDITIONAL TOPICS *continued*

- Neighbourhood
  - Feelings of safety at home alone during the day and after dark
  - Ability to ask for small favours
  - Perceived level of difficulty with transport

A comprehensive list of the additional data items will be made available in *Survey of Income and Housing - Confidentialised Unit Record Files, Technical Manual, 2007–08* (cat. no. 6541.0).

From 2007–08 onwards, the SIH will regularly collect tenure and landlord information for persons and income units, and whether persons and income units are currently in receipt of Commonwealth Rent Assistance.

ABS RELEASES

The regular and additional housing data items collected in SIH 2007–08 will be available for use on the *Microdata: Income and Housing, Basic and Expanded CURF on CD-ROM/RADL, Australia, 2007–08* (cat. no. 6541.0.30.001), expected to be released in August 2009.

Summary housing data from SIH 2007–08 will be released in November 2009 in:
- *Housing Occupancy and Costs, Australia, 2007–08* (cat. no. 4130.0)
- *Housing Mobility and Conditions, Australia, 2007–08* (cat. no. 4130.0.55.002)

Housing Occupancy and Costs, Australia, 2007–08 (cat. no. 4130.0) will present the housing data that are collected every two years in the SIH. It will include data on housing occupancy and costs, and relate these to characteristics of occupants and dwellings such as tenure, family composition, dwelling structure, age of household reference person and income. A feature article on first home buyers will be included.

The additional housing content collected in the 2007–08 SIH will be published in the *Housing Mobility and Conditions, Australia, 2007–08* (cat. no. 4130.0.55.002). Data on mobility, condition of dwelling, satisfaction with dwelling, feelings of safety, difficulty with transport, re-financing, first home buyers and renters will be included.

APPENDIX 7 DATA ITEM LISTING

DATA ITEMS

For details of the data items available from the 2007–08 Survey of Income and Housing
see the Excel spreadsheet available as a data cube
'6553.0 Appendix 7 – SIH 2007–08 Data Item Listing' accompanying this User Guide.

GLOSSARY

. . . .

Accounts with financial institutions	Accounts held with banks or any other financial institutions e.g. credit unions, building societies, insurance companies, finance companies. Examples of types of accounts include: passbook, statement, cheque or term deposit accounts.
Assets	An entity of a financial or non–financial nature, owned by the household or its members, and from which economic benefits may be derived by holding or use over a period of time.
Balance of state	That part of each Australian state or territory not defined as capital city. Balance of state estimates for Northern Territory are regarded as too unreliable to publish separately since they exclude collection districts defined as very remote which account for about 23% of the NT population. All of the Australian Capital Territory is defined as capital city for this publication.
Before and/or after school care	A type of formal child care provided for school aged children before and/or after school during the school term. Some services also provide care on 'pupil free days'. The services usually make use of established facilities such as schools, community halls, and recreation centres.
Canadian National Occupancy Standard (CNOS)	Provides a measure of housing utilisation. The CNOS assesses the bedroom requirements of a household by specifying that: ■ there should be no more than two persons per bedroom ■ children less than 5 years of age of different sexes may reasonably share a bedroom ■ children less than 18 years of age and of the same sex may reasonably share a bedroom ■ single household members aged 18 years and over should have a separate bedroom, as should parents or couples ■ a lone person household may reasonably occupy a bedsitter. The CNOS variable on the file compares the number of bedrooms required with the actual number of bedrooms in the dwelling.
Capital city	Refers to Australia's six State capital city Statistical Divisions and the Darwin Statistical Division as defined in the *Australian Standard Geographical Classification (ASGC)* (cat. no. 1216.0). For the Australian Capital Territory the estimates relate predominantly to urban areas.
Changeover buyer	A household which bought their dwelling in the three years prior to being interviewed, and either the reference person or partner had owned or been purchasing a home previously.
Child Care Benefit (CCB)	Assistance in the form of a payment made by the Australian Government to help with the costs of child care for families who use either approved or registered child care.
Child Care Tax Rebate (CCTR)	A tax offset, passed by Parliament in December 2005. In general terms, as a result of the Child Care Tax Rebate, families with a tax liability will be eligible for 30 percent, as at June 2008, of out–of–pocket expenses incurred for approved child care, up to a maximum of $4,354 per child per year. The CCTR applies to out–of–pocket expenses for approved child care. The CCTR is available for families who receive Child Care Benefit (CCB) and meet the CCB work, study and training test.
Collection District (CD)	The Census Collection District (CD) is the smallest geographic area defined in the *Australian Standard Geographical Classification (ASGC)* (cat. no. 1216.0).
Commonwealth Rent Assistance (CRA)	Commonwealth Rent Assistance is a non–taxable income supplement paid through Centrelink to individuals and families who rent in the private rental market. It is only paid to recipients of another government benefit or pension, and paid in conjunction with that other benefit.
Consumer Price Index (CPI)	A general measure of price inflation for the household sector in Australia. Specifically, it provides a measure of changes, over time, in the cost of a constant basket of goods and services acquired by the capital city households in Australia.

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Cost of child care	The cost, gross of Child Care Benefit, to parents for a child to attend care. In most cases, where the Child Care Benefit was paid directly to the child care service provider, the cost of care was directly collected in the survey. In a small number of cases, where the Child Care Benefit was not paid directly to the provider, the Child Care Benefit was estimated. Information on the Child Care Tax Rebate was not included as part of the survey.
Couple	See One family households.
Couple family with dependent children	See One family households.
Couple, one family household	A one family household consisting of: ■ one couple only ■ one couple, with their dependent and/or non–dependent children only ■ one couple, with or without children, plus other relatives ■ one couple, with or without children and other relatives, plus unrelated individuals.
Deciles	Groupings that result from ranking all households or persons in the population in ascending order according to some characteristic such as their household income and then dividing the population into 10 equal groups, each comprising 10% of the estimated population.
Dependent children	All persons aged under 15 years; and persons aged 15–24 years who are full-time students, have a parent in the household and do not have a partner or child of their own in the household.
Disposable income	Gross income less income tax, the Medicare levy and the Medicare levy surcharge i.e. remaining income after taxes are deducted, which is available to support consumption and/or saving. Income tax, Medicare levy and the Medicare levy surcharge are imputed based on each person's income and other characteristics as reported in the survey. Disposable income is sometimes referred to as net income.
Dwelling	Defined as a suite of rooms contained within a building which are self-contained and intended for long–term residential use. To be self–contained the suite of rooms must possess cooking and bathing facilities as building fixtures. Examples of types of dwelling include: separate house; semi–detached, row or terrace house or townhouse; flat, unit, or apartment; and other dwelling, including caravan, cabin, houseboat, and house or flat attached to a shop.
Earners	Persons (excluding dependent children) who receive income from wages or salaries, who are engaged in their own business or partnership, or are silent partners in a business or partnership.
Employed	Persons aged 15 years and over who, during the week before the interview: ■ worked one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (includes employees, employers and own account workers) ■ worked one hour or more, without pay, in a family business or on a family farm ■ had a job, business or farm but was not at work because of holidays, sickness or other reason.
Employee	An employed person who, for most of his/her working hours: ■ works for a public or private employer and receives remuneration in wages or salary, or is paid a retainer fee by his/her employer and works on a commission basis, or works for an employer for tips, piece–rates or payment in kind ■ operates their own incorporated enterprise with or without employees.
Employer	A person who operates his or her own unincorporated business or engages independently in a profession or trade, and hires one or more employees.
Employment income	See Wages and salaries.

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Equivalised disposable household income	Disposable household income adjusted using an equivalence scale. For a lone person household it is equal to disposable household income. For a household comprising more than one person, it is an indicator of the disposable household income that would need to be received by a lone person household to enjoy the same level of economic wellbeing as the household in question. For further information see Appendix 2.
Equivalising factor	A factor that can be used to adjust the actual incomes of households in a way that enables analysis of the relative wellbeing of households of different size and composition. The equivalising factor included on the file has been calculated using the 'modified OECD' equivalence scale. The factor is built up by allocating points to each person in a household. Taking the first adult in the household as having a weight of 1 point, each additional person who is 15 years or older is allocated 0.5 points, and each child under the age of 15 is allocated 0.3 points. The equivalence factor is the sum of the equivalence points allocated to the household members. Equivalised household income can be derived by dividing total household income by the equivalence factor. For further information see Appendix 2.
Family	Two or more people, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering, and who usually live in the same household. A separate family is formed for each married couple, or for each set of parent–child relationships where only one parent is present.
Family composition of household	Classifies households into three broad groupings based on the number of families present (one family, multiple family and non–family). One family households are further disaggregated according to the type of family (such as couple family or one parent family) and according to whether or not dependent children are present. Non–family households are disaggregated into lone person households and group households.
Family day care	A type of formal child care provided by experienced caregivers in their own homes, available for a full day or part day. Schemes are administered and supported by central coordination units.
Financial assets	An asset whose value arises not from its physical existence (as would a building, piece of land, or capital equipment) but from a contractual relationship. Financial assets are mostly financial claims (with the exception of shares). Financial claims entitle the owner to receive a payment, or a series of payments, from an institutional unit to which the owner has provided funds. Examples include accounts held with financial institutions, ownership of an incorporated business, shares, debentures and bonds, trusts, superannuation funds, and loans to other persons.
First home buyer	A household which bought their dwelling in the three years prior to being interviewed, and neither the reference person nor their co–resident partner had owned or been purchasing a home previously.
Flat, unit or apartment	Includes all self–contained dwellings in blocks of flats, units or apartments. These dwellings do not have their own private grounds and usually share a common entrance foyer or stairwell. This category includes houses converted into flats and flats attached to houses such as granny flats. A house with a granny flat attached is regarded as a separate house.
Formal child care	Regulated child care away from the child's home. The main types of formal care are before and/or after school care, long day care, family day care, occasional care and vacation care.
Full–time employed	Employed persons who usually work 35 hours or more a week (in all jobs).
Full–time student	A person 15 years or over who is classified as a full–time student by the institution they attend, or considers himself/herself to be a full-time student. Full–time study does not preclude employment.
Gini coefficient	A summary measure of inequality of income distribution. For further information see Appendix 3.

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Government pensions and allowances	Income support payments from government to persons under social security and related government programs. Included are pensions and allowances received by aged, disabled, unemployed and sick persons, families and children, veterans or their survivors, and study allowances for students. All overseas pensions and benefits are included here, although some may not be paid by overseas governments.
	The one–off payments to carers and to older Australians paid in 2006–07 and 2007–08 are included. Family Tax Benefit, Baby Bonus (formerly known as Maternity Payment) and Child Disability Assistance Payment paid to recipients of Carer Allowance are also included in government pensions and allowances.
Gross imputed rent	The estimated market rent that a dwelling would attract if it were to be commercially rented.
Gross income	Income from all sources, whether monetary or in kind, before income tax or the Medicare levy are deducted.
Group household	See Non–family household.
Household	A person living alone or a group of related or unrelated people who usually live in the same private dwelling.
Household questionnaire	Used to collect information on household characteristics, housing costs and household assets and liabilities.
Household reference person	The reference person for each household is chosen by applying, to all household members aged 15 years and over, the selection criteria below, in the order listed, until a single appropriate reference person is identified: ■ the person with the highest tenure when ranked as follows: owner without a mortgage, owner with a mortgage, renter, other tenure ■ one of the partners in a registered or de facto marriage, with dependent children ■ one of the partners in a registered or de facto marriage, without dependent children ■ a lone parent with dependent children ■ the person with the highest income ■ the eldest person.
Housing costs	Housing costs for the purposes of the publication *Housing Occupancy and Costs, Australia* (cat. no. 4130.0.55.001) comprise: ■ rent payments ■ rates payments (general and water) ■ mortgage or unsecured loan payments if the initial purpose was primarily to buy, build, add to or alter the dwelling.
	Some additional items relating to housing costs are available to enable alternative estimates of housing costs to be constructed. For further information see Section 4.2.
Housing costs as a proportion of income	The total weekly housing costs of a group (e.g. one parent households) are divided by the total weekly income of that group expressed as a percentage.
Housing utilisation	Provides a measure of the bedroom requirements of a household according to household size and composition. See Canadian National Occupancy Standard.
Income	Income consists of all current receipts, whether monetary or in kind, that are received by the household or by individual members of the household, and which are available for, or intended to support, current consumption.
	Income includes receipts from: ■ wages and salaries and other receipts from employment (whether from an employer or own incorporated enterprise), including income provided as part of salary sacrificed and/or salary package arrangements ■ profit/loss from own unincorporated business (including partnerships) ■ net investment income (interest, rent, dividends, royalties) ■ government pensions and allowances

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Income *continued*	■ private transfers (e.g. superannuation, workers' compensation, income from annuities, child support, and financial support received from family members not living in the same household). Gross income is the sum of the income from all these sources before income tax, the Medicare levy and the Medicare levy surcharge are deducted. Other measures of income are Disposable income and Equivalised disposable income. Note that child support and other transfers from other households are not deducted from the incomes of the households making the transfers.
Income tax	This item was estimated for all households using the relevant taxation criteria and the income and other characteristics of household members reported in the survey.
Income unit	One person or a group of related persons within a household, whose command over income is assumed to be shared. Income sharing is assumed to take place within married (registered or de facto) couples, and between parents and dependent children.
Income unit reference person	The male partner in a couple income unit, the parent in a one parent income unit and the person in a one person income unit.
Incorporated business	An incorporated business is a company that has a registered business name with the *Australian Securities and Investment Commission (ASIC)* and a legal status which is separate to that of the individual owners of the business.
Individual questionnaire	Used to collect information from each person aged 15 years and over on individual details such as income, education and labour force status.
Industry	Coded for all employed people aged 15 years and over, using the *Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 (Revision 1.0)* (cat. no. 1292.0).
Informal child care	Non–regulated child care, arranged by a child's parent/guardian, either in the child's home or elsewhere. It comprises care by (step) brothers or sisters, care by grandparents, care by other relatives (including a parent living elsewhere) and care by other (unrelated) people such as friends, neighbours, nannies or babysitters. It may be paid or unpaid.
Investment income	Income received as a result of ownership of assets. It comprises returns from financial assets (interest, dividends), and from non–financial assets (rent and royalties).
Investment loan	A loan taken out for the purpose of financing investment, excluding loans for business purposes and rental property.
Labour force status	Classifies all people aged 15 years and over according to whether they were employed, unemployed or not in the labour force.
Landlord type	For renters, the type of entity to whom rent is paid or with whom the tenure contract or arrangement is made. Renters are classified to one of the following categories: ■ state/territory housing authority—where the unit (i.e. household, income unit or person, where applicable) pays rent to a state or territory housing authority or trust ■ private landlords—where the unit pays rent to a real estate agent or to another person not in the same household 　■ person in the same household—where the unit pays rent to a person who resides in the same household ■ other—where the unit pays rent to the owner/manager of a caravan park, an employer (including a government authority), a housing cooperative, a community or church group, or any other body not included elsewhere.
Liability	A liability is an obligation which requires one unit (the debtor) to make a payment or a series of payments to the other unit (the creditor) in certain circumstances specified in a contract between them.

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Loan	A form of liability that is created when creditors lend funds directly to debtors. Examples are an overdraft from a bank, money lent by a building society with a mortgage over a property as collateral, and personal loans.
Loans for owner occupied dwelling	Principal outstanding on loans used to purchase, build, alter, or make additions to the selected dwelling. Includes money borrowed for a deposit on the selected dwelling, and bridging finance taken out until such time as a loan or mortgage is obtained or the dwelling is bought outright. Where only a proportion of a loan is used for the owner occupied dwelling, only that proportion of the principal outstanding is included.
Lone person household	See Non–family households.
Long day care centre	A type of formal child care that is centre–based and is available to children between birth and school age for the full day or part day. Centres are usually open for most of the year.
Mean housing costs	The total weekly housing costs paid by a group of households (e.g. couple only households) divided by the number of households in that group.
Mean income	The total income received by a group of units divided by the number of units in the group. For more detail about household weighted and person weighted means, see Section 1.6.
Median housing costs	That level of weekly housing costs that divides a group of households into two equal parts, one half having housing costs above the median and the other half having housing costs below the median. Households with nil or negative total income are not included in this calculation.
Median income	That level of income which divides the units in a group into two equal parts, one half having incomes above the median and the other half having incomes below the median. For more detail about household weighted and person weighted medians, see Section 1.6.
Median ratio of housing costs to income	The ratio of weekly housing costs to gross weekly income is calculated for each household. The median is the level of that ratio that divides a group of households into two equal parts, one half having the ratio above the median and the other half having the ratio below the median.
Medicare levy	Medicare is Australia's universal health care system. The Medicare levy is a specific tax, based on individual income, intended to assist in the funding of this system.
Medicare levy surcharge	The Medicare levy surcharge is a levy, or an additional tax, on Australian taxpayers who do not have an appropriate level of private hospital insurance and who are earning more than the specified income threshold.
Mortgage	A mortgage is a loan taken out using the usual residence as security. An owner with a mortgage must still owe money from such a loan.
Multiple family household	A household containing two or more families. Unrelated individuals may also be present.
Negative income	Income may be negative when a loss accrues to a household as an owner or partner in unincorporated businesses, rental properties or other investment income. Losses occur when operating expenses and depreciation are greater than gross receipts.
Net imputed rent	Gross imputed rent less housing costs. Net imputed rent is an estimate of the value for the flow of household consumption services conferred by home ownership or by households paying subsidised rent or occupying their dwelling rent free. Housing costs for the purpose of calculating net imputed rent for owner–occupiers comprise: - rates payments (general and water) - body corporate fees - the interest component of repayments of loans that were obtained for the purposes of purchasing or building - rent payments - house insurance costs

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Net imputed rent *continued*	■ repair and maintenance costs.
Net worth	Net worth is the value of a household's assets less the value of its liabilities. Net worth may be negative when household liabilities exceed household assets.
Non–dependent children	Persons aged 15 years and over who: ■ do not have a spouse or offspring of their own in the household ■ have a parent in the household ■ are not full–time students aged 15–24 years.
Non–family household	A household that consists of unrelated persons only. Non–family households are classified to one of the following categories: ■ Group household—a household consisting of two or more unrelated persons where all persons are aged 15 years and over. There are no reported couple relationships, parent–child relationships or other blood relationships in these households. ■ Lone person household —a household consisting of a person living alone.
Non–financial assets	Non–financial assets are all assets other than financial assets. Examples include residential and non–residential property, household contents and vehicles.
Not in the labour force	Persons not in the categories employed or unemployed as defined.
Occasional care	A type of formal child care provided mainly for children who have not started school. These services cater mainly for the needs of families who require short term care their children.
Occupation	Coded for all employed people aged 15 years and over, using the *Australian and New Zealand Standard Classification of Occupations (ANZSCO), First Edition 2006* (cat. no. 1220.0).
One family households	One family households are classified to one of the following categories: ■ Couple only—two persons in a registered or de facto marriage, who usually live in the same household ■ Couple family with dependent children—a household consisting of a couple with at least one dependent child. The household may also include non–dependent children, other relatives and unrelated individuals ■ One parent family with dependent children—a household comprising a lone parent with at least one dependent child. The household may also include non–dependent children, other relatives and unrelated individuals ■ Other one family households—a household comprising: 　■ one couple with their non–dependent children only 　■ one couple, with or without non–dependent children, plus other relatives 　■ one couple, with or without non–dependent children or other relatives, plus unrelated individuals 　■ a lone parent with his/her non–dependent children, with or without other relatives and unrelated individuals 　■ two or more related individuals where the relationship is not a couple relationship or a parent–child relationship (e.g. two brothers).
One parent family with dependent children	See One family households.
One parent, one family household	A one family household comprising a lone parent with at least one dependent or non–dependent child. The household may also include other relatives and unrelated individuals.
Other dwelling	Includes caravans, houseboats, or houses or flats attached to a shop or other commercial premise.
Other formal child care	A type of formal child care other than before and/or after school care, long day care, family day care, occasional care and vacation care.

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Other income	Income other than wages and salaries, own unincorporated business income and government pensions and allowances. This includes income received as a result of ownership of financial assets (interest, dividends), and of non-financial assets (rent, royalties) and other current receipts from sources such as superannuation, child support, workers' compensation and scholarships. Income from rent is net of operating expenses and depreciation and may be negative when these are greater than gross receipts.
Other landlord type	Where the unit (i.e. household, income unit or person, where applicable) pays rent to the owner/manager of a caravan park, an employer (including a government authority), a housing cooperative, a community or church group, or any other body not included elsewhere.
Other one family households	See One family households.
Other property loans	Principal outstanding on loans used to purchase, build, alter, or make additions to property rented out, loans taken out by people in rental properties who are buying or building a home somewhere else, and loans taken for alterations and additions to other property. Where only a proportion of a loan is used for the property, only that proportion of the principal outstanding is included.
Other tenure type	A unit (i.e. household, income unit or person, where applicable) which is not an owner (with or without a mortgage), or a renter. Includes rent free.
Own account worker	A person who operates his or her own unincorporated business or engages independently in a profession or trade and hires no employees.
Own unincorporated business income	The profit/loss that accrues to persons as owners of, or partners in, unincorporated businesses. Profit/loss consists of the value of gross output of the business after the deduction of operating expenses (including depreciation). Losses occur when operating expenses are greater than gross receipts and are treated as negative income.
Owner (of dwelling)	A unit (i.e. household, income unit or person, where applicable) in which at least one member owns the dwelling in which the unit members usually reside. Owners are divided into two categories—owners without a mortgage and owners with a mortgage. If there is any outstanding mortgage or loan secured against the dwelling the unit is an owner with a mortgage. If there is no mortgage or loan secured against the dwelling the unit is an owner without a mortgage.
Part–time employed	An employed person who usually works less than 35 hours per week.
Percentiles	When all households or persons in the population are ranked from the lowest to the highest on the basis of some characteristic such as their household income, they can then be divided into equal sized groups. Division into 100 groups gives percentiles. The highest value of the characteristic in the tenth percentile is denoted P10. The median or the top of the 50th percentile is denoted P50. P20, P80 and P90 denote the highest values in the 20th, 80th and 90th percentiles. Ratios of values at the top of selected percentiles, such as P90/P10, are often called percentile ratios.
Percentile ratios	Percentile ratios summarise the relative distance between two points in a distribution. To illustrate the full spread of the income distribution, the percentile ratio needs to refer to points near the extremes of the distribution, for example, the P90/P10 ratio. The P80/P20 ratio better illustrates the magnitude of the range within which the income of the majority of households falls. The P80/P50 and P50/P20 ratios focus on comparing the ends of the income distribution with the midpoint.
Preschool	Educational and developmental programs for children in the year (or in some jurisdictions, two years) before they begin full–time primary education.
Previous financial year income	Income earned in the period July 2006 to June 2007.

Principal source of income	That source from which the most positive income is received. If total income is nil or negative the principal source is undefined. As there are several possible sources, the principal source may account for less than 50% of gross income.
Private income	Current receipts from private organisations, including wages and salaries, income from own business, superannuation, workers' compensation, income from annuities, interest, dividends, royalties, income from rental properties, scholarships and child support.
Private renter	A unit (i.e. household, income unit or person, where applicable) paying rent to a landlord who is a real estate agent, a parent or other relative not in the same unit or another person not in the same unit.
Property	All residential and non–residential properties owned by persons in the household, excluding properties owned by the respondent's business.
Public renter	A unit (i.e. household, income unit or person, where applicable) paying rent to a state or territory housing authority/trust.
Quintiles	Groupings that result from ranking all households or people in the population in ascending order according to some characteristic such as their household income and then dividing the population into five equal groups, each comprising 20% of the estimated population.
Ratio of household incomes at top of selected income percentiles	See Percentile ratios.
Recent home buyer	A household which bought their dwelling in the three years prior to the survey.
Reference person	See Household reference person and Income unit reference person.
Relative standard error (RSE)	The standard error expressed as a percentage of the estimate for which it was calculated. It is a measure which is independent of both the size of the sample, and the unit of measurement and as a result, can be used to compare the reliability of different estimates. The smaller an estimate's RSE, the more likely it is that the estimate is a good proxy for that which would have been obtained if the whole population had been surveyed.
Renter	A unit (i.e. household, income unit or person, where applicable) which pays rent to reside in the dwelling. See further classification by Landlord type.
Salary packaging	An arrangement for the employer to remunerate the employee with a combination of cash wages and salaries and one or more non–cash benefits, to the value of the employee's total remuneration.
Salary sacrifice	An arrangement under which an employee agrees contractually to forgo part of the remuneration, which the employee would otherwise receive as wages and salaries, in return for the employer or someone associated with the employer providing benefits of a similar value.
Selected dwelling	The private dwelling selected in the sample for the survey.
Semi–detached, row or terrace house or townhouse	A dwelling with its own private grounds and no dwelling above or below. A key feature of this dwelling is that it is either attached in some structural way to one or more dwellings or is separated from neighbouring dwellings by less than one–half metre. Examples include semi–detached, row or terrace houses, townhouses or villa units. Multistorey townhouses or units are separately identified from those which are single storey.
Separate house	A dwelling which is self–contained and separated from other houses (or other buildings or structures) by a space to allow access on all sides (at least one–half metre). This category also includes houses that have an attached flat (e.g. a granny flat). The attached flat will be included in the flat, unit or apartment category.

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Shares	A share is a contract between the issuing company and the owner of the share which gives the latter an interest in the management of the corporation and the right to participate in profits. On the file the "value of shares" excludes the value of shares held by individuals in their own incorporated business. Such shares are included in "value of own incorporated business".
Significant person	Significant persons are defined as follows: ■ all members of lone person or couple only households ■ all parents in a couple with children household or a single parent household ■ the person aged 15 years or over in a group household where one person is aged 15 years or over and the other members of the household are less than 15 years old ■ 50% of the persons aged 15 years and over in all other households.
Standard error	A measure of the likely difference between estimates obtained in a sample survey and estimates which would have been obtained if the whole population had been surveyed. The magnitude of the standard error associated with any survey is a function of sample design, sample size and population variability.
Statistical Division (SD)	The largest spatial units within each state/territory in the main structure of the *Australian Standard Geographical Classification* (cat. no. 1216.0).
Superannuation	A long–term savings arrangement which operates primarily to provide income for retirement.
Tenure type	The nature of a unit's (i.e. household's, income unit's or person's, where applicable) legal right to occupy the dwelling in which the unit members usually reside. Tenure is determined according to whether the unit owns the dwelling outright, owns the dwelling but has a mortgage or loan secured against it, is paying rent to live in the dwelling or has some other arrangement to occupy the dwelling.
Trusts	Any type of managed fund which involves the pooling of investors' money in order for a trustee or professional manager to administer that fund. Examples include listed and unlisted public unit trusts, cash management trusts, property trusts and family trusts used only for investment purposes.
Unemployed	Persons aged 15 years and over who were not employed during the week before the interview and had actively looked for full–time or part–time work at any time in the four weeks before the interview and: ■ were available for work in the week before the interview, or ■ were waiting to start a new job within four weeks from the interview and would have started in the week before the interview if the job had been available then.
Unincorporated business	A business in which the owner(s) and the business are the same legal entity, so that, for example, the owner(s) are personally liable for any business debts that are incurred.
Vacation care	A formal child care service provided to school children during the school holidays.
Value of dwelling	The estimated value of the dwelling and its land, as estimated and reported by the respondent. The data are only collected for owners.
Vehicles	Vehicles include registered and unregistered vehicles used for private purposes including cars, trucks, buses, motorcycles, caravans, aircraft, boats and bicycles.
Vehicle loans	Principal outstanding on loans used to purchase motor vehicles. Where only a proportion of a loan is used to purchase a vehicle, only that proportion of the principal outstanding is included.
Wage and salary income	See Wages and salaries.
Wages and salaries	An employee's total remuneration, whether monetary or in kind, received as a return to labour from an employer or from a person's own incorporated business. It comprises wages and salaries, bonuses, amounts salary sacrificed, non–cash benefits such as the use of motor vehicles and subsidised housing, and termination payments.

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Year of arrival in Australia   The year a person (born outside Australia) first arrived in Australia from another country, with the intention of staying in Australia for one year or more.

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