

INCOME DISTRIBUTION DATA REVIEW – AUSTRALIA

1. Available data sources used for reporting on income inequality and poverty

1.1. OECD reporting:

OECD income distribution and poverty indicators for Australia are provided by the Australian Bureau of Statistics, based on the Survey of Income and Housing (SIH). The SIH was conducted annually from 1994–95 to 1997–98, and then in 1999–2000, 2000–01 and 2002–03. The Household Expenditure Survey (HES) was integrated with the SIH for the first time in 2003–04. The SIH is now conducted every two years and is integrated with HES every six years. SIH was collected in 2005–06 and 2007–08, and the HES was integrated with the SIH for the second time in 2009–10. Currently, the OECD income distribution database contains data for the following (income) years: 1994-95, 1999-00, 2003-04, 2007-08, 2009-10. Data which were available and included for earlier years – 1975-76 and 1984 – have been withdrawn from the OECD database on request from ABS as they were considered not comparable with later series.

1.2. National reporting and reporting in other international agencies:

1.2.1 National reporting:

The Australian Bureau of Statistics presents estimates of the income and other characteristics of households, including estimates of the distribution of income across the population, in its publication Household Income and Income Distribution ([http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/DBE855896D8CA36DCA2578FB0018533C/\\$File/65230_2009-10.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/DBE855896D8CA36DCA2578FB0018533C/$File/65230_2009-10.pdf)). These are also based on the SIH. The ABS series is accompanied by a note stating that “Estimates presented from 2007–08 and 2009–10 are not directly comparable with estimates for previous cycles due to the improvements made to measuring income introduced in the 2007–08 cycle. Estimates for 2003–04 and 2005–06 have been recompiled to reflect the new treatments of income, however not all new components introduced in 2007–08 are available for earlier cycles in the 2007–08 cycle.” The same note accompanies the ABS provision of OECD reference series.

The Australian Government’s Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) initiated and funds The Household, Income and Labour Dynamics in Australia (HILDA) Survey. This is a household-based panel study which began in 2001. Responsibility for the design and management of the survey rests with the Melbourne Institute of Applied Economic and Social Research (University of Melbourne) who produce annual reports and statistical reports based on the data (<http://www.melbourneinstitute.com/hilda/>).

1.2.2 International reporting:

LIS, as OECD, uses SIH as a basis for data reporting (see <http://www.lisdatacenter.org/our-data/lis-database/by-country/australia/>).

The below table presents the main characteristics of the datasets:

Table 1. Characteristics of datasets, Australia

	Survey of Income and Housing (SIH)	Household Expenditure Statistics (HES)	Household, Income and Labour Dynamics in Australia Survey (HILDA)
Name of the responsible agency	Australian Bureau of Statistics (ABS)	Australian Bureau of Statistics (ABS)	Melbourne Institute of Applied Economic and Social Research
Year (survey and income/wage)	Annually from 1994–95 to 1997–98, then in 1999–2000, 2000–01 2002–03, and biannually since 2003-04	Every six years since 2003-04	Annually since 2001
Period over which income is assessed	Estimates are calculated as weekly income and annualized (for the year ended 30 June) by multiplying by 52.14.		Disposable income in the year ended 30 June of the year of the wave, e.g. 2001 for wave 1.
Covered population	Usual residents of private dwellings in urban and rural areas of Australia. 98% of the people living in Australia.	Usual residents of private dwellings in urban and rural areas of Australia. 98% of the people living in Australia.	Similar to ABS definition except that boarding school residents, university students, military personnel residing in private dwellings are included.
Sample size	18 071 households (2009)	9 774 households (2009)	2 153 households (wave 11)
Sample procedure	Interview from usual residents of private dwellings in urban and rural areas of Australia. A stratified, multistage cluster design.	Interview from usual residents of private dwellings in urban and rural areas of Australia. A stratified, multistage cluster design.	multi-staged cluster stratified sampling
Response rate	84%	75.00%	71.70%
Imputation of missing values	yes	yes	yes
Unit for data collection	Individual 15+	Individual 15+	Individual 15+
Break in series	2007-08? See above		
Web source:	http://www.abs.gov.au/ausstats/abs@.nsf/dossbytitle/F0CDB39ECC092711CA256BD00026C3D5?OpenDocument	http://www.abs.gov.au/ausstats/abs@.nsf/mf/6530.0/	http://www.melbourneinstitute.com/hilda/default.html

2. Comparison of main results derived from sources used for OECD indicators with alternative sources

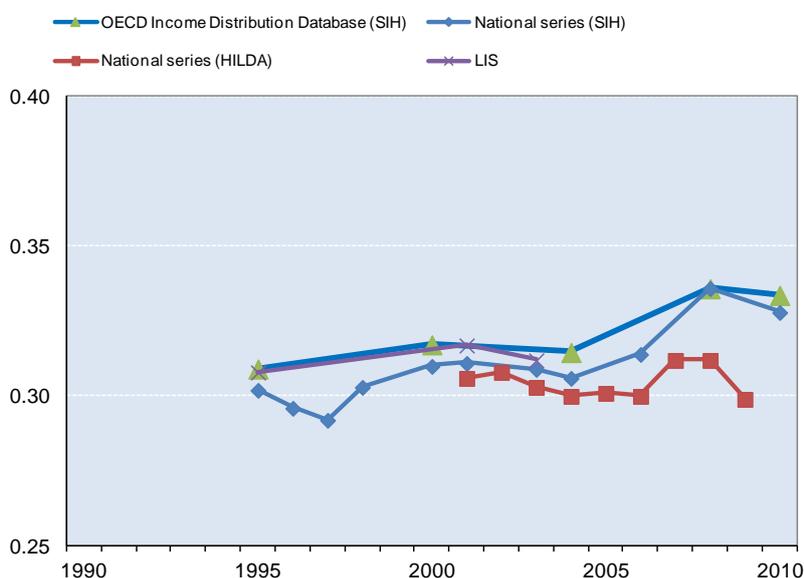
2.1 Income

2.1.1 Time series of Gini coefficients and other inequality indicators

The OECD reference series of Gini coefficients shows that income inequality in Australia remained fairly flat between 1995 and 2004. After this it began to rise until 2008 before flattening out again to 2010. The national series (also based on SIH) shows a similar trend. The exception being a small dip between 1995 and 1997 followed by a rise to 2000, rather than the flatter trend of the OECD reference series. However, this extra variation is to be expected given the greater number of data points in the national series. For the years where we have data in both series the difference between the two is around 0.006 or 0.007. However, in 2004 the difference is slightly larger and in 2008, the two series match exactly. As a result of this, the national series shows a greater decrease in income inequality between 2008 and 2010, compared to the flatter OECD series.

The national series from the HILDA survey follows that of the SIH national series very closely for the period 2001 to 2004. However, after 2004 the two series start to diverge, with HILDA showing lower values of Gini coefficients. In particular, the HILDA series is much lower in 2008 at 0.312, compared to 0.336 in both OECD and national series from SIH. Further, the HILDA series drops sharply in 2009. Unfortunately, we do not have a corresponding data point for the SIH series as the survey was not run in 2009.

Figure 1. Gini coefficients, Australia

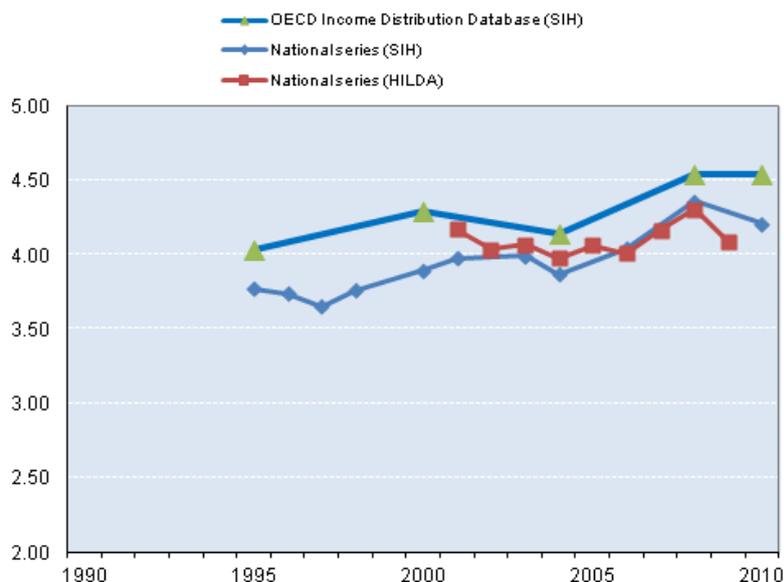


The OECD reference series shows that the P90/P10 ratio for Australia generally increased between 1995 and 2010, with a slight dip in 2004. The national series based on the SIH shows as very similar pattern, as would be expected, with only some slight extra variation in the series resulting from the additional number of data points in that series. However, despite the similar trend there is a gap of around 0.3 between the two series for the years where we have data for both, with the OECD series consistently higher. As with the two series of Gini coefficients, the gap in 2008 is smaller than in other years giving the

appearance of a fall between 2008 and 2010 in the national series compared to the flatter OECD series. The LIS series, also based on SIH, matches the OECD reference series almost exactly.

The series from HILDA follows the national series from SIH very closely. In most of the years for which we have the data for both series the difference between the two is less than 0.1. As with the series of Gini coefficients we see a fairly sharp drop between 2008 and 2009. However, the previous data points do not suggest a divergence of the two series in the same way as in the series of Gini coefficients.

Figure 2. P90/P10 Ratio, Australia

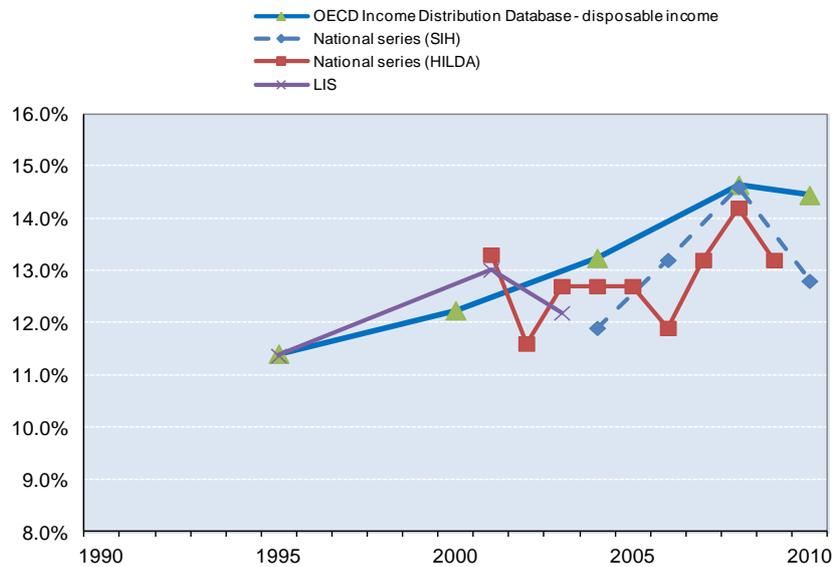


2.1.2 Time series of poverty rates

The OECD reference series of income poverty rates (at 50% of median equivalised income) shows rates increasing steadily between 1995 and 2008. They then flatten out between 2008 and 2010. The series of poverty rates from HILDA is much more jagged since there are a greater number of data points available over the time period. There are only two common data points between the series but they are quite close – 13.2% for the OECD reference series and 12.7% for the HILDA in 2004 and 14.6% and 14.2% in 2008. The LIS series matches the OECD series fairly closely but the most recent data is for 2003.

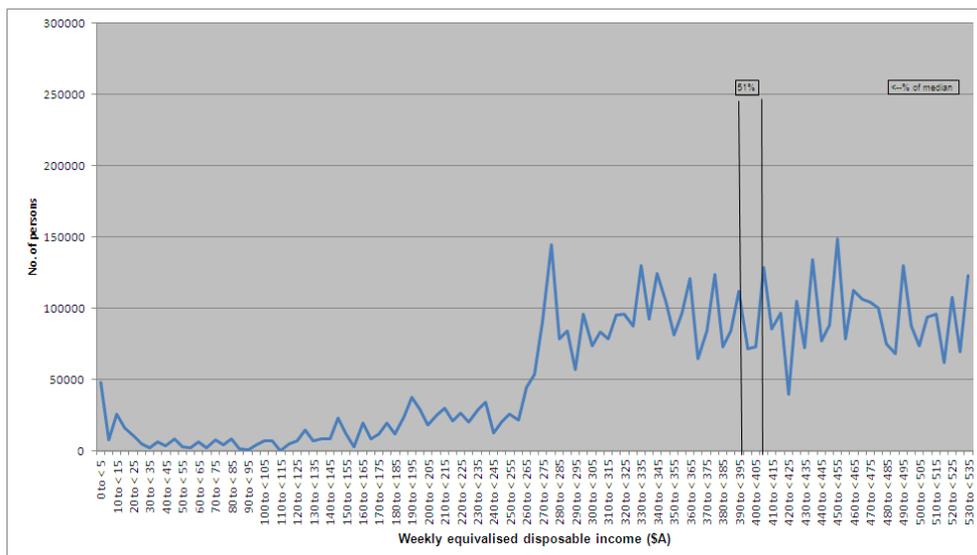
ABS does not publish a series of poverty rates from SIH at either the 50% or 60% threshold. However, the Australian Council of Social Services (ACOSS) has recently produced a report entitled *Poverty in Australia* which includes a time series of poverty rates at the 50% threshold based on the SIH data, so in this case “National Series (SIH)” refers to data taken from this report. According to the report the figures for 2003-04 are on different income basis to those from 2005-06 and 2007-08, and the 2009-10 is on yet another income basis. In this series there are three common data points with the OECD series. In 2007-08 the two figures match exactly, in 2003-04 the series published by ACOSS is 1.3 percentage points lower (and lower also than the HILDA series.) The largest difference is in the 2009-10 figures where the OECD series is 1.6% points higher. Thus we have the HILDA series showing a decline in poverty rates between 2008 and 2009, the series from ACOSS showing a decline between 2007-08 and 2009-10 but the OECD series remaining almost flat between 2007-08 and 2009-10.

Figure 3. Poverty rates (50% of median income), Australia



For interpreting relative income poverty rates, the ABS data provision to OECD specifies: “The social security system in Australia results in an income distribution that is very sensitive to any cut-offs defined as a percentage of median income, particularly around the 50% and 60% level. The distribution has significant peaks as a result of a large number of people receiving either a single rate pension or a couple rate pension. For example, in 2007-08 14.7% of Australians have equivalised disposable household income less than 50% of the median, but this increases to 15.4% when using a 51% cut-off and 16.8% using a 53% cut-off.” Figure 2.2 below illustrates the distribution and its sensitivity to the cut-offs for 2007-08.

Figure 4. Distribution of equivalised disposable household income, SIH 2007-08



2.2 Wages

See Part II of the present Quality Review.

3. Consistency of income components shares with alternative data sources

3.1. Comparison of main aggregates: earnings, self-employment income, capital income, transfers and direct taxes

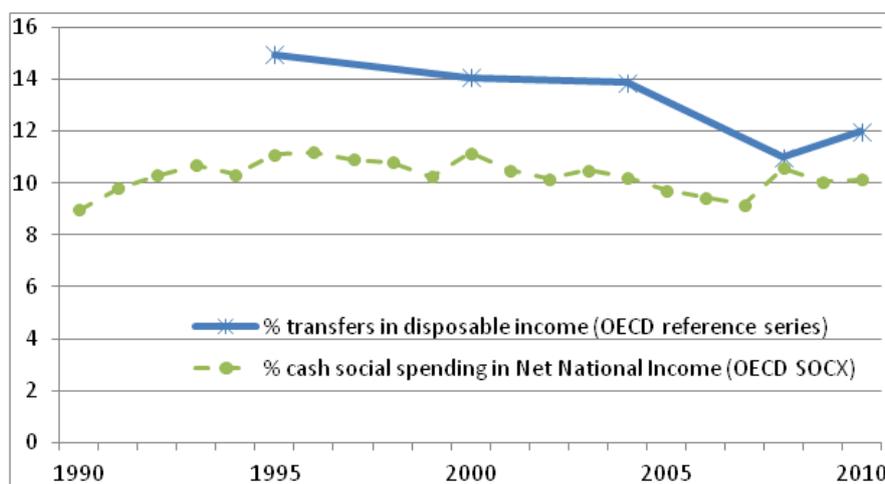
Table 2 shows shares of income components for the latest available year, according to the OECD benchmark series. Unfortunately, such information is not available for the other data sources described in table 1.

Table 2. Shares of income components in total disposable income, OECD reference series

				Average income			Average	K	SE	TR	TA	HDI	
Survey	Year	Unit		EH	ES	EO	Wages	Capital	Self Employment	Transfers	Taxes	Disposable income (HDI)	
OECD reference survey	2010	natcur		29,027	8,249	6,295	43,572	5,716	3,376	5941.566	(8,999)	49,607	
		% av HDI		59%			88%	12%	7%	12%	-18%		

Figure 5 compares the trend in shares of public cash transfers in equivalised disposable income from the OECD reference series with the share of total cash social spending in net national income, reported from the OECD Social Expenditure database (OECD SOCX). OECD SOCX series include pensions, incapacity, family, unemployment, social assistance. Both series show similar trends throughout the period, except for the two latest years.

Figure 5. Trends in shares of public social transfers



4. Metadata of data sources which could explain differences and inconsistencies

Definitions, methodology, data treatment

Differences between OECD and ABS series:

Both series are based on the same data source, SIH. The differences between the series are a result of two factors. Firstly, a different equivalence scale is used. The ABS use the 'modified OECD' equivalence scale where as the OECD terms of reference specify the square root scale. Further the ABS uses a different methodology for the treatment of negative incomes in that it sets all negative disposable household

incomes to zero prior to equivalisation. However, the OECD method is to set negative incomes to zero at the component levels.

According to initial ABS assessment, the majority of the difference was said to be due to the treatment of negative incomes. However, as a result of further investigation, ABS specifies that it is the choice of equivalence scale that is responsible for the larger part of the differences.

Differences between OECD and HILDA series:

Like the ABS results on SIH, the results based on HILDA also use the 'modified OECD' equivalence scale and set negative household disposable income to zero prior to equivalisation.

5. Summary evaluation

Overall, the OECD reference series and the ABS series based on SIH compare well, as would be expected given that they are based on the same data source. For the most part differences seem to be adequately explained by the two factors described above, namely the choice of equivalence scale and the treatment of negative income. However, it is worth noting that the national series from SIH indicate a slight decline in poverty and inequality between 2007-08 and 2009-10 whereas the OECD series are flatter over the same period. This is particularly true for poverty rates.

The comparison with the HILDA results is slightly less certain. The OECD reference series of Gini coefficients is somewhat higher than the HILDA series from 2005 onward when the two series start to diverge. On the other hand, the HILDA series of P90/P10 ratios is very close to the ABS series based on SIH, and also follows the OECD reference series quite closely. For poverty rates the OECD reference series and the HILDA series only have two years in common but for both those years the two series are only different by around 0.5 percentage points.