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CENTRE FOR THE STUDY OF LIVING STANDARDS

ESTIMATION OF EU-COMPARABLE POVERTY-RELATED VARIABLES IN AUSTRALIA, 2001-2013

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Abstract

This report seeks to compare poverty rates and poverty gaps for the overall population, the elderly population and single-parent headed households in Australia and selected European Union (EU) countries. In order to make sure that our estimates for Australia, which are based on the Household, Income and Labour Dynamics in Australia (HILDA) survey from the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne, are directly comparable with EU estimates from Eurostat, we undertook a detailed study of the methodology underpinning Eurostat's poverty estimates, which are derived from the Survey of Income and Labour Conditions (EU-SILC). The outcomes of this paper are estimates of six poverty-related variables including overall and elderly poverty gaps and poverty rates, as well as single parent headed household poverty gaps and the Gini coefficient. The results suggest that overall poverty, elderly poverty and single-parent headed household poverty is higher in Australia than in many other European countries for the majority of the six poverty-related variables.

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Executive Summary

As part of the Centre for the Study of Living Standards' regular updates to the *Index of Economic Well-Being*, this report seeks to make certain income distribution and poverty-related statistics comparable between Australia and eleven European countries, where differing definitions and methodologies underlying the official poverty rates make headline comparisons impossible. This report uses Eurostat's definitions and methodologies, applied to micro data available from the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne through the Household, Income and Labour Dynamics in Australia (HILDA) survey, which provides extensive, annual information on incomes in Australia. The specific statistics this report calculates are the Gini coefficient, the overall and elderly poverty rates and gaps, as well as the single parent with dependent children poverty rate. The poverty gap is a measure of the depth of poverty and is calculated by dividing the average income of individuals in poverty by the poverty line and subtracting this value from one to find the 'gap' between income and the poverty threshold.

In order to calculate these statistics for Australia based on micro data, we attempt to recreate the variables used in the European statistics for Australia. This process required careful analysis of the European dataset. This involved identification of Australian equivalent variables representing household membership, disposable income, the equivalence scale, the dependency of children, the status of a single parent household, and old age. Once identified, these variables were distilled into the abovementioned statistics using Stata software. The specific commands, data and methodology used are given in Appendix A.

This report finds that Australia has higher poverty rates, poverty gaps, and a higher Gini coefficient over the 2001-2013 period than the majority of the selected European nations that we examined. Some key results are below:

- Australia's Gini coefficient is higher than the majority of the European nations we examined, excluding the United Kingdom and Spain. Over the entire period, Australia's Gini coefficient was relatively stable, increasing from 0.319 in 2001 to 0.338 in 2013 with peaks of 0.345 and 0.347 in 2003 and 2007 respectively.

- Australia's overall poverty rate was quite high compared to other European countries, although Spain, the United Kingdom and Italy occasionally had higher poverty rates, especially near the end of the first decade of the twenty-first century when Australia's overall poverty rate declined from 13.1 to 9.6 per cent between 2009 and 2013, while Spain and Italy saw their overall poverty rates increase.

- The average poverty gap for all persons in Australia was higher than the majority of the European countries between 2001 and 2013. However, near the end of the time series, Norway, Italy, Spain and Denmark surpassed the Australian value to demonstrate higher poverty gaps in 2013. The only year in which Australia had a higher poverty gap than all eleven European countries considered was in 2009 when the poverty gap was at 33.9 per cent.

- The elderly poverty rate in Australia is strikingly high in comparison with European countries. In particular, Australian elderly poverty rates hovered between 25 per cent and 45 per cent over the 2001 to 2013 period, while for all European countries, they hovered between 0 and 20 per cent. The greatest difference was in 2009 when the Australian elderly poverty rate peaked at 45.6 and the next highest poverty rates in Spain and the United Kingdom were less than 12.0 per cent.

- The Australia elderly poverty gap is lower compared to some of the selected European countries, although Australian elderly poverty gaps are still among the highest throughout the entire time series, surpassed only by the Netherlands, Germany and Denmark in various years. Australia's elderly poverty gap peaked in 2009 at 34 per cent, showing a sharp decline in 2010 to 23 per cent. Australia was one of the only countries in our sample to show a decline in the elderly poverty gap between 2009 and 2010.

- The poverty rate for single parent households with dependent children in Australia is among the highest, but it is never the highest rate in any year in the time series. The United Kingdom, Italy and Spain consistently show higher rates than Australia for this poverty-related variable. Over the 2001-2013 period, Australia saw its poverty rate for this group increase from 15.7 per cent in 2001 to 28.0 per cent in 2009. After 2009, Australia's poverty rate for single parent households with dependent children declined to 16.9 per cent in 2012. In 2013, the poverty rate for this segment of the population increased again.

Overall, this report has found that Australia has had among the highest poverty rates, gaps and Gini coefficient scores of the eleven European countries that were examined.

Estimation of EU-Comparable Poverty-Related Variables in Australia, 2001-2013[1]

I. Introduction

This report was written as a part of the CSLS' regular updates to the Index of Economic Well-Being, which has been the focus of previous CSLS reports, including several by Osberg and Sharpe (2011a, 2011b, and 2014). The Index of Economic Well Being (IEWB), which has been computed since the late 1990s by the Centre for the Study of Living Standards (CSLS), utilizes a number of income distribution and poverty-related variables, specifically the Gini coefficient as well as poverty rates and gaps for the overall population and specific subsections (Osberg and Sharpe, 2001). Previously these estimates were taken from the Luxembourg Income Study. However, these estimates are available only with a considerable lag and only for a small number of years. The availability of Statistics on Income and Living Conditions (SILC) for selected EU countries via the Eurostat portal however provides up-to-date annual estimates of poverty-related variables since 1995. It was decided to move to this data source, using SILC for EU poverty-based estimates, and to develop EU comparable estimates for the non-EU countries examined in the IEWB (the United States, Australia, and Canada). This report develops the estimates for Australia. The methodology and results used to calculate data for the United States-EU comparisons can be found in another CSLS report (Andrews, Palesch and Thomas, 2015).

Consistent income data comparisons between Australia and European nations have been undertaken in the past. In fact, HILDA has been used to create Eurostat comparable estimates in the past. Headey (2006) uses the HILDA panel set from 2001-2003 to compute Australian estimates for a variety of indicators;[2] however, the same definitions used in this report are not present. The Australian Social Inclusion Board (Australian Government, 2009) [ASIB] has also created EU-comparable estimates for Australia for 2005-2006, using the larger ABS dataset, and estimated an all-persons poverty rate of 10.9 per cent at the 50 per cent of median equivalent income threshold. Furthermore, the ASIB presents Gini coefficients from the ABS until 2005-06 and HILDA-based estimates of the same indicator for 2001 through 2005. Indeed, many different studies creating comparable datasets of Australia and European nations have been completed (OECD, Australian Council of Social Services). Sadly, a full time series including 2001 through 2013 for this comparison was unavailable, as were the breakdowns to the target populations required for this IEWB report. The Centre for the Study of Living Standards therefore embarked

[1] This report was written in two stages under the supervision of Andrew Sharpe. In stage one, Brendon Andrews estimated poverty trends in Australia with EU comparable definitions from 2001 to 2010. In stage two, Jasmin Thomas and Erika Rodrigues calculated new poverty estimates for Australia from 2001 to 2013, and edited the text to reflect any changes in poverty trends since 2010. If there are any questions or comments about this report please email jasmin.thomas@csls.ca.

[2] Note that Headey (2006) does make use of the 50 per cent of median disposable income poverty threshold (30) (as does this report); however, the breakdown into the target populations relevant for this report according to the methodology of Eurostat is not complete, as that was not the purpose of the study. Furthermore, this report presents seven additional years of data.

upon the task of computing these estimates. This report discusses the methodology used to estimate these numbers from the Household, Income and Labour Dynamics in Australia (HILDA) survey available from the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne.

The optimal dataset for our analysis would have been received from the Australian Bureau of Statistics (ABS), as this is the office responsible for reliable statistics on the Australian population. Although the ABS does publicly offer 'Confidentialised Unit Record File' (CURF) micro data, the list of available micro data sets[3] did not include a comprehensive time series on household income. On the other hand, the Household Income and Labour Dynamics in Australia (HILDA) Survey, conducted by the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne, presents a consistent time series of household income data for 2001 through 2013.[4] Another key advantage of using the Household Income and Labour Dynamics in Australia (HILDA) Survey to calculate our Australian income measures is that this survey has been used extensively, generating a considerable number of publications.[5] The results of a HILDA-based study are therefore grounded in a framework that has already informed many research projects and policy recommendations. HILDA data were therefore obtained for this analysis.

Despite a rich stock of Australia-EU comparisons, further computation was required to acquire estimates for all the indicators desired for the entire sample period. This report fills that void. We attempt to match HILDA variables with the definitions used by Eurostat to compute poverty estimates from EU-SILC for 2001 through 2013 and apply the same qualifiers for overall poverty, single parent with dependent children poverty, and elderly poverty. At the same time, we attempt to keep these estimates comparable to the estimates Andrews, Palesch and Thomas (2015) produced for the United States-EU comparison. We estimate both poverty rates and average poverty gaps,[6] and we also calculate the Gini coefficient, the most commonly used measure of income distribution, using our Eurostat-comparable measure of disposable income.

Structurally, this report is divided into three main sections. The next section of this report briefly details the methodology used to compute estimates for Australia which can be considered 'comparable' to the numbers taken from Eurostat for the eleven European countries in the sample. Appendix A provides additional detail on this methodology. The third section describes the results obtained for Australia, comparing trends to those in the other countries in the sample. This report produces a time series from 2001 to 2013 for six income distribution and poverty

[3] This list can be found online: http://abs.gov.au/websitedbs/D3310114.nsf/home/About+CURF+Microdata

[4] The HILDA survey is a longitudinal survey that was initiated, and is funded, by the Australian Government through the Department of Social Services. The wave 1 panel consisted of 7,682 households and 19,914 individuals. In wave 11, this was topped up with an additional 2,153 households and 5,477 individuals. In wave 1, the response rate was 66 per cent. In wave 13, the response rate was 79.6 per cent for fully responding households and 6.9 per cent for partially responding households, leading to a total response rate of approximately 87 per cent (HILDA Survey Website and HILDA User Manual Release 13.0).

[5] The complete list of journal articles which used the HILDA survey is available online: http://www.melbourneinstitute.com/hilda/biblio/hbiblio-journal.html

[6] With the exception of single parent with dependent children household poverty – for this variable, we calculate only the rate. Eurostat's database does not appear to offer average poverty gap ratios for this variable, and there would therefore be nothing against which to compare the Australian results.

variables based on disposable income, namely the Gini coefficient, the single person with dependent children poverty rate, and the poverty rates and average poverty gaps for all persons and for elderly persons for Australia, computed in a method comparable to that used by Eurostat for estimates from EU-SILC. The final section concludes.

II. Methodology

In order to compare Australia with European countries, we attempt to recreate the variables used in the European statistics for Australia. This process required careful analysis of the European dataset, using the Eurostat list of definitions and variables.[7] We then apply the closest match to these definitions from the HILDA documentation to estimate income statistics for Australia. For this process, we require concretization of several key concepts: household membership, disposable income, the equivalence scale, the dependent status of children, the status of a single parent household, and old age.

The Eurostat definition and criteria for household membership, and household type, match very closely to those provided in HILDA. The only exception to this was the category of 'group households,' which are identified in the HILDA survey and not present in the SILC data.

In order to calculate disposable income we used the definition of disposable income components provided by Eurostat, adding together income and benefit variables found in the HILDA survey that corresponded to those in the SILC database. These included gross employee cash or near-cash income, gross cash benefits, pensions, old-age benefits, survivors' benefits, sickness and disability benefits, education-related allowances, income from renting property, family or children related allowances, housing allowances, inter-household cash transfers, interest and dividends, and income received by those under the age of 16. A full list of these and their component variables can be found in Table 1 of Appendix A. These components were added together to obtain total net income, from which state, federal, medical, and property taxes were removed (incorporating elements such as tax credits) to obtain total disposable income.

This report used the OECD equivalence scale, which assigns a value of 1.0 to the first adult, 0.5 to the second and each subsequent person aged 14 and over, and 0.3 to each child under 14. Disposal income is subsequently divided by the number of equivalent persons in order to obtain the value of equivalent disposable income for each individual in the household in order to obtain the value of equivalent disposable income for each individual in the household. We then sorted dependent children (defined in SILC as those under the age of 18) and economically inactive individuals (students, people who are unemployed, and retirees) in each household, as well as defining old-age status (i.e. persons 65 years and over) and single-parent households.

The abovementioned concepts were then run through a poverty program on Stata (detailed in Appendix A), which sorted the household types and persons in order to qualify or

[7] Definitions of variables and methodology were taken from Eurostat's Concepts and Definitions Database (http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=LST_NOM_DTL_GLOSSARY&StrNom=CODED2&StrLanguageCode=EN) and from Eurostat's SILC methodology guide (http://ec.europa.eu/eurostat/web/income-and-living-conditions/methodology/main-concepts-definitions).

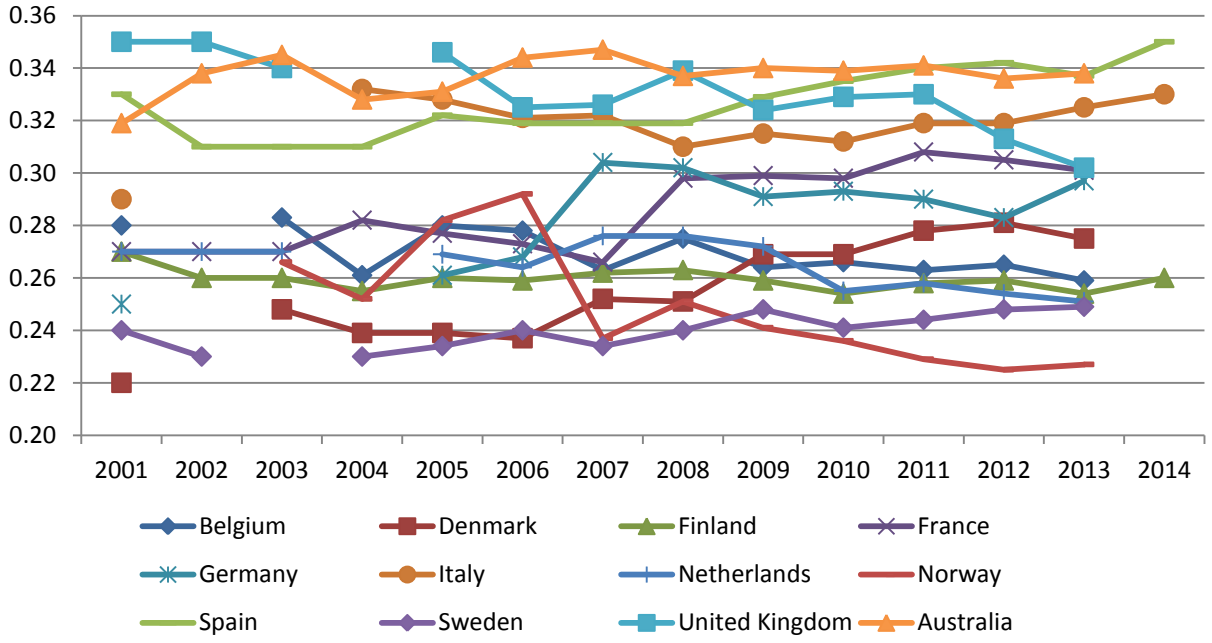
disqualify them from being counted towards the poverty and income distribution estimates generated (for example, including all persons in the overall poverty rate but excluding those under the age of 65 for the elderly poverty rate).

These concepts and methodology, as described by Eurostat, and the CSLS method of calculating them using the HILDA survey are detailed in Appendix A.

III. Results

The six poverty and inequality related variables utilized in the IEWB by Osberg and Sharpe (2014) and computed for Australia in this report are the Gini coefficient, the single person with dependent children poverty rate, and the poverty rate and average poverty gap for all persons and for elderly persons (65 and over). The poverty gap is a measure of the depth of poverty and is calculated by dividing the average income of individuals in poverty by the poverty line and subtracting this value from one to find the 'gap' between income and the poverty threshold. All of these poverty indicators are calculated at the 50 per cent of median equivalized threshold defined in Appendix A. Appendix B provides a summary of the results for Australia and all the data used in the comparisons below. Note that all estimates for European nations are from Eurostat, and the specific reference for each can be found in Tables 2-8 in Appendix B. This section of the report presents the results we obtained for Australia in comparison with the Eurostat estimates used for eleven European nations. Years for which data was unavailable for a given country are represented by discontinuities.

Chart 1: Gini Coefficient, Australia and Selected EU Countries, 2001-2013

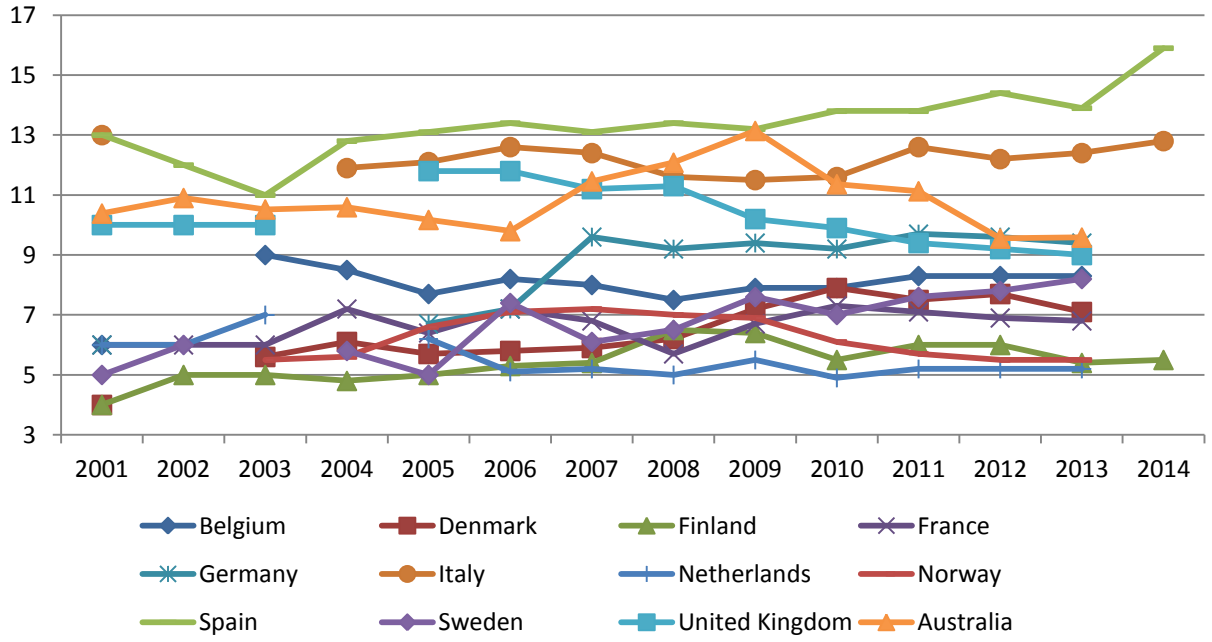


Source: Australian figures calculated by the CSLS using HILDA; European figures from EUROSTAT.

Australia has had a consistently high Gini coefficient when compared to the other countries in the sample. In particular, in almost every year, Australia surpassed most European countries.[8] In 2013, the Australian Gini coefficient was 0.338.

The Australian Gini coefficient has been fairly stable since 2008, although it showed much more volatility in the early-2000s. Specifically, the Australia Gini coefficient was 0.319 in 2001, jumping to 0.345 in 2003, only to fall back to 0.328 in 2004 and 0.347 in 2007. Since 2008, the Australian Gini coefficient has been extremely steady, hovering between 0.336 and 0.341.[9] According to the Eurostat methodology, Australia clearly has a more unequal income distribution relative to European countries, and the next several paragraphs will reveal that at-risk groups such as the elderly and those living in single parent households are also at a higher risk of being at the left end of the distribution – in poverty. [10]

Chart 2: Overall Poverty Rate for All Persons, Australia and Selected EU Countries, Per Cent, 2001-2013



Source: Australian figures calculated by the CSLS using HILDA; European figures from EUROSTAT.

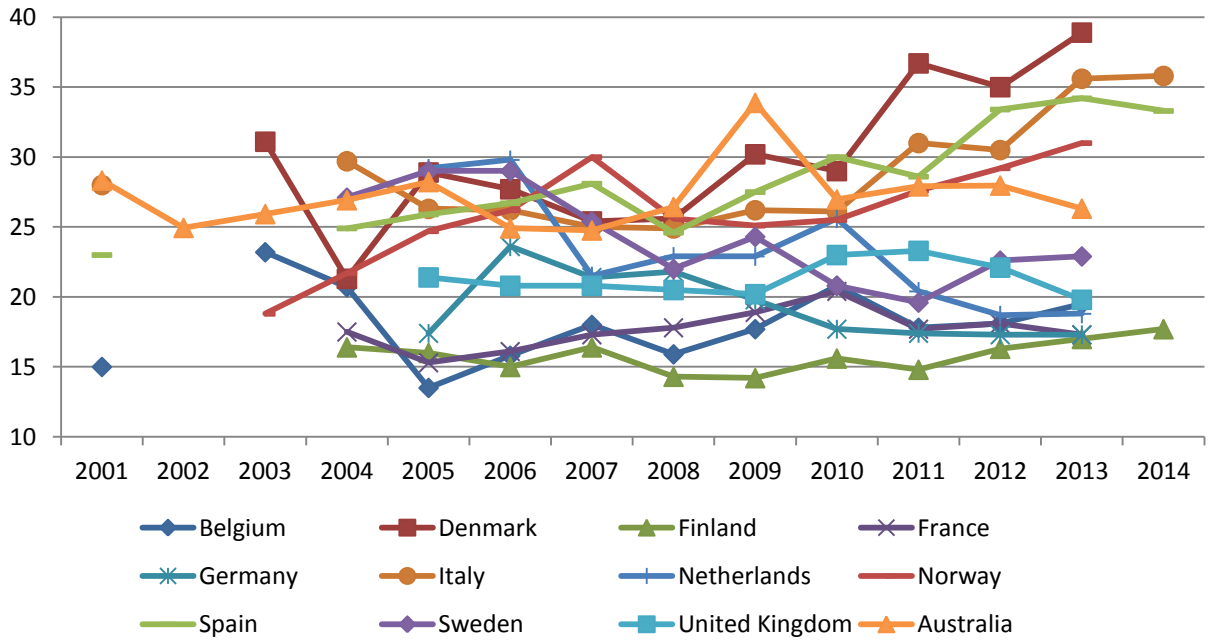
[8] In 2001, the United Kingdom and Spain had higher Gini coefficients. In 2002, 2005 and 2008, only the United Kingdom had a higher Gini coefficient. In 2012 and 2014, Spain had a higher Gini Coefficient.

[9] The Gini coefficient can also be determined from the Luxembourg Income Study (LIS). According to this source, the Gini coefficient for Australia was 0.33 in 2010, 0.333 in 2008, 0.312 in 2003 and 0.31 in 2001. These numbers are lower than the Gini coefficients calculated in this report, but overall, they show a similar trend. The only surprising difference is that the LIS values do not show a similar spike in the Gini coefficient between 2001 and 2003.

[10] The Gini coefficient, as well as the poverty gaps and poverty rates for the overall population, the elderly and single-parent households for selected years for Australia can be calculated using the LISSY software available from LIS or obtained directly from the Luxembourg Income Study (LIS) documentation. Overall, the results are comparable. A comparison between LIS documentation, LISSY, and our microdata calculations is presented in Table 8 in Appendix B.

The poverty rate for all persons (henceforth termed simply the 'poverty rate') has also been relatively high in Australia when compared with the sample, although Spain, Italy and the United Kingdom had higher rates in many years. At the beginning of the time series in 2001, Australia has a poverty rate of 10.4 per cent, slightly lower than the 13.0 per cent in both Italy and Spain. The Australian poverty rate proceeded to slowly increase until it reached 13.1 per cent in 2009. The next year followed with sharp decreases in the poverty rate, leading to the lowest Australian poverty rate seen in the entire time series (9.6 per cent in 2012 and 2013). This decrease is very possibly indicative of the slowdown in economic growth and the increase in unemployment following the 'Great Recession' or the effect of various policy changes during that period.[11] At the same time, however, only Spain and Italy, with poverty rates of 13.9 and 12.4 per cent, had rates higher than that in Australia in 2013. Therefore, despite large declines, Australia still had a relatively high poverty rate.

Chart 3: Average Poverty Gap for All Persons, Australia and Selected EU Countries, Per Cent, 2001-2013



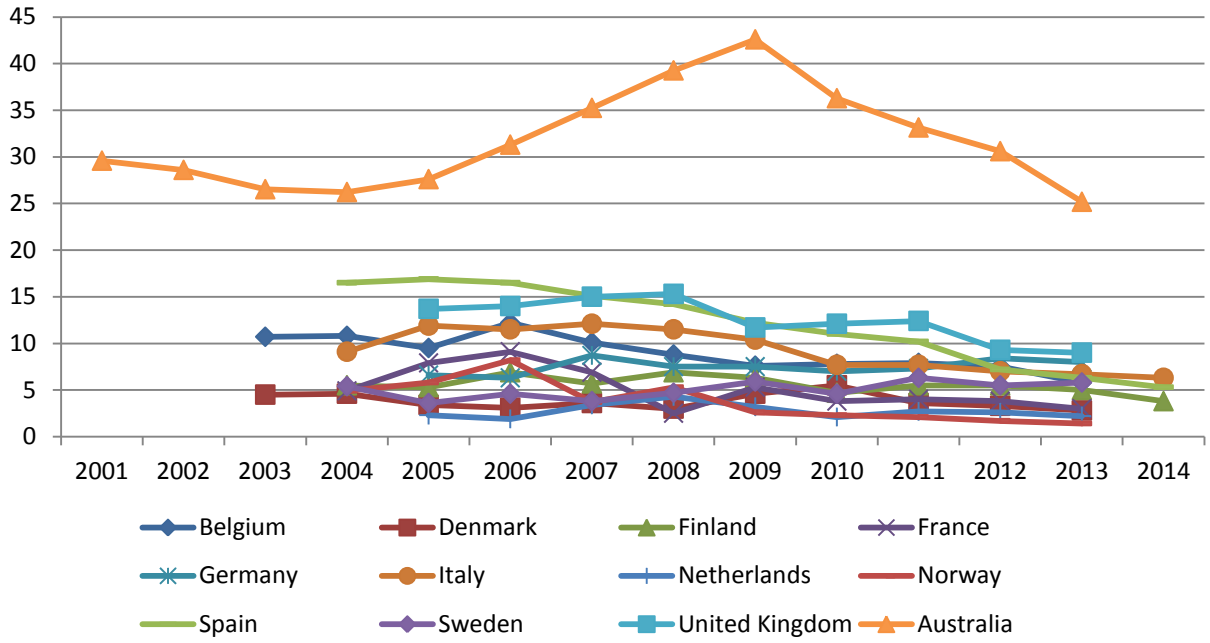
Source: Australian figures calculated by the CSLS using HILDA; European figures from EUROSTAT.

The average poverty gap for all persons (henceforth termed simply the 'poverty gap') in Australia has been one of the highest among the countries in our sample for all years from 2001 through 2013. In fact, in several years for which all countries had data (2008 and 2009) Australia had the largest poverty gap in the sample. This high poverty gap remained relatively stable from 2001 through 2008. This was followed by a sharp increase, likely due to the deteriorating economic conditions, to 33.9 per cent in 2009. The poverty gap then fell to 27.0 per cent in 2010 and remained around this level until 2013 (26.3 per cent). This improvement would leave Spain (30.0 per cent) and Denmark (29.0 per cent) with larger poverty gaps than Australia in 2010. In

[11] The 'Great Recession' was not felt as severely in Australia as it was in North America or in Europe. However, GDP growth did decline from 0.9 per cent in March 2008 to 0.1 per cent in December 2008. Unemployment also increased from 464.4 thousand persons in January 2008 to 562.4 thousand persons in January 2009 and 627.4 thousand persons in December 2009 (Australian Bureau of Statistics Series 620-2001 and 520-6001).

2013, Australia saw another decline in its poverty gap. This led to a situation where four European countries had a higher poverty gap than Australia: Norway, Spain, Denmark, and Italy. Nevertheless, the poverty gap, much like the poverty rate, has been consistently high in Australia when all persons are considered, compared to most other European countries.

Chart 4: Elderly Poverty Rate, Australia and Selected EU Countries, Per Cent, 2001-2013

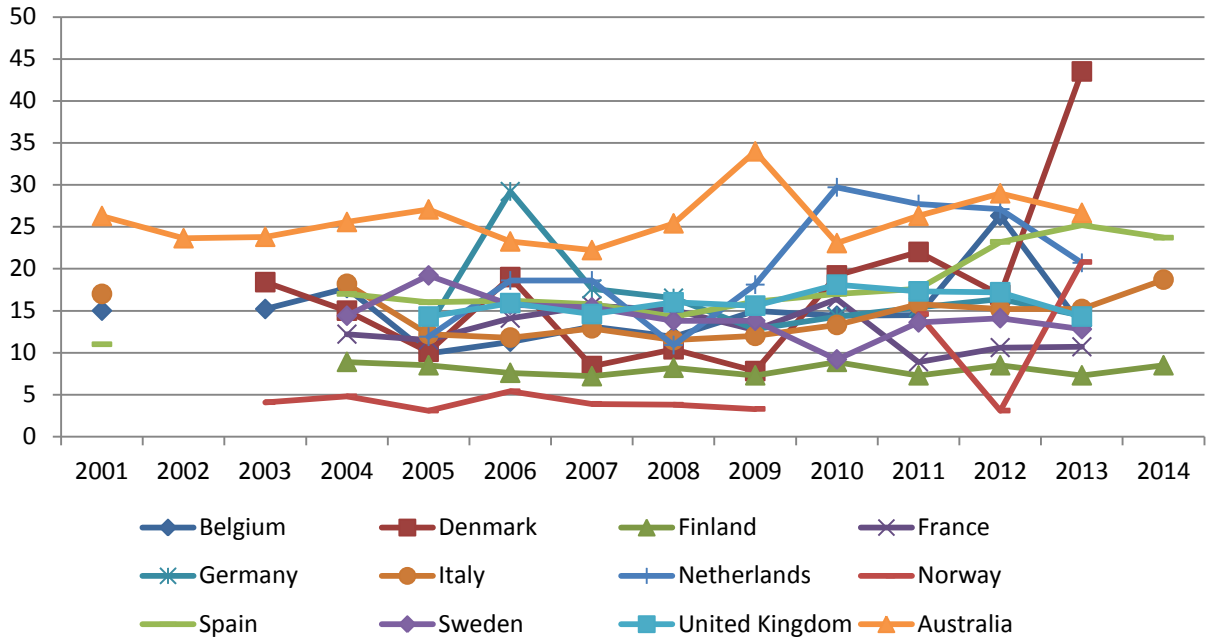


Source: Australian figures calculated by the CSLS using HILDA; European figures from EUROSTAT.

The Australian elderly poverty rate has been the highest in the sample for the entire period from 2001 to 2013 – and by a large margin. In 2001, Australia had an elderly poverty rate of 29.6 per cent, which decreased to 26.2 per cent in 2003. A steady increase of this rate then occurred, with the Australian elderly poverty gap reaching a maximum of 45.6 per cent in 2009. After 2009, Australia's elderly poverty rate followed a strong downward trend, reaching 25.2 per cent in 2013. The lowest rate recorded over the 2001-2013 period. Despite this recent decrease, elderly poverty in Australia, compared to the eleven European countries in our sample, is very high – 16.2 percentage points higher than the next highest in our sample in 2013 (the United Kingdom at 9.0 per cent). Clearly, according to the European methodology and the fifty per cent of median household income threshold, Australia has a lot of ground to cover concerning the relative social protection of the elderly.[12]

[12] It is important to be careful when interpreting movements in headcount poverty rates for single older people in Australia. Their flat-rate income tested pension system creates a huge spike in the distribution that falls very close to the poverty line (i.e. around 50 per cent of median income). Added to this, the government increased the single rate of pension by over 10 per cent in September 2009 (the largest increase every) and this will have shifted lots of single pensioners from just below to just above the poverty line, hence the sharp decline in the poverty rate after 2009.

Chart 5: Elderly Average Poverty Gap, Australia and Selected EU Countries, Per Cent, 2001-2013

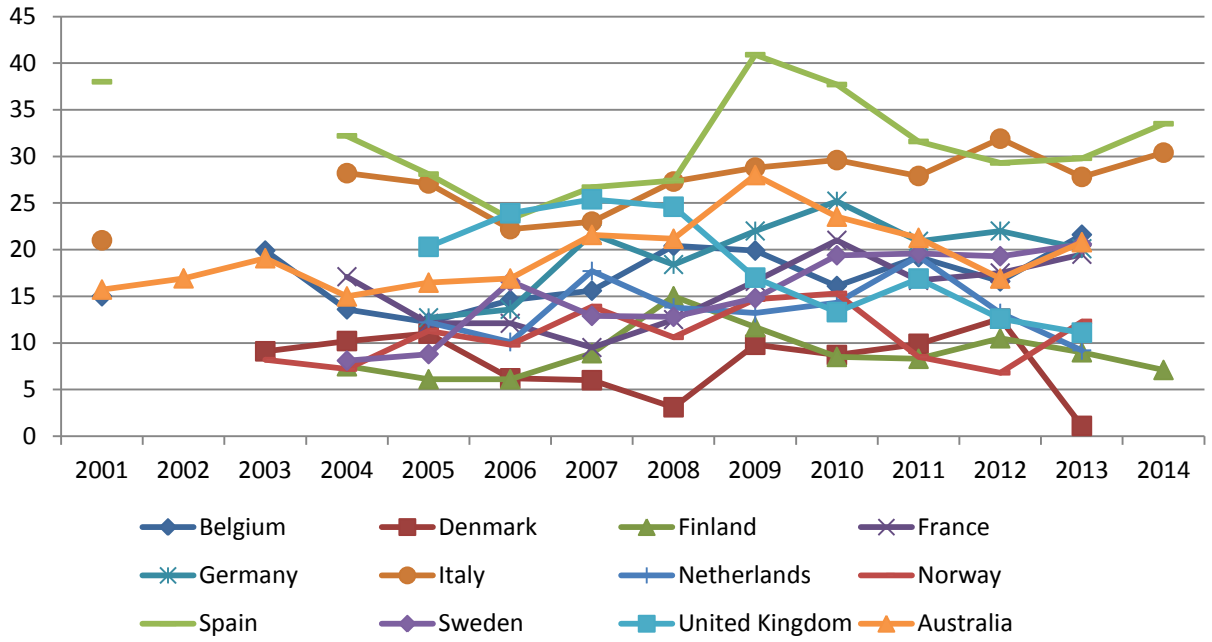


Source: Australian figures calculated by the CSLS using HILDA; European figures from EUROSTAT.

The elderly average poverty gap has almost always been larger in Australia than in any of the eleven selected European nations. Although a complete analysis is not possible due to missing data from 2001 and 2002, the chart above clearly displays that in only four years has the Australian elderly average poverty gap not been the largest in the sample. The first time this occurred was in 2006, when the German elderly average poverty ratio of 29.2 per cent was larger than that of 23.2 per cent in Australia. The next occurrences were in 2010 and 2011 where the Netherlands surpassed Australia, and 2013 when Denmark surpassed Australia. In these instances, Australia's elderly average poverty gap was the second largest. Clearly, Australia has had a consistently large elderly poverty gap. By 2013, Australia's elderly poverty gap was 26.7 per cent.

This gap ratio remained fairly stable from 2001 to 2008 – falling only slightly from 26.3 per cent to 25.4 per cent – until the recession hit. The pressure of the economic downturn coincided with an 8.6 percentage point increase of the elderly average poverty gap to 34.0 per cent – an increase not matched by any other country in the sample. At the same time, the remarkable 11.0 percentage point decrease to 23.1 per cent in 2010 was also unmatched. In fact, most countries in the sample continued to struggle with an increase in the elderly average poverty gap from 2009 to 2010. Therefore, although the Australian elderly poverty gap has historically been larger than those in the selected European countries, Australia has managed to offset the effect of an economic slowdown, achieving its lowest elderly average poverty gap in 2010.

Chart 6: Poverty Rate for Single Parent Households with Dependent Children, Australia and Selected EU Countries, Per Cent, 2001-2013



Source: Australian figures calculated by the CSLS using HILDA; European figures from EUROSTAT.

The poverty rate for single parent households with dependent children (henceforth termed the 'single parent poverty rate') in Australia performed relatively better than several of our selected European nations. The single parent poverty rate in Australia was never higher than all eleven selected European nations. Over the 2001-2013 period, the poverty rate for single parent households with dependent children increased by 5.1 percentage points from 15.7 per cent in 2001 to 20.8 per cent in 2013, with a peak of 28.0 per cent in 2009. Despite never demonstrating the highest poverty rate for single parent households with dependent children, Australia's poverty rate for single parent households with dependent children was still among the top of the sample of eleven European countries, with only three countries consistently outperforming it (Spain, Italy and the United Kingdom).

IV. Conclusion

This report compiled estimates of poverty rates and poverty gaps for various target populations and calculated Gini coefficients for Australia from 2001 to 2013 in a comparable way to that used by Eurostat when calculating numbers from EU-SILC.

The construction of comparable poverty estimates from household surveys across nations is not a new concept. This report adds to the collection of these datasets by estimating poverty data for Australia according to the methodology used by Eurostat in its construction of poverty data from EU-SILC datasets. Wherever possible, the construction of the Australian income estimates presented in this report was guided by the 'nearest fit' to Eurostat standards. The results therefore offer more reliable comparisons between Australia and European nations for six

variables: the Gini coefficient, the 'single person with dependent children' (and their children) poverty rate, the elderly poverty rate, the elderly poverty gap, the all-persons poverty rate, and the all-persons poverty gap.

The income and poverty-related trends in Australia vary based on the particular indicator being calculated. The Australian Gini coefficient held relatively steady at a rate that was generally higher than other EU countries for the entire period between 2001 and 2013, varying slightly but never showing any drastic changes.

The overall poverty rate in Australia was steady between 2001 and 2006, after which it rose from 9.8 per cent to 13.1 per cent in 2009. This increase was followed by a sharp decline to 9.6 per cent in 2013. During this time, the poverty gap showed a very similar sharp increase and subsequent decreased around the 'Great Recession.' In particular, the poverty rate jumped from 24.9 per cent in 2006 to 33.9 per cent in 2009 before declining again to 26.3 per cent in 2013.

The elderly poverty rate in Australia was extremely high compared to the EU countries in our sample. At the highest peak in the Australian elderly poverty rate, the closet comparable EU country had an elderly poverty rate that was over 30 percentage points lower. Australia's elderly poverty gap was less inflated compared to its counterparts in the sample, but it was still among the highest we examined throughout the entire period.

The single parent poverty rate in Australia behaved similarly to the other indicators throughout the time series, peaking around the 'Great Recession,' although the peak in this variable seems to be less pronounced than it was in other poverty-related variables. Furthermore, the single parent poverty rate in Australia was never the highest rate in our sample. Other EU countries had higher single parent poverty rates, although Australia was still near the top of the pack.

It should be noted that these estimates line up fairly consistently with those generated using the CSLS's previous data source for income and poverty-related variables, the Luxembourg Income Study. Though there is some variation, mostly in terms of the levels estimated by the two data sources, the two sources provide a relatively similar snapshot of poverty and income related variables, and tend to show similar trends in the development of these indicators since 1995, though the incomplete nature of the LIS data makes it difficult to get a true comparison. The estimates generated using the LIS data can be found in Appendix B Table 8, and the Stata code used to generate these estimates can be found in Appendix A.

In conclusion, the results demonstrate that Australia tends to have larger Gini coefficients, higher relative poverty rates, and higher relative poverty gaps than other EU countries, barring a few exceptions. The worst case for Australia is the elderly, where the poverty rate was significantly higher in every year for the entire time series than those in comparable EU countries.

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Appendix A: Complete Methodology

The HILDA survey is composed of thirteen waves. Wave 1 covers data from 2000-2001, wave 2 covers 2001-2002, and so on. For simplicity, this report labels each wave by the most recent year. For example, wave 1 gives estimates for 2001 and wave 13 gives estimates for 2013. Although imperfect, this convention avoids the problems that would arise from attempting to reconcile income estimates for a given individual in a calendar year. Furthermore, income received late in a calendar year is likely to affect the living standards of the household in the following year. Nevertheless, this simplifying convention must also be recognized as an inherent weakness in this report's results.[13]

In order to work with the data, this section adopts several conventions used by the documentation of the HILDA survey. First, each wave is identified by a character acting as a unique wave identifier. Wave 1 is assigned the character 'a,' wave 2 is assigned the character 'b,' and so on, through to wave 13, which is assigned the character 'm.' Each variable in the HILDA survey is preceded by an underscore. This character represents the location which ought to be filled with the unique wave identifier. The following letters represent successive subcategories under which the documentation classifies the variable. Consider the following example:

bnfpeni = '' + 'bnf' + 'pen' + 'i'

This variable represents "Financial year Australian Government Pensions ($) [imputed]," (Melbourne Institute, 2011b: S195)[14]. As noted above, the underscore may be replaced by any of the thirteen currently available unique wave identifiers. The second partition, 'bnf,' stands for 'benefit income.' All subcomponents of income classified as benefits include this section. The third partition, 'pen,' stands for 'pensions' but refers only to Australian government pensions (which can be determined through reference of either the data dictionary or the subject level coding handbook). The final letter, 'i,' stands for the fact that missing values have been imputed. A similar breakdown applies to each variable. Where possible, this report will ignore the semantics of the variable name and simply provide the name and what it represents in adjacent parentheses.

Furthermore, note that this convention has consequences for Stata coding. In all cases, the codes presented in this report are shown in general form, that is, for any wave. As such, the underscores representing unique wave identifier characters play a significant role in the code. To accommodate this convention, any location in the code where an underscore is actually required is represented instead by the symbol: #. In summary, therefore, to obtain the code for a unique wave, two steps must be taken:

[13] Household income questions ask households to report income from July of the previous year to June of the current year.

[14] For ease of reference, all future references from this source contain only the page number, which begins with an S. If no other source is stated, the reference for a source with a page beginning with S is therefore assumed to be Melbourne Institute (2011b).

(1) All underscores must be replaced by the unique wave identifier character.
(2) All # symbols must then be replaced by underscores.

Additional considerations also apply due to restructuring of questionnaires between waves. These anomalies are addressed where appropriate – in the subsection concerned with the construction of disposable income.

In order to compare this Australian data with European data, we attempt to recreate the variables used in the European statistics under the framework of the HILDA survey. This process required in-depth analysis of the European and Australian datasets. We apply the closest match from these HILDA files to estimate similar income statistics for Australia. For this process, we must identify several key concepts: household membership, disposable income, the equivalence scale, the dependency of children, who qualifies as a single parent, and old age. These concepts, as described by Eurostat, are detailed below alongside the closest equivalent for the HILDA survey.

A. Household Membership

Eurostat uses its 'private household' definition for its EU-SILC income statistics data. The definition is given by the following box, which was taken from the Eurostat (2012:¶3) list of definitions:

> **Household Membership**
> In EU-SILC the following persons are regarded as household members:
> 1. Persons usually resident, related to other members;
> 2. Persons usually resident, not related to other members;
> 3. Resident boarders, lodgers, tenants (for at least 6 months);
> 4. Visitors (for at least 6 months);
> 5. Live-in domestic servants, au-pairs (for at least 6 months);
> 6. Persons usually resident, but temporarily absent from the dwelling;
> 7. Children of the household being educated away from home;
> 8. Persons absent for long periods, but having household ties;
> 9. Persons temporarily absent (for less than six months) but having household ties.

Looking at the equivalent variable from the HILDA survey, _hhtype, we note from the online data dictionary (Melbourne Institute, 2011a) that there are very few classifications for which these conditions do not hold. For this reason, we drop only observations for which _hhtype==25, otherwise known as individuals living in 'group households.'

B. Disposable Income

The measure of disposable income used in the Eurostat data includes a variety of cash and near-cash benefits. A summary list of these variables is found on the Eurostat (2012f) definitions list for income and living conditions. These variables are listed in the leftmost column of the table found in Appendix A. Note that variables starting in 'P' refer to person-level data whereas variables starting in 'H' refer to household-level data. In order to calculate the nearest

HILDA survey equivalent (rightmost column), we take advantage of two documents available on the Eurostat webpage: (1) EU-SILC Description Target Variables: Household Data (H-file) [Eurostat, 2011a]; and (2) EU-SILC Description Target Variables: Personal Data (P-file) [Eurostat, 2011b].

The sum of all the gross income components detailed in Appendix A is extremely long. For this reason, the sum was not presented. Conveniently, many of these income variables are already aggregated into subcomponents consisting exclusively of variables included in our desired definition of disposable income or variable that ought to be included in the definition but for which no independent variable exists. Specifically, we use the following eight variables in lieu of their respective components:

(1) **_bnfpeni** ("Financial year Australian Government Pensions ($) [imputed]," S195), which includes: "Age Pension [_bnfapa], Service Pension [_bnfsrva], Disability Support Pension [_bnfdspa], Wife Pension [_bnfwfpa], Carer Payment [_bnfcrpa], War Widows Pension [_bnfwara], Disability Pension [_bnfdvaa], and Bereavement Allowance [_bnfbrva]," (S195). As such, the entire variable _bnfpeni can be incorporated into our disposable income estimate, replacing its components in our equation for gross income.

(2) **_bnfpari** ("Financial year Australian Government Parenting Payment ($) [imputed]," S195), which includes: "Parenting Payment Single and Parenting Payment Partnered," (S195). Unfortunately, there are no such variables classified under income variables. The closest match to this definition in the documentation is the Australian government parenting payment [_bnfpnta]. Using wave 10 data, we found that jbnfpari ≥ jbnfpnta. Although this may well be a consequence of the imputation performed by the Melbourne Institute to create the variable _bnfpari, it might also be due to the inclusion of an additional variable similar to _bnfpnta, as is the case for the telephone allowance in _bnfnisi (see below). Note that all targeted parenting payments can be designated as family allowances under the Eurostat model. We therefore replace _bnfpnta with _bnfpari in the final equation for gross income.

(3) **_bnfalli** ("Financial year Australian Government Allowances ($) [imputed]," S195), which includes: "Newstart Allowance [_bnfnwsa], Mature Age Allowance [_bnfmaa], Sickness Allowance [_bnfscka], Widow Allowance [_bnfwdwa], Special Benefit [_bnfspa], Partner Allowance [_bnfprta], Youth Allowance [_bnfytha], Austudy [part of _bnfstya], Abstudy [part of _bnfstya] and CDEP [_bnfcdea]," (S195). As such, the entire variable _bnfalli can be incorporated into our disposable income estimate, replacing its components in our equation for gross income.

(4) **_bnfnisi** ("Financial year Australian Government non-income support payments ($) [imputed]," S197), which includes: "Family Tax Benefit Part A [_bnfftba], Family Tax Benefit Part B [_bnfftbb], Maternity Payment [_bnfmat], Mobility Allowance [_bnfmoba], Carer Allowance [_bnfcraa], Telephone Allowance, Maternity Immunisation Allowance, Seniors Concession Allowance and Double Orphan Pension [_bnfdora]," (S197). There are no individual estimates for the Telephone Allowance, the Maternity Immunisation Allowance, or the Seniors Concession Allowance; however, each of these

are considered part of 'social exclusion not elsewhere classified,' 'family/children related allowances,' and 'old-age benefits,' respectively. As such, the entire variable _bnfnisi can be incorporated into our disposable income estimate, replacing its components in our equation for gross income.

(5) **_oifinip** and **_oifinin** ("Financial year investments ($) [imputed]," S235), which includes: "interest [_oifinta], dividends [_oifdiva], royalties [_oifroya] and rental income net of expenses [_oirntp and _oirntn]," (S235). As such, the difference _oifinip – _oifinin can be incorporated into our disposable income estimate, replacing their components in our equation for gross income.

(6) **_oifppi** ("Financial year private pensions ($) [imputed]," S235), which includes: "regular superannuation and workers' compensation or accident/sickness benefits. (Income from superannuation and workers' compensation that is $80,000 or more and is more than three times the amounts reported in surrounding waves is assumed to be a lump sum payment and this is recorded in windfall income.)" (S235).

(7) **ibnfboni** ("2008-09 Australian government bonus payments - Total bonuses ($) [estimated] [imputed]," (Melbourne Institute, 2011c: S235)), which includes: "Bonus payment for pensioners, seniors, people with disability, carers and veterans (paid in December 2008), Bonus payment for families (paid in December 2008), Single Income Family Bonus (paid in March 2009), Back to School Bonus (paid in March 2009), Training and Learning Bonus (paid in March 2009), Temporary supplement to the Education Entry Payment (paid in March 2009), Farmers Hardship Bonus (paid in March or April 2009), and Tax bonus for Working Australians (paid around April 2009)," (Melbourne Institute, 2011c: S235).

(8) **_hifwfli** "Household financial year windfall income (excluding resident parent transfers) [imputed] ($)," (S93). This is the household aggregate of the person-level variable _oifwfli "Financial year windfall income ($) [imputed]," (S235), which includes: "inheritance, bequests, redundancy and severance payments, resident and non-resident parental transfers, payments from other non-household members, lump sum superannuation payments, lump sum workers compensation and other irregular sources of payments" (S236). Unlike the other income variables, this variable is added to our measure of gross income at the household level to avoid the double-counting of household income that would occur due to intra-household transfers. Indeed, the name of this variable makes explicitly clear that resident parent transfers are ignored when calculating _hifwfli.

These aggregate 'derived variables,' as they are known in the HILDA survey documentation, allow us to greatly simplify our disposable income formula. Furthermore, other variables not included in these aggregated variables must also be included in our equation for disposable income in order to satisfy the European formula.[15] After these adaptations, the equation used for

[15] The variable _bnfccb was included in the first draft of this report in 2011 because the child care benefit (CCB) estimate [was] no longer included in benefit income. However, by 2015, when the second draft was completed,

gross income is much different from the sum of the rightmost column shown in Appendix A. Indeed, the equation for gross income used in this report is quite simple:

Code for Gross Income
gen gi = _nbfamva (for wave 10 through 13) + _wsfei (_wsfes for wave 10 through 13) + _bifip - _bifin + _oifppi + _oifpti + _bnfpeni + _bnfpari + _bnfalli + _bnfnisi + _bnfobi + _bnfrpi + _bnffpi

In order to achieve disposable income, mandatory deductions and other taxes must be deducted from gross income. Fortunately, the tax variables presented in the HILDA survey are quite simple. There are two components to total tax: income tax [_txinc] and medicare fees [_txmed]. The sum of these two tax components is given by the total tax variable _txtot (S258). In wave 13, _txtot was split into _txtotp and _txtotn for negative taxes and positive taxes, respectively. According to HILDA documentation, _txtot can be recovered by subtracting the negative from the positive variable. Given medicare fees are mandatory payments, both of these tax components are to be deducted from gross income. We therefore use '–_txtotp + txtotn' and define the difference between our estimate of gross income and this combined variable as disposable income.

C. Equivalence Scale

The definitions list for income and living conditions (Eurostat, 2012:¶4) indicates that income is adjusted by the OECD equivalence scale. Their guidelines are taken and posted in the box below:

OECD Equivalence Scale
1.0 to the first adult;
0.5 to the second and each subsequent person aged 14 and over;
0.3 to each child aged under 14.

We apply this equivalence scale using several variables from the HILDA Survey. First, we generate a binary variable, "under14" which assigns a value of 1 for all those aged strictly less than 14 under the variable _hgage (the person's age) and 0 otherwise. We then sum the total number of children aged less than 14 to create the variable "hunder14" which is applied to every individual in the household. Next, the variable "hover14" designates the number of individuals in the household aged 14 or more. This variable is constructed as the difference of the HILDA variable _hhpers (the number of people in the household) and "hunder14". The number of equivalent persons ("esh") is then generated for two separate scenarios. If there is at least one person aged 14 or over, we apply a value of 0.5 to each of these individuals, plus an additional 0.5 for the 'first' adult, plus 0.3 for each child aged strictly less than 14. In the very unlikely scenario that there are no adults in the household, we assign a value of 0.3 for each individual plus an additional 0.7 for the first individual. Finally, we divide disposable household income ("hdpi") by the number of equivalent persons to obtain "eyh," the value of equivalent disposable income for each individual in the household. The code, written for *Stata*, is presented below:

_bnfccb had been removed from all waves. No replacement variable was identified. The impact on the estimates of the exclusion of this variable from the microdata can be seen in Appendix C.

Code for OECD Equivalence Scale in the HILDA Survey

```
gen under14 = cond(_hgage<14, 1, 0)
bysort _hhrhid: egen hunder14 = sum(under14)
gen hover14 = _hhpers - hunder14
gen esh = cond(hover14>=1, 0.5*hover14 + 0.5 + 0.3*hunder14, 0.7 + hunder14*0.3)
gen eyh = hdpi/esh
```

D. Dependency Status of Children

The poverty rate for single parents with dependent children hinges upon the definition of who qualifies as a dependent child and which households fall under the single parent category. This subsection deals with the former issue while the following section outlines the methodology followed for the latter issue. Section 3.4 (Statistical Concepts and Definitions) of Eurostat (2010) defines dependent children as, "All persons aged less than 18…plus those economically inactive persons aged 18-24 living with at least one of their parents," (¶ 35). We also note from Eurostat (2010) that both full and part time employment counts as economically active, whereas retired, unemployed, and student are among economically inactive classifications. From the online HILDA data dictionary, we note the following value designations:

HILDA Variable: _esdtl

1 = "Employed FT"
2 = "Employed PT"
3 = "Unemployed, looking for FT work"
4 = "Unemployed, looking for PT work"
5 = "Not in the labour force, marginally attached"
6 = "Not in the labour force, not marginally attached"
7 = "Employed, but usual hours worked unknown"

We consider any individual who is "unemployed, looking for ft work," "unemployed, looking for pt work," "not in the labour force, marginally attached," or "not in the labour force, not marginally attached" as economically inactive. We apply these definitions to the HILDA files by generating the binary variable "inact", which assigns a value of 1 to economically inactive individuals and 0 to other (economically active) individuals.

The presence of a parent is also a qualifier for dependency status for a person aged 18-24. The variable _hhfid is a line number for the father and the variable _hhmid is a line number for the mother, if the mother or father is present. These variables must be put into numerical form using the destring function. The code then sets ydad = 1 only if the father is present and ymom = 1 only if the mother is present. Therefore, if 'pnts' is equal to 2, then both parents are present, if it is equal to 1 then 1 parent is present, and if it is equal to 0 then no parents are present. The variable child then identifies individuals as children under the Eurostat definition – if they are under 18 or are economically inactive, living with at least one parent, and between the ages of 18 and 24.

Code for Dependent Children

```
gen inact = cond(_esdtl==1 | _esdtl==2 | _esdtl==7, 0, 1)
destring _hhfid, replace
```

```
gen ydad = 1
replace ydad = 0 if mi(_hhfid)
replace ydad = 0 if _hhfid==0
replace ydad = 0 if _hhfid<0
destring _hhmid, replace
gen ymom = 1
replace ymom = 0 if mi(_hhmid)
replace ymom = 0 if _hhmid==0
replace ymom = 0 if _hhmid<0
gen pnts = ydad + ymom
gen child = 0
replace child = 1 if _hgage<18
replace child = 1 if 18<=_hgage<=24 & inact==1 & pnts>=1
bysort _hhrhid: egen hchild = sum(child)
```

E. Status of Single Parent Households

We have now established the 'dependent children' component of the 'single parent with dependent children' poverty rate. Although Osberg and Sharpe (2012) originally sought estimates for single mothers and their children, the authors settled for the definition available from the Eurostat database 'single person with dependent children.' We note from Section 3.4 of Eurostat (2010):

> "Rather than focussing on 'couples' and/or 'families', the classification is constructed by reference to the numbers of adult members, their age and gender, and the numbers of dependent children living with them," (¶ 17).

The Eurostat definition therefore includes any household in which only one adult is present, where an adult is defined as anyone other than a dependent child. Furthermore, we note that the marital status and child-adult relationship within the household holds absolutely no bearing under this definition. As a result, the code used for identifying individuals in these households is actually quite simple:

Code for Single Parent with Dependent Children Weight

```
bysort jhhrhid: egen hchild = sum(child)
gen hnotch = _hhpers – hchild
gen lpwt = _hhwte if hchild>0 & hnotch==1
```

The goal of this code is to establish a weight that excludes individuals not living in the target household. The code accomplishes this by establishing the weight 'lpwt' for people living in households with one or more dependent children (hchild>0) and only one adult (hnotch==1 as it is the difference between the number of persons and number of dependent children). These individuals are assigned the 'enumerated persons weight,' the weight established by the HILDA survey to control for various sample errors. All other individuals are assigned a weight of zero. Therefore, when this weight is used during the calculation of the 'single parent' poverty rate, the definitions of Eurostat's 'single person with dependent children' variable will be applied.

F. Old Age Status

This report uses a similar weighting methodology for the calculation of the elderly poverty rate and gap. The elderly poverty rates and gaps Osberg and Sharpe (2012) took from Eurostat were for individuals aged 65 years and above. This report therefore calculates the elderly poverty rate from HILDA for individuals aged 65 years and above. Similar to the process for 'single person with dependent children' poverty, the goal of the following code is to create a weight which excludes individuals outside the target group. For this reason, the weight "owgt" is calculated as the 'enumerated person weight' given to the individual by the HILDA file (again, to correct for various sample errors) if the individual is aged 65 years or older, given by the HILDA variable '_hgage'. All individuals aged less than 65 years are therefore assigned a weight of zero and ignored in the calculation of poverty data for the elderly, which uses this weight.

Code for Elderly Weight in HILDA

```
gen eld = cond(_hgage>=65, 1, 0)
gen owgt = _hhwte if eld==1
```

F. Calculation of the Gini Coefficient and Five Poverty Variables

Recall from the subsection on the equivalence scale that household disposable income is given by the generated variable 'eyh'. This equivalent household income is applied across individuals to calculate the Gini coefficient, the total-persons poverty rate and gap, the elderly-persons poverty rate and gap, and the 'single parent' poverty rate. The Gini coefficient is calculated using the 'inequal' function, which calculates a variety of income distribution variables, including the Gini coefficient, for the variable specified.[16]

The poverty variables can also be calculated in Stata.[17] Although the poverty rates and gaps are calculated across individuals, note that the poverty threshold is calculated as fifty per cent of the median of *household* equivalent disposable income (Eurostat, 2012a: Line 11). In order to appropriately define these lines, we must therefore use only one record from each household when calculating the threshold. This can be accomplished either by keeping only one observation from each household or by assigning a positive weight to only one member of each household. The latter option was chosen, as all individuals are required for the subsequent calculation of the poverty rates and gaps across this threshold. In order to accomplish this, we first assign each individual in the household an observation number under the variable 'hpn'. Our code then generates a variable named 'new' to act as the weight for the calculation of the relative income threshold. This variable assigns a value of 1 to only to the first observation in each household. All other individuals in the household are assigned the weight of zero. The poverty program then establishes the poverty threshold as half the median of equivalent household disposable income ("eyh") using the weight 'new', and therefore counting disposable income for each household only once.

[16] Although not a standard State variable, 'inequal' can be downloaded by searching for 'sg30'. Simply type findit sg30 into Stata's command window and install the relevant package.

[17] Note that the following code requires the installation package 'sg108' to function. Simply type findit sg108 into Stata's command window and install the relevant package.

Code for Poverty Threshold Weight and Total Persons Weight

```
bysort _hhrhid: gen hpn = #n
gen new = 1 if hpn==1
gen twgt = hhwte
```

In order to calculate poverty rates across different target populations, the program requires analytical weights which exclude individuals who are not members of the target population and which account for any sampling error inherent in the survey. In previous subsections, this report identified weights calculated from HILDA's 'enumerated person' weights ('_hhwte') for both 'single person with dependent children' households and the elderly. By the same logic, the weight for the total person poverty rate is simply the enumerated person weight for every individual – no observation is excluded[18] – and is redefined as 'twgt'. The poverty function then calculates rates and gaps according to the weights assigned to each individual for the given variable (either 'twgt,' 'owgt,' or 'lpwt'). The coding for the poverty program is presented below.

Code for Poverty Variables in the HILDA Survey

```
bysort _hhrhid: gen hpn = #n
drop if eyh<0
gen new = 0
replace new = 1 if hpn == 1
save "\\csls-3\...\HILDA\Data\C\j\jHILDAh.dta", replace

*POVERTY PROGRAM
global keepit "eyh lpwt owgt twgt new _hhpers"
program define pov
use $keepit using "\\csls-3\...\HILDA\Data\C\j\jHILDAh.dta", clear
#pctile eyh[aw=new], p(50)
local povline = r(r1)*.5

di "Results for the total population"
poverty eyh [aw=twgt], line(`povline') h igr
di "Results for the elderly"
poverty eyh [aw=owgt], line(`povline') h igr
di "Results for Lone Parents"
poverty eyh [aw=lpwt], line(`povline') h igr

end
foreach file in "\\csls-3\...\HILDA\Data\C\j\jHILDAh.dta"{
global data "`file'"
di "$data"
pov
}

log close
```

[18] Except those individuals with negative household equivalent disposable income, who are dropped from the dataset prior to the beginning of the poverty program.

Exhibit 1: Comparison of Disposable Income Components, EU-SILC and HILDA

EU Variable	EU Variable Name	Nearest HILDA Survey Equivalent
PY010G	Gross Employee Cash or Near-Cash Income	_wsfei (_wsfes for WAVE 10)
PY021G	Company Car	_nbfamva (motor vehicle - WAVE 10 ONLY)
PY050G	Gross Cash benefits or losses from self-employment including royalties	_bifip (business income [imputed] Positive) - _bifin (business income [imputed] Negative) + _oifroya (royalties)
PY080G	Pensions Received from individual private plans (other than those covered under ESSPROS)	_oifppi
PY090G	Unemployment Benefits	_bnfnwsa (Newstart Allowance) + _oifrsva
PY100G	Old-age Benefits	_bnfmaa (Mature Age Allowance) + _bnfapa (Age pension) + _bnfwdwa (Widow allowance) + _oifsupa
PY110G	Survivors' Benefits	_bnfbrva (Bereavement Allowance) + _bnfwara (War Widows Pension) + _oifinha (Inheritance/Bequests)
PY120G	Sickness Benefits	_bnfscka (Sickness allowance) + _oifwkca + _oiflswa (if include lump sum)
PY130G	Disability Benefits	_bnfdspa (Disability Support Pension) + _bnfmoba (Mobility Allowance – helps with transportation) + _bnfdvaa (Disability Pension)
PY140G	Education-Related Allowances	_bnfstya (Austudy/Abstudy) + _bnfytha (Youth Allowance) + ibnfbtsa (2009 Back to School Bonus Part A WAVE 9 ONLY) + ibnfbtsb (2009 Back to School Bonus Part B WAVE 9 ONLY) + ibnfeep (2009 Temporary Supplement to the Education Entry Payment WAVE 9 ONLY)
HY040G	Income from Rental of a Property or Land	_oirntp - _oirntn
HY050G	Family/children Related Allowances	_bnfdora (double orphan pension – people raising double orphaned children) + _bnfcrpa (carer payment – provides care to someone) + _bnfpnta (Parenting Payment) + _bnfcraa (Carer allowance) + _bnfccb (Child Care Benefit)* + _bnfftba (Family Tax Benefit Part A)* + _bnfftbb (Family Tax Benefit Part B)* + _bnfmat (Maternity Payments)* + ibnffam (2008 Bonus payment for families WAVE 9 ONLY)
HY060G	Social Exclusion not elsewhere classified	_bnfospa (Pensions/Benefits from overseas governments) + _bnfotha (Other Government pensions) + _bnfoala (Other allowances) + _bnfwfpa (Wife Pension) + _bnfprta (Partner Allowance) + _bnfsrva (Service Pension) + _bnfspa (Special Benefit) + _ oifpuba + _bnfcdea (Community Development Employment Projects)
HY070G	Housing Allowances	
HY080G	Regular Inter-Household Cash Transfers Received	_oifchs (child support) + _oifohha + oifpti + _oifcsa
HY090G	Interests, Dividends, Profit from Capital Investment in Unincorporated Business	_oifinta (interest) + _oifdiva (dividends)
HY110G	Income Received by People Aged Under 16	Calculate the other components for all individuals under the age of 16.
Sum: HY010	Total Household Gross Income HY010 = Sum of the above.	Sum of the Above

Source: Authors' calculations

Stata Code for HILDA Microdata

Note: To get wave-specific files, first do the following:
(1) change _ to the specific letter for that wave
(2) change # to _

```
log using "\\csls-3\...\HILDA\Data\log.txt", replace

set mem 1000m

use _hhwte _hgage _wsfes _hifwfli _nbfamva _bnfnisi _txtotp _txtotn _hhfam _hhtype _hhmid _hhpers _bnfobi _mrcurr _hhwth _hhrhid _hhfid _hiftax _esdtl _bnfpari _bnffpi _bnfrpi _bnfonii _bnfalli _bnffama _bnfpeni _oifpria _bifip _bifin _oiroy _oifroya _oifppi _bnfnwsa _bnfmaa _bnfapa _bnfwdwa _oifsupa _bnfbrva _bnfwara _oifinha _bnfscka _oifwkca _oiflswa _bnfdspa _bnfmoba _bnfdvaa _bnfstya _oirntp _oirntn _bnfdora _bnfcrpa _bnfpnta _bnfcraa _bnfccb _bnfftba _bnfftbb _bnfmat _bnfospa _bnfotha _bnfoala _bnfwfpa _bnfprta _bnfsrva _bnfspa _oifpuba _oifchs _oifohha _oifpti _oifcsa _oifinta _oifdiva _oifotha _oifrpt using \\csls-3\...\HILDA\Data\C\Combined.dta
```

Note the important variable changes that occur throughout the time series:
(1) for wave 1 to wave 9 use _wsfei and for wave 10 to wave 13 use _wsfes
(2) _bnfmaa is only available in waves 1 to 11
(3) _nbfamva should be used for waves 10 through 13

Five Components:
1. What is the household?
2. What is disposable income?
3. What is the equivalence scale?
4. Who classifies as single with dependent children?
5. How are the elderly households defined?

1. What is the household? You will need to drop group households.

```
drop if jhhtype==25
```

2. What is disposable income?

Note: add _nbfamva for wave 10 through wave 13 and use _wsfes for wave 10 through wave 13 instead of _wsfei

```
gen gi = _nbfamva + _wsfes + _bifip - _bifin + _oifppi + _oifpti + _bnfpeni + _bnfpari + _bnfalli + _bnfnisi + _bnfobi + _bnfrpi + _bnffpi – _txtotp + _txtotn

bysort _hhrhid: egen hi = sum(gi)
gen hdpi = hi + _hifwfli
bysort _hhrhid: egen numfam = max(_hhfam)
bysort _hhrhid _hhfam: gen fpn = #n
```

3. What is the equivalence scale? Use the OECD Equivalence Scale.

```
gen under14 = cond(_hgage<14, 1, 0)
bysort _hhrhid: egen hunder14 = sum(under14)
gen hover14 = _hhpers - hunder14
gen esh = cond(hover14>=1, 0.5*hover14 + 0.5 + 0.3*hunder14, 0.7 + hunder14*0.3)
gen eyh = hdpi/esh
```

4. Who classifies as single with dependent children?

```
gen inact = cond(_esdtl==1 | _esdtl==2 | _esdtl==7, 0, 1)
destring _hhfid, replace
gen ydad = 1
replace ydad = 0 if mi(_hhfid)
replace ydad = 0 if _hhfid==0
replace ydad = 0 if _hhfid<0
destring _hhmid, replace
gen ymom = 1
replace ymom = 0 if mi(_hhmid)
replace ymom = 0 if _hhmid==0
replace ymom = 0 if _hhmid<0
gen pnts = ydad + ymom
gen child = 0
count if child==0
replace child = 1 if _hgage<18
count if child==0
replace child = 1 if 18<=_hgage<=24 & inact==1 & pnts>=1
count if child==0
bysort _hhrhid: egen hchild = sum(child)
gen hnotch = _hhpers - hchild
gen lpwt = _hhwte if hchild>0 & hnotch==1
```

5. How are the elderly households defined? Those aged 65 years and above.

```
gen eld = cond(_hgage>=65, 1, 0)
bysort _hhrhid: egen held = sum(eld)
gen owgt = _hhwte if eld==1
gen twgt = _hhwte
bysort _hhrhid: gen hpn = #n
inequal eyh

save "\\csls-3\...\HILDA\Data\HILDAp.dta", replace

drop if eyh<0
gen new = 0
replace new = 1 if hpn == 1

save "\\csls-3\...\HILDA\Data\HILDAh.dta", replace
```

Poverty Program (Using Disposable Income)

```
global keepit "eyh lpwt owgt twgt new _hhpers"
program define pov
use $keepit using "\\csls-3\...\HILDA\Data\HILDAh.dta", clear
_pctile eyh[aw=new], p(50)
local povline = r(r1)*.5
```

```
di "Results for the total population"
poverty eyh [aw=twgt], line(`povline') h igr
di "Results for the elderly"
poverty eyh [aw=owgt], line(`povline') h igr
di "Results for Lone Parents"
poverty eyh [aw=lpwt], line(`povline') h igr
end
foreach file in "\\csls-3\...\HILDA\Data\HILDAh.dta"{
global data "`file'"
di "$data"
pov
}
log close
```

Stata Code for LISSY

Note: for each year, the bolded text must be changed to au##, where ## represents the two-digit code for the year.

```
use hpopwgt npers dpi if (!mi(dpi) & !(dpi==0)) using $au10h, clear
* Per capita income
gen ypc = dpi/npers
* Equivalised income
gen ey=(dpi/(npers^0.5))
sum dpi [w=hpopwgt]
sum ypc ey [w=hpopwgt*npers]
bysort npers: sum dpi [w=hpopwgt] if npers<=7
bysort npers: sum ypc ey [w=hpopwgt*npers] if npers<=7

global keepit "hpopwgt svyunit npers nhhmem17 nhhmem65  hpartner dpi"
program define pov
use $keepit using $data, clear
drop if dpi==. | dpi==0
gen ey=(dpi/(npers^0.5))
_pctile ey [w=hpopwgt*npers], p(50)
local povline = r(r1)*.5

gen lpwt = hpopwgt*npers if nhhmem17>0 & hpartner==200

di "Results for the total population"
poverty ey [aw=hpopwgt*npers], line(`povline') h igr
di "Results for the elderly"
poverty ey [aw= hpopwgt*(nhhmem65)], line(`povline') h igr
di "Results for Lone Mothers"
poverty ey [aw=lpwt], line(`povline') h igr

end
foreach file in $au10h {
global data "`file'"
di "$data"
pov
}
```

Appendix B: Statistical Tables

Table 1: Gini Coefficient, Poverty Rates and Poverty Gaps, Overall Population, Elderly Population, and Single Persons with Dependent Children, Australia, 2001-2013

	Gini Coefficient	Overall Poverty Rate	Overall Poverty Gap	Elderly Poverty Rate	Elderly Poverty Gap	Single Person with Dependent Children Poverty Rate
2001	0.319	10.4	28.3	29.6	26.3	15.7
2002	0.338	10.9	24.9	28.6	23.6	16.9
2003	0.345	10.5	25.9	26.5	23.8	19.1
2004	0.328	10.6	26.9	26.2	25.6	15.0
2005	0.331	10.2	28.2	27.6	27.1	16.5
2006	0.344	9.8	24.9	31.3	23.2	16.9
2007	0.347	11.5	24.8	35.2	22.2	21.6
2008	0.337	12.1	26.4	39.3	25.4	21.7
2009	0.34	13.1	33.9	42.6	34.0	28.0
2010	0.339	11.4	27.0	36.3	23.1	23.5
2011	0.341	11.1	27.9	33.1	26.3	21.3
2012	0.336	9.6	28.0	30.6	29.0	16.9
2013	0.338	9.6	26.3	25.2	26.7	20.8
Absolute Difference	0.019	-0.8	-2.0	-4.4	0.4	5.1
Variance	0.00006	1.0594	5.62596	28.58626	9.64245	13.71655
Mean	0.337	10.8	27.2	31.7	25.9	19.5
Coefficient of Variation	0.008	1.018	2.378	5.352	3.115	3.725

Source: Authors' calculations based on HILDA.
Note: Absolute difference refers to the difference between 2013 and 2001.

Table 2: Gini Coefficient, Australia and Selected European Countries, 2001-2014

Year	Australia	Unweighted European Average	Belgium	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
2001	0.319	0.277	0.28	0.22	0.27	0.27	0.25	0.29	0.27	n/a	0.33	0.24	0.35
2002	0.338	0.282	n/a	n/a	0.26	0.27	n/a	n/a	0.27	n/a	0.31	0.23	0.35
2003	0.345	0.281	0.283	0.248	0.26	0.27	n/a	n/a	0.27	0.266	0.31	n/a	0.34
2004	0.328	0.27	0.261	0.239	0.255	0.282	n/a	0.332	n/a	0.252	0.31	0.23	n/a
2005	0.331	0.282	0.28	0.239	0.26	0.277	0.261	0.328	0.269	0.282	0.322	0.234	0.346
2006	0.344	0.28	0.278	0.237	0.259	0.273	0.268	0.321	0.264	0.292	0.319	0.24	0.325
2007	0.347	0.278	0.263	0.252	0.262	0.266	0.304	0.322	0.276	0.237	0.319	0.234	0.326
2008	0.337	0.284	0.275	0.251	0.263	0.298	0.302	0.31	0.276	0.251	0.319	0.24	0.339
2009	0.34	0.283	0.264	0.269	0.263	0.299	0.291	0.315	0.272	0.241	0.329	0.248	0.324
2010	0.339	0.281	0.266	0.269	0.254	0.298	0.293	0.312	0.255	0.236	0.335	0.241	0.329
2011	0.341	0.283	0.263	0.278	0.258	0.308	0.29	0.319	0.258	0.229	0.34	0.244	0.33
2012	0.336	0.281	0.265	0.281	0.259	0.305	0.283	0.319	0.254	0.225	0.342	0.248	0.313
2013	0.338	0.28	0.259	0.275	0.254	0.301	0.297	0.325	0.251	0.227	0.337	0.249	0.302
2014	n/a	n/a	n/a	n/a	0.256	n/a	n/a	0.327	n/a	n/a	0.347	n/a	n/a
Absolute Difference	0.019	-0.014	-0.031	0.075	0.056	0.011	0.007	-0.003	-0.039	-0.039	0.007	0.039	-0.018
Variance	0.00006	0.00004	0.00013	0.00075	0.00024	0.00017	0.00043	0.00015	0.00016	0.0005	0.00015	0.00012	0.0002

Source: Figures for Australia from authors' calculations from HILDA, other countries taken from Eurostat (ilc_di12).
Note: Absolute difference refers to the difference between 2013 and 2001 values – where these are not available the latest and earliest available figures are used in their place.

Table 3: Poverty Rate for All Persons, Australia and Selected European Countries, 2000-2014

Year	Australia	Unweighted European Average	Belgium	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
2001	10.4	7.3	6	4	4	6	6	13	6	n/a	13	5	10
2002	10.9	7.5	n/a	n/a	5	6	n/a	n/a	6	n/a	12	6	10
2003	10.5	7.4	9	5.6	5	6	n/a	n/a	7	5.5	11	n/a	10
2004	10.6	7.8	8.5	6.1	4.8	7.2	n/a	11.9	n/a	5.6	12.8	5.8	n/a
2005	10.2	7.8	7.7	5.7	5	6.4	6.7	12.1	6.2	6.6	12.9	5	11.8
2006	9.8	8.3	8.2	5.8	5.3	7.2	7.2	12.6	5.1	7.1	13.1	7.4	11.8
2007	11.5	8.2	8	5.9	5.4	6.8	9.6	12.4	5.2	7.2	12.9	6.1	11.2
2008	12.1	8.1	7.5	6.2	6.5	5.8	9.2	11.6	5	7	12.7	6.5	11.3
2009	13.1	8.4	7.9	7.2	6.4	6.7	9.4	11.5	5.5	6.9	13.3	7.6	10.2
2010	11.4	8.3	7.9	7.9	5.5	7.5	9.2	11.6	4.9	6.1	14.4	7	9.8
2011	11.1	8.4	8.3	7.5	6	7.1	9.7	12.6	5.2	5.7	13.8	7.6	9.4
2012	9.6	8.4	8.3	7.7	6	6.9	9.6	12.2	5.2	5.5	14.4	7.8	9.2
2013	9.6	8.3	8.3	7.1	5.4	6.8	9.4	12.4	5.2	5.5	13.9	8.2	9
2014	n/a	n/a	n/a	n/a	5.5	n/a	n/a	12.8	n/a	n/a	15.9	n/a	n/a
Absolute Difference	-0.8	-2.1	-0.7	3.1	1.5	-2.2	-0.6	-1.2	-1.8	0	3.9	3.2	-3
Variance	1.0594	0.47704	0.5183	1.26447	0.52222	1.07228	2.326	0.40095	0.51441	0.51673	1.26155	1.19333	0.96056

Source: Figures for Australia from authors' calculations from HILDA, other countries taken from Eurostat (ilc_li02).
Note: Absolute difference refers to the difference between 2013 and 2001 values – where these are not available the latest and earliest available figures are used in their place.

Table 4: Average Poverty Gap for All Persons, Australia and Selected European Countries, 2000-2014

Year	Australia	Unweighted European Average	Belgium	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
2001	28.3	22	15	n/a	n/a	n/a	n/a	28	n/a	n/a	23	n/a	n/a
2002	24.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	25.9	24.4	23.2	31.1	n/a	n/a	n/a	n/a	n/a	18.8	n/a	n/a	n/a
2004	26.9	22.4	20.7	21.3	16.4	17.5	n/a	29.7	n/a	21.7	24.9	27.1	n/a
2005	28.2	22.5	13.5	28.9	16	15.3	17.4	26.3	29.2	24.7	25.9	29	21.4
2006	24.9	23.4	15.8	27.7	15	16.1	23.6	26.2	29.8	26.2	26.7	29	20.8
2007	24.8	23	18	25.4	16.4	21.4	21.4	24.9	21.5	30	28.1	25.4	20.8
2008	26.4	21.8	15.9	25.6	14.3	21.8	21.8	24.9	22.9	25.6	24.6	22	20.5
2009	33.9	22.5	17.7	30.2	14.2	19.8	19.8	26.2	22.9	25.1	27.5	24.3	20.2
2010	27	22.9	20.8	29	15.6	17.7	17.7	26.1	25.6	25.5	30	20.8	23
2011	27.9	23.2	17.8	36.7	14.8	17.7	17.4	31	20.4	27.6	28.6	19.6	23.3
2012	28	23.8	18.1	35	16.3	18.1	17.3	30.5	18.7	29.2	33.4	22.6	22.1
2013	26.3	24.8	19.5	38.9	17	17.3	17.3	35.6	18.8	31	34.2	22.9	19.8
2014	n/a	n/a	n/a	n/a	17.7	n/a	n/a	35.8	n/a	n/a	33.3	n/a	n/a
Absolute Difference	-2	-1.7	0.5	7.8	1.7	-2.7	-18.7	6.8	-16.2	12.2	4.3	-4.2	2.8
Variance	5.62596	2.04756	5.64732	27.40564	5.01496	3.21262	25.40838	10.39634	31.78	12.70473	16.61438	10.85567	3.84495

Source: Figures for Australia from authors' calculations from HILDA, other countries taken from Eurostat (ilc_li11).
Note: Absolute difference refers to the difference between 2013 and 2001 values – where these are not available the latest and earliest available figures are used in their place.

Table 5: Poverty Rate for Elderly Persons, Australia and Selected European Countries, 2001-2014

Year	Australia	Unweighted European Average	Belgium	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
2001	29.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2002	28.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	26.5	6.9	10.7	4.5	n/a	n/a	n/a	n/a	n/a	5.4	n/a	n/a	n/a
2004	26.2	7.8	10.8	4.6	5.5	4.9	n/a	9.1	n/a	4.9	17	5.4	n/a
2005	27.6	8	9.5	3.4	5.3	7.9	6.6	11.9	2.3	5.8	17.8	3.6	13.7
2006	31.3	8.8	12.2	3.1	6.9	9.1	6.3	11.5	1.9	8.2	18.7	4.6	14
2007	35.2	8.1	10.1	3.6	5.7	6.9	8.7	12.1	3.4	3.7	16.2	3.8	15
2008	39.3	7.7	8.8	3	6.9	2.5	7.5	11.5	4.3	5.3	15.2	4.7	15.3
2009	42.6	7.2	7.6	4.6	6.3	5.3	7.5	10.4	3.2	2.6	14.4	5.9	11.7
2010	36.3	6.3	7.8	5.5	4.7	4.6	7	7.7	2.1	2.3	10.8	4.6	12.1
2011	33.1	6.3	7.9	3.6	5.5	4	7.3	7.7	2.7	2.1	10.2	6.3	12.4
2012	30.6	5.6	7.5	3.3	5.5	3.8	8.4	7	2.6	1.7	7.2	5.5	9.3
2013	25.2	5.1	5.8	2.8	5	3	8	6.7	2.2	1.4	6.3	5.8	9
2014	n/a	n/a	n/a	n/a	3.8	n/a	n/a	6.3	n/a	n/a	5.3	n/a	n/a
Absolute Difference	-4.4	-5.3	-8.2	-1.7	0.8	-8	-2	-3.7	-2.8	-4	0.3	0.4	-9
Variance	28.58626	1.78987	5.82941	0.72764	1.83296	8.78533	2.46695	3.93985	0.94269	4.59073	25.11243	0.81733	5.87952

Source: Figures for Australia from authors' calculations from HILDA, other countries taken from Eurostat (ilc_li02).
Note: Absolute difference refers to the difference between 2013 and 2001 values – where these are not available the latest and earliest available figures are used in their place.

Table 6: Average Poverty Gap for Elderly Persons, Australia and Selected European Countries, 2000-2014

Year	Australia	Unweighted European Average	Belgium	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
2001	26.3	14.3	15	n/a	n/a	n/a	n/a	17	n/a	n/a	11	n/a	n/a
2002	23.6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	23.8	12.6	15.2	18.4	n/a	n/a	n/a	n/a	n/a	4.1	n/a	n/a	n/a
2004	25.6	13.5	17.7	15	8.9	12.2	n/a	18.2	n/a	4.8	17	14.4	n/a
2005	27.1	11.8	9.9	10.1	8.5	11.5	13.1	12.2	11.9	3.1	16	19.2	14.3
2006	23.2	15	11.3	19	7.6	14.1	29.2	11.8	18.6	5.4	16.2	15.7	15.9
2007	22.2	13	13.1	8.4	7.2	15.6	17.6	12.9	18.6	3.9	15.8	15.4	14.6
2008	25.4	12	11.9	10.4	8.2	15.1	16.5	11.5	10.9	3.8	14.3	13.8	16
2009	34	12.2	15	7.8	7.3	12.7	12.8	12	18.1	3.3	16.1	13.8	15.6
2010	23.1	16.1	14.4	19.2	8.9	16.4	14.3	13.3	29.7	n/a	17	9.2	18.1
2011	26.3	15.9	14.5	22	7.3	8.9	15.4	15.8	27.7	14.6	17.6	13.6	17.3
2012	29	16.3	26.3	16.9	8.5	10.6	16.4	15.2	27.7	3.1	23.2	14.1	17.2
2013	26.7	18	13.2	43.5*	7.3	10.7	14.4	15.2	20.7	20.8	25.2	12.8	14.3
2014	n/a	n/a	n/a	n/a	8.5	n/a	n/a	18.7	n/a	n/a	23.7	n/a	n/a
Absolute Difference	0.4	-13.1	-5.8	25.1	-1.5	-9.3	-54.6	-0.3	-34.3	16.7	5.7	-1.6	-3.7
Variance	9.64245	24.80474	14.1633	99.05855	0.92838	11.14517	240.36552	10.2732	182.78423	36.33433	16.13324	6.26444	1.5241

* It is unclear whether this 26.6 percentage point increase in Denmark between 2013 and 2013 is a statistical anomaly or whether there has been a substantial change in elderly poverty gaps between 2012 and 2013.

Source: Figures for Australia from authors' calculations from HILDA, other countries taken from Eurostat (ilc_li11).

Note: Absolute difference refers to the difference between 2013 and 2001 values – where these are not available the latest and earliest available figures are used in their place.

Table 7: Poverty Rate for Single Parent Households with Dependent Children, Australia and Selected European Countries, 2000-2014

Year	Australia	Unweighted European Average	Belgium	Denmark	Finland	France	Germany	Italy	Netherlands	Norway	Spain	Sweden	United Kingdom
2001	15.7	24.7	15	n/a	n/a	n/a	n/a	21	n/a	n/a	38	n/a	n/a
2002	16.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
2003	19.1	12.4	19.9	9.1	n/a	n/a	n/a	n/a	n/a	8.2	n/a	n/a	n/a
2004	15	15.5	13.6	10.2	7.5	17.1	n/a	28.2	n/a	7.2	32.2	8.1	n/a
2005	16.5	14.7	12.2	11	6.1	12.1	12.7	27.1	12.2	11.3	27.7	8.8	20.3
2006	16.9	14.5	14.6	6.2	6.1	12.1	13.6	22.2	10.1	9.8	24.5	16.6	23.9
2007	21.6	16.8	15.6	6	8.9	9.5	21.7	23	17.7	13.9	29.9	12.9	25.4
2008	21.7	17.1	20.4	3.1	15	13.1	18.4	27.3	13.8	10.6	29	12.8	24.6
2009	28	17.8	19.9	9.8	11.7	16.6	22	28.8	13.2	14.7	27.3	14.8	17
2010	23.5	18.7	16.1	8.7	8.5	22	25.2	29.6	14.3	15.3	33.8	19.4	13
2011	21.3	16.7	19.2	9.9	8.3	1.7	20.9	27.9	19.3	8.5	31.6	19.6	16.9
2012	16.9	17.5	16.6	12.6	10.5	17.5	22	31.9	13.2	6.8	29.3	19.3	12.6
2013	20.8	16.6	21.6	1.1*	9	19.5	20.1	27.8	9.2	12.3	29.8	20.6	11.1
2014	n/a	n/a	n/a	n/a	7.1	n/a	n/a	30.4	n/a	n/a	33.5	n/a	n/a
Absolute Difference	5.1	-9.7	2.6	-8	4.1	1.5	-27.9	12.4	-8.8	4.1	6.5	12.5	-24.9
Variance	13.71655	16.10982	14.00382	12.24018	10.27096	29.13333	118.80686	32.09529	27.31604	8.96164	27.91869	20.82544	101.94552

* Similarly to Denmark's anomaly in regards to elderly poverty gaps in Table 5, it is unclear whether this 11.5 percentage point decrease is a statistical anomaly or whether there has been a substantial change in single parent poverty rates between 2012 and 2013.

Source: Figures for Australia from authors' calculations from HILDA, other countries taken from Eurostat (ilc_li03).

Note: Absolute difference refers to the difference between 2013 and 2001 values – where these are not available the latest and earliest available figures are used in their place.

Table 8: Comparison of Poverty-Related Variables Calculated from LISSY, LIS and HILDA

	CSLS Calculations Based On HILDA						LIS Documentation Online			LISSY Calculations					OECD Estimates				
	Gini Coefficient	Overall Poverty Rate	Overall Poverty Gap	Elderly Poverty Rate	Elderly Poverty Gap	Single Person with Dependent Children Poverty Rate	Gini Coefficient	Overall Poverty Rate	Elderly Poverty Rate	Overall Poverty Rate	Overall Poverty Gap	Elderly Poverty Rate	Elderly Poverty Gap	Single Person with Dependent Children Poverty Rate	Gini Coefficient	Overall Poverty Rate	Overall Poverty Gap	Elderly Poverty Rate	Elderly Poverty Gap
2001	0.319	10.4	28.3	29.6	26.3	15.7	0.31	13.0	23.0	13.0	30.5	23.0	16.7	30.7					
2002	0.338	10.9	24.9	28.6	23.6	16.9													
2003	0.345	10.5	25.9	26.5	23.8	19.1	0.312	12.2	22.3	12.2	31.0	22.3	21.8	30.0					
2004	0.328	10.6	26.9	26.2	25.6	15.0									0.315	13.2	23.3		
2005	0.331	10.2	28.2	27.6	27.1	16.5													
2006	0.344	9.8	24.9	31.3	23.2	16.9													
2007	0.347	11.5	24.8	35.2	22.2	21.6													
2008	0.337	12.1	26.4	39.3	25.4	21.7	0.333	14.1	37.3	13.8	26.2	34.7	21.9	30.5	0.336	14.6	26.3		
2009	0.340	13.1	33.9	42.6	34.0	28.0													
2010	0.339	11.4	27.0	36.3	23.1	23.5	0.33	13.9	33.7	13.5	26.7	31.9	17.5	29.9	0.334	14.4	24.5	35.5	16.8
2011	0.341	11.1	27.9	33.1	26.3	21.3													
2012	0.336	9.6	28.0	30.6	29.0	16.9									0.326*	13.8	25.5	33.5*	15.9
2013	0.338	9.6	26.3	25.2	26.7	20.8													

Source: Authors' calculations based on HILDA or LISSY and Inequality and Poverty Key Figures from the Luxembourg Income Study (http://www.lisdatacenter.org/lis-ikf-webapp/app/search-ikf-figures). OECD.Stat Income Distribution and Poverty.

Table 9: Comparison of Poverty-Related Variables Including Child Care Benefits and Excluding Child Care Benefits

	Not Including Child Care Benefit						Including Child Care Benefit					
	Gini Coefficient	Overall Poverty Rate	Overall Poverty Gap	Elderly Poverty Rate	Elderly Poverty Gap	Single Person with Dependent Children Poverty Rate	Gini Coefficient	Overall Poverty Rate	Overall Poverty Gap	Elderly Poverty Rate	Elderly Poverty Gap	Single Person with Dependent Children Poverty Rate
2001	0.319	10.4	28.3	29.6	26.3	15.7	0.327	11.8	29.5	32.1	28.4	16.2
2002	0.338	10.9	24.9	28.6	23.6	16.9	0.348	11.9	28.6	30.4	26.0	17.9
2003	0.345	10.5	25.9	26.5	23.8	19.1	0.358	11.9	27.7	30.0	26.1	20.3
2004	0.328	10.6	26.9	26.2	25.6	15.0	0.339	12.3	29.6	30.2	28.1	15.3
2005	0.331	10.2	28.2	27.6	27.1	16.5	0.348	11.1	29.8	30.2	29.2	17.7
2006	0.344	9.8	24.9	31.3	23.2	16.9	0.354	11.0	27.2	33.7	25.5	19.4
2007	0.347	11.5	24.8	35.2	22.2	21.6	0.363	12.0	28.1	34.7	25.5	19.9
2008	0.337	12.1	26.4	39.3	25.4	21.7	0.347	13.0	27.7	40.6	27.7	21.5
2009	0.340	13.1	33.9	42.6	34.0	28.0	0.352	14.5	35.1	44.7	35.9	29.0
2010	0.339	11.4	27.0	36.3	23.1	23.5	0.355	12.3	27.1	39.7	22.9	25.1
2011	0.341	11.1	27.9	33.1	26.3	21.3						
2012	0.336	9.6	28.0	30.6	29.0	16.9						
2013	0.338	9.6	26.3	25.2	26.7	20.8						

Note: The first draft of this report was completed in 2011 using Wave 10 of HILDA. In Wave 10, there was an imputed variable for child care benefits. In Wave 11, this variable was dropped from all waves. Hence, for the second draft, to ensure a comparable and consistent time series, all poverty-related values were recalculated from 2001-2010 excluding the child care benefit. It is interesting to note that, contrary to expectations, the Gini coefficient, poverty rates and poverty gaps are generally higher with the inclusion of child care benefits.
Source: Authors' calculations based on HILDA Wave 10 and HILDA Wave 13.