# 3 Household income

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| Key points |
| * The growth in real incomes for most Australians between 1988-89 and 2009-10 has progressively shifted the distribution of household income to the right. * Over the same period, a wider ‘spread’ of incomes has caused the distribution to become ‘flatter’ and income inequality to increase. * These changes are more pronounced over the period 2003-04 to 2009-10. * Of the various income components, household labour income growth has been the major driver of changes in incomes. * For households in the bottom gross income deciles (2 to 4), labour income growth has been driven by increased workforce participation and employment. * For households in the top income deciles (8 to 10), labour income growth appears to have been driven by higher wages. * For households in the middle decile both factors are apparently at work. * The distribution of ‘capital & other’ income is responsible for much of the recent increase in measured gross income inequality. * While most Australian households do not report significant income from this source with a few, mainly in the 10th decile, earn large amounts. * Increases in the real value of direct government payments have contributed to increasing the real incomes of households in the bottom four deciles. * Taxes and indirect transfers have a significant equalising impact on the distribution of household income. Trends in each, however, differ. * The equalising impact of taxes on household income distribution has declined. * Notwithstanding compositional shifts, the influence of indirect benefits has changed little. * Changes in household composition and family formation do not appear to have had significant impacts on the distribution of household income in recent years. * Overall, changes in final equivalised household income inequality have predominately flowed from changes in labour and capital & other income. * The proportion of working age jobless households has fallen over the past 20 years with the most dramatic fall recorded over the period 2003-04 to 2009-10. * The gap in equivalised final incomes between remaining jobless households and other households has increased. |
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Most individuals live within family groups or households where they can combine income with other household members. For this reason, the actual resources available to households are often not fully captured in the analysis of individual market incomes. Further, government assistance is often targeted at the household level (household means testing, family payments, in-kind services, couple versus single pensions amongst others) influencing the final income of household members. This means that the distribution of income at the household level is often quite different from that seen amongst individuals (as examined in chapter 2). OECD evidence suggests that across member nations, the distributions of household income are generally less spread than individual earnings (OECD 2011)

This chapter extends the analysis of the distribution of income in Australia to households (defined by the ABS as a person living alone or a group of people who usually reside in the same private dwelling). The chapter begins with an analysis of gross income and ‘works up’ to final equivalised household income (defined in chapter 1) in order to uncover how different forms of income affect the distribution. Particular attention is paid to:

* the three components of gross household income — labour income, capital income and direct government benefits
* direct and indirect taxes and indirect benefits
* household composition and family formation.

As in chapter 2, the consumer price index has been used convert all income figures to 2011-12 dollars throughout this chapter.

## 3.1 The distribution of gross household income

Gross household income represents the income households receive from market sources (employee earnings, self-employment returns, capital & other income) and direct government payments.

The distribution of gross household incomes has changed over the past 20 years.[[1]](#footnote-2) Notably, both real mean and median incomes have risen significantly (table 3.1). Between 1988-89 and 2009-10 mean incomes have risen faster than median incomes, creating a distribution that has become more skewed to the right. Further, while the gap in incomes between the 1stpercentile and 99th percentile remained stable from 1988-89 to 1998-99, greater relative increases in average incomes of the 99th percentile over the most recent period from 2003-04 to 2009-10, have widened this gap considerably.[[2]](#footnote-3) This, coupled with the increase in the standard deviation of gross household income, indicates the dispersion in the distribution has increased between 2003-04 and 2009–10.

Table 3.1 Summary characteristics of weekly gross household income

2011-12 dollars per week

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| --- | --- | --- | --- | --- | --- |
| Year | Mean | Median | Standard deviation | Mean 1st percentile | Mean 99th percentile |
| 1988-89 | 1 234 | 1 046 | 998 | -256 | 6 504 |
| 1993-94 | 1 178 | 959 | 1 006 | -602 | 6 173 |
| 1998-99 | 1 305 | 1 055 | 1 062 | -613 | 6 161 |
| 2003-04 | 1 410 | 1 163 | 1 153 | -113 | 7 399 |
| 2009-10 | 1 776 | 1 388 | 1 783 | -76 | 11 908 |

*Source*: ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Plotted as a probability distribution, changes in the distribution of gross weekly household income have followed a reasonably consistent pattern over the period. The distribution has become flatter, with a general shift towards higher incomes and a falling concentration of households earning less than $500 per week (figure 3.1).

The trend towards a flatter distribution accelerated between 2003-04 and 2009-10. The distribution of household income shifted further to the right over this period — meaning real gross incomes at the lowest end of the distribution have risen faster than during previous survey periods. During this period, there has also been an increase in the proportion of households earning gross incomes above $2000 per week. What is not shown in figure 3.1 is the lengthening of the ‘upper tail’ of the distribution which has contributed to a greater spread in incomes.

The combination of the flattening of the distribution, and lengthening of the tail has resulted in an increase in measured inequality. Using the Gini coefficient, inequality has risen from 0.393 in 1988-89 to 0.426 in 2009-10. However, simply focusing on inequality measures ignores the strong growth in incomes for all groups across gross income deciles (figure 3.2). Average annual growth rates in gross household income over the period have been highest in the bottom and top deciles and lowest for those in the 4th and 5th decile — creating a U-shaped pattern.

Figure 3.1 Distribution of gross household income, 1988-89 to 2009-10

Proportion of all householdsa

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a For presentation purposes only the income range between $0 and $5000 shown. Negative and gross household incomes greater than $5000 are present in the data.

*Data Source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Figure 3.2 Real incomes by gross income deciles, 1988-89 to 2009-10

2011-12 dollars, 1 lowest decile, 10 highesta

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a Left axis gross weekly household income, right axis average annual growth rate of gross weekly household income.

*Data source*: ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

#### Household characteristics across the deciles

The composition of household types within the deciles varies. In 2009-10, non-working age households (those where the reference person was aged over 65 years) made up a greater share of the bottom three deciles compared with other deciles (figure 3.3, top left panel). This, in part, explains why lower deciles have a much lower proportion of adult household members employed in the workforce (either as employees or self-employed) (figure 3.3, top right panel).

Figure 3.3 Selected household characteristics by decile, 2009-10

Per cent, average decile score — 1 lowest decile, 10 highest

|  |  |
| --- | --- |
| Age of household reference person | Percentage of working adultsa |
| Family composition of householdb | Average decile by household typeb |

a Percentage of working adults represents the average percentage of adults in a household who earn labour income. b One family households include family households without dependent children.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Broad household types are not consistently distributed amongst gross income deciles (figure 3.3, bottom left panel). Lower deciles are dominated by lone person households with higher deciles dominated by couple households (with or without dependent children). Sole parent families make up a greater proportion of the lower deciles, with most earning gross incomes in the 2nd to 5th income deciles range.

Since 1988-89 there has also been some change in the make-up of Australian households (figure 3.4). While data for 1988-89 are complicated by definitional changes, there appears to have been an increase since 1993-94 in households with children (couple and one parent). There has also been a rise in the proportion of lone person households, although this has lessened between 2003-04 and 2009-10.

Figure 3.4 Shares of household types, 1988-89 to 2009-10

Per cent of all householdsa

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a Other one family households include households with one couple (or lone parent) and non-dependent children, one couple (or lone parent) with or without non-dependent children but with other relatives, one couple (or lone parent) with or without non-dependent children or other relatives but with unrelated individual or two or more related individuals where the relationship is not a couple or parent-child relationship (for example, two sisters).

*Data source*: ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

## 3.2 What has contributed to the change in the distribution of gross household income?

The first step to understanding what has contributed to the change in the distribution of household income is to break down gross income into its components:

* labour income — employee earnings (wage and salaries) and own unincorporated business returns[[3]](#footnote-4)
* capital & other income — capital returns and other private transfers such as insurance payments
* direct government benefits — direct transfer payments from governments.

#### Relative contributions of different income sources to changes in gross household income

Between 1988-89 and 2009-10, average labour, capital & other and direct government benefits received by households has increased in real terms (figure 3.5), contributing to 75, 14 and 12 per cent respectively of the increase in gross household income between 1988-89 and 2009-10. However, the importance of each component across gross income deciles varies (figure 3.6).

Figure 3.5 Components of average weekly gross income 1988-89 to   
2009-10

2011-12 dollars

|  |  |
| --- | --- |
| Real income | Change off 1988-89 base |

*Data source*: ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Figure 3.6 Components of gross household income by decile, 1988-89 to 2009-10

Proportion of income, 1 lowest decile, 10 highest

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*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

In keeping with being the major source of household income, growth in labour income has also been the dominant source of the absolute growth in gross household incomes. Changes in labour income have accounted for at least 50 per cent of the total changes in average gross household income between survey periods. It has played an even greater role in the period between 2003-04 and 2009‑10 — accounting for 72 per cent of the total change. Despite this, direct government benefits and capital & other income have experienced the fastest rates of increase (albeit off a much lower base).

Across deciles, incomes for those in the bottom are dominated by government payments, whereas for those in the top labour income dominates (figure 3.6). One notable change since 1988-89 is the increase in the labour income share (and to a lesser extent the capital & other income share) in total income for households in the bottom three deciles. This trend accelerated in the period between 2003-04 and 2009-10.

The relative contribution to income growth of each income source also varies by decile (figure 3.7). On average, increases in government payments have explained much of the change in gross incomes in the lower deciles, with labour income of more significance in higher deciles. And while changes in capital & other income have played a role for all deciles, the largest changes have been in the 10th decile.

Figure 3.7 Average contribution of income sources to changes in gross household income by decile, 1988-89 to 2009-10

Per cent, 1 lowest decile, 10 highest

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*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

#### Contributions to measured gross household income inequality

The Gini coefficient for gross household incomes can also be decomposed into the contribution of each income component to total inequality (box 3.1). This depicts the influence that each income source has on overall measured inequality.

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| Box 3.1 Decomposing gross household income inequality |
| As gross household income is the sum of various income components (for this study, labour income, capital & other income and direct government benefits), the Gini coefficient can be decomposed to identify the contribution of each income source to inequality in gross incomes (Van Kerm 2010).  The ‘contribution’ of each income source represents how much of the observed level of inequality in total income is due to the inequality in the income source. In instances where the source income is negatively related to total income, such as benefit payments, the contribution will be negative.  The decomposition also allows for the sensitivity of the Gini coefficient to each income source to be estimated. The sensitivity estimate represents the impact that a 1 per cent increase in source income (given its current distribution) would have on the Gini coefficient. It should be noted that such estimates cannot be generalised to actual changes that may occur from changing income levels as they do not account where such income would come from or any second round responses to such income changes.  For this study, decompositions were calculated in Stata using the *sgini* command (Van Kerm 2010). |
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Labour income contributes to most of the measured inequality in gross household income (figure 3.8 left panel). However, despite its relatively stable share of total gross income, the contribution of labour income to total gross household income inequality has fallen over time — from 103 to 98 per cent. While only a small component, capital & other income has been contributing more to gross income inequality in recent years. While direct government benefits have had a negative impact on the gross income Gini coefficient, the equalising effect has declined slightly since 1993-94, back to levels similar to those observed in 1988-89.

The sensitivity estimates represent the effect of a 1 per cent change in component income (given its current distribution) on the Gini coefficient for gross household income. These cannot be generalised into any policy evaluation as the estimates ignore any consideration of where the income would come from (for example, increased direct government benefits would require higher taxes) or any second round effects from changes in income (continuing the example, any responses from households who receive the higher benefits or those who pay higher taxes). They only show the relative sensitivities of the Gini coefficient estimate to each income source examined, all else given. The estimate for labour income is large, but has declined since 1993-94. The sensitivity estimates also reveal the significant impact of direct government benefits in reducing gross household income inequality. In all but 2009-10 the sensitivity estimates for capital & other income are negative. This is likely to be due to relatively high amounts of capital & other income earned by some low gross income households such as self-funded retirees.

Figure 3.8 Income source contribution to the gross household income Gini coefficient and its sensitivity, 1988-89 to 2009-10

Per cent

|  |  |
| --- | --- |
| Contribution to level | Sensitivity of Gini coefficient to 1 per cent change in income |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

### Increased employment is driving labour earnings change, but wages are also important

The distribution of labour income for working households (excluding those with zero labour income) has become significantly ‘flatter’ over time (figure 3.9). The proportion of working households earning less than $1000 per week has fallen substantially — a trend that appears to have accelerated over the period between 2003-04 and 2009-10. Reflecting the flattening and wider spread in the distribution, a growing share of households earn incomes over $2000 a week (from around 20 per cent of households in 2003-04 to over 30 per cent in 2009-10).

Average real labour incomes for working households increased from $1405 in 1988-89, to $1951 in 2009-10. Measured dispersion or inequality also increased, particularly over the most recent period. Inequality in labour income for working households, as measured by the Gini coefficient rose from 0.323 in 1988-89 to 0.382 in 2009-10, with a (statistically) significant increase occurring since 2003-04 when the Gini coefficient was 0.358. And, while the upper tail has extended over this recent period (from a maximum recorded gross income of $17 263 per week in 2003-04 to $20 784 in 2009-10), most of the change in the Gini coefficient is a result of distributional changes described above (box 3.2).

Figure 3.9 Distribution of household labour income of working households, 1988-89 to 2009-10

Proportion of working householdsa

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a For presentation purposes only the income range between $0 and $5000 shown. Negative and labour household incomes greater than $5000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Much of the change in labour earnings for households — both for the level of earnings and the shape of the distribution — appears to be driven by greater employment by household members. While data are only comparable in the 1998-99, 2003-04 and 2009-10 surveys, average household workforce employment rates increased from around 56 per cent in 1998-99 to 60 per cent in 2009-10 (table 3.2). Commensurate with this, average hours supplied to the workforce per household have increased. These changes are consistent with those observed in individual working patterns, with increasing employment (particularly part-time) along with higher average hours worked by part-time employees (chapter 2).

The changes observed in employment could be driven by:

* changes in the shares of household types which have different employment rates
* changes in the employment patterns within household type.

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| Box 3.2 Are increases in the upper tail responsible for the observed increase in the Gini coefficient between 2003-04 and 2009-10? |
| To explore the effect on the Gini coefficient of an increasing upper tail of the labour income distribution between 2003-04 and 2009-10 a sensitivity test was conducted. The Gini coefficient was recalculated excluding households with labour incomes greater than the maximum observed in 2003-04 (approximately 0.1 per cent of working households in 2009-10).  Making this adjustment, the Gini coefficient in 2009-10 was 0.377 compared with 0.382. This suggests that around 20 per cent of the increase in the Gini coefficient over the period was due to increases in the upper tail of the distribution. |
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The share of household types, however, has remained relatively stable over the period examined. The largest increase has occurred in couple family households with dependent children (23 to 26 per cent) and the largest fall has been in group and multiple family households (9 to 5 per cent) — both of these groups have relatively high employment rates. This suggests that changes in household types have not played a significant role in the changing pattern of employment.

Table 3.2 Household employment and labour supply, 1998-99 to 2009-10

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | Households | Average persons working per household | Average employment rate per household | Average hours supplied per week per household | Average hours supplied per adult per week per household |
|  | No. | No. | % | Hrs | Hrs |
| 1998-99 | 7 121 867 | 1.21 | 55.65 | 45.57 | 21.22 |
| 2003-04 | 7 735 818 | 1.23 | 57.68 | 45.99 | 22.12 |
| 2009-10 | 8 398 456 | 1.30 | 60.29 | 48.49 | 22.90 |

*Source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Employment patterns within household types, however, have changed (figure 3.10). The largest increases in employment rates have occurred in households with dependent children — for both couple and one parent households employment rates rose by 6 and 11 percentage points respectively. Over the 2003-04 and 2009-10 period, employment rates in couple only and lone person households have also increased — each by around 5 percentage points.

Figure 3.10 Household employment rates by household typea, 1998-99 to 2009-10

Percentage of working adults within householdsb

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a Other one family households include households with one couple (or lone parent) and non-dependent children, one couple (or lone parent) with or without non-dependent children but with other relatives, one couple (or lone parent) with or without non-dependent children but or other relatives but with unrelated individual or two or more related individuals where the relationship is not a couple or parent-child relationship (for example, two sisters). b Percentage of working adults represents the average percentage of adults in a household who earn labour income.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Changes in employment also vary between different gross income deciles. In particular, much of the additional employment has come from households in the second to fourth gross income deciles (figure 3.11). Households in the top three deciles did not increase their already high levels of employment significantly over the period examined. Similarly, for households within these deciles, while hours worked have increased in absolute terms, the change is not significant.

This suggests there are two underlying effects on household labour earnings:

* for low income households (deciles two to four), increased employment rates have increased labour earnings, which has flowed on to higher gross incomes
* for households with high incomes (top three deciles), higher labour earnings appear to be driven primarily by higher wages rates.

This differential effect can be seen by examining the correlation between changes in labour income to changes in employment rates and labour hours supplied. For lower deciles, the correlation is strong, for higher deciles it is very weak (figure 3.12).

Figure 3.11 Household employment rates by gross household income deciles, 1998-99 to 2009-10

Percentage of working adults within householdsa

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a Represents the average percentage of adults in a household who earn labour income.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Figure 3.12 Correlation of changes in labour income, employment rates and hours worked by income decile, 1998-99 to 2009-10

Percentage change

|  |  |
| --- | --- |
| Income and employment | Income and hours worked |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

The different contribution of these proximate factors for different income deciles is also seen when changes in the dispersion of labour earnings are examined. Changes in the Gini coefficient show declining inequality in labour earnings for all households more generally (which also include retirees, unemployed households and people with disabilities living alone) from 1998-99 to 2009-10 (table 3.3). This is consistent with greater workforce participation and employment by households who previously did not supply labour, or supplied only limited amounts of labour. As these households move from zero to positive earnings, all else being equal, measured inequality will fall.

Table 3.3 Gini coefficient estimates for household labour earnings,   
1988-89 to 2009-10

Gini coefficient

|  |  |  |  |
| --- | --- | --- | --- |
|  | All households | Those with non-zero labour earningsa | Those with non-zero employee earnings |
|  |  |  |  |
| 1988-89 | 0.517 | 0.323 | 0.311 |
| 1993-94 | 0.569 | 0.366 | 0.347 |
| 1998-99 | 0.572 | 0.372 | 0.350 |
| 2003-04 | 0.556 | 0.358 | 0.347 |
| 2009-10 | 0.553 | 0.382 | 0.373 |

a Labour earnings include returns from own unincorporated businesses.

*Source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

However, when only those households which earn labour income are considered (those with non-zero labour earnings), measured inequality increases over the 1998‑99 to 2009-10 period — most notably between 2003-04 and 2009-10. This is consistent with a greater spread in hourly wages for those employed in the workforce as a result of real wages rising faster for those households in the top deciles compared with those received by households in lower deciles. And, while those in the lower deciles have increased hours, this was not enough to offset the effect of the growing wage differential. As a result, the overall spread in incomes of working households has widened.

For households in the upper middle deciles (five through to seven) the driving force is less clear. The two effects appear to be mixed — between 1998-99 and 2003-04 employment increased, whereas in the latter period, the wage effect appears to dominate. For these households, such a shift might be indicative of greater workforce attachment of a skilled second earner, particularly from households with dependent children, which has allowed households to benefits from increases in skilled wages over time (these employment and wage effects have been seen at the individual level for part-time workers — chapter 2).

### The distribution of capital & other income has become increasingly spread

Apart from employee earnings and returns from own unincorporated businesses, households also receive income from other market sources. Labelled capital & other income, this includes:

* net investment income made up of interest, rent, dividends and royalties including that from superannuation (capital income)
* private transfers made up of income from workers’ compensation, scholarships, child support and other private sources (other income).

The estimates here exclude one important ‘in-kind’ source of market income, that which is derived from the services from the household’s own home — known as ‘imputed rent’. Imputed rent estimates exist and can be included in market income (box 3.3) but have not been used for this study as time series data are not available.

The distribution of capital & other income has a high level of dispersion. The majority of households earn little to no income from these sources, with a few households earning significant amounts (figure 3.13, left panel). For example, in 2009-10, 65 per cent of all households earned less than $50 per week from capital & other income. For the majority of households there has been little change in capital & other income. As a result, this source of income has not contributed greatly to the observed changes in the distribution of gross household incomes — that is, the shift to the right and flattening of the gross income distribution.

However, while capital & other income has not explained the broad distributional shifts seen in gross income, it has played a material role in the increase in measured inequality in gross income between 2003-04 and 2009-10.

The distribution of capital & other income has high measured inequality, with a Gini coefficient of around 0.980 in 2009-10. Since 1988-89 this has increased, predominantly due to increases in maximum incomes. The upper tail has become significantly longer, increasing in real terms from a maximum of around $12 000 per week in 1988-89 to around $68 000 in 2009-10. The median capital & other income has fallen over this period for $8 to $5 per week.

The higher amounts of capital & other income earnings seen in 2009-10 compared with earlier years have accrued predominantly to households in the 10th gross income decile — with average capital & other income more than doubling between 2003-04 and 2009-10 (figure 3.13, right panel). This has effectively increased the spread of incomes between households in the 10th decile compared to those in lower deciles and resulted in the increase observed in the gross income Gini coefficient.

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| Box 3.3 Imputed private rent — a significant income source for some |
| The 2009-10 Household Expenditure Survey includes data on net imputed private rent. Imputed rent represents the value to the household of the accommodation they own and currently live in, or the value of private rental support. For those who own their own home or have their rent privately subsidised, weekly income can be adjusted by the amount they would have paid to live in their residence if they were paying market rent for the property. In other words, it represents the stream of implicit income the household earns from its ownership of the residence it occupies or the value of the private rental support it receives.  The imputed income stream from living in a fully owned residence is potentially significant for some — for example, those whose income consists primarily of the Age Pension but who own their home. When estimates of net imputed rent are included in market income, the shape of the distribution and its dispersion change significantly (see below). In 2009-10, the Gini coefficient of market income excluding net imputed rent was 0.522, when net imputed rent is included it falls to 0.488.  As can be inferred from the distributions above, the inclusion of net imputed private rent is most significant for those on lower incomes (in proportional terms). For households in the lowest gross income decile, for example, average market income in 2009-10 (all non-government sources) increases from $33 per week to $164 per week with the inclusion of net imputed rent.  Due to a lack of time series data, estimates of market income in this study do not include adjustments for imputed rent. |
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The impact of capital & other income on inequality in gross income can be illustrated by examining the difference between trends in labour income inequality and that seen in market income (labour income plus capital & other income). For all households, while labour earnings inequality has eased from 0.556 in 2003-04 to 0.553 in 2009-10, for market income it rose from 0.508 to 0.522. While much of the increase in the market income Gini coefficient is due to the lengthening of the upper tail — around 47 per cent — it does not account for all the rise in inequality.[[4]](#footnote-5) This suggests that capital & other income’s small contribution to the flattening of the middle of the distribution has also played a role.

Figure 3.13 Distribution of household capital & other income, 1988-89 to 2009-10

Proportion of households, mean income by gross income decilea

|  |  |
| --- | --- |
| Probability density function | Mean income by gross income decile |

a For presentation purposes only the income range between $0 and $500 shown. Capital & other household incomes greater than $500 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

### Direct government payments mainly benefit low income groups

Direct government payments in the form of pensions and allowances are the third component of gross household income. These include pensions and allowances for:

* the aged, disabled, unemployed, sick, students, veterans or their survivors
* families and children including Family Tax Benefits, the Baby Bonus and the Child Disability Assistance Payment paid to recipients of Carer Allowance.

Direct government payments have a significant equalising effect on the distribution of income (figure 3.14). Gini coefficient estimates of inequality fall from 0.522 for market income in 2009-10 to 0.426 when direct government benefits are included.

Figure 3.14 The distribution market and gross household income, 2009-10

Proportion of householdsa

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a For presentation purposes only the income range between $0 and $5000 shown. Negative and incomes greater than $5000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Since 1988-89, the distribution of direct government payments has changed. There has been a reduction in the proportion of households receiving direct payments, but for those which do, a higher share receive larger payments (figure 3.15, left panel).

When only recipient households are considered (figure 3.15, right panel), considerable structural change in the distribution of direct government payments is observed between 1988-89 and later years. From the mid-1980s to mid-1990s, there was considerable change in Australia’s social security system. Changes targeted low income families and women in response to the *Social Security Review* which was established in 1986 (Henry Tax Review 2008). The resulting changes, as summarised by the Henry Tax Review (2008, p. 196-7), included:

* restructuring of payments to low income families with children to encourage workforce participation
* the introduction of family payment ‘benchmarks’ which represented the level of assistance required by a couple without market income to raise a child and achieve a similar living standard as a couple without a child
* increased Age Pension age for women and phasing out of dependency payments (taking effect in the 2000s)
* increased use of ‘activity tests’.

Figure 3.15 Distribution of household direct government benefits, 1988-89 to 2009-10

Proportion of householdsa

|  |  |
| --- | --- |
| All households | Households receiving benefits |

a For presentation purposes only the income range between $0 and $1250 shown. Direct benefits greater than $1250 exist in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Since 1993-94, government benefits have progressively increased in real terms — from an average of around $157 to just over $185 per week. For recipient households the change is starker — from $266 to $346 per week. The most significant increases have been for those households in the first five gross income deciles (table 3.4). The increases have been concentrated in the bottom four deciles (and are particularly large in the 1st and 2nd deciles).

Despite the increases in payment value for recipient households, the impact of direct government benefits on the Gini coefficient has lessened over time. The difference in the Gini coefficient between the distribution of market income and that of gross income has fallen from 0.122 in 1993-94 to 0.096 in 2009-10. This result, however, is likely to have been due to a fall in benefit recipient rates with higher rates of employment rather than anything related to the effectiveness or targeting of benefit payments.

Table 3.4 Contribution of direct government benefits to changes in gross household income by decile, 1988-89 to 2009-10

Per cent

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Decile | 1988-89 to 1993-94 | 1993-94 to 1998-99 | 1998-99 to 2003-04 | 2003-04 to 2009-10 |
|  | % | % | % | % |
| 1 | 17 | 60 | 30 | 64 |
| 2 | 46 | 68 | 79 | 33 |
| 3 | 37 | 21 | 7 | 28 |
| 4 | 38 | 29 | 23 | 17 |
| 5 | 31 | 13 | 4 | 20 |
| 6 | 20 | 1 | 8 | 3 |
| 7 | 27 | 3 | 20 | 0 |
| 8 | 19 | 1 | 13 | 1 |
| 9 | 6 | 1 | 12 | 2 |
| 10 | 0 | 3 | 3 | 0 |
| Average | 24 | 20 | 20 | 17 |

*Source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

For households in the bottom four deciles, much of the growth in gross income due to increases in direct government benefits has been largely a consequence of increases in the real value of the Age Pension. Approximately 40 per cent (in each survey) of those in the bottom three deciles report that their main source of government direct benefits is the Age Pension. The real value of the Age Pension rose by 10 per cent for singles and 8 per cent for couples between 1998 and 2004 and by 30 and 15 per cent, respectively, between 2003 and 2010.

## 3.3 The contribution of taxes and indirect transfers to the distribution of household incomes

Governments levy direct taxes on income progressively, with taxation rates increasing as assessed income increases. Tax collections are used to fund a range of government services and also fund the direct payments discussed in the previous section. Governments also levy a number of indirect taxes.

Government provided services, such as subsidised health care and education, can be viewed as transfers in-kind (and therefore as part of income). The ABS defines indirect transfers, or ‘social transfers in-kind’ as:

Non-cash benefits and services provided by the government to households for education, health, housing, social security and welfare, and electricity concessions and rebates. It includes reimbursements of approved expenditures such as the Medicare rebate, the Private Health Insurance Rebate, the Child Care Benefit and the Child Care Rebate. The cost of administering the provision of social assistance benefits in cash is included. (ABS 2012a, p. 165)

Many in-kind services represent the delivery of services including those under universal insurance schemes (such as health care). As such, they are not specifically designed as redistributive policies and would be expected to accrue more evenly across income deciles. That said, the delivery of these services can have a redistributive element.

The combined effects of indirect government transfers and taxation (direct and indirect) on gross household income are measured in ‘final household income’. Final, or adjusted household income represents the most comprehensive accounting of household income (chapter 1).

Direct taxes (measured by disposable household income) and the additional impact of indirect taxes and transfers (measured by final household income) have an equalising impact on the distribution of income (figure 3.16, top panel). This is a result of two factors:

* those with higher incomes are generally subject to higher rates of income tax
* in-kind services make up a higher share of final income for those in lower income deciles (figure 3.17).

These influences progressively narrow the distribution of income and reduce its overall spread. Measured by the Gini coefficient, inequality in household income in 2009-10 declines from 0.426 for gross income, to 0.389 for disposable income to 0.341 for final income.

Over the past 20 years, the trends in final household incomes have mirrored those observed in gross household incomes — a shifting to the right and flattening of the distribution (figure 3.16, bottom panel).

While changes in labour incomes, capital & other income and direct government benefits explain much of the changes in the distribution of household income (discussed above), changes in taxes and indirect benefits have also played a role. These effects are explored below.

Figure 3.16 Distribution of household gross, disposable and final weekly income

Proportion of householdsa

|  |
| --- |
| Gross, disposable and final income 2009-10 |
| Final income 1988-89 to 2009-10 |

a For presentation purposes only the income range between $0 and $5000 are shown. Negative and household incomes greater than $5000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Figure 3.17 Components of final household income by decile, 1988-89 to 2009-10

Proportion of final household income, 1 lowest decile, 10 highest

|  |
| --- |
|  |
|  |
|  |
|  |
|  |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

### Direct and indirect taxes

The effect of taxes on the distribution of income has changed over the period 1988‑89 to 2009-10. On balance, those with higher incomes are subject to higher average tax rates. For direct taxes, the progressive nature is clear across gross income deciles (figure 3.18, top left panel).

Figure 3.18 Average tax shares by gross income decile and impact on the Gini coefficient, 1988-89 to 2009-10

Proportion of gross income, Gini coefficient

|  |  |
| --- | --- |
| Average direct tax share | Reduction in Gini, gross to disposable |
| Average indirect tax share | Average total tax share |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Since 1988-89, however, average direct tax shares have fallen, with the largest falls seen for those with higher incomes (this has been observed by other researchers such as Whiteford (2012)). This has resulted in a reduction in the equalising impact of direct taxes on the distribution of gross household incomes. The difference in the Gini coefficient between gross and disposable income has fallen since 1998-99 from 0.047 to 0.037 (figure 3.18, top right panel).

In contrast to direct taxes, indirect tax shares of gross income for households in lower deciles are higher than for those in higher deciles (figure 3.18, bottom left panel). Whilst data for the 1st decile are subject to some ambiguity in interpretation (due to factors such as own unincorporated businesses losses leading to negative incomes and some low income earnings drawing on savings) as significant differences exist between reported income (used to calculate the decile ranges) and expenditures (used to calculate indirect taxes), there is a clear regressive pattern in average indirect tax rates from the 2nd to 10th decile.[[5]](#footnote-6) This is primarily due to higher expenditure to income ratios in lower deciles, with households in higher deciles paying proportionally lower amounts of indirect taxes relative to their incomes because they save more.

Overall, excluding the 1st decile, the combined average total tax rates show those in higher deciles pay higher taxes. The changes to the tax system since 1988-89 have reduced the overall progressivity of the tax take, with the share of income paid as taxes falling for those in 4th and higher deciles, but rising for those in the second and third decile (figure 3.18, bottom right panel).

### Indirect benefits

The majority of indirect transfers by Australian governments relate to health and education. Combined, these accounted for over 83 per cent of total indirect benefits in 2009-10. Childcare benefits accounted for around 2 per cent of total benefits in 2009-10 with the remaining 15 per cent made up of other social security and welfare benefits, housing benefits and electricity concessions.

Since 1988-89, the distribution of indirect benefits has changed (figure 3.19). There has been a significant increase in the real value of indirect benefits accruing to households over time, and in particular over recent periods — by 27 per cent from 2003-04 to 2009-10. The recent change has benefited households across all gross income deciles, with largest increases seen in the bottom four deciles. Consistent with this, the equalising impact of indirect transfers has increased over time. The difference between the Gini coefficient for gross income and gross income including indirect benefits (that is, the amount that indirect benefits reduce the gross income Gini coefficient) has risen from 0.046 in 1988-89 to 0.063 in 2009-10.

Figure 3.19 Distribution of household indirect government benefits, 1988-89 to 2009-10

Proportion of householdsa

|  |
| --- |
|  |

a For presentation purposes only the income range between $0 and $1000 shown. Indirect benefits greater than $1000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Much of the observed change between 1988-89 and 2009-10 is driven by increases in health benefits. Real health benefits have increased from an average of $91 per week per household in 1988-89 to $190 per week per household in 2009-10, with the share of indirect health benefits in total indirect benefits increasing from 43 to 51 per cent (however, it should be noted that price inflation for health services exceeded general inflation rates during much of this period). For education, while its relative importance for indirect benefits has fallen, from 44 per cent in 1988-89 to 32 per cent in 2009-10, the real value of benefits received per household has increased from $94 per week per household to $122 per week per household over the period.

The effect of in-kind health and education services varies across gross income deciles. Primarily, the differences observed relate to the household composition of each decile. Health benefits accrue to a greater extent to those in the 2nd and 3rd deciles (figure 3.20, left panel) as these deciles have the highest share of non-working age households. Conversely, education benefits accrue to a greater extent to households in higher income deciles (figure 3.20, right panel) as these have a higher proportion of households with dependent children.

Figure 3.20 Value of indirect health and education benefits by gross income decile, 1988-89 to 2009-10

2011-12 dollars, 1 lowest decile, 10 highest

|  |  |
| --- | --- |
| Health | Education |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

### Contributions to measured final household income inequality

The key income elements that explain the Gini coefficient estimate for final income are summarised in figure 3.21 (left panel). Labour income, given its share, accounts for the majority of the observed level of final income inequality, but this impact has lessened over time. Direct benefits and direct taxes reduce the final income Gini coefficient — that is they reduce income inequality.

Interestingly, indirect benefits contribute positively to the observed level of final income inequality, while indirect taxes appear to decrease final income inequality. However, the full picture requires the examination of the sensitivity estimates (figure 3.21, right panel). (Sensitivity estimates represent the percentage change in the final income Gini coefficient that would result from a 1 per cent change in income of an income source given the level of income and its distribution and ignoring any second round effects.) As discussed above, the sensitivity estimates cannot be generalised into any policy evaluation as the estimates ignore any consideration of where the income would come from (for example, increased direct government benefits would require higher taxes) or any second round effects from changes in income (continuing the example, any responses from households who receive the higher benefits or those who pay higher taxes). They only show the relative sensitivities of the Gini coefficient estimate to each income source examined, all else given.

Figure 3.21 Income source contribution to the final household income Gini coefficient and its sensitivity, 1988-89 to 2009-10

Per cent

|  |  |
| --- | --- |
| Contribution to level | Sensitivity of Gini coefficient to change in income |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Both the sensitivity estimates for indirect benefits and indirect taxes have opposite signs to the contribution effects.

For indirect benefits, because they have a *positive* correlation with final income (that is they are not targeted exclusively at those on lower incomes and do not phase out as income increases), they contribute to the observed level of final income inequality. However, as these account for a greater share of final income for those on in lower deciles, it means that they do not increase inequality. In fact, as discussed above, with rising levels of indirect benefits inequality would be expected to fall as seen in the sensitivity estimate.

For indirect taxes, because they are negatively correlated to final income (they are a tax), the percentage contribution to final income inequality is negative. However, because relative to final incomes indirect taxes are disproportionally paid by those on lower incomes, a 1 per cent increase in indirect taxes (given its distribution) would lead to an increase in final income inequality.

## 3.4 The impact of household composition and family formation on household income

To take account of household composition and family formation, household income is typically expressed on an ‘equivalised’ basis. This is done so that households of different types can be more readily compared. Equivalised measures are used to enable comparison of the relative economic resources available to households of different size and composition. For a lone person household, equivalised income is equal to the original value of income. For a household consisting of more than one person, the equivalised income is the level of income that would be needed by a lone person household to enjoy the same level of material living standards as the household in question (ABS 2012a).

Equivalised measures attempt to account for economies of scale associated with people living together as well as the extra cost burdens for households with dependents.[[6]](#footnote-7)

However, there is no precise way to estimate the economies of scale and relative costs of household dependents — no ‘right’ scale exists. Moreover, as noted by Johnson and Wilkins (2006):

Ultimately, the choice of equivalence scale is arbitrary, and the problem arises that the choice of scale is likely to alter inferences on changes to the distribution of income. (p. 16)

Indeed, the impact of income equivalisation on the dispersion of income can be seen in the shift from ‘final’ to ‘final equivalised’ income on figure 3.22. Applying this concept significantly reduces the variation of incomes. This arises as households with higher incomes tend to have more members, while households with lower incomes tend to have fewer members. The Gini coefficient falls from 0.341 in 2009-10 for final income to 0.279 for equivalised final income.

Figure 3.22 Distribution of household final and final equivalised income, 2009-10

Proportion of householdsa

|  |
| --- |
|  |

a For presentation purposes only the income range between $0 and $4000 shown. Negative and final household incomes greater than $4000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Shifts in the distribution of equivalised final household income reflect the same pattern of change as seen in other measures of household income described earlier in this chapter (figure 3.23). The distribution has progressively shifted to the right and become flatter since 1988-89. Again, as seen in other measures of household incomes, these shifts have resulted in a higher Gini coefficient, rising from 0.248 in 1988-89 to 0.270 in 2009-10. And while the lengthening of the upper tail in 2009-10 has contributed significantly to this, recalculating the Gini coefficient excluding those incomes in the upper tail which are higher than that seen in other surveys only reduces the Gini coefficient from 0.270 to 0.263.[[7]](#footnote-8) This suggests that the majority of the change in income dispersion is due to the flattening of the distribution.

Figure 3.23 Distribution of household equivalised final income, 1988-89 to 2009-10

Proportion of householdsa

|  |
| --- |
|  |

a For presentation purposes only the income range between $0 and $2000 shown. Negative and final household incomes greater than $2000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

### Changes in family formation are also part of the story

Changes in the ways in which households are formed, and their relative composition within a society, can also influence changes in the distribution of final equivalised income. As discussed earlier, household formation generally narrows the distribution of individual incomes as members within households combine incomes. However, the extent to which this occurs depends on the prevalence of different household types. For example, a shift towards a greater share of single person headed households (lone individuals or single parents) will reduce the narrowing influence of household formation on the distribution of income.

Changes in the share of different household types aside, even in societies where couple households dominate, the characteristics of the ‘pairs’ formed can play a role in changes in the distribution of income over time. The OECD (2011) highlighted how changes in these characteristics of a population have contributed to observed trends in income distributions of OECD countries by exploring trends in:

* partnering — the degree to which couples are formed between individuals who have a high correlation of earnings (termed ‘assortative mating’, see box 3.4)
* household composition — changes in the proportion of single-headed and couple households.

|  |
| --- |
| Box 3.4 How partnering decisions impact on the distribution of household earnings |
| The tendency of individuals to have spouses with similar earnings levels has been termed assortative mating. The level of assortative mating, and changes over time, can influence the impact of household formation on the distribution of household incomes.  In instances of high rates of assortative mating, for a household where one earner is in a high (low) income decile, their spouse is also likely to earn an income in a high (low) decile. This leads to a concentration of high incomes in some households, and a concentration of low incomes in others. This means the spread in individual earnings is reinforced at the household level.  Conversely, where rates of assortative mating are low, it is likely that a high (low) income earner will have a spouse whose income is much lower (higher). In this instance, family formation has an offsetting impact on the spread of individual earnings, meaning that dispersion in household incomes is likely to be much lower than that observed at the individual level. |
|  |
|  |

For Australia, partnering decisions and household composition have both helped to explain changes in the distribution of equivalised gross household earnings over the period from 1985 to 2003 (OECD 2011). In particular, both the increase in single-headed households and rise in degree of assortative mating within couple households contributed to rising levels of inequality in the distribution of equivalised gross household income.

Another lens through which to view household formation is to use labour market attachment. Researchers have found that in households where one partner is without a job, there is a higher chance that the other will also be without a job. Indeed, Australia has one of the highest rates of jobless households amongst OECD countries (Whiteford 2012). As such, changes in the proportion of jobless households help explain some of the observed trends in the distribution of labour and ultimately final income in Australia.

#### Estimating trends in partnering decisions is difficult

The apparent trend observed by the OECD (2011) in partnering decisions (or assortative mating rates) depends heavily on the approach taken. The OECD (2011) examined the proportion of assortative mates by examining couple households where both partners work. Assortative mates in the OECD analysis are those where a husband’s earning decile (based on the distribution of male incomes) is the same (or within a defined range) as their wife’s earning decile (based on the distribution of female earnings).

However, such an approach is sensitive to changes in workforce participation. This can influence the estimates of assortative mating observed in any given year and therefore inferences made about apparent trends. In particular, the OECD’s approach has the potential to overstate changes in assortative mating in instances when household participation and employment rates are increasing over time and, in particular, where such increases are concentrated within certain deciles — as has been the case for Australia between 1988-89 and 2009-10. For example, higher participation tends to increase the proportion of couple households where both partners are working. If this occurs in groups with relatively high assortative mating then the rate of assortative mating may appear to rise as they are now captured within the statistics when in reality there has been no underlying change. Such a change can occur for a number of reasons, such as higher rates of return to work of a skilled second earner after children reach school age or due to greater access to childcare for children under five years of age.

An alternative approach to measuring changes in assortative mating is to include all couple households and examine labour incomes (including those not reporting income) with reference to the distribution of all labour incomes (including zero labour incomes of non-working partners). Applying this approach, if zero incomes are predictors of lower potential labour earnings, as participation increases there are likely to be fewer ‘new’ assortative mates found.

Noting the limitations in determining rates of assortative mating, the alternative approach was applied to examine possible changes since 1998-99. [[8]](#footnote-9) Using a broad definition of assortative mating — partners who earn incomes within one decile of each other[[9]](#footnote-10) — it was found that the proportion of working age couple households (both partners aged 15-65 years) where both partners earn in similar labour income deciles initially fell between 1998-99 and 2003-04 from 33 to 31 per cent, but increased thereafter (from 31 to 35 per cent between 2003-04 and 2009-10). However, some differences exist across households in different income deciles (figure 3.24).

Couple households where one partner’s labour income is the highest decile are also more likely to have the other partner’s income in the same decile — a trend that has increased over time. However, trends within other deciles are mostly inconsistent, with the exception of the bottom two and 9th deciles which, by this measure, have also seen increases in rates of assortative mating.

Figure 3.24 Assortative mating rates, 1998-99 to 2009-10

Proportion of couple households with partners earning similar amounts, 1 lowest decile, 10 highest

|  |
| --- |
|  |

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

#### Household composition shares have stabilised

Compared to the OECD’s period of analysis, over more recent periods household composition has been relatively stable (table 3.5). The proportions of households within broad categories have remained relatively stable between 2003-04 and 2009-10.

Table 3.5 Household structure, 1998-99 to 2009-10

Per cent of all households

|  |  |  |  |
| --- | --- | --- | --- |
| Household structure | 1998-99 | 2003-04 | 2009-10 |
|  | % | % | % |
| Couple with dependent children | 23 | 27 | 26 |
| Couple only | 25 | 26 | 26 |
| Other one family households | 14 | 10 | 12 |
| One parent family with dependent children | 5 | 7 | 6 |
| Lone person | 24 | 25 | 24 |
| Group and multiple family households | 9 | 4 | 5 |

*Source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Indeed, the proportion of single-headed households — the focus of the OECD’s analysis — has fallen slightly from 32 per cent in 2003-04 to 30 per cent in 2009-10. This suggests that household formation has played a much lesser role in the recent changes in Australia’s distribution of household income than previously.

#### And the proportion of jobless households has fallen

The proportion of working age households in which no adult occupant had a job (jobless household)[[10]](#footnote-11) fell between 1993-94 and 2009-10 (table 3.6). This change is consistent with increases in employment rates where members of previously jobless households have shifted into paid work over time. This change, resulting in a shift from social security payments to labour income, is likely to have contributed to the shift to the right observed in the distribution of gross and final household incomes, particularly between 2003-04 and 2009-10.

Table 3.6 Jobless households, 1988-89 to 2009-10

Per cent of all householdsa

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Working age households | |  | Non-working age households | |
| Year | Share | Equivalised final income gap |  | Share | Equivalised final income gap |
|  | % | % | % | | % |
| 1988-89 | 12.8 | 39.8 | 15.6 | | 20.6 |
| 1993-94 | 14.4 | 38.0 | 16.9 | | 19.1 |
| 1998-99 | 14.3 | 38.1 | 16.9 | | 21.7 |
| 2003-04 | 13.3 | 38.3 | 17.4 | | 18.6 |
| 2009-10 | 11.0 | 39.9 | 16.6 | | 22.1 |

a Income gap represents the difference between average incomes for jobless households and those of all households expressed as a per cent of average incomes for all households. That is, on average, how much lower incomes for jobless households are compared to the average household.

*Source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

However, the income gap between the remaining jobless households to all households has increased. Based on equivalised final income, between 2003-04 and 2009-10, the income gap between average equivalised final household income of jobless working age households and average equivalised final income of all households rose from 38.3 to 39.9 per cent. A similar result is seen for non-working age households between 2003-04 and 2009-10 in terms of equivalised final income gaps; however the income gap is considerably lower.

### Annex: Impact of salary sacrifice income on the distribution of gross and final household income

In the 2009-10 Household Expenditure Survey a number of refinements were made such that the data collected were a more accurate representation of the income source defined. One of the largest changes in the 2009-10 compared to the 2003-04 survey was the better accounting of salary sacrifice income.[[11]](#footnote-12)

By mapping individuals to households, household income can be adjusted to remove salary sacrifice income. This was done to examine the sensitivity of the distribution of income to this income item. While salary sacrifice income does influence the level of income earned by households (gross income is on average $21 higher, with final income $26 higher) it has little influence on the shape of the distribution (figure 3.25). As such, the observed trends in the distribution of income appear to be consistent with or without the inclusion of salary sacrifice benefits.

Figure 3.25 Distribution of income with and without salary sacrifice

Proportion of householdsa

|  |  |
| --- | --- |
| Gross household income | Final household income |

a For presentation purposes only the income range between $0 and $5000 shown. Negative and incomes greater than $5000 are present in the data.

*Data source*: Author estimates based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Further, salary sacrifice benefits only have limited influence on the estimated Gini coefficient. For gross and final household income, the estimated Gini coefficient with salary sacrifice income is around 1 per cent higher than it would be if excluded.

Given these impacts, the improved income estimates provided in the 2009-10 survey were used in this study. However, despite the limited impact on the shape of the distribution and its trend, it is likely that the cumulative changes over time in the accounting of income in various Household Expenditure Surveys have influenced the estimates presented in this paper and as such caveats apply. For more detail on survey changes and their impact see appendix A and Wilkins (2013).

1. The observed data are influenced by improvements in survey methodology over time (see appendix B for more details). In each HES, the measure of income is refined to provide values that better match the conceptual definitions used — most notably in the 2003-04 and 2009-10 HESs. However, such improvements appear to have only had a minor impact on the observed trends and instead have influenced levels — see Annex and appendix B for details. [↑](#footnote-ref-2)
2. Mean income for those in the 1st percentile is negative due to the reported losses from an own unincorporated business or negative investment returns. [↑](#footnote-ref-3)
3. Labour earnings are defined as non-zero employee earnings (wages and salaries) and non-zero income from a person’s own unincorporated business. The latter is included to represent the returns to labour supplied to a household’s own business, but will also likely include returns to capital invested in the business. However, as no ‘imputed wage’ is available for unincorporated business owners, this represents the best proxy for labour earnings. [↑](#footnote-ref-4)
4. This estimate was obtained by recalculating the Gini coefficient when market incomes greater than those seen in 2003-04 were excluded — excluding 0.1 per cent of households. [↑](#footnote-ref-5)
5. This is further complicated by inter-temporal consumption smoothing. Consumption in any given period is influenced by borrowing and saving decisions, thereby distorting the calculation of tax shares. [↑](#footnote-ref-6)
6. The approach in this study follows that of the ABS. The equivalising factor applied to household income is calculated using the ‘modified OECD’ equivalence scale. The equivalising factor is determined by applying a score of 1 to the first adult in the household, with each additional adult (those 15 years or older) allocated 0.5 points, and each child under the age of 15 allocated 0.3 points. [↑](#footnote-ref-7)
7. The top equivalised incomes in 2009-10 were excluded which reduced maximum incomes in 2009-10 to equivalent levels to those seen in other surveys — a maximum of around $6000 per week. Recalculating the Gini coefficient over this reduced sample resulted in an estimate of 0.265 compared with 0.270 for the full sample. This represents 25 per cent of the change in the Gini coefficient from 1988-89 to 2009-10. [↑](#footnote-ref-8)
8. The analysis has focused on the period 1998-99 to 2009-10 as it was not possible to link individual earnings to household groups in the 1993-94 CURF. [↑](#footnote-ref-9)
9. If one partner earns income within decile i, their partner is classified an assortative mate if their income falls within decile i-1, i or i+1. [↑](#footnote-ref-10)
10. A working age household is defined as one where the age of the household reference person is below 65 years. [↑](#footnote-ref-11)
11. Salary sacrifice is defined by the ABS (2012a, p. 164) as ‘An arrangement under which an employee agrees contractually to forgo part of the remuneration, which the employee would otherwise receive as wages and salaries, in return for the employer or someone associated with the employer providing benefits of a similar value’. [↑](#footnote-ref-12)