Institute for Fiscal Studies

Living Standards, Poverty and Inequality in the UK: 2016

Pre-release of Chapter 4, 'Income Inequality in Childhood'

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JRF JOSEPH ROWNTREE FOUNDATION

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4. Income Inequality in Childhood

Key findings

Household (BHC) income inequality among children has fallen since the mid 1990s.	This was driven by falls in inequality between the middle and the bottom of the distribution. In 1994–95, the child at the median had a household income 80% higher than the child at the 10th percentile. By 2014–15, this had fallen to 70%. Most of this fall in inequality has occurred since the recession.
Household income inequality is much lower among children than among working-age adults without dependent children.	This is mainly due to the benefit and tax credit system supporting the incomes of low-income households with children.
An important reason for falling child inequality has been a remarkable fall in the share of children living in a workless household.	In 1994–95, 60% of the poorest fifth ('quintile') of children lived in a workless household. This fell to 47% by 2007–08 and 37% by 2014–15. These falls in household worklessness contributed significantly to the growth in incomes in the poorest two quintiles of the child income distribution and had no effect on other quintiles.
The fall in the 50:10 income ratio for children since 1994–95 is not explained by changes in benefit incomes.	This is despite large increases in entitlements. A key reason is that rising employment rates for poor parents acted to reduce their benefit entitlements. However, changes in benefit incomes have prevented an increase in inequality between middle-income and high-income children since 1994–95.

Key findings continued

The proportions of income from different sources for richer and poorer children have changed substantially in the last two decades.

For the poorest fifth of children, the proportion of net income coming from employment is now 42%, up from 33% in 2007–08 and from 27% in 1994–95.The proportion coming from benefits has fallen from 73% to 61% over the 20 years. In contrast, middle-income children now get 30% of household income from benefits, compared with 22% in 1994–95, while the proportion coming from employment has fallen from 77% to 70%.

There has been a big reduction in the disparity in income earned by men and women in households with children.

This has occurred right across the distribution. For example, in 1994–95, 19% of household income for middle-income children came from women's employment and 58% from men's employment. By 2014–15, the proportion from women had risen to 26% and the share from men had fallen to 43%.

Children in lower- and middle-income households are now much more likely to live in private rented accommodation than was the case 20 years ago.

For the middle fifth of children, this was accompanied by a big fall, from 69% to 50%, in the proportion living in an owner-occupied house. For the poorest fifth of children, there was a big fall in the proportion in social housing (from 50% to 37% over 20 years).

When thinking about how resources are distributed in society, one aspect of distribution that people are particularly likely to care about is inequality across children in the resources available to their households. This is not only because children have clearly had no choice in determining their household's income, but also because such differences during childhood could affect their 'life chances', including the jobs that they get and their health, education and wider well-being.

Despite a large amount of research and commentary focusing on child poverty measures and on overall income inequality in the UK, there has been much less on income inequality amongst children. Here we examine the level of income inequality in childhood, how it has changed (particularly over the last 20 years) and what has driven these changes.

It is worth being clear what we mean by 'child income inequality'. Although most dependent children do not receive income from employment, state benefits or any other source directly, we can proxy the living standards of children by looking at the household income of the household in which they live, adjusting for the size and composition of the

household (known as 'equivalising').[1] We measure incomes before housing costs are deducted. We use the income data underlying the latest figures from the Department for Work and Pensions (DWP)'s Households Below Average Income (HBAI) series, published on 28 June 2016. The HBAI series is derived from the Family Resources Survey (FRS), a survey of more than 20,000 households in the UK that asks detailed questions about income from a range of sources. All comparisons of income levels over time are conducted after adjusting for inflation. Further details regarding the methodology of HBAI can be found in the appendix.

As ever, income is only a proxy for living standards, and of course there are a number of non-material factors, such as the wider family environment, that we cannot properly capture in data such as these but which are hugely important for children; this analysis is not intended to paint a comprehensive picture of inequality in children's well-being or life chances.

One important factor – particularly for children's life chances – that we cannot measure here is access to high-quality education. Previous work by IFS researchers (Belfield and Sibieta, 2016) has shown that, since the mid 1990s, financial resources have increased massively for schools with poorer children relative to schools with children from middle-income or affluent backgrounds. This occurred particularly in the late 1990s, but continued through the 2000s and 2010s too. There is also some evidence that, at least during the 2000s, there was a decrease in the gap between poor and rich children in terms of their probability of entering higher education (see Crawford and Greaves (2015)).

We should also note that most of this chapter focuses on inequality across the majority of the child income distribution, rather than looking at inequality at the very top or very bottom of the distribution. For example, we do not examine trends in incomes for the richest 1% of children. This is primarily due to data quality issues.

The remainder of this chapter proceeds as follows. Section 4.1 provides a brief summary of the level of child inequality in Great Britain and summarises recent trends. Section 4.2 examines the reasons for changes in childhood income inequality over the last 20 years. Section 4.3 looks at other changing characteristics of richer and poorer households with children. Section 4.4 concludes.

4.1 Trends in household income inequality in childhood

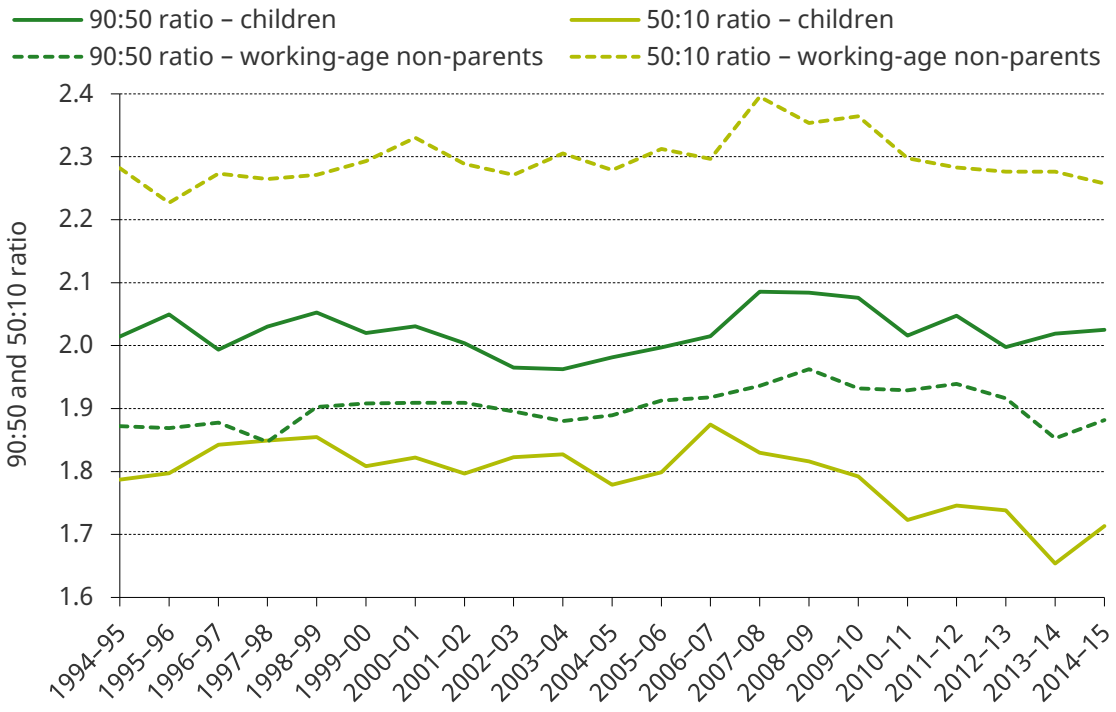
In this chapter, we analyse household income inequality amongst children ('child income inequality') in the same way as we analysed income inequality for the whole population in Chapter 3. Figure 4.1 shows two ratio measures of child income inequality that measure the difference between two percentile points of the distribution: the 50:10 ratio, which measures inequality between the middle and the bottom of the child income distribution, and the 90:50 ratio, which measures inequality between the top and the middle.[2] The

[1] We use the same definition of a child as in the HBAI data (and the government's child poverty statistics): a child is any person aged 0–15, plus anyone aged 16–19 living at home and who is in full-time education.

[2] We use data since 1994–95 as that is the first year that the Family Resources Survey data were used to construct Households Below Average Income data.

figure shows the trends in these measures since 1994–95 and also compares them with the same measures for working-age adults who do not have dependent children ('working-age non-parents'). To give a sense of monetary amounts, Table 4.1 shows the net income levels that different types of households with children would need to have to be at the different percentiles. Because needs differ greatly depending on household size, larger households need higher incomes to reach any given percentile.

Figure 4.1. 90:50 and 50:10 ratios for children and working-age non-parents **(GB)**



Source: Authors' calculations using the Family Resources Survey, various years.

Table 4.1. Annual (unequivalised) net household income at different percentile points of the 2014–15 child income distribution, for different household types (GB)

	10th percentile	50th percentile	90th percentile
Single parent, one child	£10,900	£18,600	£37,700
Single parent, two children	£13,400	£22,900	£46,400
Couple, one child	£15,000	£25,700	£52,000
Couple, two children	£17,500	£30,000	£60,700
Couple, three children	£20,000	£34,300	£69,400

Note: Figures are rounded to the nearest £100. The children in these examples are all assumed to be under the age of 14.

Source: Authors' calculations using the Family Resources Survey, 2014–15.

Figure 4.1 shows that, in 2014–15, the 50:10 ratio for children was 1.7, meaning a middle-income child had an income 70% higher than a child at the 10th percentile of the child income distribution (i.e. a child with an income higher than only 10% of children). The

90:50 ratio for children was 2.0. The contrast with the income distribution among adults of working age who do not have children is instructive. For that group, the 50:10 ratio is 2.3 – clearly higher than for children. A key reason for lower levels of inequality for children than for working-age adults without children on this measure is that inequality between the middle and the bottom of the child income distribution is pulled down significantly by the existence of the benefit and tax credit system. Meanwhile, the 90:50 ratio for working-age non-parents is actually a little lower than that for children, at 1.9. This is at least in part because high-earning adults are disproportionately likely to be of an age when they have dependent children.

The figure also shows how income inequality for children has changed over the last 20 years. Despite declines in the late 1990s and early 2000s, both inequality ratios were similar at the onset of the recession to their levels in 1994–95. There have been significant changes in recent years though. Since 2007–08, the child 50:10 ratio has fallen by 0.12, while the 90:50 ratio has fallen by less – by 2014–15, it was 0.06 below its 2007–08 level.

As has been shown elsewhere (for example, Belfield et al. (2014)), one of the main reasons for falling inequality since the recession was that benefit incomes were relatively stable at a time when workers' earnings fell sharply, and benefits are a more important income source for households with low incomes – although, as we show later, this is less true now than it was in the mid 1990s. Over the last 20 years as a whole, the fall in inequality between the middle and the bottom of the child income distribution is also larger than the equivalent fall for working-age non-parents.

Note that all of this analysis, in common with the analysis of inequality in Chapter 3, is undertaken using incomes measured before housing costs are deducted (BHC). Measures of after-housing-costs (AHC) income inequality for children have evolved a little differently, with the 50:10 ratio around the same level in 2014–15 as it was in 1994–95 (rather than lower, as for the BHC figure), having risen during the mid 2000s and fallen back since the recession.

4.2 Explaining trends in income inequality in childhood

It is important to understand what has driven changes in income inequality in childhood over the last 20 years. To do this, we focus on the role that changes in household worklessness and employment income have played in trends in inequality, alongside the role of changes in benefit incomes. We also look at how these have combined to change the composition of income for poor, middle-income and richer children.

Household worklessness and employment income

Given that the most important component of income, on average, is earnings from the labour market, an important driver of income inequality among children is the existence of households without an adult in paid work ('workless households').[3] Table 4.2 shows how worklessness has changed over the last 20 years. It splits the population of children into five equally-sized groups based on their (equivalised) household income, called

[3] Analysis in Chapter 5 focuses on the effect that changes in worklessness have had on poverty.

quintiles, where quintile 1 is the poorest 20% of children and quintile 5 is the richest 20% of children.

The table shows that, in 2014–15, 37% of the children in the poorest fifth of the child population lived in a workless household. This compares with only 10% of children in the middle fifth being in a workless household and less than 1% in the richest fifth. Given that most income comes from employment, this gradient is to be expected. However, the gradient has reduced in a dramatic way over the past two decades as worklessness has

Table 4.2. Household employment characteristics, by quintile of child income distribution (GB)

Quintile of child income distribution	Lives in workless household	Mother in work	Father in work	Father in work (among those with father in household)
1994–95				
1 (poorest)	60%	16%	29%	40%
2	41%	31%	43%	70%
3	10%	59%	75%	91%
4	2%	74%	89%	98%
5 (richest)	0%	80%	95%	99%
All	23%	52%	66%	82%
2014–15				
1 (poorest)	37%	30%	46%	64%
2	22%	43%	57%	84%
3	10%	69%	67%	93%
4	3%	84%	84%	97%
5 (richest)	0%	85%	94%	98%
All	15%	62%	70%	89%

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

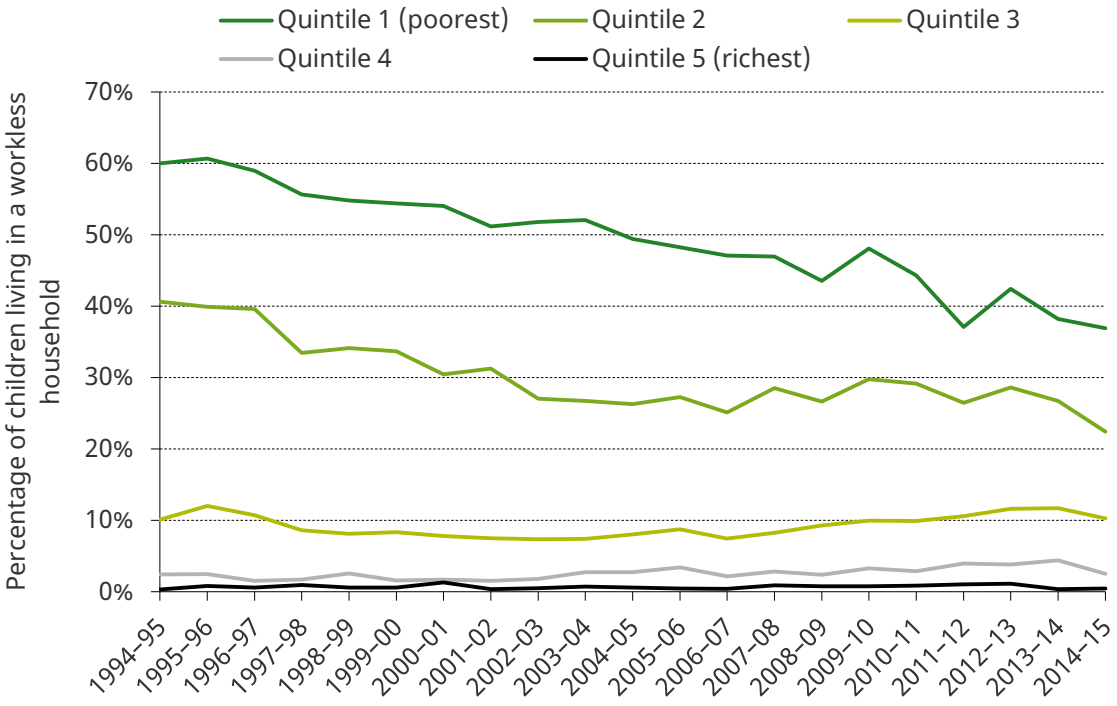
declined. In 1994–95, 60% of the poorest fifth of children lived in a workless household – the worklessness rate in that quintile has fallen by 23 percentage points since then. In the second quintile, the worklessness rate has fallen from 41% to 22%. In the top three quintiles of the child income distribution, the household worklessness rate has stayed approximately constant (at a very low level).

The fall in household worklessness has been driven by increases in the employment rates of both mothers and fathers. The proportion of children in the bottom quintile with their mother in work has almost doubled from 16% to 30% over the last 20 years and the proportion with a father in work (and in the household) has risen from 29% to 46%. When we look only at households in the bottom quintile in which there is a father present, this proportion has risen from 40% to 64%. Employment rates of both mothers and fathers have also risen in the upper income quintiles, but this has not led to falls in household

worklessness because it has instead increased the number of households with (at least) two adults in work.

Figure 4.2 shows that the large falls in worklessness for the poorest two quintiles are quite secular trends that have occurred almost continuously over the last 20 years. Worklessness in the poorest quintile fell from 60% in 1994–95 to 47% in 2007–08 and, despite a small increase during the recession, has fallen by a further 10ppt overall since 2007–08. A similar, albeit less dramatic, trend is seen in the second income quintile.

Figure 4.2. Percentage of children living in a workless household, by quintile of child income distribution (GB)



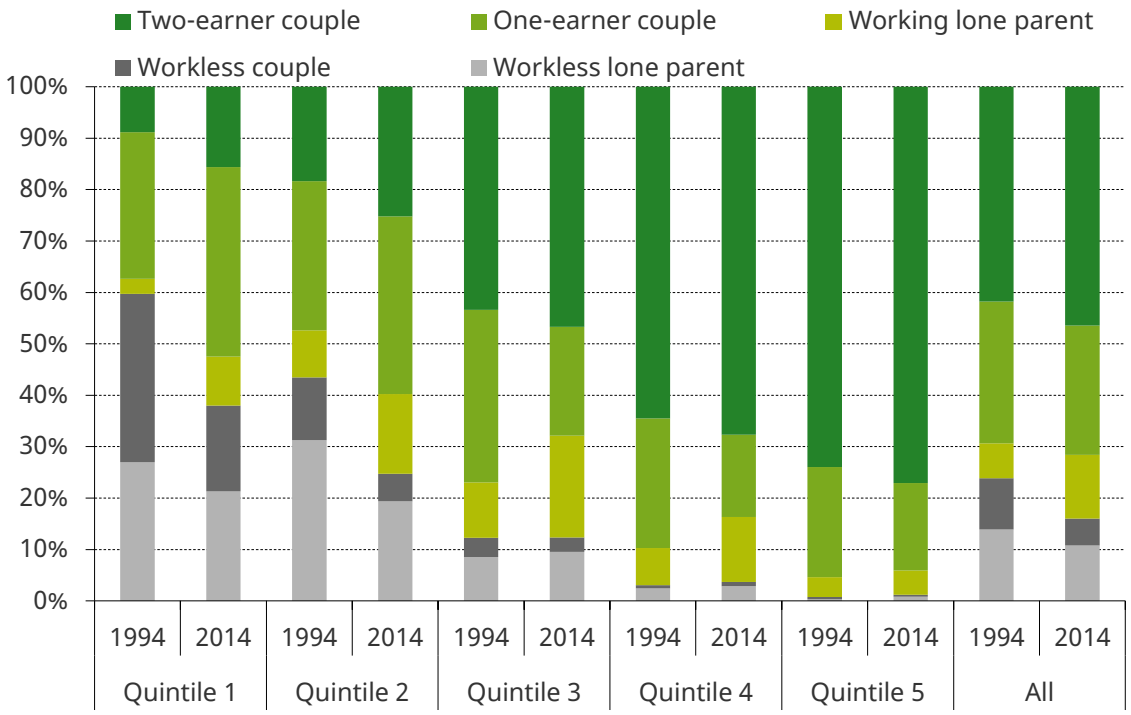
Source: Authors' calculations using the Family Resources Survey, various years.

Figure 4.3 looks more broadly at how patterns among families with children have changed across the income distribution, showing the proportion of children in each quintile who live in families with different numbers of workers and parents.[4] It is clear from the figure that falls in worklessness in the lower quintiles were driven by falls in the worklessness amongst both lone parents and couples. In terms of working families, the overall proportion of children living in a one-earner-couple family fell slightly from 28% to 25%, and these families moved significantly further down the income distribution: for example, the proportion of middle-quintile children living in a one-earner-couple family fell from 34% to only 21%, but in the poorest quintile this proportion rose from 29% to 37%. There was also a rise in the proportion of children with two working parents, from 42% to 46%; this rise occurred right across the income distribution.

[4] Note that Figure 4.3 looks specifically at the work status of the parents of the child, whereas there could be other workers in the household who are not their parents.

To determine the extent to which falls in household worklessness have affected child income inequality, and to understand the other drivers of changing inequality, we can decompose income growth over the last 20 years in each quintile into that driven by changes in employment income, benefit and tax credit income and 'other' income (which is very small for households with children). In the same way as is done in Figures 3.11 and 3.12 in Chapter 3, we then split the change driven by net employment income into that driven by changes in household worklessness (shown in light green) and that driven by changes in the earnings of households with at least one adult in work (shown in dark

Figure 4.3. Percentage of children living in different types of family, by quintile of child income distribution, 1994–95 and 2014–15 (GB)



Note: Years refer to financial years. Quintiles refer to quintile of the child income distribution.

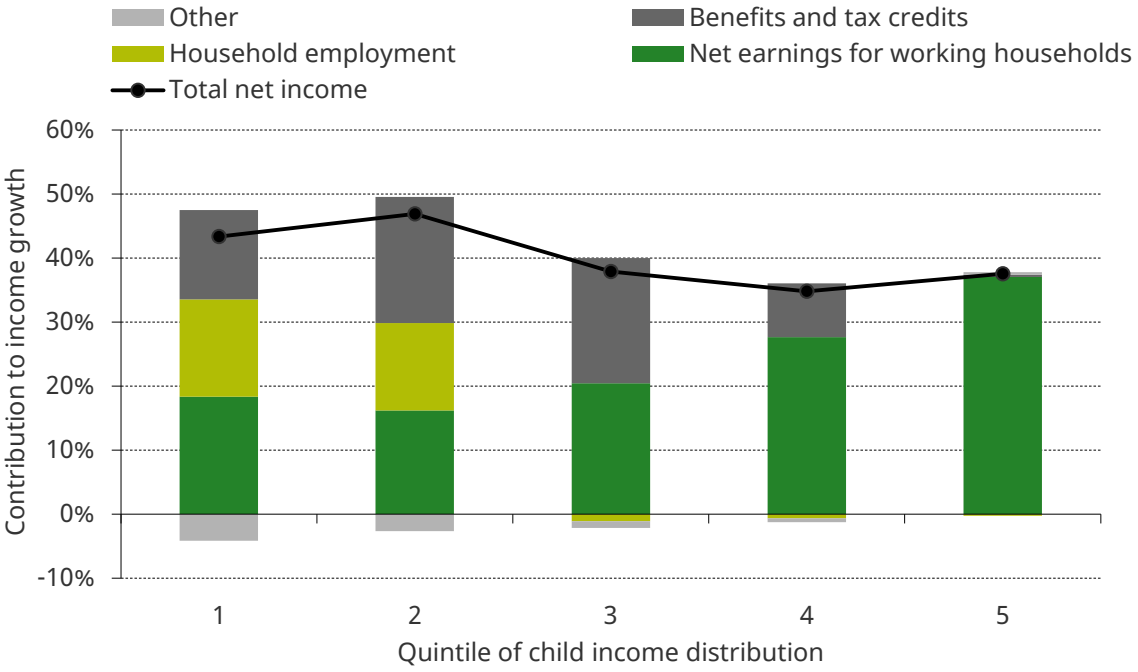
Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

green). As explained more fully in Chapter 3, this analysis is *not* a counterfactual analysis. For example, it does not show how total income would have grown in the absence of changes in employment, because for that one would need to account for the knock-on effects of increases in employment reducing entitlements to benefits. However, it does show how different sources of income have contributed to income growth in different parts of the income distribution and how this translates into changes in inequality. The result of this analysis is shown in Figure 4.4.

The black line in the figure shows that mean household income growth among children over the last 20 years has been 43% in the bottom quintile, 47% in the second quintile, and between 35% and 38% in the third, fourth and fifth quintiles. This is consistent with the falling 50:10 ratio and relatively stable 90:50 ratio seen in Figure 4.1.

Figure 4.4 shows that falls in worklessness have helped to reduce inequality between the bottom and the middle of the child income distribution. Falls in worklessness significantly contributed to income growth in the first and second quintiles, making contributions of 15ppt and 14ppt respectively. This has not been important for the middle and top of the income distribution. Put another way, falls in worklessness have contributed over a third of all income growth for the bottom quintile since 1994–95, 30% of the income growth in the second quintile and nothing for the upper quintiles, and they have been a major reason for the falls in the 50:10 ratio for children seen over the last 20 years.

Figure 4.4. Decomposition of net income growth from 1994–95 to 2014–15, by quintile of child income distribution (GB)



Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

Changing benefit incomes and childhood inequality

Figure 4.4 also allows us to understand how changes in benefit incomes have affected child inequality. The contributions of benefits and tax credits to incomes in different parts of the distribution are very different from those of employment income. The fall in the 50:10 ratio measure of inequality – the gap between the bottom and middle – was not an artefact of changing benefit incomes. Since 1994–95, benefits and tax credits have accounted for 14ppt of overall income growth in the bottom quintile. This compares with 20ppt for both the second and middle quintiles, and nothing for the top quintile.[5]

[5] One might think that a reason for the growth in benefit incomes in the middle quintile could be rises in rents, which lead to higher housing benefit payments. However, the vast majority of the growth in benefit income in the middle quintile (and the lower quintiles) is driven by increases in benefits other than housing benefit.

This raises questions, given that previous work (for example, Browne and Hood (2015)) has shown that reforms to the tax and benefit system were targeted to boost in particular the incomes of poor children. Why does this analysis show that changes in benefit incomes have not acted to reduce inequality between the bottom and the middle of the child income distribution? There are at least two likely contributing factors.

First, the falls in household worklessness mean that poor children are now far more likely than in the past to have working parents. Given that most working-age benefits are means tested, large increases in employment income for the poorest families with children will have, all else equal, reduced the amount of benefits and tax credits that they receive. This suppresses growth in benefit incomes in the bottom two quintiles of the child income distribution.

The second potential reason that changes in benefit incomes did not end up reducing inequality between the bottom and the middle of the child income distribution could be that increases in benefits for some groups moved them up towards the middle of the distribution. For example, the big increases in generosity of in-work support for lone parents would have moved those households further up the income distribution relative to working families who did not receive such large benefit increases. In so far as this acts to move children into the middle of the distribution, it need not act to reduce inequality between the middle and the bottom.[6]

Figure 4.4 also shows that changes in benefit income have had a significant impact on inequality between the middle and the top of the distribution. Changes in net employment income acted to increase household income inequality within the top half of the child distribution, as one would expect given that earnings grew over this period and they make up a greater share of income for the highest-income households, and that earnings inequality increased. But this effect was counteracted by the large growth in benefit incomes in the middle of the income distribution, leaving the 90:50 ratio roughly unchanged.

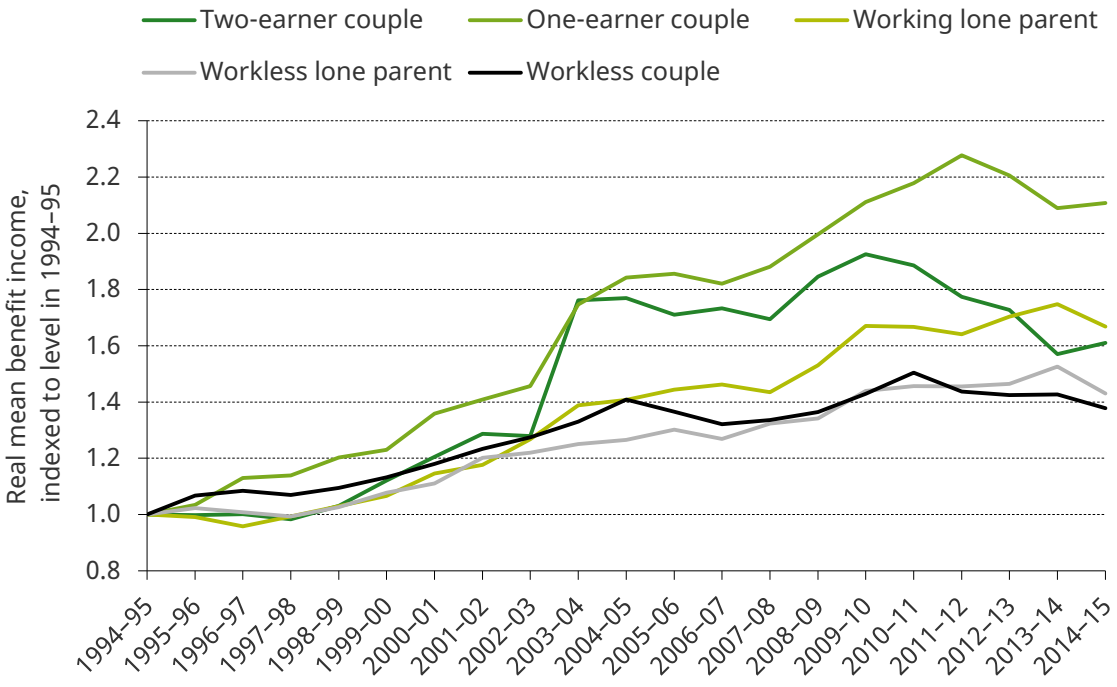
One important reason that growth in benefit incomes has helped to prevent a rise in inequality between the middle and the top of the child income distribution is the very large proportional growth in benefit incomes for working families with children. This is largely because some of the most significant increases in entitlements in the late 1990s and early 2000s were to in-work support (in particular, tax credits), and indeed some of the beneficiaries were groups who would previously have had no means-tested entitlements at all.

Figure 4.5 and panel A of Table 4.3 show the growth in average real benefit incomes since 1994–95 for different family types. The largest proportional increases in benefit incomes have been for working families with children, who generally have higher incomes than workless families. Figure 4.5 also shows that this pattern was driven by certain periods. In particular, average benefit incomes paid to one-earner and two-earner couples with

[6] This is a case of the more general issue of ‘re-ranking’ of households in the distribution, which cannot be observed with repeated cross-section data such as the FRS which do not follow the same households over time. See Jenkins and Van Kerm (2006) for an analysis of the effect that re-ranking can have on impressions of what has happened to the income distribution over time.

children jumped in 2003–04, when working families' tax credit was replaced with working tax credit and child tax credit. Some of the growth in benefit incomes for children of working couples has been reversed in recent years, particularly for two-earner couples. This is to be expected given cuts that make child tax credit extend less far up the income distribution, as well as real cuts to working tax credit.

Figure 4.5. Growth in mean equivalised benefit income for children, by family type (GB)



Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, various years.

Table 4.3. Mean household equivalised benefit income for children, by family type and by income quintile (GB)

A. By family type (based on work and number of parents)

	Workless lone parent	Working lone parent	Workless couple	One-earner couple	Two-earner couple	All
1994–95	£194	£98	£166	£45	£24	£72
2014–15	£278	£164	£229	£95	£38	£104
% change	43%	67%	38%	111%	61%	44%

B. By quintile of child income distribution

	Quintile 1 (poorest)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (richest)	All
1994–95	£114	£118	£65	£39	£25	£72
2014–15	£135	£162	£123	£73	£28	£104
% change	19%	37%	90%	86%	9%	44%

Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded. Monetary figures have been rounded to the nearest £1. Cash numbers have been expressed as an equivalent for a childless couple.

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

Overall, we can summarise the growth in average real benefit incomes by looking at the proportional growth in benefit incomes across the child income distribution. This is shown in panel B of Table 4.3. The highest proportional growth in benefit incomes was in the middle quintile, at 90% over the last 20 years. This compares with 37% in the second quintile and 19% for the poorest fifth of children. It is important to be clear that, on average, the level of benefits paid to lower-income children is much higher than that paid to middle-income children, as the monetary figures in Table 4.3 make clear. Figure 4.5 just shows the proportional growth, which for some middle-income families was high, but starting from a low base. Hence, as a driver of growth in overall income, benefit reforms were still most important for households with children that would otherwise have had the lowest incomes, as numerous analyses have shown (for example, Browne and Hood (2015)).

In summary, falls in household worklessness over the past two decades mean that inequality between low-income and middle-income children is lower than it used to be. Meanwhile, inequality between high-income and middle-income children has been stable because of two offsetting factors: earnings trends have pushed inequality up but middle-income households with children receive more benefits than they used to.

The changing composition of household income for children

The trends documented above have had important implications for the proportion of household income coming from different sources for richer and poorer children. Table 4.4 allows us to see how much different income sources have grown, and what proportion of

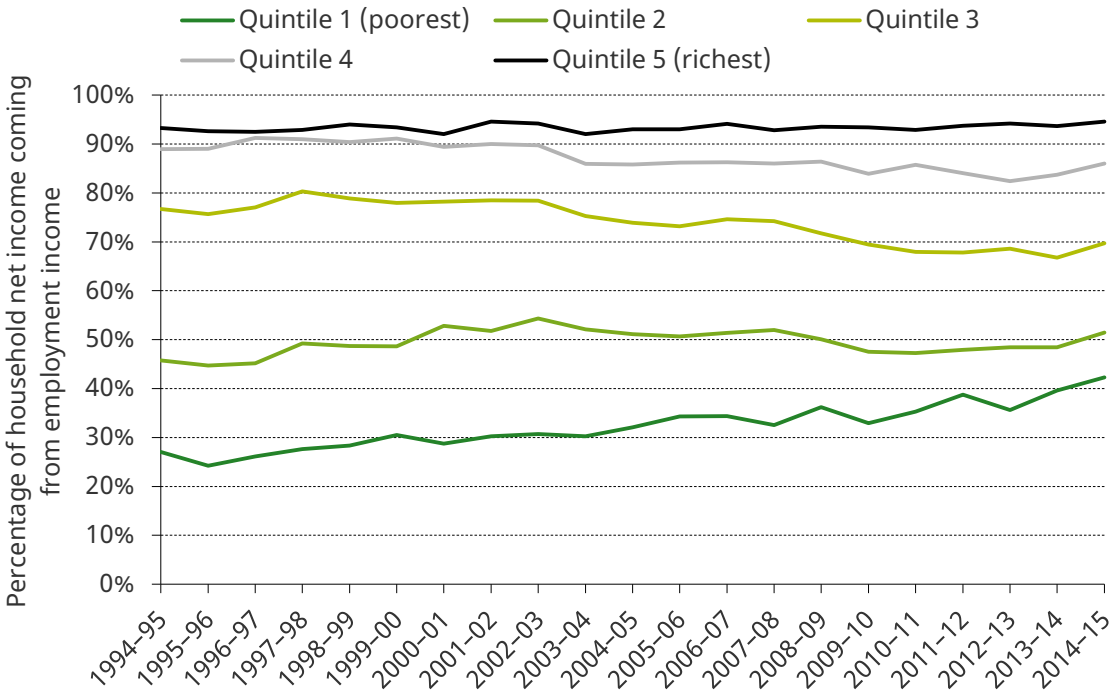
Table 4.4. Components of household income, by quintile of child income distribution (GB)

Quintile of child income distribution	Household net employment income	Female net employment income	Male net employment income	Benefits
	Share of household income in 1994–95			
1 (poorest)	27%	7%	20%	73%
2	46%	11%	35%	53%
3	77%	19%	58%	22%
4	89%	23%	66%	10%
5 (richest)	93%	25%	69%	4%
	Share of household income in 2014–15			
1 (poorest)	42%	15%	27%	61%
2	51%	16%	36%	49%
3	70%	26%	43%	30%
4	86%	31%	55%	14%
5 (richest)	95%	34%	61%	3%

Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

Figure 4.6. Net employment income as a percentage of household income, by quintile of child income distribution (GB)



Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, various years.

income is now composed of income from benefits and from employment (after taxes). The latter is also split into employment of men and of women. By 2014–15, 42% of the net household income of the poorest fifth of children came from employment – up from 27% in 1994–95. On the other hand, for middle-income children, the proportion of income coming from employment has fallen, from 77% to 70%. For the top quintile, it was almost unchanged at around 95%.

Figure 4.6 shows the fraction of household income coming from employment in each quintile for each year since 1994–95. The strong growth in the importance of employment income for the bottom quintile is a secular trend, as its share has increased in almost every year since the mid 1990s, mirroring the fall in worklessness for this quintile. However, the change in the importance of employment income for the poorest fifth of children has accelerated in recent years: the share has risen from 33% to 42% since 2007–08 alone. This is likely to be related to falls in earnings, which have pulled more working households down into the lower reaches of the income distribution (see Belfield et al. (2015)).

The trends for the second quintile show a different pattern. The share of income coming from employment rose quickly between 1994–95 and 2002–03 (from 46% to 54%), but gradually fell back from 2003–04 onwards to reach 47% in 2010–11. This is partly the result of no falls in household worklessness for this group between 2003–04 and 2010–11 (see Figure 4.2) and the large growth in benefits for working families shown in Figure 4.5. The

effect of the increases in benefits to working families in 2003–04 can be seen in the third and fourth quintiles, with the fraction of income from employment falling for both groups.

Table 4.4 also shows the decomposition of employment income into that from men and women. We see that for families with children, there has been a big reduction in the disparity in income earned by men and women in the household. Of course, quite apart from the impacts of changing male and female employment on inequality when measuring incomes at the household level, this kind of reduction in within-household inequality is in itself an important development. It has occurred across the distribution. To take the middle income quintile of children as an example, in 1994–95 only 19% of household income came from women's employment, as opposed to 58% from men's employment. By 2014–15, the proportion from women had risen to 26% and that from men had fallen to 43%.

Finally, the corollary to the changing relative importance of employment incomes has been changes in the relative importance of benefit incomes. Over the last 20 years, the fraction of income coming from benefits for the poorest fifth of children has fallen from 73% to only 61%, while the fraction coming from benefits for middle-income children has risen from 22% to 30%. It is broadly unchanged, at a very low level (3–4%), for the richest fifth of children.

It is crucial for the design of policy, and for the understanding of current and future trends in incomes among households with children, to be aware of these radical changes in the sources of income received by different kinds of household. Changes to benefit rates will now tend, on average, to affect children who are significantly further up the distribution than in the past (though, of course, it remains the case that they will tend to affect low-income children most), while earnings trends for parents have the potential to affect the poorest children to a far greater extent than would have been the case in the past.

4.3 Characteristics of rich and poor households with children

Section 4.2 showed that, compared with 20 years ago, there have been big changes in the composition of household income in different parts of the child income distribution. Here, we briefly document some of the other differences between richer and poorer children and how they have changed. This is important when thinking about how inequalities in income relate to other inequalities, such as in housing.[7] Table 4.5 shows some characteristics of households with children in each quintile of the (child) income distribution in 1994–95 and 2014–15.

Poor children are less likely to be in large families than they used to be. And the average age of children in the top and bottom quintiles is now essentially the same, whereas young children used to be over-represented in poorer families. This fits with Brewer et al. (2013), who showed that poverty reductions in the early 2000s were particularly concentrated in families with at least three children and among families with young children, in large part because they were relatively favoured by benefit changes.

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[7] Note that there is much of interest that is not captured in the FRS data, such as health or access to high-quality education.

Table 4.5. Characteristics of households with children, by quintile of child income distribution, 1994–95 and 2014–15 (GB)

Quintile of child income distribution	No. of children in family	Child's age	Lives in lone-parent family	Social-rented home	Owner-occupied home	Private-rented/ other home
1994–95						
1 (poorest)	2.8	7.6	30%	50%	40%	9%
2	2.4	7.8	40%	45%	43%	12%
3	2.1	8.2	19%	20%	69%	11%
4	2.0	8.4	10%	8%	85%	7%
5 (richest)	1.9	8.7	4%	3%	94%	4%
All	2.3	8.1	21%	25%	66%	9%
2014–15						
1 (poorest)	2.3	8.4	31%	37%	37%	26%
2	2.4	8.2	34%	35%	36%	29%
3	2.1	8.3	29%	22%	50%	27%
4	1.9	8.2	15%	10%	71%	19%
5 (richest)	1.8	8.3	6%	2%	87%	11%
All	2.1	8.3	23%	21%	56%	23%

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

The table also shows the housing tenure of richer and poorer households and how it has changed. As is well known, there has been a fall in homeownership. The proportion of children living in an owner-occupied home has fallen from 66% to 56% since 1994–95, with the biggest falls in the third and fourth quintiles. For example, in the mid 1990s, nearly 70% of middle-income children lived in owner-occupied housing and 30% in rented accommodation. By 2014–15, the proportions were 50:50.

Finally, Table 4.5 also shows that there have been big changes in the place in the income distribution of children living in lone-parent families. While there has been a fall in the proportion of the poorest 40% of children living in lone-parent families, there have been rises in the proportion of children who are living in a lone-parent family in each of the top three quintiles. This is due to the substantial income growth seen by children of lone parents compared with children of couples over the last 20 years: the median household income of children of lone parents was two-thirds (66%) of that of children of couple parents in 1994–95, but 77% in 2014–15. A key factor has been large employment increases among lone parents – according to the Labour Force Survey, lone mothers' employment rates rose from 43% in 1996 to 62% in 2014[8] – though benefit and tax credit increases have

[8] http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171776_388440.pdf.

been important too (and there is evidence that tax credits contributed to the rise in lone-parent employment[9]).

Table 4.6 brings together the findings from Table 4.5 with some of those from earlier in the chapter, highlighting an interesting pattern. In key respects, poor and middle-income children look more similar to each other economically than they used to; while middle-income children look more different from high-income children than used to be the case. Not only is the 50:10 income ratio (measured BHC) lower in 2014–15 than it was 20 years previously. The rise in the importance of benefit income for the middle 20% and the rise in the importance of employment income towards the bottom mean that the sources of income between the two groups are much less different than they used to be as well. And the housing tenures of middle-income children are now much closer to those of the lowest-income children than to those of the highest-income children, whereas 20 years ago they were roughly midway between the two.

Of course, the incomes of each of these groups have changed significantly in absolute terms since 1994–95. Strong income growth in the late 1990s and early 2000s means that real median income for children has grown by 39% overall since 1994–95, although real median income for children was only 2% higher in 2014–15 than it was in 2007–08. Average income for middle-quintile children is now higher than it was for the fourth quintile in 1994–95. Hence, while middle-income children look more similar to low-income children than they were 20 years ago, today's middle-income children have income levels more akin to those of high-income children 20 years ago. On the other hand, homeownership

Table 4.6. Changes in the composition of income and household owner-occupation rates for children in the poorest, middle and richest income quintiles (GB)

Quintile of child income distribution	Percentage of income from employment	Percentage of income from benefits	Lives in owner-occupied home
1994–95			
1	27%	73%	40%
3	77%	22%	69%
5	93%	4%	94%
2014–15			
1	42%	61%	37%
3	70%	30%	50%
5	95%	3%	87%

Note: When considering incomes, children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

[9] For example, see Blundell and Hoynes (2004).

rates really have fallen in absolute terms across the board, as well as becoming more similar between the middle and the bottom of the child income distribution.

4.4 Conclusion

This chapter has focused on trends in household income inequality among children – a topic likely to be of particular interest either in its own right or because of the effects that inequalities in childhood may have on the life chances of different children.

Inequality between the middle and the bottom of the distribution is significantly lower than it was 20 years ago. In 1994–95, the child at the median had an income 80% higher than a child at the 10th percentile. By 2014–15, median child income was only 70% higher than at the 10th percentile. A major reason for this measure of child inequality falling has been the remarkable fall in the share of children living in a workless household. The poorest fifth of children are now 20 percentage points less likely to live in a workless household. Given the government's focus on household worklessness in its 'life chances' agenda, in Chapter 5 we investigate in more detail the potential for further falls in worklessness to reduce poverty.

Meanwhile, inequality between high-income and middle-income children has been stable because of two offsetting factors: earnings trends have pushed inequality up, but middle-income households with children get more benefits than they used to. The significant role of benefit income in holding down inequality between the middle and the top of the distribution is perhaps not the story one would have expected.

Not only are income differences smaller between poor and middle-income children than they were 20 years ago, but the composition of income is more similar too. It is, of course, still the case that poorer children's households tend to get more of their income from benefits, and less from earnings, than higher-income households with children. But this disparity has changed markedly. It is crucial for the design of policy, and for the understanding of current and future trends in incomes among households with children, to be aware of these radical changes in the sources of income received by different kinds of household. For example, falls in household worklessness are likely to be a less powerful lever in helping the poorest children than was the case in the past. Benefit levels have the potential to affect middle-income households with children more than they used to. And trends in parental pay are now much more important in determining the plight of the poorest children (and slightly less important for children from middle-income households) than used to be the case.

Appendix. The Households Below Average Income (HBAI) methodology

Income as a measure of living standards

Most people would consider that well-being consists of more than a simple measure of material circumstances. However, even if we wanted to, it would be extremely hard to define an objective index of well-being, let alone to measure it. The main approach to measuring living standards taken in the government's HBAI document (and in this report) is to focus solely on material circumstances and, for the most part, to use household income as a proxy for that.

For families with children and pensioners, 'material deprivation' indicators are also used, to complement the information on living standards provided by income. These indicators are based on questions that effectively ask people whether they can afford to do particular things, with the precise procedure differing between families with children and pensioners. Chapter 5 provides analysis of changes in material deprivation according to these indicators and how they relate to income-based measures of poverty. We also analyse, in Section 5.3, the relationship between income and other measures of low living standards or potential financial difficulties (for example, the self-reported burden of debt), some of which do not form part of the official HBAI document.

Even as a measure of material living standards, the HBAI income measure has some important limitations. There is some evidence of under-reporting of income in the HBAI data, particularly among those households with extremely low reported incomes.[10] Even for those households whose income is measured correctly, HBAI provides a 'snapshot' measure – reflecting actual, or in some cases 'usual', income at around the time of the Family Resources Survey interview. Measuring income in this way means the HBAI income statistics capture both temporary and permanent variation in income between individuals, but the latter would generally be regarded as a better measure of their relative welfare. For example, having a temporarily low income is unlikely to have severe consequences for current material living standards if individuals are able to draw on previously accumulated wealth. Statistics based upon current incomes will attribute the same level of welfare to people with the same current income, regardless of how much savings or other assets they have, or how much they spend. Consumption would arguably make a better measure of material well-being, but reliable data can be harder and more expensive to collect. Using consumption as the measure of well-being can change our interpretation of who is 'poor' and how rates of poverty have changed over time.[11]

The treatment of housing costs

The government's HBAI publication provides information on two measures of income. One measure captures income before housing costs are deducted (BHC) and the other is a

[10] See Brewer, Etheridge and O'Dea (2016).

[11] See Brewer, Goodman and Leicester (2006), Brewer and O'Dea (2012), Browne et al. (2013) and Brewer, Etheridge and O'Dea (2016).

measure after housing costs have been deducted (AHC). The key housing costs captured in the HBAI data are rent payments and mortgage interest payments, but they also include water rates, community water charges, council water charges, structural insurance premiums for owner-occupiers, and ground rents and service charges. Mortgage capital repayments are not included, on the basis that these represent the accumulation of an asset (they increase net housing wealth) and are therefore better thought of as a form of saving than as a cost of housing. Costs such as maintenance, repairs and contents insurance are also not included.

When looking at changes in average living standards across the population as a whole, there is usually a strong case for focusing on income measured BHC. This is because most individuals exercise a considerable degree of choice over housing cost and quality, at least in the medium and long term, and for those individuals housing should be treated as a consumption good like any other (i.e. the amount that households choose to spend on it should not be deducted from income). For instance, consider two households with the same BHC income, one of which decides to spend a larger fraction of that income on a larger house in a better neighbourhood, while the other has different preferences and chooses to spend the difference on other things. On an AHC basis, the former household would be considered poorer, but their living standards may be comparable.

There are, however, a number of reasons to focus on income measured AHC in certain circumstances.

First, income measured AHC may provide a better indicator of the living standards of those who do not face genuine choices over their housing, particularly if housing cost differentials do not accurately reflect differences in housing quality. This is likely to be the case for many in the social rented sector, where individuals tend to have little choice over their housing and where rents have often been set with little reference to housing quality or the prevailing market rents.

Second, the existence of housing benefit means that measuring income AHC has an advantage over BHC as a measure of living standards for housing benefit recipients. This is because housing benefit reimburses individuals specifically for their rent. Consider a household with no private income whose rent increases by £10 per week. This might trigger a £10 increase in housing benefit entitlement to cover the rent increase. Hence, AHC income would remain unchanged but BHC income would increase by £10 per week. Therefore, where rent changes do not reflect changes in housing quality – for example, when they simply reflect changes in the rules governing social rents – the subsequent changes in BHC (but not AHC) income can give a misleading impression of the change in living standards of households on housing benefit.

Third, measuring income AHC may be more appropriate than BHC when comparing households that own their home outright (and so pay no rent or mortgage interest costs) with those that do not. On a BHC basis, an individual who owns their house outright will be treated as being as well off as an otherwise-identical individual who is still paying off a

mortgage; an AHC measure, though, would indicate that the former was better off.[12] This is particularly important when comparing incomes across age groups – pensioners are much more likely to own their homes outright than working-age adults.

Fourth, comparing changes in AHC incomes may provide better information about relative changes in living standards when some households have seen large changes in their housing costs that are unrelated to changes in housing quality. This is particularly relevant when looking at the period between 2007–08 and 2009–10, as rapid falls in mortgage interest rates reduced the housing costs of those with a mortgage significantly, while the housing costs of those who rent their homes (or own them outright) were not directly affected. When incomes are measured BHC, changes over time in the incomes of all households are adjusted for inflation using a price index that accounts only for *average* housing costs. This will understate the effect of falling housing costs on living standards for those with a mortgage and overstate it for those without a mortgage. Changes in income measured AHC do not suffer from this issue, since changes in housing costs are accounted for by subtracting each household's actual housing costs from its income. This difference is important to bear in mind when looking at changes in poverty and inequality. Those towards the bottom of the income distribution (around the poverty line), as well as the youngest and oldest adults, are less likely than average to have a mortgage.

Income sharing

To the extent that income sharing takes place within households, the welfare of any one individual in a household will depend not only on their own income, but also on the incomes of other household members. By measuring income at the household level, the HBAI statistics implicitly assume that all individuals within the household are equally well off and therefore occupy the same position in the income distribution. For many households, this assumption provides a reasonable approximation – for example, many couples benefit roughly equally from income coming into the household, no matter who the income is paid to. For others, it is unlikely to be appropriate. Students sharing a house are one probable example. Perfect income sharing is by no means the only 'reasonable' assumption that one could make: for example, one could effectively assume that there is complete income sharing *within* the different benefit units[13] of a household but not *between* them, by measuring incomes at the benefit unit level rather than at the household level (and making an assumption about how housing costs are split across benefit units). However, given the data available, perfect income sharing is one of the least arbitrary and most transparent assumptions that could be made.

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[12] A conceptually better solution to this problem would be to impute an income from owner-occupation and add this to BHC income. Unlike the AHC measure, this would also capture the benefits to individuals of living in better-quality housing. See Brewer and O'Dea (2012) for an example of such an imputation procedure.

[13] Benefit units are the level at which benefits are paid to people. A benefit unit can be either a single person or a couple, plus any dependent children of that single person or couple. For this reason, a benefit unit is frequently described as a 'family'. However, people living together who are related can be in two separate benefit units. For example, a household composed of a couple living with one of their parents would be two separate benefit units, as would a household composed of two adult siblings living together.

Comparing incomes across households

Controlling for household size and structure is important when comparing living standards across households. If two households, one composed of a single adult and the other composed of a couple with two children, both have the same total income, the living standard of the couple with children will usually be significantly lower than that of the single adult, as the larger household normally has a greater need for material resources. Therefore, if household income is to reflect the standard of living that household members experience, and if we are to compare these incomes across different household types, then some method is required to adjust incomes for the different needs that different households face.

The official HBAI income statistics currently use the modified OECD equivalence scale for BHC incomes, and an AHC variant from the Department for Work and Pensions (DWP), shown in Table A.1. These equivalence scales are used to adjust incomes on the basis of household size and composition. For example, when income is measured before housing costs, the OECD scale implies that a single person would require 67% of the income that a childless couple would require to attain the same standard of living. So, to get the equivalent income of that single person, we divide their actual income by 0.67. This process is referred to as 'income equivalisation'. Having equivalised household incomes, cash income figures are expressed as the equivalents for a childless couple, i.e. a household's income is expressed as the amount that a childless couple would require to enjoy the same standard of living as that household.

The modified OECD scale only takes into account the ages and number of individuals in the household, but there may be other characteristics affecting a household's needs. An important example of these would be the disability or health status of household members. The conventional methodology in HBAI would place a household receiving disability benefits higher up the income distribution than an otherwise-equivalent household without such benefits. But if this higher level of income only compensates the household for the greater needs it has or the extra costs it faces, then the standard of living of this household may be no higher.[14]

Table A.1. Modified OECD equivalence scales

	BHC equivalence scale	AHC equivalence scale
First adult	0.67	0.58
Spouse	0.33	0.42
Other second adult	0.33	0.42
Third and subsequent adults	0.33	0.42
Child aged under 14	0.20	0.20
Child aged 14 and over	0.33	0.42

[14] See also section 5.3 of Brewer et al. (2008).

Sample weighting, and adjusting the incomes of the 'very rich'

The incomes analysed in this report are derived from the Family Resources Survey (FRS) and, prior to 1994–95, the Family Expenditure Survey (FES). These surveys are designed to provide a broadly representative sample of households in Great Britain until 2001–02, and in the whole United Kingdom from 2002–03 onwards. However, because they are voluntary surveys, there is inevitably a problem of non-response, which may differ according to family type and according to income. Such non-response bias is dealt with in two ways. First, weights are applied to the data to ensure that the composition of the sample (in terms of age, sex, partnership status, region and a number of other variables) reflects the true UK population.[15] For example, if there are proportionately fewer lone parents in the sample than there are in the population, then relatively more weight must be placed upon the data from those lone parents who actually do respond.

Second, a special adjustment is applied to correct for the particular problems in obtaining high response rates from individuals with very high incomes and the volatility in their reported incomes. This adjustment uses projected data from HMRC's Survey of Personal Incomes (SPI) – a more reliable source of data for the richest individuals based on income tax returns.[16] Individuals with an income above a very high threshold are assigned an income level derived from the SPI, which is an estimate of the average income for people above that threshold in the population (the threshold and replacement income value are set separately for pensioners and non-pensioners). Note that this procedure will therefore not capture the *inequality* within the very richest section of the population. The weights are also adjusted to ensure that the number of households containing very high-income individuals in the weighted data is correct. There is no corresponding correction for non-response, or for misreporting of incomes, at the lower end of the income distribution, meaning caution should be used when considering those with the very lowest incomes.

Adjusting for inflation

All of the description of the HBAI methodology so far sets out how we, following the government's HBAI methodology, measure living standards in any one year. However, because of inflation, the same cash incomes do not bring the same purchasing power over time. It is therefore necessary to adjust for inflation and express all figures in real terms, which we do in the prices of the latest year of data (2014–15 in this report).

We account for inflation using variants of the Consumer Prices Index (CPI). For comparing BHC measures of income over time, we use a variant of the standard CPI that includes owner-occupiers' housing costs (mortgage interest payments, and insurance and ground rent for owner-occupiers); for AHC measures, we use a variant of the CPI that excludes all housing costs (including rent and water costs, which are part of the standard CPI).These variants are available from the Office for National Statistics back to 1996 and 2000 respectively.[17] Before that, we use an approximation to those indices generated by

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[15] See Department for Work and Pensions (2016).

[16] See Burkhauser et al. (2016) for an analysis of the limitations of this adjustment and a discussion of alternatives.

[17] See https://www.ons.gov.uk/economy/inflationandpriceindices/adhocs/005567dwpdeflatorsrequest.

combining RPI-based indices that are available back to 1961 with an estimate of the historic 'formula effect' (the amount by which the RPI overstates inflation).[18]

The income measure summarised

In the analysis in this report, our main measure of living standards is *household equivalised income after deducting taxes and adding benefits and tax credits*, expressed as the equivalent income for a couple with no dependent children and in average 2014–15 prices. For brevity, we often use this term interchangeably with 'income'.

[18] For more details on the construction of this series, see https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/530905/households-below-average-income-quality-metholodogy-2014-2015.pdf. The resulting 'deflators' are available online at http://www.ifs.org.uk/uploads/HBAI_inflation.xlsx.

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