Equality and Human Rights Commission

Research report

Distributional results for the impact of tax and welfare reforms between 2010-17, modelled in the 2021/22 tax year

Interim findings, November 2017

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Equality and Human Rights Commission

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Executive summary

This report summarises the first set of results from our research project 'Tax, welfare, social security and public spending: a cumulative impact assessment', conducted by Landman Economics and Aubergine Analysis. It demonstrates the impact of all modelled reforms to the following parts of the tax and welfare systems:

- Income tax
- National Insurance Contributions (NICs)
- Indirect taxes (VAT and excise duties)
- Means-tested and non-means-tested social security benefits
- Tax credits
- Universal Credit (UC)

National Minimum Wage/National Living Wage (not formally part of the tax-benefit system, but modelled here).

Our findings show that the overall impact of policy decisions taken between 2010 and 2017 is regressive.

In cash terms, those in the bottom half of income distribution, lose more than those in the top 10 per cent. The contrast is even more striking for policy decisions taken in the 2015-17 Parliament (the impacts of which are for the most part, we believe, still to come).

The evidence from our investigation show that the reforms we have examined will actually boost the incomes of the top fifth of those surveyed, while substantially reducing those in the bottom half.

Overall our analysis, while subject to further refinement, shows clearly that a range of people who share certain protected characteristics will be significantly adversely impacted by these reforms:

- Ethnic minority households will be more adversely impacted than White households, with average losses for Black households about 5% of net income – more than double that for White households.

- Households with one or more disabled member will be significantly more adversely impacted than those with no disabled members. On average, tax and benefit changes on families with a disabled adult will reduce their income by about £2,500 per year; if the family also includes a disabled child, the impact will be over £5,500 per year. This compares to a reduction of about £1,000 on non-disabled families.
- Lone parents lose around 15% of their net income on average – almost £1 in every £6. By contrast, the losses for all other family groups are much smaller, from nothing to 8%, especially for those that are relatively well-off.
- Women lose more than men from reforms at every income level. Overall, women lose around £940 per year on average, more than double the losses of around £460 for men.
- The biggest average losses by age group, across men and women, are experienced by the 65-74 age group (average losses of around £1,450 per year) and the 35-44 age group (average losses of around £1,250 per year).

Introduction

This report summarises the first set of results from our research project ‘Tax, welfare, social security and public spending: a cumulative impact assessment’, conducted by Landman Economics and Aubergine Analysis. It demonstrates the impact of all modelled reforms to the following parts of the tax and welfare systems:

- Income tax
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- National Minimum Wage/National Living Wage (not formally part of the tax-benefit system, but modelled here).

All the reforms from the 2010-15 Conservative/Liberal Democrat Government and the 2015-17 Conservative majority Government that can be modelled using data from the UK Family Resources Survey (FRS) and Living Costs and Food Survey (LCF) are modelled. As yet, no reforms from the Conservative minority administration elected in June 2017 are modelled as none had been announced at the time of writing. However, any reforms which are announced in the Budget on 22 November will be included in the analysis of distributional impacts in the final report from this project due to be published in early 2018.

The focus of this work is analysis of results by protected characteristics as defined in the Equality Act 2010 as well as other instructive breakdowns of the results (for example, by household income decile and household type).

Analysis of the impacts of direct taxes, NICs and welfare benefits is produced using FRS, while the indirect taxes analysis is produced using the LCF. The analysis uses three years of pooled data (currently 2012-13 to 2014-15 for FRS, although the final results will include 2015-16 data as well) to increase sample size. The results in this document are presented for Britain as a whole (the final research report will break down the results separately for England, Scotland and Wales, and for regions within England).

We have improved and extended the methodology used in our 2014 report, with more data and a more granular modelling approach.[1] This means that we can focus on the impact of specific policy changes that are likely to have a large impact on certain groups, for example the change from Disability Living Allowance (DLA) to Personal Independence Payments (PIP) that we could not model before.

[1] There are six specific improvements in the methodology for this new research project compared to our 2014 report. They are as follows: (1) use of the more detailed disability information in the FRS dataset introduced for 2012/13 and subsequent years; (2) improvements to the individual-level distributional analysis; (3) improvements to some of the tax-benefit algorithms (for example, modelling dividend taxation; (4) improved modelling of above-inflation increases in minimum wages (for example, the National Living Wage); (5) use of multi-year datasets for the FRS and LCF data to increase sample size and the accuracy of the results; and (6) allowing for partial take-up of means-tested benefits, tax credits, and Universal Credit.

Results by household income distribution

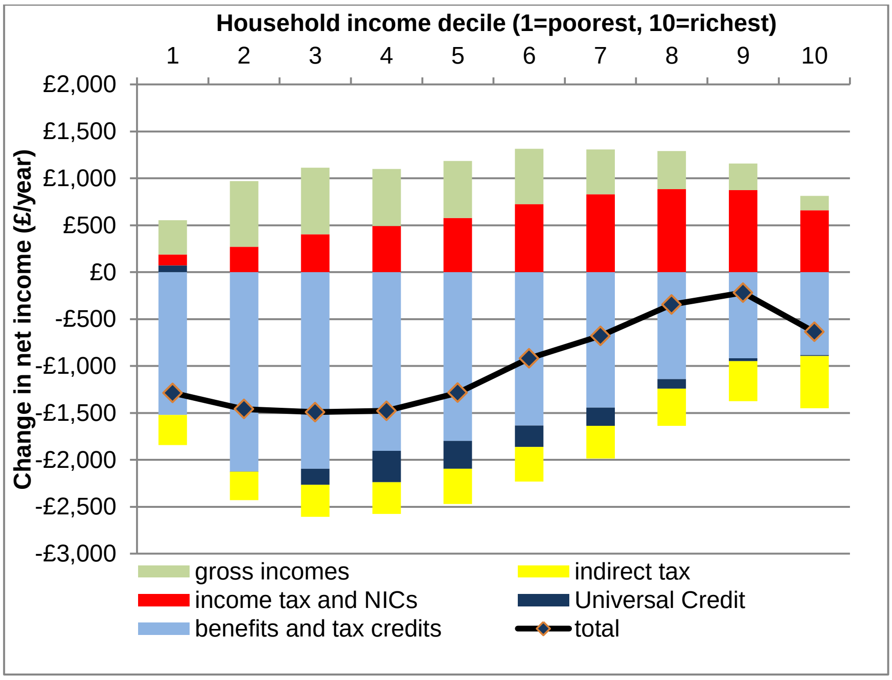
Figures 1, 2 and 3 show the impact of tax and welfare reforms since 2010 according to where households are located in the income distribution. The analysis is performed by decile: households are ranked according to their estimated disposable income in the 2021/22 tax year (adjusting for household size and composition) and then the income distribution is divided into 10 equally sized segments or ‘deciles’, from poorest to richest.

Cash impacts

Figure 1 shows the annual cash impact of all modelled tax and welfare reforms, plus real-term increases in the National Living Wage and National Minimum Wage, legislated between 2010 and 2017, as they are calculated to affect real disposable incomes in the 2021/22 tax year. The impacts are broken down into five different types of reform, with the key results explained below:

- There are average gains across all deciles from changes to income tax and NICs (shown in red on the graph), with the largest cash gains (around £800 per year) in deciles 8 and 9, and the smallest gain in the bottom decile. Lower deciles gain less from the income tax and NICs changes because many of the adults in these deciles are either not in work or do not earn enough to pay much tax and National Insurance, if at all.
- There are average losses across all deciles from the changes to indirect tax (shown in yellow), with the largest cash losses in the top decile. These effects are largely driven by the increase in VAT from 17.5% to 20% in 2011. Although fuel duty has been cut significantly in real terms between 2010 and 2017, the reductions in fuel duties are not large enough to offset increases in VAT and Insurance Premium Tax.

Figure 1: Cash impact of each type of reform by household income decile



Note: Annual cash impact of 2010-17 reforms in 2021-22.

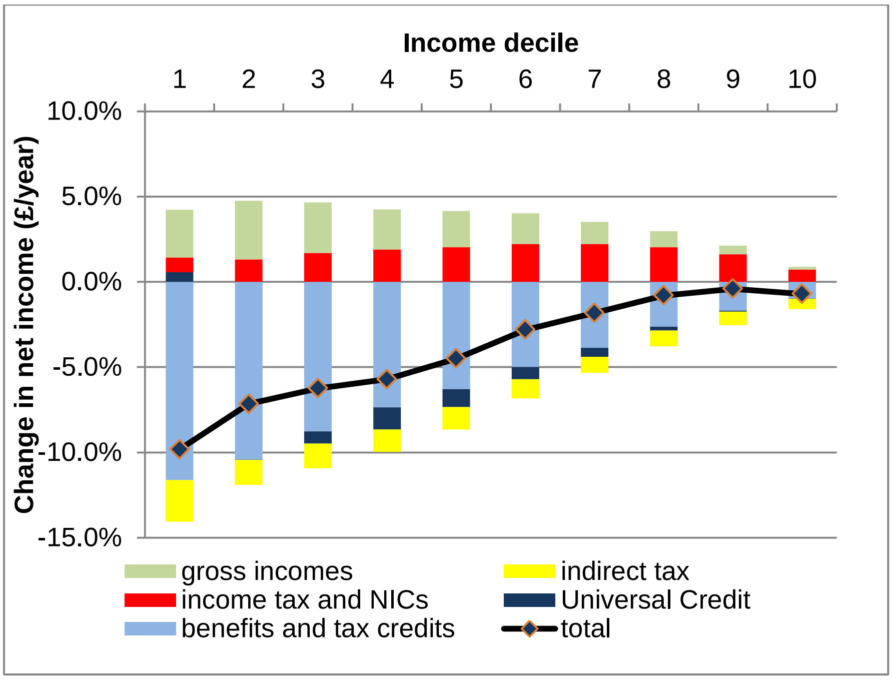
- The introduction of, and above-inflation increases in, the National Living Wage (and smaller increases to the National Minimum Wage for under-25s), shown in green on the graph, have a positive impact on disposable incomes across all deciles, with the biggest average gains in deciles 2 and 3.
- By far the biggest impact of any of the individual components of Figure 1 is the reforms to benefits and tax credits (shown in light blue), which lead to large cash losses in each decile, and particularly deciles 2 and 3 where average losses are over £2,000 per household. The losses are much smaller in deciles 9 and 10, at the top of the income distribution (although still large, averaging around £900 per household).
- The replacement of tax credits and most of the existing means-tested benefit system with UC, shown in dark blue on the graph, leads to further cash losses across most of the income distribution, particularly deciles 3 through 8. UC leads to average gains in the lowest decile (although these are very low) mainly because we assume that overall take-up rates for UC will be higher than for the individual benefits it replaces.
- The black ‘total’ line shows the total impact of all reforms. Overall, average net cash losses are largest for the lowest 40% of households at around £1,500 per year. Decile 9 has the smallest cash loss at around £200 average.

Impacts as a percentage of household income

Figure 2 shows the same distributional analysis as Figure 1 but with one difference: changes in net income for households in each decile are expressed as a percentage of average net household income within each decile in the baseline tax and benefit scenario, rather than in cash terms.

- Overall, the impact of tax and welfare changes (plus the changes to minimum wages) is regressive across the bottom nine deciles – that is, losses are larger for poorer households than richer households. However, households in the top decile lose more of their net income (0.7%) than households in the 9th decile (0.4%).
- Households in the lowest decile lose around 10% of their net incomes from the policy reforms on average. In other words, on average a household in the bottom decile will have lost £1 in every £8 of net income by 2021-22 as a result of tax and welfare reforms, taking into account minimum wage effects.
- By comparison, on average a household in decile 9 loses only £1 in every £250 of net income by 2021-22 as a result of the reforms.

Figure 2: Impact of each type of reform as a percentage of net income, by household income decile



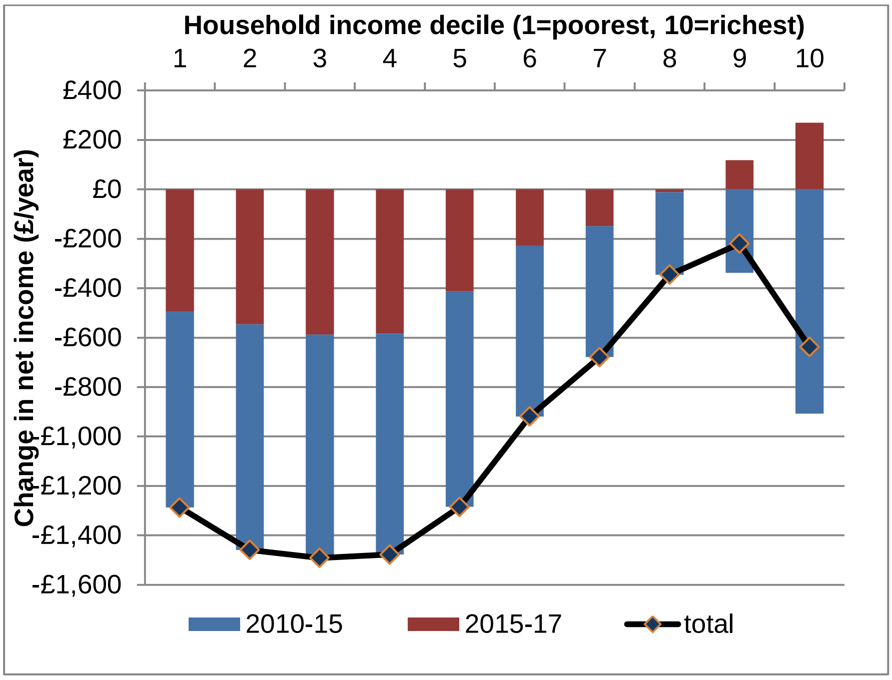
Note: Annual cash impact of 2010-17 reforms in 2021-22.

Impact of reforms by the parliament they were legislated in

Finally in this section, Figure 3 shows the cash impact of all policy reforms according to which parliament they were legislated in, with reforms from the 2010-15 Coalition Government in blue, and reforms from the 2015-17 Conservative Government in red. Hence the 'total' line here is the same as in Figure 1, but this figure shows a breakdown by which parliament the reforms were put onto the statute book, rather than the type of reform. The key findings are:

- During 2010-15, reforms had the largest negative impacts in the bottom five deciles of the income distribution, ranging from a reduction of almost £800 in net income in decile 1 to a reduction of more than £900 in deciles 2 and 3.
- Above decile 4, the negative impacts of the 2010-15 reforms are smaller as we go further up the distribution until decile 9, where they are smallest (at around £340).
- The negative impacts of the 2010-15 Parliament for the top decile are just over £900 – much bigger than for decile 9, largely due to changes to NICs and the higher rate income tax threshold.
- However, during 2015-17 the impact of reforms for the top two deciles was actually positive (an average increase of income of around £120 in decile 9 and £270 for the top decile), whereas the impact for the bottom seven deciles was substantially negative (with the largest losses of just under £600 for decile 4). In other words the reforms made by the 2015-17 Government saw a net gain for high income households, which was not the case in the 2010-15 Government.

Figure 3: Cash impacts of reforms made during 2010-15 and 2015-17 Parliaments, by household income decile



Note: Annual cash impact of 2010-17 reforms in 2021-22.

Results by ethnicity of adults in household

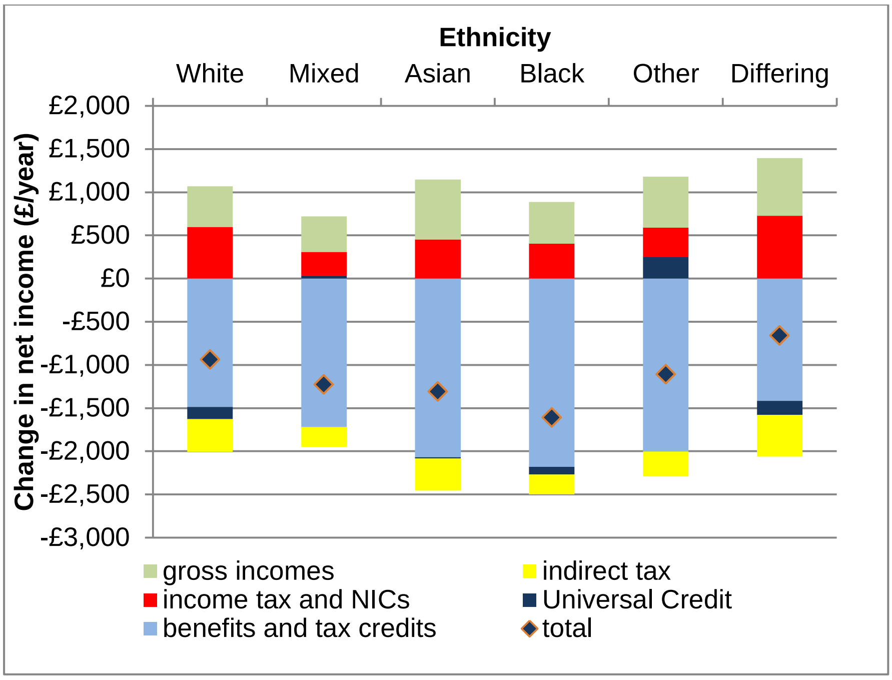
Cash impacts

Figure 4 shows impacts by the ethnicity of adults in each household in the FRS/LCF data. Households where all the adults are one particular ethnicity are classified into one of the first five columns ('White', 'Mixed', 'Asian', 'Black' and 'Other').[2] Multi-adult households where the adults are different ethnicities (e.g. a Black adult and a White adult) are classified into the 'differing' column. The key results are as follows:

- Cash losses from the tax, welfare and wage reforms are largest for 'Black' households (annual average losses of around £1,600 shown by the diamond), and smallest for 'White' (average around £950) and 'Differing' (average around £650) households.
- These patterns are driven partly by larger losses from benefit and tax credit changes for 'Black' households than other households, and partly by larger gains from income tax and NICs changes and the minimum wage measures (gross income effects) for 'White' and 'Differing' households.
- 'Asian' households experience large reductions in net incomes from the benefit and tax credit changes but they also gain from the gross income changes (i.e. National Living Wage). Overall cash losses are therefore greater than for 'White' and 'Differing' households, but less than for 'Black' households.

[2] The Family Resources Survey uses the following broad categories for its published statistics: (1) White; (2) Mixed/multiple ethnic groups; (3) Asian (subdivided into Indian, Pakistani, Bangladeshi, Chinese and other Asian); (4) Black (including African, Caribbean and Black British); and (5) Other (ethnicities which do not fit into any of the other four categories).
Department for Work and Pensions (2017), 'Family Resources Survey, United Kingdom, 2015/16: Background note and methodology'. Available at: https://www.gov.uk/government/statistics/family-resources-survey-financial-year-201516 [accessed: 23 October 2017].

Figure 4: Cash impact of each type of reform by ethnicity of adults in household



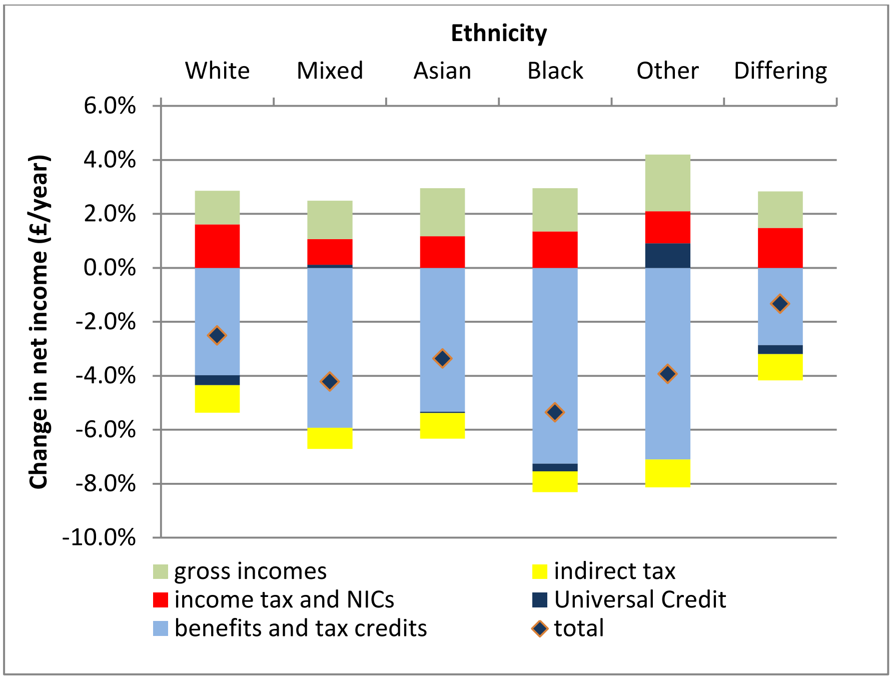
Note: Annual cash impact of 2010-17 reforms in 2021-22.

Impacts as a percentage of household income

Figure 5 shows the results by ethnicity of adults in each household as a percentage of household income. The key findings are:

- Overall losses as a percentage of net income are largest for ‘Black’ households, averaging over 5%.
- The next biggest percentage losses are for ‘Mixed’ and ‘Other’ households, at around 4% in each case. ‘Other’ households would have fared worse than this on average except for the fact that UC leads to gains in income for this group, unlike for ‘White’, ‘Black’ and ‘Differing’ households where UC leads to losses.

Figure 5: Impact of each type of reform as a percentage of household net income, by ethnicity of adults in household



Note: Annual cash impact of 2010-17 reforms in 2021-22.

Results by household disability

Impacts for the ‘core’ and ‘wider’ disability groups under the Equality Act 2010 definition

Figure 6 shows the impacts of different types of reforms as a percentage of household income for households under a nine-way disability classification. The FRS uses a ‘core’ and a ‘wider’ definition of the disability, where ‘core’ disabled people are those who fall within the definition of disability used in the Equality Act 2010, which defines disability as those who have a physical or mental impairment that has a 'substantial' and 'long-term' negative effect on your ability to do normal daily activities. The FRS data also includes a ‘wider’ disabled group, which includes people who are not limited in their daily lives in the time period of the survey.

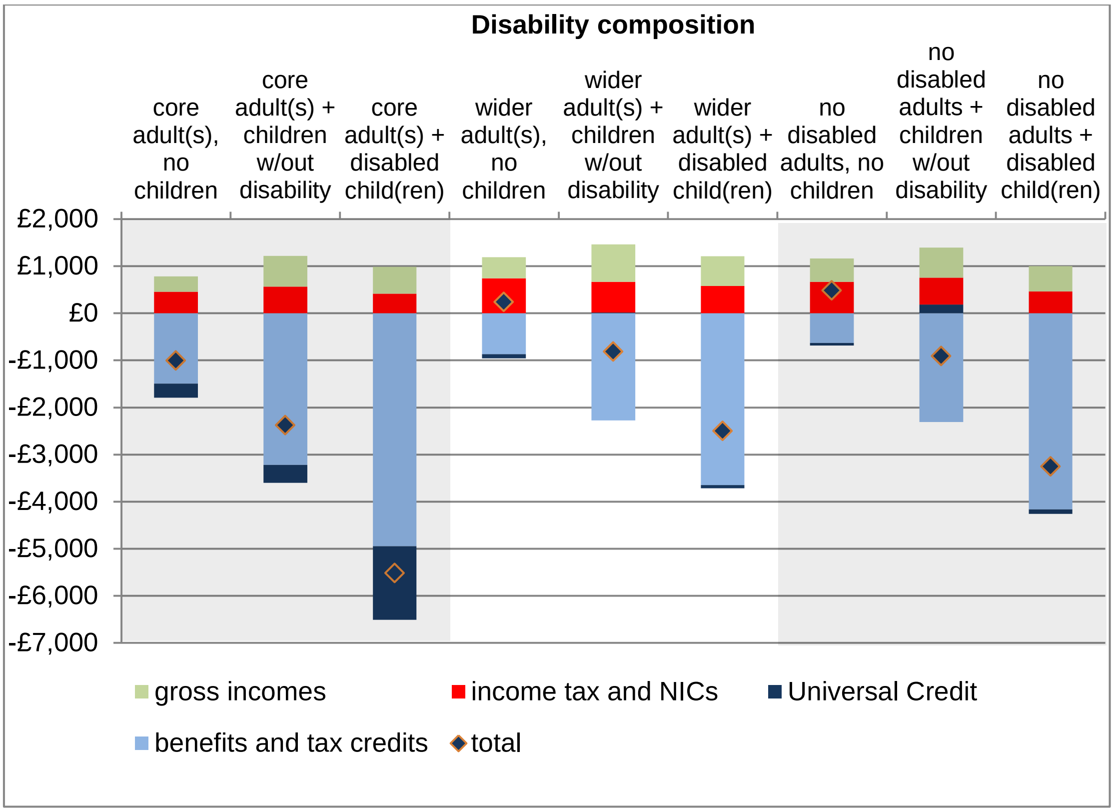
In Figure 6, households are broken down into three broad categories based on whether:

- there is at least one ‘core’ group disabled adult in the household
- there is at least one ‘wider’ group disabled adult but no core disabled adults, or
- there are no ‘core’ or ‘wider’ disabled adults in them.

Within these categories, households are classified according to presence or absence of disabled children as follows:

- No children
- Children, none with a disability (‘core’ or ‘wider’ definition)
- Children, at least one disabled (‘core’ or ‘wider’ definition)

Figure 6: Cash impact of each type of reform by disability composition of household



Note: Annual cash impact of 2010-17 reforms in 2021-22.

This results in nine categories, as shown in Figure 6. There are two 'gradients' of impact running through Figure 6. Firstly, households with 'core' disabled adults experience greater average cash losses from the direct tax,[3] welfare and wage changes than either households with 'wider' disabled adults (but no 'core' disabled adults) or households with no disabled adults at all. Secondly, households with at least one disabled child do worse on average than households with children but not disabled children, who in turn experience greater negative impacts than households with no children. These effects are largely driven by the benefit and tax credit changes. For households with 'core' disabled adults, and especially those with disabled children, the reforms to UC are also particularly disadvantageous on average.

[3] Note that none of the disability analyses in this report include the impact of indirect taxes, because the LCF does not include a disability variable and so it was not possible to model the impact of indirect tax changes by disability status.

The key findings from Figure 6 are as follows:

- Households with at least one 'core' disabled adult, and at least one disabled child, are the biggest losers from the reforms on average, with cash losses of over £5,500 per year. In percentage terms this is a loss of over 13% of their net incomes on average.
- The next biggest losers are households with no disabled adults, but disabled children. They lose an average of almost £3,300 per year.
- Households with at least one 'core' disabled adult, and children (but no disabled children), are also substantial losers on average (around £2,400 per year).
- Households with at least one 'wider' disabled adult (but no 'core' disabled adults), and at least one disabled child, lose around £2,500 per year on average.
- Two groups gain on average from the reforms: households with no disabled adults and no children (average gains around £500 per year) and households with 'wider' disabled adults and no children (average gains around £200). Note however that these figures do not include the impact of indirect taxes, which is very likely to be negative based on the other results of our research. If the impact of indirect taxes could be included, these two groups would probably lose from the overall package of reforms on average.

Impacts by household disability 'score'

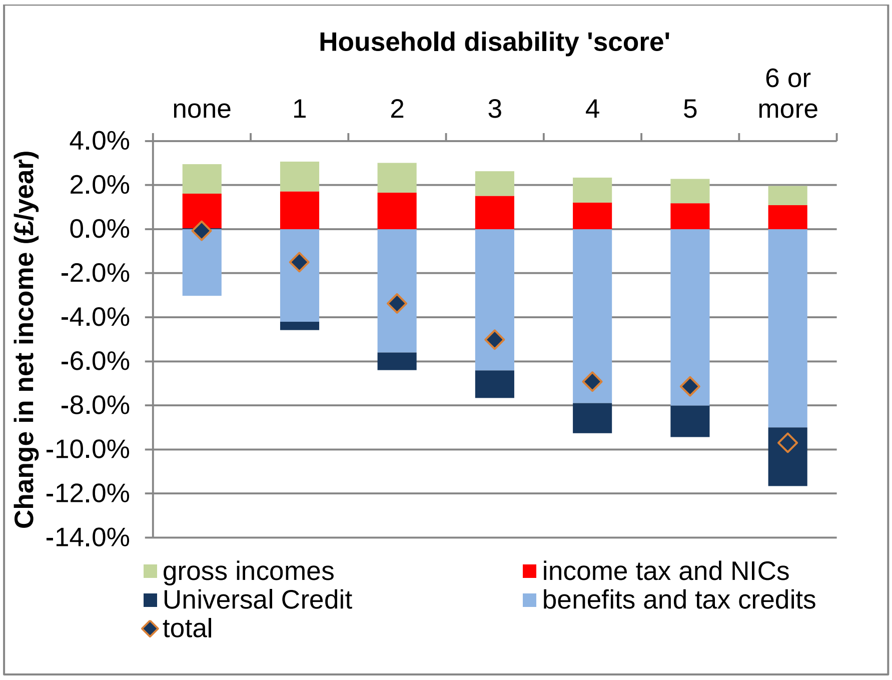
Figure 7 shows the percentage impacts of tax and welfare reforms and wage changes broken down by disability status defined in a different way. Since 2012/13 the FRS has included indicator variables for specific functional difficulties for adults and children, in 10 categories:

- Difficulty with vision
- Difficulty with hearing
- Difficulty with mobility
- Difficulty with dexterity
- Difficulty with learning
- Difficulty with memory
- Difficulty with mental health
- Difficulty with stamina or breathing or fatigue
- Social or behavioural difficulty

- Difficulty in other area of life. [4]

By summing the number of functional difficulties across all adults and children within each household it is possible to generate an overall disability ‘score’ variable. So for example, if one adult in a household has difficulty with vision, but no other difficulties, and all the other members of the household have no difficulties for any of the 10 categories, that household’s score would be 1. For households where none of the household members have any functional difficulties, the disability score would be equal to zero. Households with a disability score of 6 or more have been combined into a single category to make the sample size large enough for analysis.[5]

Figure 7: Impacts of reforms as a percentage of household income, by household disability ‘score’



Note: Annual cash impact of 2010-17 reforms in 2021-22.

The key results from Figure 7 are as follows:

- A consistent negative gradient in terms of the total impact of reforms, with the percentage losses being higher for households with a larger disability score. Households with a disability score of zero have the smallest average losses, at

[4] This approach means that larger households are more likely than smaller ones to have at least one disabled adult or child.
[5] In total, 3.62 per cent of households in the FRS sample used for this report have a disability score of 6 or greater. Within this group, 1.54 per cent of households have a disability score of 6 while 2.08 per cent have a disability score of 7 or more.

only -0.1% of net income on average, while households with a disability score of 4 or 5 lose around 7% of net income on average, and households with a score of 6 or more lose around 10% on average.

- The negative impact of reforms for households with larger disability scores is driven by changes to benefits and tax credits which have made them less generous. The introduction of UC also has negative impacts which are bigger for households with a higher disability score. For example, households with a disability score of 6 or more lose an average of 9% of net income from the benefit and tax credit changes, plus almost 3% more from the introduction of UC. By contrast, households with a disability score of zero lose only 3% of net income on average from the benefit and tax credit changes, with no additional losses from UC.

Results by household demographic type

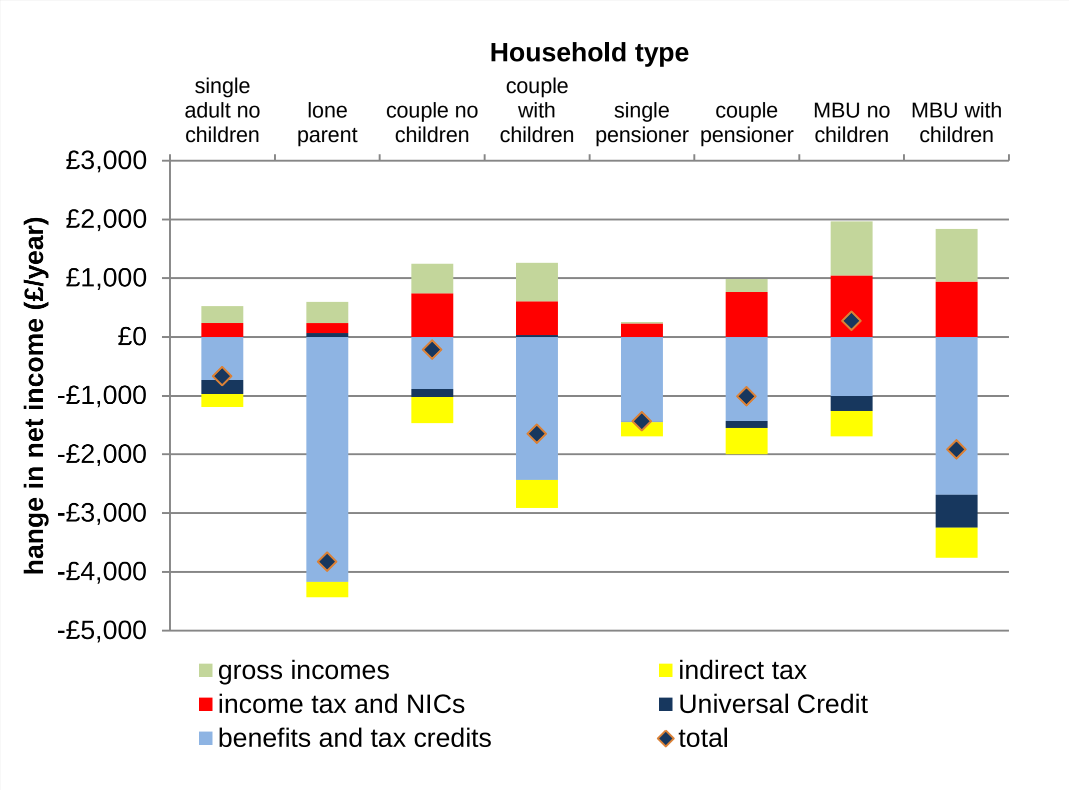
Figure 8 shows results by household demographic type. This classification allocates households to one of eight categories according to number (and age) of adults in the household, and presence or absence of children, in the household, as follows:

- Single adult, no children
- Lone parent
- Working age couple, no children
- Working age couple with children
- Single pensioner
- Couple pensioner
- Multiple benefit unit (MBU) household without children
- MBU household with children

Key findings are as follows:

- Figure 8 shows the largest average negative cash impacts for lone parent households (who will predominantly be female; total losses of just over £3,800 on average) – this result is mainly driven by substantial reductions in benefit and tax credit income.
- Losses for MBU households with children are also substantial (just over £1,900 per year on average) – many of these households consist of lone parents living with other benefit units (e.g. grandparents) so this finding is not surprising.
- Couples with children also experience relatively large average losses (around £1,650 per year on average).

Figure 8: Cash impact of each type of reform by household demographic classification



Note: Annual cash impact of 2010-17 reforms in 2021-22.

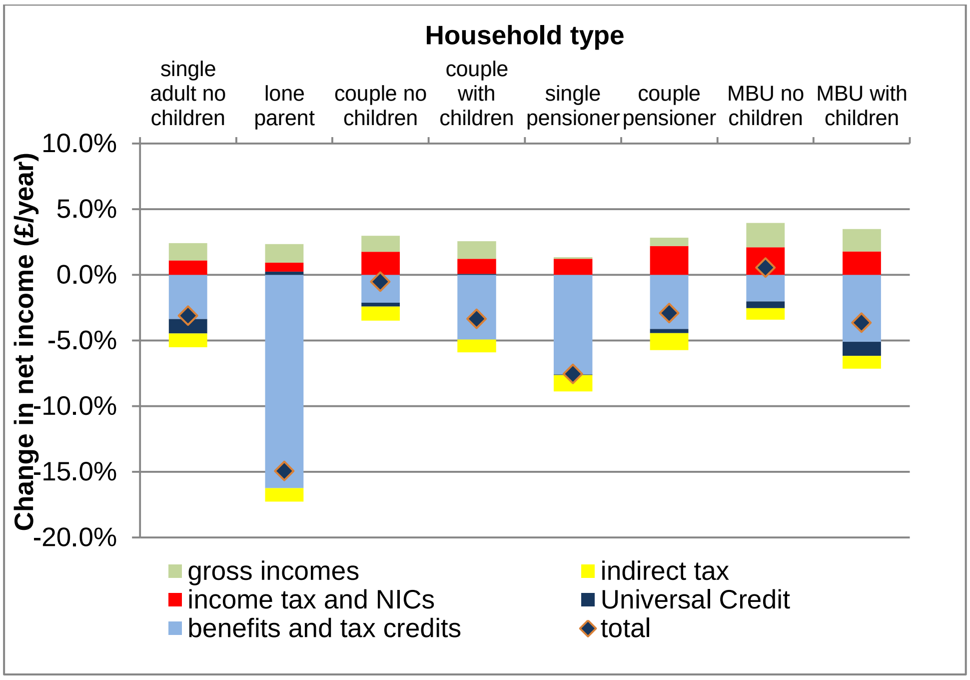
- MBUs without children are net gainers on average from the reforms (average gain of around £270 per year), while couples without children have only a small loss of just over £200 per year on average. These groups lose less on average in benefits and tax credits than households with children, and are also relatively big gainers from the changes to income tax and NICs and the minimum wage increases.
- Single adults without children and pensioner households experience average losses ranging between £670 and £1,440. These are bigger losses than for couples and MBUs without children, but not as big as for households with children.

Figure 9 shows losses by household demographic type as a percentage of net income. The key findings are:

- Lone parents (who will predominantly be female) experience losses of around 15% of their net income on average – almost £1 in every £6. The very slight gain they make from UC is because it is assumed that the take-up of UC will be higher than the benefits and tax credits that it replaces.

- Single pensioners' losses are worse in percentage terms than for couples with children and MBUs with children, at around 8 %.
- The percentage losses for couples with children and MBUs with children are in the same range as single adults with no children, at between 3 and 4% on average.

Figure 9: Impacts of reforms as a percentage of household income, by household demographic classification



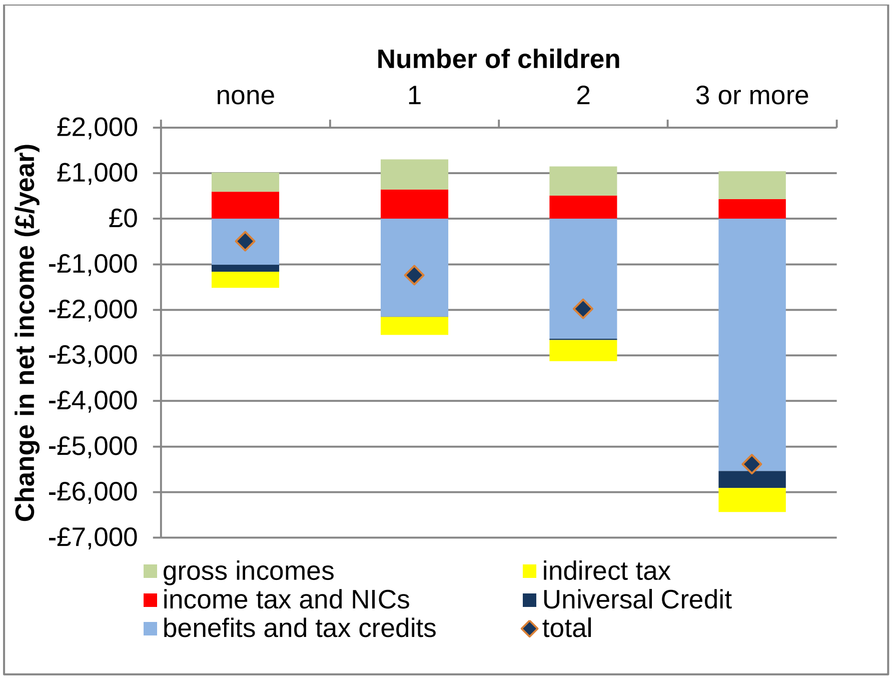
Note: Annual cash impact of 2010-17 reforms in 2021-22.

Impacts by number of children in household

Figures 10 and 11 present the average cash losses from the tax and welfare reforms and the minimum wage policies passed into legislation in the 2010-17 period according to the number of children in each household (households with three or more children have been combined into a single category to ensure a sufficient sample size for analysis). The key findings from Figure 10 are as follows:

- The more children in the household, the larger are the average losses from the reforms.
- For households with three or more children the average cash losses are far greater, at around £5,400 per year, than for households with two children (around £2,000) or households with one child (around £1,250).
- Households with no children have average losses of around £500 per year. Hence their losses are much smaller than households with one, two or three or more children.

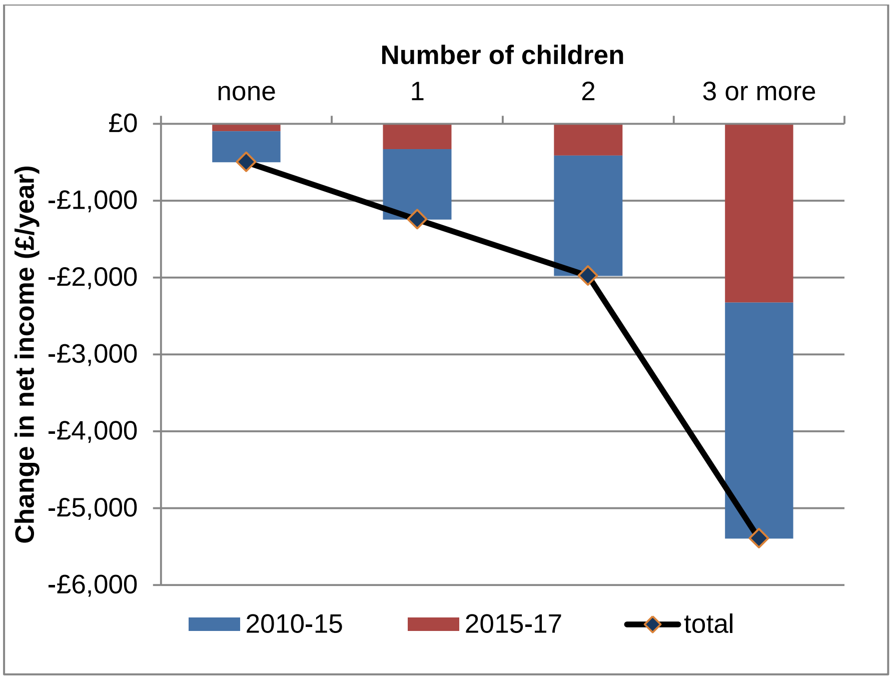
Figure 10: Cash impact of each type of reform by number of children in household



Note: Annual cash impact of 2010-17 reforms in 2021-22.

The severity of the impact for households with three or more children relative to other households is partially driven by reforms introduced in the Summer 2015 Budget, taking effect from 2017 onwards, which limit eligibility to tax credits and UC to the first two children only for new claimants and to third or subsequent children born after March 2017 for existing claimants. Figure 11, which disaggregates the distributional impacts into policies introduced by the 2010-15 Government and policies introduced by the 2015-17 Government, shows this more clearly. The average impact of the 2015-17 Government's reforms is much bigger for families with three or more children (an average loss of over £2,300 per year) than for families with one child (just over £300 per year) or two children (just over £400 per year).

Figure 11: Cash impacts of reforms made during 2010-15 and 2015-17 Parliaments, by number of children in household



Note: Annual cash impact of 2010-17 reforms in 2021-22.

Impacts by gender and income decile

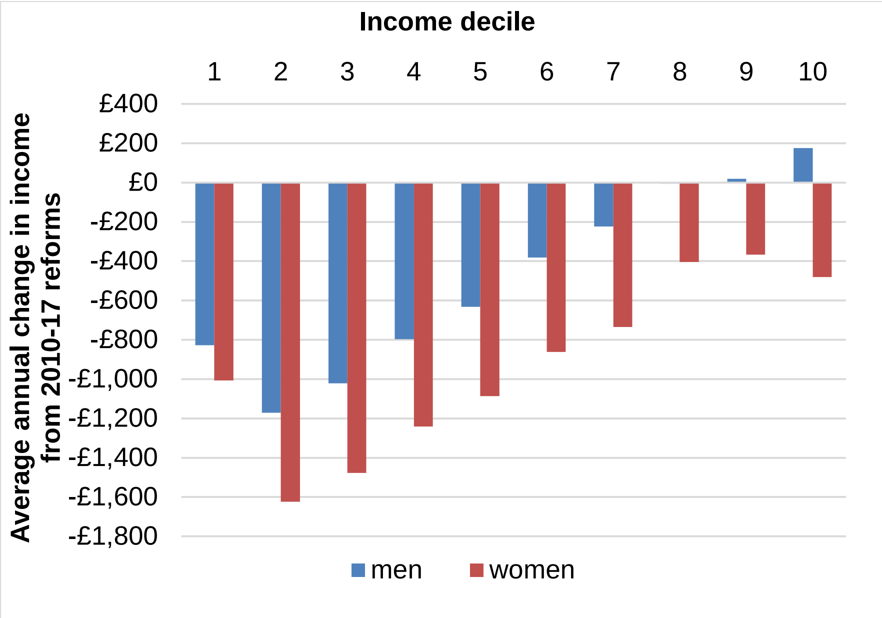
Figure 12 shows the impact of direct tax and welfare reforms, and the minimum wage changes, at the individual level, with individuals classified according to the net income decile of the household they live in. For individuals living in a couple, the allocation of changes to income from changes to the benefits and tax credit system (and UC) requires assumptions about how income from the benefit system is shared within couples.

The key findings from Figure 12 are as follows:

- Women lose more than men from the reforms at every income level. (Overall, women lose around £940 per year on average from the reforms compared with losses of around £460 for men).
- The biggest average cash losses for both men and women are in decile 2 (around £1,200 per year for men and £1,600 for women respectively).
- The smallest difference between average annual losses for men and women is in the lowest decile (just over £800 for men and around £1,000 for women). The biggest difference is in decile 7 (around £220 for men, around £740 for women).
- In deciles 8 and 9, the impact of reforms for men is close to zero, but women in these deciles experience average losses (around £400 in each case).
- In decile 10, men gain on average by just under £200 per year, but women lose just under £500 per year.

The result that women experience larger losses than men is mainly driven by the fact that women receive a much larger proportion of benefits and tax credits than men. Given that the largest negative impact on incomes is as a result of cuts to benefits and tax credits since 2010, it is not surprising that the welfare reforms have a larger impact on women than men.

Figure 12: Cash impacts of all reforms at the individual level, by gender and income decile



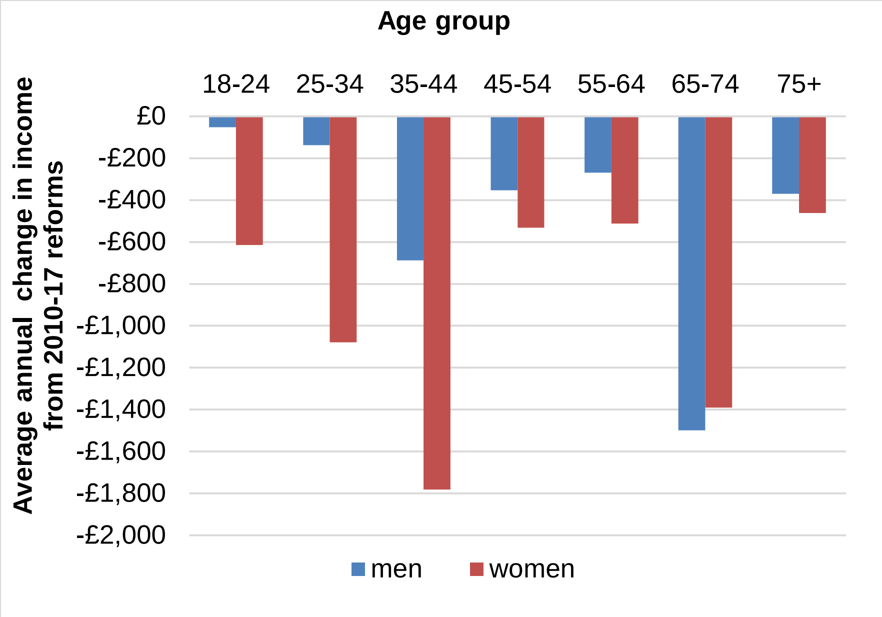
Note: Annual cash impact of 2010-17 reforms in 2021-22.

Impacts by gender and age

Figure 13 shows the impact of the reforms, again at the individual level, but this time broken down by age group and gender rather than income decile and gender. The key findings are as follows:

- Women lose more from the reforms than men in all age groups except for the 65-74 age group, where men lose slightly more.
- The difference between average losses for men and women is much bigger in the 18-24, 25-34 and 35-44 age groups than it is in the older age groups. This largely reflects benefit and tax credit payments to children in couple and lone parent families in these age groups, where the transfer payments are allocated to the mother rather than the father in most cases.
- Average losses in the 65-74 age group are much bigger than in the 55-64 or 75+ age groups. This mainly reflects the increase in the pension age to 66 by 2021 as a result of the Pensions Act 2011, which means that 65-year-olds in our sample receive a state pension in the baseline scenario, but not after the reforms are enacted.
- The biggest average losses by age group, averaging across men and women, are in the 65-74 age group (average losses of around £1,450 per year) and the 35-44 age group (average losses of around £1,250 per year). The smallest average losses are in the 18-24 age group (average losses of just over £300).

Figure 13: Cash impacts of all reforms at the individual level, by gender and age group



Note: Annual cash impact of 2010-17 reforms in 2021-22.

Conclusion

Overall, the impact of policy decisions taken between 2010 and 2017 is significantly regressive, and particularly so for policy decisions taken in the 2015-17 Parliament (the impacts of which are, for the most part, still to come). These reforms will actually boost the incomes of the top two deciles, while reducing incomes substantially for the bottom half of the income distribution. Our analysis, while subject to refinement, also shows clearly that a number of protected groups will be significantly adversely impacted, with particularly adverse impacts on disabled families. There is also a particularly strong adverse impact for lone parent families as well as families with three or more children.

Contacts

This publication and related equality and human rights resources are available from the Commission's website: www.equalityhumanrights.com.

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Website	www.equalityadvisoryservice.com
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