

# Cumulative impact assessment of tax and social security reforms in Northern Ireland

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## **Executive Summary**

### **Introduction**

The Northern Ireland Human Rights Commission (NIHRC) commissioned Landman Economics and Aubergine Analysis to undertake a Cumulative Impact Assessment (CIA) of the impact of reforms to the tax and social security system introduced since 2010 in Northern Ireland, including measures introduced by the Northern Ireland Executive to mitigate some of the negative impacts of the reforms.

The methodology in this report builds on work carried out by Landman Economics and Aubergine Analysis for the Equality and Human Rights Commission (EHRC) in 2017-18, which analysed the impact of all reforms to the tax, benefit and tax credit systems announced between June 2010 and the end of 2017, including the roll-out of Universal Credit, in England, Wales and Scotland (Portes and Reed 2018). This report carries out a similar analysis for Northern Ireland, extending the set of modelled reforms to include all announced changes up to and including the 2019 Spring Statement. This report also takes account of policy issues and circumstances specific to Northern Ireland, in particular the later rollout of Universal Credit compared to the rest of the UK and the introduction of mitigation payments designed to compensate for some of the cuts to social security.

The analysis takes account of the specific socio-economic circumstances of Northern Ireland, such as the relatively high economic inactivity rate, a higher average family size, a larger proportion of social housing properties with two or more bedrooms, and less support for childcare costs for families with pre-school children compared to other parts of the UK.

### **Methodology**

This report provides in as much detail as possible (given data availability) an analysis of all policy changes made between May 2010 and March 2019, which will have been implemented by the financial year 2021–22 (the end of the current Parliament, if it runs to a full term). The research uses the tax-transfer model (TTM), a microsimulation model developed by the Institute for Public Policy Research, Landman Economics and the

Resolution Foundation. The TTM uses data from the Northern Ireland components of two UK datasets, the Family Resources Survey (FRS) and the Living Costs and Food Survey (LCF).

We model reforms to the following parts of the tax and social security 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)

We also model the impact of above-inflation increases in the National Living Wage and National Minimum Wage.

We produce results both at household level (as other analyses, such as that produced by HMT, usually do) and individual level (which many other analyses do not). The latter enables us, in particular, to focus in more detail on gendered impacts, although, importantly, results are in some cases sensitive to specific assumptions about how incomes are shared within households. We also examine the impact on the right to an adequate standard of living, as measured by relative poverty as defined in the UK Government's 'Households Below Average Income' publication (DWP, 2019).

## **Overall distributional effects of tax and social security reforms**

We analyse the distributional impacts of the reforms by household income decile (ranking households in Northern Ireland by net income adjusted for family size, with the poorest households in decile 1, and the richest households in decile 10).

- The biggest average total losses from the reforms are in deciles 2 and 3 of the household income distribution (about £900 per year).
- Losses are regressive across most of the household income distribution, with total negative impact of 4% of net income in decile 2. Average percentage losses in decile 1 are smaller

(largely due to the implementation of Universal Credit, which is expected to increase take-up). There are average gains for households in deciles 7 to 9, and small losses in the top decile.

- The main driver of the shape of the results is that poorer households are more reliant (on average) on benefits and tax credits – and these have been subject to substantial real terms cuts since 2010.

We also analyse the distributional impacts of tax and social security reforms across a number of other characteristics including disability, the presence of children in the household (and the number of children), the gender and age of adults in the household, and the employment status of adults in the household. The most important results are as follows:

- Households with at least one disabled child (according to the core FRS disability definition) experience average losses from the reforms of around £2,000 per year. By contrast, households with adults and children but no disabled adults or children, lose an average of around £50 per year.
- Households with greater numbers of functional disabilities experience greater average losses from the reforms. Average changes in net income range from an average gain of just under £550 per year for households with a disability score of zero to average losses of around £1,300 per year for households with six or more functional disabilities.
- Households with children experience much larger losses as a result of the reforms than households without children. Losses are especially dramatic for lone parent households, who lose around £2,250 on average – equivalent to almost 10% of their net income.
- Households with three or more children are particularly badly affected by the benefit and tax credit reforms with overall average losses of around £2,575, compared to average losses of £50 for households with one child.



- Women lose more on average from the direct tax and social security measures than men, mainly because they are more likely to be receiving benefits and tax credits than men.
- By gender and age group, the biggest average cash losses from the reforms are for women aged 35 to 44 and women aged 75 and over.
- Overall, groups who are in receipt of relatively large amounts of benefit and tax credit income (such as poorer households, lone parents and households with three or more children) lose out more than average from the reforms.
- Households with two or more people in work benefit more from the direct tax changes and the above inflation increase in the NLW and NMW than one-earner households, who in turn benefit more than households with no-one in work. The main driver of gains from the direct tax change is the substantial increase in the real terms value of the income tax personal allowance since 2010.

## Impact of specific social security measures

We also present distributional results for a number of specific policies, specifically:

- **Below-inflation increases in the uprating of transfer payments for working-age individuals and families**, beginning in 2013 with three years of uprating at 1% per year, followed by a nominal freeze for four years from 2016.
- The **two-child limit** on payments of Housing Benefit, tax credits and UC for new claimants and new children of existing claimants from 2017 onwards.
- The **replacement of Disability Living Allowance (DLA) by Personal Independence Payment (PIP)**, including the transfer of the existing DLA caseload to PIP.
- **Reductions in the work allowances in UC** – the amounts that UC claimants can earn before their UC starts to be tapered away at 63% for every £1 increase in gross earnings.

Our key findings regarding the impact of these policies are:

- The benefit freeze has the biggest impact of any modelled reform and is regressive, with the biggest cash impacts for the lowest household deciles (losses of between £500 and £700 per year in the lowest three deciles). The benefit freeze has particularly large impacts for households with children, and especially lone parent households. By age and gender, the freeze has the biggest impact for women aged 25 to 44.
- The 2-child limit is also regressive across the income distribution. By definition, its entire impact is felt by households with three or more children.
- The switchover from DLA to PIP results in gains in net income, particularly for households with a large number of functional disabilities, and households in the bottom four deciles of the income distribution.
- Real-terms reductions in UC work allowances since 2013 have the largest negative impacts at the bottom of the income distribution. Their biggest impacts by household type are for lone parents and multiple benefit unit (MBU) households with children. By gender and age group they have the biggest negative impacts for women aged 35 to 54.

## **Impact of reforms on poverty**

- Overall, tax and social security reforms since 2010 are forecast to increase the Before Housing Costs (BHC) relative child poverty by 8 percentage point, household poverty by just over 2 percentage points, and adult poverty by just over 1 percentage points. Projected increases in adult poverty are similar, but slightly larger.
- Breaking the increase in child poverty down by household characteristics, children in lone parent households, households with three or more children in total, and households where no adult is in work are forecast to experience the largest percentage point rises in child poverty (on both the BHC and AHC (After Housing Costs) measures).
- After all measures are taken into consideration, it is projected that almost three-fifths of children in lone parent households,

just under two-fifths of children in households with three or more children and over three-quarters of children in workless households will be in poverty on the AHC relative measure.

## Winners and losers from reforms

- Overall, around 43 per cent of households in Northern Ireland lose out from changes to direct taxes and social security since 2010. Almost 77 per cent of households lose out from changes to indirect taxes.
- Breaking winners and losers down by household characteristics, the largest proportion of losers from the direct tax and social security reforms are found in the bottom three deciles of the income distribution, lone parent households, single pensioners, households with a high disability “score”, households with three or more children in them, and households with no-one in paid work.
- The household groups with the lowest proportions of losers in them are households in income deciles 8 and 9, childless couples, households with no disabled people in them and households with two or more adults in paid work.

## Designing an effective mitigations package

Chapter 8 of this report builds on the analysis of the distributional effects of tax and social security reforms in Chapters 4 and 5. To design a package of mitigation measures which could be adopted after the current funding for mitigation ends in March 2020. The package includes the following measures:

- **Measure 1:** Offsetting the “bedroom tax” (Housing Benefit reduction for social housing tenants deemed to have an excess number of bedrooms relative to needs);
- **Measure 2:** Offsetting the benefit cap (maximum benefit/tax credit/UC payment for working age families with no adults in employment);
- **Measure 3:** A Cost of Work Allowance for low-income working families;
- **Measure 4:** Increasing the rate of Carer’s Allowance to the rate of Jobseeker’s Allowance;

- **Measure 5:** An expanded payment for low income families with young children (modelled on the Scottish Government's Best Start Grant);
- **Measure 6:** Offsetting the 2-child limit on HB, CTC and UC payments;
- **Measure 7:** An additional per-child payment for low income families with children;
- **Measure 8:** A payment for households with one or more disabled people in receipt of disability premia for tax credits, Income Support, Employment and Support Allowance or Universal Credit.

Measures 1 and 2 are included in the existing mitigations package established by the Northern Ireland Executive which will end in March 2020. The other measures are all new (although Measure 3 was intended to be implemented in the existing mitigations package but has not been).

The main findings of simulating the impact of this expanded mitigations package are as follows:

- The overall cost of the package of eight mitigation measures modelled in this report is £186m per year. This compares to a budget of around £146m per year if the budget for the Northern Ireland Executive's four-year mitigation package had been spent evenly over the four years 2016-20.
- Three of the mitigation measures modelled - the Cost of Work Allowance, an additional payment for children in low-income families, and an additional payment for disabled people in low-income households - would affect relatively large numbers of households (over 100,000 in each case). The other five mitigations - the Best Start Grant for low-income mothers, increasing Carer's Allowance, offsetting the 'bedroom tax', offsetting the benefit cap and offsetting the two-child limit on social security payments to families - affect a smaller number of households but have larger annual gains per affected household (in the case of the latter two measures in particular).
- The payment for disabled people in low income households and the offset of the 'bedroom tax' have the largest annual cash gains for households in the lowest decile, while the Cost of Work Allowance and the other mitigation measures targeted at low income families have the largest impacts in decile 2.

- The mitigations package significantly lessens the negative impact of tax and social security measures in the bottom four deciles of the household income distribution in particular. Overall, the mitigations package reduces average losses from social security reforms from £825 per year to £575 per year - a reduction in overall losses of 30 per cent.
- The payment for disabled people in low income households and the increase in Carer's Allowance are particularly well targeted on households with larger numbers of disabilities. For households with a disability score of 6 or more the mitigations package is worth an average of £500 per year and reduces overall average losses from the social security reforms by around one-third.
- Lone parents see the largest gains from the mitigations package of any demographic group: their average losses are reduced from around 11% of net income to around 6.5% of net income. For couples with children, losses are reduced from just under 3% of net income to just under 2%.
- The offset of the two-child limit, in conjunction with the other mitigations, removes most of the penalty to having three or more children which the social security reforms otherwise impose. For households with three or more children, overall average losses from the social security reforms fall from an average of £3,500 per year to £1,500 per year - a reduction of more than half. This is particularly important in a Northern Ireland context given the larger average family size in Northern Ireland compared to the rest of the UK.
- By gender, the mitigation measures have a bigger positive impact on women than men in the bottom half of the income distribution. This is mainly due to the Best Start grant (which always goes to women rather than men) and the other child-focused mitigation measures such as the offset of the 2-child limit and the payment to children in low-income families (which are worth more to women than men on average in the lowest four income deciles).
- By gender and age group, the mitigation package has a bigger average impact in cash terms for women aged between 18 and 44 than for men. Once again, this is mainly due to the Best Start grant, 2-child limit offset and the payment for children in low income families having a bigger impact for women than men in

these age groups. For 45-54 and 55-64 year olds. The cash impact of mitigation measures is approximately equal for men and women.

## **Human rights implications of the reforms**

The right to social security is protected by the European Convention on Human Rights (ECHR) and the international human rights system. The UN Committee on Economic, Social and Cultural Rights confirms that the right to social security requires a social security system to be in place that is available, adequate and accessible. Our assessment of the reforms to the social security system in Northern Ireland since 2010 finds that they infringe the right to social security in several key aspects:

- The justification for the reforms (in terms of reducing the UK Government's fiscal deficit) is only partial, because the extensive cuts in social security benefits, and an increase in the overall burden of indirect taxation, were partially offset by discretionary direct tax giveaways (in particular the large increase in the income tax personal allowance).
- Based on the UK Government's published impact assessments of the reforms it does not look as if alternatives to the measures were comprehensively examined. Nor was it the case that there was genuine participation of affected groups in examining the proposed measures and alternatives.
- The reforms have had a disproportionately negative impact on some of the most vulnerable groups in Northern Ireland, e.g. low income households, lone parent households, households with extensive functional disabilities among household members, households with three or more children, workless households and (at the adult level) low income women and women aged 35-44 and 75 or over. Based on these differential impacts, the reforms appear discriminatory in several dimensions.
- The reforms will have a sustained impact on the realisation of the right to social security, and deprive access of certain individuals or groups to the minimum essential level of social security.
- There has been no official independent review of the measures at a national level.

## Policy recommendations

Our policy recommendations are divided into three sets: recommendations for the Northern Ireland Executive, recommendations for the UK Government and specific recommendations concerning survey datasets in Northern Ireland.

### Recommendations for the Northern Ireland Executive

- If and when the Northern Ireland Assembly reconvenes, new legislation should be passed as soon as possible for an expanded package of mitigation measures to take effect once the current mitigation package expires in March 2020 (or as soon as possible after that date). The package of mitigations presented in Chapter 8 of this report is a viable starting template for an expanded mitigation package (subject to further discussions with affected groups).
- The new mitigation package should include additional funding for advisory services for social security benefit claimants (and especially for Universal Credit claimants, where the process of roll-out of UC and migration to UC has caused substantial confusion in many cases). These services are a vital component of an effective mitigation package.
- The mitigation package should be funded on an ongoing basis – until such time as the UK Government takes steps to reverse the retrogressive aspects of its post-2010 social security reforms.
- Funding should also be allocated to monitor the effectiveness of the mitigations package on a regular basis, in particular to analyse whether there are any disadvantaged households who do not fall into any of the categories eligible for specific mitigations, and so “fall through the cracks” of the mitigations framework, and to redesign the framework to address this in future.
- Any underspend in future mitigation schemes should be earmarked for specific anti-poverty initiatives that should be worked out in advance by the Northern Ireland Executive, for example year-round meals for children receiving free school meals, or expanding the Independent Living Fund.
- Equality impact assessments (EIAs) should be performed for the components of the mitigations package, and any other policy

reforms undertaken in Northern Ireland which cause its social security policies to diverge from the rest of the UK.

## **Recommendations for the UK Government**

The UK Government should:

- Consider how to mitigate the large negative impacts outlined within this report and previous research for the other countries in the UK (e.g. Portes and Reed, 2018). We recommend that the UK Government should review the level of social security benefits to ensure that they provide an adequate standard of living for households who rely partially or wholly on transfer payments. This includes establishing and ensuring that all maximum available resources are effectively utilised and ensuring adherence to the principles of non-retrogression.
- Review specific measures which have been shown to be particularly regressive – such as the four-year uprating freeze on most benefits, tax credits and UC rates for working age adults and families from 2016-17 onwards, the two-child limit for Housing Benefit, tax credits and UC, the benefit cap and the ‘bedroom tax’. If the consequence of these measures is that households in receipt of social security payments cannot reach an adequate standard of living, then these reforms should be scrapped and payments to the affected households restored to what they would have been had the reforms never taken place.
- Conduct its own comprehensive cumulative impact assessment of tax and social security reforms across the UK.
- Adopt Scotland’s approach, wherein it recognises and takes a legislatively grounded rights-based approach to social security reform.
- Conduct an equality impact assessment (EIA) for all fiscal events (Budgets and Spending Reviews), which incorporates a cumulative impact assessment (CIA) of the impact on protected groups, showing how distributional impacts vary across groups. In addition, the EIA should discuss and explain any major disparities in outcomes that adversely impact protected groups.



## **Recommendations concerning changes to Northern Ireland survey data**

We make the following recommendations to improve the quality of data for impact assessments in Northern Ireland:

- The Northern Ireland Executive and/or the UK Government should investigate changes to the FRS and LCF datasets for Northern Ireland to enable a larger sample size for analysis of protected characteristics which could not be included in this report because the sample size was too small – for example ethnicity (and also specific analysis of traveller households).
- The overall sample size of the LCF for Northern Ireland should be boosted as it is currently too small to allow analysis of the distributional impact of indirect taxes by any distributional or breakdown variable without pooling several years of data.
- The religious affiliation variable in the FRS and LCF data should be made part of the End User Licence datasets available to researchers. This would make it possible to analyse the distributional impact of tax and social security reforms by religious community.
- The LCF questionnaire should be amended to include a disability question or questions similar to those in the FRS. This would enable the impact of changes to indirect taxes on households to be assessed according to household disability status.

# 1 Introduction

The Northern Ireland Human Rights Commission (NIHRC) has commissioned Landman Economics and Aubergine Analysis to undertake a Cumulative Impact Assessment (CIA) of the impact of reforms to the tax and social security system introduced since 2010 in Northern Ireland, including measures introduced by the Northern Ireland Executive to mitigate some of the negative impacts of the reforms. This document is the final report from the project.

The methodology in this report builds on work carried out by Landman Economics and Aubergine Analysis for the Equality and Human Rights Commission (EHRC) in 2017-18, which analysed the impact of all reforms to the tax, benefit and tax credit systems announced between June 2010 and the end of 2017, including the roll-out of Universal Credit, in England, Wales and Scotland (Portes and Reed 2018). This report carries out a similar analysis for Northern Ireland, extending the set of modelled reforms to include all announced changes up to and including the 2019 Spring Statement. This report also takes account of policy issues and circumstances specific to Northern Ireland, in particular socio-economic differences between Northern Ireland and the rest of the UK, the later rollout of Universal Credit compared to the rest of the UK and the Northern Ireland Executive's package of mitigation payments designed to compensate for some of the cuts to social security in Northern Ireland (Northern Ireland Audit Office, 2019; House of Commons Work and Pensions and Northern Ireland Affairs Committees, 2019).

The structure of this report is as follows. Chapter 2 provides the background to the tax and social security reforms that have been undertaken since 2010 and the specific Northern Ireland context to the reforms. Chapter 3 explains the Cumulative Impact Assessment methodology. Chapter 4 presents results showing the overall distributional impact of the reforms by income decile and other characteristics, while Chapter 5 analyses the impact of specific changes to the social security system. Chapter 6 shows the impact of tax and social security reforms on the number of households with net incomes below an adequate standard of living in Northern Ireland, using a relative poverty measure of adequacy of living standards. Chapter 7 analyses the number and characteristics of winners and losers from the reforms. Chapter 8 analyses the costs and distributional impacts of an expanded set of

mitigation measures which could be introduced to replace the existing mitigations package when it comes to an end in March 2020. Chapter 9 assesses the human rights implications of the reforms. Chapter 10 considers the policy implications of the impact assessment and presents conclusions.

## 2 Context and Background

### 2.1 What is 'cumulative impact assessment'?

As defined in the reports produced by Landman Economics and Aubergine Analysis for the EHRC (Portes and Reed 2018; Reed and Portes, 2018), "cumulative impact assessment" refers to a process for modelling the combined retrospective or forecasted impact of a range of tax, welfare and spending policies on households and individuals in a particular country or region using microsimulation modelling and survey data. Impact is measured in terms of changes in net income and/or the value of public services received by households and individuals. The word *cumulative* in the title refers to the consideration of the *combined* impacts of several reforms (although the modelling techniques can also be used to look at one reform or a subset of reforms in isolation).

In this report we focus on tax and social security (welfare) measures only. Full details of the methodology used in this report are explained in Chapter 3 below.

### 2.2 Findings from the 2018 EHRC report for England, Scotland and Wales

The cumulative impact assessment of changes to the tax and social security system in England, Scotland and Wales produced by Portes and Reed (2018) for the EHRC showed that the changes to taxes and transfer payments (benefits, tax credits and the introduction of Universal Credit) announced between 2010 and 2017 were, overall, regressive, however the changes were measured. Consequently, the largest impacts were felt by those with lower incomes. This was true even when increases in gross earnings arising from the National Living Wage (NLW) were taken into consideration. The analysis found that households in the bottom two deciles would lose, on average, approximately 10% of their net income from reforms implemented up to and including 2021-22, with much smaller losses for those higher up the income distribution.

Moreover, the reforms had a disproportionately negative impact on several protected groups, including disabled people, certain ethnic groups, and women. The negative impacts were particularly large for households

with more disabled members and individuals with more severe disabilities, and for lone parents on low incomes.

The negative impacts of the reforms were largely driven by changes to the benefit system; in particular, the freeze in working-age benefit rates after 2015, changes to disability benefits and reductions in rates and premiums for Universal Credit. The benefit changes were also projected to lead to a significant increase in the number of households below a minimum acceptable standard of living. A large number of households in vulnerable groups (such as lone parents and couples with children, and households with disabled adults and/or children) were modelled as losing substantial proportions of their incomes (over 20% in some cases) from the package of reforms to direct taxes and transfer payments, even taking into account increases in gross incomes arising from the National Living Wage.

## 2.3 The Northern Ireland Context

Northern Ireland differs from the rest of the UK in some key respects, and the overall implication of these differences is that the impact of the reforms to social security in Northern Ireland has the potential to be more severe than in the UK. This subsection gives an outline of some of the key relevant features of the Northern Ireland socio-economic and policy context.

### Socio-economic profile

Northern Ireland has specific socio-economic characteristics which distinguish it from the rest of the UK. The most important of these are as follows:

- The **economic inactivity rate** – the proportion of working age people not in paid work or unemployed and actively seeking work – is significantly higher in Northern Ireland than in the rest of the UK, taken as a whole. Statistics from the Spring 2019 Labour Force Survey (LFS) show that 25.2 per cent of adults in Northern Ireland aged between 18 and 65 (inclusive) were economically inactive, compared to 19.9 per cent in the rest of the UK. Breaking the rest of the UK down by LFS region, only Merseyside (26.2 per cent) had a higher inactivity rate than Northern Ireland in Spring 2019.

- The **economic inactivity rate for disabled people** of working age is much higher in Northern Ireland than in the rest of the UK. The Spring 2019 LFS shows that for working age people who are disabled according to the 2010 Equality Act definition of disability, the inactivity rate in Northern Ireland is 59.5 per cent compared to 43.8 per cent across the rest of the UK.
- The rate of **child poverty** in Northern Ireland, measured using the relative Before Housing Costs (BHC) or After Housing Costs (AHC) measures, is higher than in Scotland, but lower than in England or Wales. Using the AHC definition of relative poverty, around 24 per cent of children were in poverty in Northern Ireland in 2017-18 (the most recent year for which figures are available) compared 21 per cent in Scotland, 29 per cent in Wales and 30 per cent in England (Department for Communities, 2019b; Department for Work and Pensions, 2019 b ). The rate of **adult poverty** in Northern Ireland is roughly comparable to Scotland and below the rate in England and Wales.
- There is a higher rate of incidence of **mental health problems** among adults in Northern Ireland than in the rest of the UK. Analysis of recent data from the LFS (Spring 2019) suggests that adults in Northern Ireland are approximately 15 per cent more likely to say that their main health problem (if they have a long-standing health problem) is mental health-related than elsewhere in the UK<sup>1</sup>.
- The **average family size** is larger in Northern Ireland than in the rest of the UK. ONS statistics show that 21.4% of families in Northern Ireland have three or more children, compared to 14.7% of families in the UK as a whole (ONS, 2016).
- Northern Ireland's **social housing stock** has a larger proportion of properties with two or more bedrooms than the rest of the UK. Analysis by the Northern Ireland Housing Executive (NIHE) found that 88% of NIHE properties, and 68% of other housing association properties, have two or more bedrooms. Overall, less than a fifth (18%) of self-contained social housing stock in Northern Ireland has only one bedroom. However, single working-age applicants make up 45% of the social housing

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<sup>1</sup> In the January-March 2019 LFS, 5.85 per cent of respondents aged 18 or over in Northern Ireland listed mental health (depression or mental illness) as their main health problem compared to 5.05 per cent of respondents elsewhere in the UK.

waiting list, and a similar proportion of housing applications (Northern Ireland Housing Executive, 2018). The social housing stock is also highly segregated by religious community background, with around 90% of social housing estates being single identity (Murtagh, 2016).

## **Policy context**

There are also some specific features of the policy context in Northern Ireland which distinguish it from the rest of the UK:

- Unlike the other UK countries, Northern Ireland does not have an anti-poverty strategy currently in place. The 2006 St Andrews Agreement committed the UK Government to publishing an anti-poverty strategy to be taken forward by the Northern Ireland Executive (HM Government 2006, Annex B) but this has still not been achieved 13 years later (and was the subject of a UK High Court ruling following a judicial review of the Northern Ireland Executive's failure to publish a strategy (Judiciary NI, 2015)).
- The equality duties framework in Northern Ireland is different from the rest of the UK, which is covered by the Public Sector Equality Duty (PSED) established by the Equality Act 2010. In Northern Ireland the relevant legislation is section 75 of the Northern Ireland Act 1998 (Equality Commission for Northern Ireland, 2010). In particular, this has resulted in a lower level of protection for people who are disabled in Northern Ireland than is available elsewhere in the UK. The Equality Commission for Northern Ireland has recommended reform of disability equality legislation to address legislative gaps in protection for disabled people in Northern Ireland and guarantee disabled people effective legal protection against discrimination (Equality Commission for Northern Ireland, 2012).
- There is less support with childcare costs for working families in Northern Ireland than in other UK countries. Although the Working Tax Credit (and where introduced, Universal Credit) systems provide support with childcare costs for low income working families, and Tax Free Childcare provides some childcare subsidy for higher income working families, Northern Ireland does not provide 30 hours of free childcare for working parents of 3 and 4 year olds (whereas England, Scotland and

Wales do provide free childcare for these groups). Statistics from the Family Resources Survey show that 37% of households in Northern Ireland pay for the childcare they use compared to 25% in Wales, 33% in Scotland and 36% in England (NIC-ICTU 2019).

### **Implications of the differences in socio-economic and policy context**

The differences in the socio-economic and policy context of the reforms in Northern Ireland compared to other UK countries mean that there are specific features of tax and social security reforms that are likely to affect Northern Ireland differently compared to the rest of the UK. In particular:

- Higher rates of economic inactivity mean that reforms designed to increase the incentive to work by reducing benefits and tax credits for unemployed and inactive working age people<sup>2</sup>, are likely to have a bigger impact in Northern Ireland than elsewhere.
- The 2-child limit on payments for Child Tax Credit, Housing Benefit and Universal Credit is likely to have a bigger impact in Northern Ireland due to there being a greater proportion of households with three or more children in Northern Ireland than elsewhere.
- The benefit cap (which limits the amount of means-tested benefit that working-age families not in receipt of certain disability benefits can receive if not working) is likely to have a bigger impact in Northern Ireland than elsewhere, due to the larger average family size in Northern Ireland.
- Low income working families with childcare costs are more reliant on support through tax credits or Universal Credit in Northern Ireland than elsewhere, because of the absence of the “30 hours free childcare offer” in Northern Ireland. This means that, to the extent that cuts in the generosity of tax credits or Universal Credit reduce the number of families entitled to these means-tested transfer payments, they will leave families in

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<sup>2</sup> It should be noted however that in practice, tax credits for low income *working* families have been cut since 2010 alongside cuts in benefits and tax credits for non-working adults, meaning that the overall impact of reforms on the incentive to work is mixed. See Portes and Reed (2019), Chapter 9 for more details.



Northern Ireland more exposed to high childcare costs than elsewhere.

- The relatively high proportion of social housing properties with “excess” bedrooms compared to the average number of bedrooms required by social housing tenants, means that the Social Sector Size Criteria (‘bedroom tax’) affects a higher proportion of families (in the absence of mitigating measures) than elsewhere.

We bear these specific features of the Northern Ireland socio-economic and policy context in mind when analysing the impact of tax and social security measures since 2010 in this report.

## **2.4 Specific features of the reforms in Northern Ireland**

For the most part, the tax and social security systems in Northern Ireland operate in a similar fashion to England, Scotland and Wales. However, there are some features of the introduction of the reforms which are specific to Northern Ireland. These are discussed in this subsection.

### **Timing of reforms**

Many of the key reforms to the social security system have been introduced on a later timescale in Northern Ireland than elsewhere in the UK. Table 2.1 (which is based on Appendix 2 of NIAO, 2019) shows the main differences in timing regarding the roll-out of reforms. It should be noted that all of the differences between Northern Ireland and the rest of the UK relate to changes to the rules for particular benefits (e.g. ESA, Housing Benefit in the social sector), new benefits (the replacement of Disability Living Allowance with Personal Independence Payment, and the roll-out of Universal Credit) and new overarching features of the social security system (e.g. the benefit cap). Changes to the generosity of benefits operating through the uprating rules (e.g. the switch from uprating by the Retail Price Index to the Consumer Price Index in 2011), or further restrictions on uprating (1% uprating from 2013 onwards, and the benefit freeze from 2016 onwards) have been implemented at the same pace in Northern Ireland as elsewhere.

**Table 2.1. Main differences in timing between introduction and rollout of reforms in Northern Ireland compared to England, Scotland and Wales**

<b>Reform</b>	<b>England, Scotland and Wales</b>	<b>Northern Ireland</b>
<b>Contributory Employment and Support Allowance limited to one year for people in Work Related Activity Group</b>	<b>April 2012</b>	<b>October 2016</b>
<b>Housing Benefit in social sector: 'Bedroom Tax'</b>	<b>April 2013</b>	<b>February 2017</b>
<b>DLA replaced by PIP for 16-64 year olds</b>	<b>April 2013</b>	<b>June 2016</b>
<b>Universal Credit roll-out</b>	<b>April 2013-December 2023</b>	<b>September 2017 – December 2023</b>
<b>Benefit Cap</b>	<b>April 2013</b>	<b>May 2016</b>

*Source: NIAO (2019), Appendix 2. Universal Credit roll-out end-date revised to December 2023 after discussion with Northern Ireland Department for Communities*

In Section 3.3 below we explain how these timing differences in Northern Ireland affect our modelling of the impacts of tax and social security reforms.

### **Additional flexibility in implementation of reforms**

In some cases, the roll-out of social security reforms in Northern Ireland has been done with more flexibility than in England, Scotland or Wales. For example, the Universal Credit legislation in Northern Ireland includes the option for UC to be paid on a twice-monthly instead of a monthly basis, and for housing costs payments to be made direct to landlords instead of to the UC claimant (NIAO 2019, para 4.11).

## **Mitigation measures**

The 2015 Fresh Start agreement, which resulted from cross-party talks in Northern Ireland, committed to implementing the social security reforms legislated for by the UK Parliament in the Welfare Reform Act 2012 and the Welfare Reform and Work Act 2016. The agreement also included funding from the Northern Ireland Executive for a package of mitigation measures, with a total value of £585 million over the four years, to offset some of the cuts to social security which have taken place since 2010 (NIAO 2019, Appendix 3 gives full details). The package of measures includes the following:

- Exemption of carers from the Benefit Cap for one year;
- Supplementary payments for ESA claimants for one year;
- Compensatory payments for DLA claimants who lose eligibility when reassessed for PIP (up to point of appeal);
- Compensatory payments of for PIP claimants who lose more than £10 per week when reassessed for PIP (up to 75% of the loss, for one year);
- Supplementary adult disability premium payments for benefits for one year
- Exemption from the benefit cap for families (ongoing);
- Supplementary payments to negate the effect of the 'Bedroom Tax' for social tenants (ongoing);
- Discretionary support payments (ongoing).

In addition to this, funding has been allocated for a Cost of Work Allowance (CoWA) – an additional payment for Universal Credit claimants who are in work and have low earnings. However, implementation of the CoWA is currently stalled due to a dispute between the Northern Ireland Executive and HMRC, who are insisting that the CoWA should count as taxable income (which could affect eligibility for Universal Credit payments).

### **3 Modelling reforms to the tax and social security system**

This chapter explains the methodology used in this report for modelling reforms to the personal and household tax system and the social security system in Northern Ireland, and explains recent improvements to the model including those developed for the recent EHRC report on CIA in England, Scotland and Wales (Portes and Reed, 2018) and additional improvements since then. Full technical details of the modelling approach are contained in the Technical Appendix to this report.

#### **3.1 The tax-transfer model**

The tax-transfer model (TTM) was originally developed in 2008-09 by Landman Economics for the Institute for Public Policy Research. The TTM was subsequently shared with researchers at the Resolution Foundation, who provided additional funding for improvements to the model's functionality and performance. The model is now used by all three organisations to model the effects of reforms to the tax and transfer payment system in England, Scotland, Wales and Northern Ireland. In Northern Ireland, the following parts of the system are modelled:

- Income tax;
- National Insurance Contributions (NICs);
- Domestic rates and rate relief for low-income households;
- Indirect taxes (for example, VAT; excise duties; Insurance Premium Tax);
- Means-tested and non-means-tested benefits;
- Tax credits;
- Universal Credit (UC), which at the time of writing was being rolled out to all families in the UK, replacing tax credits and most means-tested benefits.

The model also adjusts wages to take account of the National Living Wage (NLW), which was introduced in 2015 and updated every April after. The NLW consists of an above-inflation increase in the minimum wage for employees aged 25 and over. The Government's stated intention is that the NLW should rise to 60% of median earnings by 2020 (Low Pay Commission, 2018).

The TTM is a microsimulation model which uses data from two datasets, the UK Family Resources Survey (FRS) and Living Costs and Food Survey (LCF). These surveys interview individuals within selected households in the UK (details of the datasets are discussed further in Section 3.2). The TTM calculates net incomes for households (and also for benefit units within households, and for individuals within benefit units), within a set of tax-transfer parameters and for a given tax year (for example, 2019-20). The parameters are held in files in spreadsheet format; a set of parameters can describe the actual tax-transfer system in place at a given time, or a simulated system with one or more reforms implemented (for example, an increase in income tax rates).

The model is fundamentally static: it does not attempt to model the effect of reforms to taxes or transfer payments on people's behaviour. The analyses in this report assume that behaviour is unchanged in response to policy changes, although we do discuss the impact of the reforms across households and individuals by employment status in section 4.6.

The TTM has a functionality similar to other models of this type, for example:

- The distributional analysis models used by HM Treasury (HMT) and the Department for Work and Pensions (DWP) to analyse the distributional impact of policy changes (HM Treasury, 2017: 18–19).
- The Institute for Fiscal Studies (IFS)'s TAXBEN model (Adam, 2016).
- The EUROMOD model, which is an EU-wide model, with the UK component hosted at the University of Essex (Sutherland and Figari, 2013).

The models differ slightly in the data they use and in the aspects of the tax and benefit system that they model, but their underlying structures are very similar. Where they produce different results, these differences should be explicable.

## 3.2 Data Sources

### Family Resources Survey

The Family Resources Survey (FRS) is an annual survey of around 20,000 households per year in the UK, collected on a tax-year basis (UK Data Archive, 2018). The FRS is a repeated cross-sectional survey rather than a panel survey: it interviews a new set of households each year rather than conducting repeat interviews with the same set of households over a number of years.

At the time of writing, the most recent release of FRS was 2017-18. The 2017-18 dataset contains a total of 19,105 households, of whom 1,868 are from Northern Ireland. The Northern Ireland FRS contains a boost sample (so that the proportion of households residing in Northern Ireland in the FRS sample is higher than the proportion of Northern Ireland resident households in the UK as a whole).

The FRS is widely acknowledged as the best source of data on individual, family and household gross incomes and disposable incomes (incomes after payment of direct taxes and transfer payments) in the UK. For this reason, the FRS is used for the UK Government's detailed statistics on the income distribution (*Households below average income*, or HBAI) (DWP, 2019). The FRS contains individual, family and household attributes, which makes it suitable for microsimulation modelling of changes in taxes and transfer payments in response to policy reforms. These attributes establish eligibility to many elements of the tax and transfer payment system (for example, age; single/couple and/or marital status; number of children in the family; housing tenure type). The FRS also contains information on housing costs and childcare arrangements and expenditure (but not expenditure on other goods and services).

## **Living Costs and Food Survey**

The Living Costs and Food Survey (LCF) is an annual survey of households (Bulman, 2017) which has been conducted on a tax-year basis since 2015–16 (prior to 2015, the survey was conducted on a calendar-year basis). Like the FRS, the LCF is a repeated cross-sectional survey rather than a panel survey, involving interviews of a new set of households each year rather than repeat interviews with the same set of households over a number of years. The LCF also contains data on individual, family and household gross incomes and disposable incomes.

Although the LCF income data are not as detailed as income data in the FRS, they are of sufficient quality for microsimulation modelling of taxes and transfer payments. The LCF also collects data on expenditure on goods and services at the household level, using a combination of individual expenditure diaries completed over the two-week survey period, and additional questions about recurring regular expenditures (for example, utility bills, rent and mortgage payments). The LCF is used for the Office for National Statistics (ONS) publication *Effects of taxes and benefits on UK household income* (ONS, 2018). The LCF is also the primary data source used by HMT when producing distributional analyses. The main drawback of the LCF compared with the FRS is that the sample size is smaller, at around 5,000 households per year. The 2017-18 LCF dataset contains 5,407 households, of whom 396 households are resident in Northern Ireland.

## **Sample size issues and data pooling**

Our analysis of the impact of tax and social security reforms in England, Scotland and Wales for EHRC (Portes and Reed, 2018) pooled data from several years of FRS and LCF to overcome the problem of small sample sizes for analysis of the impact of tax and social security reforms (especially in Wales and Scotland). This project also uses data pooling, which is crucial given the relatively small size of the Northern Ireland FRS and LCF samples. This report uses five consecutive years of FRS data (2013-14 through to 2017-18 inclusive) and eight consecutive years of LCF data (2010 through to 2017-18 inclusive). After pooling datasets, the total sample size for Northern Ireland is 9,615 FRS households and 1,735 LCF households. The LCF sample size is particularly small because for years before 2016-17 the LCF had no population boost sample for

Northern Ireland and featured only around 150 Northern Ireland households per year.

### **Equality Act 2010 protected characteristics in the data**

Both the FRS and the LCF contain data on most (but not all) of the Equality Act 2010's protected characteristics. Table 3.1 contains information for each of the protected characteristics for each dataset. The table explains whether the End User Licence (EUL) dataset – the standard version of the dataset available to researchers from the UK Data Archive – holds information about the protected characteristics, and at what level of detail. The table also has information about additional data in the Secure Access (SA) version of the data. This is an enhanced version of the dataset with additional information that is only accessible to researchers who have applied for a special user licence, and at a secure location, for reasons of data confidentiality.



**Table 3.1. Information about Equality Act 2010 protected characteristics in the FRS and LCF data**

<b>Protected characteristic</b>	<b>Information in FRS</b>		<b>Information in LCF</b>	
	<b>EUL dataset</b>	<b>SA dataset (additional)</b>	<b>EUL dataset</b>	<b>SA dataset (additional)</b>
<b>Age</b>	Yes		Yes	
<b>Disability</b>	Two binary variables ('core'/'wider' definition): plus binary variables for specific conditions		No	
<b>Gender reassignment</b>	No		No	
<b>Marriage and civil partnership</b>	Yes		Yes	
<b>Pregnancy and maternity</b>	Maternity (but not pregnancy)		Maternity (but not pregnancy)	
<b>Race</b>	Detailed classification		Broad classification	
<b>Religion or belief</b>	No	Yes	No	Yes
<b>Sex</b>	Yes		Yes	
<b>Sexual orientation</b>	No	Yes	No	Yes

*Source: Handbooks for Family Resources Survey (2013-14 to 2017-18) and Living Costs and Food Survey (2010 to 2017-18).*

As shown in Table 3.1, the EUL version of the FRS data contains data on all the Equality Act 2010 protected characteristics except for gender reassignment, religion or belief, sexual orientation, and pregnancy. The

SA version of the FRS data also includes data on religion or belief and sexual orientation which are judged too sensitive by ONS for inclusion in the standard dataset (UK Data Archive, 2017: 20–21). The data provided by the LCF is similar, with one significant omission: the LCF does not include any disability variable, which means that we are unable to provide any analysis of the impact of indirect taxes by disability status in this report. The FRS also has a more detailed classification than the LCF of race; the 'Asian' category for adults in the FRS is broken down into five sub-categories – Indian, Pakistani, Bangladeshi, Chinese and Other Asian – whereas the LCF combines all these into one category.

The EUL version of the datasets were used for this report due to the administrative difficulties of enabling access to the SA version of the LCF and FRS datasets. The analysis focuses on cumulative impact assessment of policies based on age, disability, and sex. We also assess the impacts of policies according to where households are located in the income distribution. We do not perform any analyses examining gender reassignment, religion or belief, or sexual orientation. The omission of analysis by religious belief is particularly unfortunate in a Northern Ireland context due to the relatively high degree of religious segregation in many facets of Northern Ireland life including education and social housing. We are exploring the possibility of using other datasets where religion variables are available in the EUL dataset (for example the Understanding Society panel dataset) to correct this omission in future research work.

Analysis by ethnicity is also omitted from this report as the Northern Ireland FRS and LCF subsamples for BAME adults are not large enough to produce statistically reliable results for the distributional impact of reforms. This is a significant omission as the earlier research by Portes and Reed (2018) found that changes to the social security system since 2010 had a particularly adverse impact on certain ethnic minority groups in England and Scotland (in Wales the sample sizes for BAME adults were too small to perform reliable analyses).

### 3.3 Recent methodological improvements to the tax-transfer model

Over the last two years, the tax-transfer model has been improved and enhanced in several key respects. Some of these improvements were incorporated into the modelling for the previously mentioned EHRC report by Reed and Portes (2018) and research published by the Disability Benefits Consortium (2019) on the impact of reforms to disability benefits in the UK, whereas others are presented for the first time in this report. This section explains the improvements.

#### Using detailed disability information in the FRS

Recent years of FRS data (from 2012-13 onwards) include more detailed information on disability for adults and children in the sample than had previously been the case. The disability status variable has been changed to correspond more closely to the 2010 Equality Act definition of disability as 'a physical or mental impairment that has a "substantial" and "long-term" negative effect on your ability to do normal daily activities'.<sup>3</sup>

Due to the difficulty of precisely identifying all those survey sample members who are disabled under the Equality Act 2010 (EA) definition, the FRS provides two disability variables:

- The core definition (variable DISCORA1 in the adult dataset and CDISCORA1 in the child dataset). According to the FRS documentation, everyone who is disabled under this definition will be disabled under the EA definition, but some people who are disabled under the EA definition will be excluded.
- The wider definition (variable DISACTA1 in the adult dataset and CDISACTA1 in the child dataset). This definition should capture everyone who is disabled under the EA definition, but may also capture some sample members who are not disabled under the EA definition.

The individuals who are classified as disabled under the EA definition, but who may not be captured under the FRS core disability variable, include

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<sup>3</sup> More detailed information is available at: <https://www.gov.uk/definition-of-disability-under-equality-act-2010>

those who are in one or more of the following categories (UK Data Archive, 2017: 27):

- People with a long-standing illness or disability who would experience substantial difficulties without medication or treatment.
- People who have been diagnosed with cancer, HIV infection or multiple sclerosis and who are not currently experiencing difficulties with their day-to-day activities.
- People with progressive conditions, where the effect of the impairment does not yet impede their lives.
- People who were disabled in the past and are no longer limited in their daily lives.

This report uses the core disability definition as the main disability definition.

Since 2012–13, the FRS has also included a set of variables for whether sample members experience particular functional disabilities. There are ten binary variables corresponding to difficulties with the following functional areas:

- Vision
- Hearing
- Mobility
- Dexterity
- Learning
- Memory
- Mental health
- Stamina, breathing or fatigue
- Social or behavioural difficulties
- Difficulties in any other area of life.

These variables are used in the analysis to develop a 'disability score' measure as a proxy for the severity of an individual's disabilities. The disability score is arrived at by summing the number of functional disabilities for each adult or child, producing a number between zero and ten. This score is then summed across adults and children in the household to produce a 'household disability score' indicator.

## **Individual-level distributional analysis**

Distributional analysis of tax and transfer policies is often conducted at the household or family level, but analysing changes in net income at the individual adult level within couples is also instructive. For example, given that most benefits and tax credits in the UK are paid to women rather than men within couples, a priori we would expect the effect of cuts to benefits and tax credits to have a greater impact for women in couples than for men in couples. As with the results produced for the EHRC in Portes and Reed (2018), this report presents individual-level distributional results alongside the household-level results in this report. This is particularly important when analysing the impact of policies by gender.

## **Modelling reassessment of DLA claimants for PIP**

Personal Independence Payment (PIP) was introduced for new adult claimants in April 2013 as a replacement for Disability Living Allowance (DLA) for working age claimants. The transfer of the existing working age DLA caseload to PIP was originally scheduled to be complete by 2017, but is still ongoing. The TTM uses an algorithm to simulate eligibility for PIP for DLA claimants in the FRS data, and also a reverse algorithm to simulate eligibility for DLA for PIP claimants in the FRS data. This enables us to estimate total PIP payments under a situation in which everyone in the FRS data who is currently on DLA will have been reassessed for PIP (and conversely, a baseline scenario where DLA was maintained for all claimants and PIP was never introduced).

It is important to note that the overall projections for savings to the Government arising from the switchover from DLA to PIP have changed substantially – and indeed, have gone into reverse – since DLA was first introduced. The UK Government originally projected a saving of around 20% in total PIP expenditure after the transfer of the DLA caseload was complete, compared to the amount that would have been spent on DLA (OBR, 2016). However, more recent estimates in the Office for Budget Responsibility (OBR)'s *Welfare Trends Report* have suggested that the amount saved so far is much smaller than originally anticipated, with the most recent research suggesting that the introduction of PIP has *increased* spending by around 15 to 20 per cent compared to if DLA were still operational (OBR, 2019). Accordingly, we use an algorithm to generate extra PIP claims for a randomly chosen selection of disabled people who are not claiming DLA in the FRS sample to increase the

estimated cost of PIP by at least 15% relative to DLA. This is an important difference between the modelling in this report and the earlier modelling by Portes and Reed (2018) which assumed that the transition to PIP would reduce expenditure by around 5 per cent, based on the most recent OBR forecasts at that time (OBR 2016, p92).

### **Modelling transitional protection for Universal Credit**

The introduction of Universal Credit involves transitional protection measures which are designed to stop claimants who are migrated from previous 'legacy' benefits and tax credits losing out financially from the switch to UC. These measures do not apply to new claimants of UC who have not transferred from a legacy benefit or tax credit claim. Also, in most cases transitional protection ceases if there is a change in the material circumstances of the UC claimant – for example changes in employment or earnings. There is also extra flexibility in the transitional protection arrangements for severely disabled claimants (Tucker, 2018; HM Treasury, 2018).

It is also important to take the speed of the UC roll-out into account when modelling the impacts at a specific point in the future. The roll-out of UC in Northern Ireland is happening later than for other countries in the UK and this report takes the speed of roll-out into account, given that we are modelling impacts in the 2021-22 financial year. Full details are given in the technical appendix to the report. The appendix also presents an analysis of the effect of transitional protection on the modelled distributional effects of the Universal Credit roll-out by household income decile.

### **Modelling mitigation measures in Northern Ireland**

This research models the mitigation measures introduced to offset some of the social security reforms in Northern Ireland from the perspective of measures that might be expected to remain in force through 2021-22. Currently, funding has been provided for mitigation measures up to and including the 2019-20 financial year, but not beyond that (NIAO 2019, Appendix 3). In Chapter 3 of this report we model two of the measures which have been included in the mitigation package operating between 2016 and 2020:

- a) Offsetting the impact of the Benefit Cap for families;
- b) Offsetting the impact of the 'bedroom tax' (Social Sector Size Criteria) for social sector tenants.

The other mitigation measures in the 2016-20 package are not included for the following reasons:

- We do not model mitigation measures lasting only for one year on the grounds that most of these will have come to an end by 2021-22.
- We do not model discretionary payments because of the difficulty of assessing who is eligible for (or in receipt of) a discretionary payment using the FRS dataset.

In Chapter 8 of this report we model the impact of introducing an expanded package of mitigation measures for Northern Ireland, including the following:

- A Cost of Work Allowance for low-income working families;
- Increasing the rate of Carer's Allowance to the rate of Jobseeker's Allowance;
- An expanded payment for low income families with young children (modelled on the Scottish Government's Best Start Grant);
- Offsetting the 2-child limit on HB, CTC and UC payments;
- An additional per-child payment for low income families with children;
- A payment for households with one or more disabled people in receipt of disability premia for tax credits, Income Support, Employment and Support Allowance or Universal Credit.

### **The National Living Wage**

One of the key policy reforms of the post-election July 2015 Budget was the National Living Wage (NLW), an above-inflation increase in the National Minimum Wage for employees aged 25 and over. This was a key aspect of the post-2015 Conservative Government's stated ambition to 'make work pay' by improving the financial returns to work for low-paid employees, and above-inflation increases in the NLW have been maintained in subsequent Budgets. A full appraisal of the distributional impact of reforms introduced from 2015 onwards needs to include the

impact of the NLW. We therefore include the NLW alongside reforms to the tax and transfer payments systems in this report, as well as above-inflation increases in the National Minimum Wage for younger groups.

### **Partial take-up of means-tested benefits, tax credits and Universal Credit**

The analysis in our 2014 report assumed that everyone who was eligible for means-tested benefits (such as income-based Jobseeker's Allowance (JSA) and Housing Benefit), tax credits and UC (when rolled out) claimed these transfer payments. In practice, take-up is less than 100 per cent, as shown by DWP statistics concerning take-up of means-tested benefits and HMRC statistics concerning take-up of tax credits. An algorithm was therefore developed which allows estimated take-up of benefits, tax credits and UC to be set at a proportion between zero and 100 per cent of eligible recipients. For means-tested benefits and tax credits, recent statistics from the DWP and HMRC were used to provide realistic take-up assumptions. For UC (where take-up figures had not been published, as roll-out was at too early a stage), an algorithm was used to determine take-up for each benefit unit in the FRS. This was based on whether the benefit claimant was assumed to claim any of the benefits or tax credits which are being replaced by UC. In addition, we adjust UC receipt to take account of increased use of benefit sanctions under UC compared to legacy benefits (Portes and Reed 2018, Appendix A).

## **3.4 Policies included in the cumulative impact assessment**

The analysis in this report includes the impact of all tax, benefit, tax credit and UC policies in Northern Ireland that the TTM is able to simulate or approximate with a reasonable degree of accuracy. In practice, reforms fall into three broad categories, as explained under the headings below.

### **Reforms included with high accuracy**

The majority of reforms are included with high accuracy, including:

- the income tax and NIC systems
- most parts of the benefit system



- most parts of the tax credit system
- most parts of UC.

### **Reforms included with lower accuracy**

Some aspects of the tax and social security reforms can be modelled, but with lower accuracy because the EUL version of the FRS data does not include enough information for completely accurate modelling. The main examples of this problem are:

- the Local Housing Allowance (LHA) for Housing Benefit claimants in the private rented sector. The maximum permissible rents on which LHA can be claimed are based on rent levels in the local authority. In the absence of local authority identifiers in the FRS, we are forced to approximate LHA levels based on regional information.
- Assessments for disability-related benefits such as Employment and Support Allowance (ESA) and PIP. Although the FRS includes information on the nature and severity of each claimant's disabilities that can be used to approximate the results of assessments for these benefits (and, in particular, reassessments of the existing stock of DLA and Incapacity Benefit (IB) claimants), there is not enough information to enable a fully accurate simulation of an assessment for either of these benefits. The results from using the FRS disability variables will be at best an approximation of the actual outcome of any assessment.

### **Reforms which cannot be included**

Overall, the TTM is able to model the fiscal impact of over 90% of reforms to the benefits, tax credits and UC systems since 2010 to a high or partial standard of accuracy. However, some aspects of the benefits, tax credits and UC systems cannot be included in the impact assessment because the FRS data do not contain the required information. The main examples of this are:

- Changes to rules regarding the income thresholds for repayment of tax credits if income rises more than expected over the course of a tax year. These were made less generous during the

2010–15 Coalition Government as a cost-saving measure. Since the FRS (and LCF) data are cross-sectional rather than panel datasets, they do not contain the information about claimants' incomes in the previous tax year that would be required to model these reforms.

- Sanctions for claimants of JSA, ESA, tax credits and UC. The sanctions system was made significantly tougher during the 2010–15 Coalition Government (Hudson-Sharp et al., 2018: 83–84). Moreover, data from the DWP show that the number of JSA sanctions each year that are applied for a variety of reasons (for example, non-attendance at Jobcentre Plus interviews; failure to actively seek work) increased to a peak in 2013, before starting to fall as more claimants were transferred to UC. Specific analysis of data for Northern Ireland shows that before the introduction of UC, the rate of sanctioning as a proportion of benefit claimants was lower than elsewhere in the UK (Tinson, 2016). The number of sanctions under UC increased markedly between 2015 and 2017 in localities where it was already rolled out (Hudson-Sharp et al., 2018: 85–88). Unfortunately, the FRS does not contain any information about whether benefit claimants have been sanctioned or not; it is not even clear in the FRS documentation whether a sanctioned claimant is recorded as claiming a particular benefit but with a zero receipt of benefit, or is not recorded as claiming the benefit. We are therefore unable to model the impact of increased benefit or tax credit sanctions in the research. However, we do include an adjustment to the level of UC take-up in response to recent data showing that the proportion of UC claimants who are sanctioned is higher than for the benefits and tax credits which UC replaces (Hudson-Sharp *et al.*, 2018: 87–8). Details are explained in the technical appendix to the report.

The indirect impacts of changes to the delivery of the benefit system are also difficult or impossible to model (although some may be captured indirectly, to the extent that they impact benefit receipt as recorded in the FRS data). In particular, although the transitions from IB to ESA and from DLA to PIP are modelled as described above, the broader impact of changes to the assessment system are difficult to capture. As evidenced

by widespread public concern, these changes, the high volume of appeals, and the considerable evidence of significant hardship to many claimants, have had broader impacts than those modelled here. This research focuses on features of the system that can be quantitatively modelled, therefore omitting certain qualitative features that may nonetheless be important and additional to the analysis contained here (Hudson-Sharp *et al.*, 2018: 63–82).

### 3.5 Choice of baseline scenario

The reforms to taxes and transfer payments modelled using the TTM are assessed against a baseline 'business-as-usual' scenario. This assessment involves taking the final tax-transfer system before the May 2010 UK general election (that is, the system for the 2010–11 tax year) and uprating that system using the default rules in place for the previous Parliament. In practice, this means that:

- For the **2010–15 Westminster Parliament**, the baseline scenario involves uprating tax thresholds, non-means-tested benefits, and tax credits by the Retail Price Index (RPI), and means-tested benefits by the Rossi index (which is similar to the RPI, but excludes housing costs).
- For the **2015–17 and subsequent Westminster Parliament**, the baseline scenario involves uprating the State Pension by the 'triple lock' (the maximum of average earnings, the Consumer Price Index (CPI), or 2.5%) and almost all other benefits, tax credits, UC and tax thresholds by the CPI.

In practice, the change to CPI uprating for the baseline scenario from 2015 onwards means that the levels of most transfer payments, and tax thresholds, are lower (by around 1% per year of uprating) than if RPI/Rossi uprating had been used for the post-2015 baseline. Significant methodological problems with the uprating formula for RPI have resulted in its decertification as a national statistic (Johnson, 2015). This means that RPI would probably have been phased out in favour of CPI (or something similar to CPI) even in the absence of other reforms. Using CPI as the post-2015 uprating baseline therefore seems appropriate.

### **3.6 Choice of tax year in which to perform the impact assessment**

The results presented in this report use the **2021–22** tax year to assess the impact of changes to taxes and transfer payments. Assuming the current Westminster Parliament runs to full term, 2021–22 will be the final full year of the Parliament and mark the point at which all changes to the system announced since 2010 should be fully implemented (with the exception of future increases to the state pension age in the 2020s).

## 4 Overall distributional effects of tax and social security reforms

This chapter shows the overall distributional impacts of tax and social reforms (and above-inflation increases in the National Living Wage and National Minimum Wage) in Northern Ireland since 2010. Analysis is presented at both household and individual levels depending on the breakdown variables being used.

### 4.1 Impact by position in the household income distribution

#### Impact in cash terms

First, this chapter looks at the impact of reforms according to where each household sits in the UK income distribution. Households in the Family Resources Survey (FRS) and Living Costs and Food Survey (LCF) datasets are ranked from poorest to richest in terms of disposable income (adjusting for family size). The weighted<sup>4</sup> data are then divided into ten equally sized groups or 'deciles', with the poorest 10% of families in decile 1, the next 10% in decile 2, and so on to the richest 10% in decile 10.

Figure 4.1 shows the distributional impact of all modelled reforms since 2010 to taxes, benefits, tax credits and Universal Credit (UC) by household net income decile, modelled for the 2021-22 tax year. The analysis uses LCF data to calculate the impact of changes in indirect taxes and FRS data to calculate the impact of all other changes. The figure is a stacked bar chart with different coloured bars showing the impact of reforms to different aspects of taxes, transfer payments, and policies affecting gross incomes:

- Benefit and tax credit changes (in light blue);
- Mitigation measures (to offset the 'bedroom tax' and the benefit cap - pink);

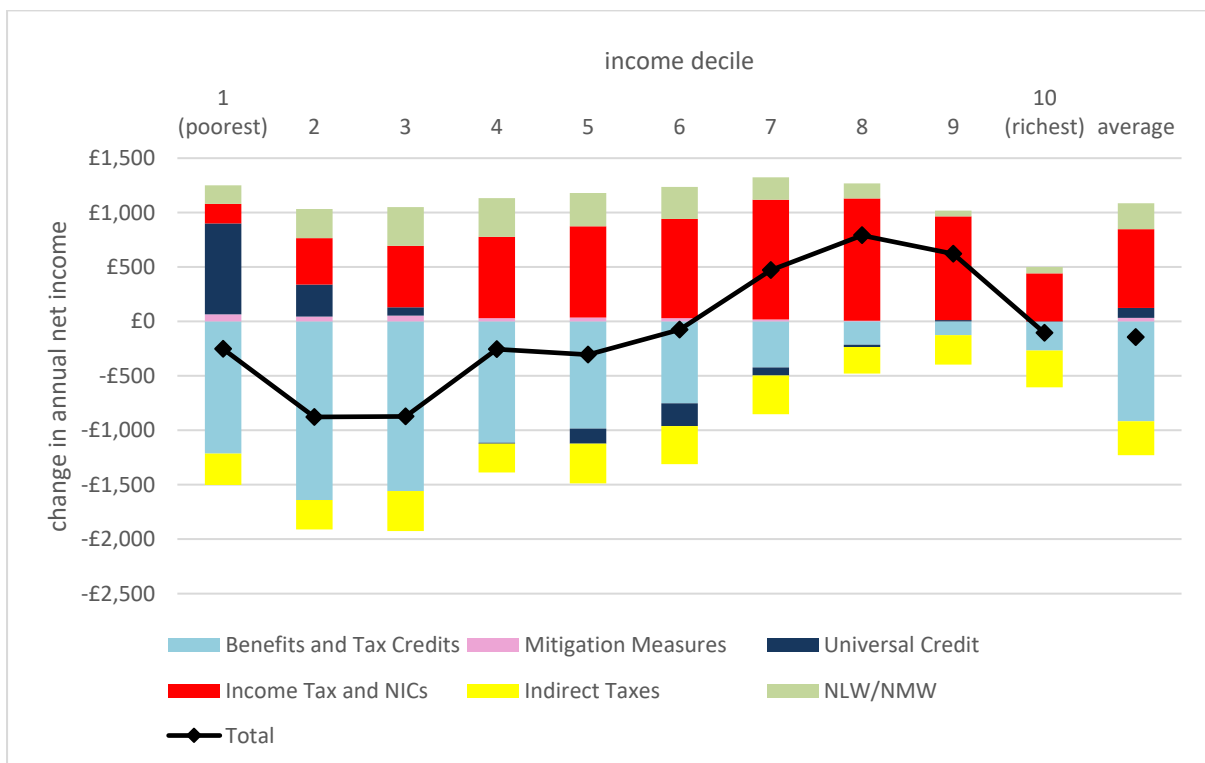
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<sup>4</sup> The data are reweighted to adjust for differences in survey response rates and/or sampling frequencies between households with different characteristics (for example, number and age of adults; number of children; tenure type; region). After applying weights, the FRS and LCF datasets more closely resemble the UK population in terms of household composition.

- Universal Credit (measured as an additional impact on net incomes after all other reforms to benefits and tax credits, in dark blue);
- Reforms to direct taxes and National Insurance Contributions (in red);
- Changes to gross income as a result of the introduction of the National Living Wage for over-25s and above-inflation increases in the value of the National Minimum Wage for other age groups (in green);
- Changes to indirect taxes (in yellow).

The black line shows the total impact of these changes and is the sum of the stacked bars. The right-hand stacked bar labelled 'average' shows the average impact of the reforms across all households in Northern Ireland.

**Figure 4.1. Cash impact of reforms by household net income decile and type of reform, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

Figure 4.1 shows that the biggest average total losses from the reforms are in deciles 2 and 3 (at just under £900 per year). Average losses for the poorest decile are smaller than this, at around £250 per year. This is partly because average losses from benefit and tax credit reforms are

smaller for the lowest decile than for decile 2. In addition, the introduction of UC leads to a substantial increase (of around £800 per year on average) in net incomes for the lowest decile, and smaller increases for deciles 2 and 3, but a reduction in net income for deciles 4 through 8. The positive impact of introducing UC in the lower deciles of the income distribution occurs because we assume that UC will have a higher overall take-up rate than the benefits and tax credits it replaces. We expect higher take-up because, if someone is claiming one component of the previous benefit and tax credit system but not another part (for example Housing Benefit but not tax credits) when UC is introduced, the claimant will automatically claim both components (as they form part of the same UC payment).

Moving further up the distribution, the overall impact of the reforms is negative for deciles 2 to 6, with the average impacts getting smaller for households further up the distribution (except that average losses for households in decile 4 are smaller than for households in decile 5). For households in deciles 7, 8 and 9, the total impact is positive, with the highest average gains in decile 8, at just under £800 per year. For the top decile, the overall impact of reforms is negative, with average losses of just over £100. This distributional pattern is driven by two main factors. First, while the changes to benefits and tax credits (and UC above decile 3) have an overall negative impact, the impact is smaller for households further up the income distribution. This is mainly because on average, households receive larger benefit and tax credit payments in the baseline scenario the further down the income distribution they are.

The Northern Ireland Department for Communities anticipates substantial expenditure savings from reforms to benefits and tax credits since 2010. For example, the Department's business cases for the replacement of DLA by PIP and the roll-out of Universal Credit in Northern Ireland estimate savings of around £3 billion by 2025-26, compared to total social security expenditure of £7.3 billion in Northern Ireland in 2016-17 (NIAO, 2019). This makes it unsurprising that the distributional impact of these cuts is borne most heavily by the households that are most reliant on benefits and tax credits – even though, as explained in Section 3.3 above, so far the introduction of PIP has actually resulted in an *increase* in expenditure compared to DLA. The impact of other changes to social security – including the change in the uprating rules used, real terms reductions in benefits after 2013, reforms to Housing Benefit, and reductions in the

generosity of tax credits – has led to significant reductions in social security expenditure on Northern Irish households compared to the baseline scenario of an inflation-uprated 2010 social security system.

The impact of mitigation measures introduced in Northern Ireland to offset the impact of the 'bedroom tax' and benefit cap is relatively small, but largest for the bottom two deciles (averaging around £75 per year in both deciles). It should be noted that although the average impact of the mitigation measures is small, the average impact for particular households impacted by the bedroom tax or benefit cap is relatively large. For example, our modelling shows that the benefit cap would lead to an average reduction in benefit payments for affected households of around £3,500 per year, while the 'bedroom tax' would lead to reductions in Housing Benefit/Universal Credit payments of just under £700 per year for affected households, in the absence of the mitigation package which offsets the impact of the benefit cap and bedroom tax. The impact of these mitigation measures is explored in more detail in Chapter 8 of this report.

The other major factor driving the observed distributional impact across household deciles is the impact of changes to income tax and National Insurance Contributions, which is positive across all ten deciles but is larger in cash terms for the richer income deciles than for the poorer income deciles (with the largest cash gains occurring in deciles 7 and 8, at just over £1,100 per year). The main reason for this is that the policy reform resulting in the largest reduction in direct taxation since 2010 is the increase in the tax-free personal allowance for income tax from £6,475 in the 2010-11 tax year to £12,500 by 2019-20. This is a real-terms increase (above CPI inflation) of 53% over that time period, and results in a cut in income tax for men and women whose gross income is above the original personal allowance threshold of £6,475 (uprated in line with inflation). However, the largest gains from the policy go to people who are earning £12,500 or more (in 2019-20 or later years) because gross income needs to be this high to benefit from the full amount of the allowance increase. Many adults in households lower down the income distribution do not earn enough to receive the full benefit of the allowance increase.

Average gains from changes to direct taxation in decile 10 are smaller because of increases in direct taxes that affect people earning over £50,000 (in 2019-20 prices) in particular; the higher rate threshold (the



level above which the 40% rate of income tax is levied) has fallen in real terms since 2010-11. NICs rates below and above the Upper Earnings Limit and Upper Profits Limit also increased from 2011-12 onwards.

The impact of changes to gross incomes caused by above inflation increases in the NLW and NMW is also positive, and largest in deciles 3 through 6 (with annual gains of around £300 to £350 for each of these deciles). The impact of the minimum wage increases is largest in these deciles because low-paid workers are most likely to be located in households in this part of the income distribution. There are fewer adults in work in households in deciles 1 and 2, while in deciles 7 through 10, most employees earn above the projected levels for the NLW and NMW in 2021-22.

Changes to indirect taxes result in losses across all deciles, with the losses being slightly larger for richer households than for poorer households. The main policy change which drives this result is the increase in the standard rate of VAT from 17.5% to 20% from January 2011; while excise duties on petrol and diesel have been cut substantially in real terms since 2010, the overall impact of the fuel duty cuts is not enough to offset that of the VAT increase.

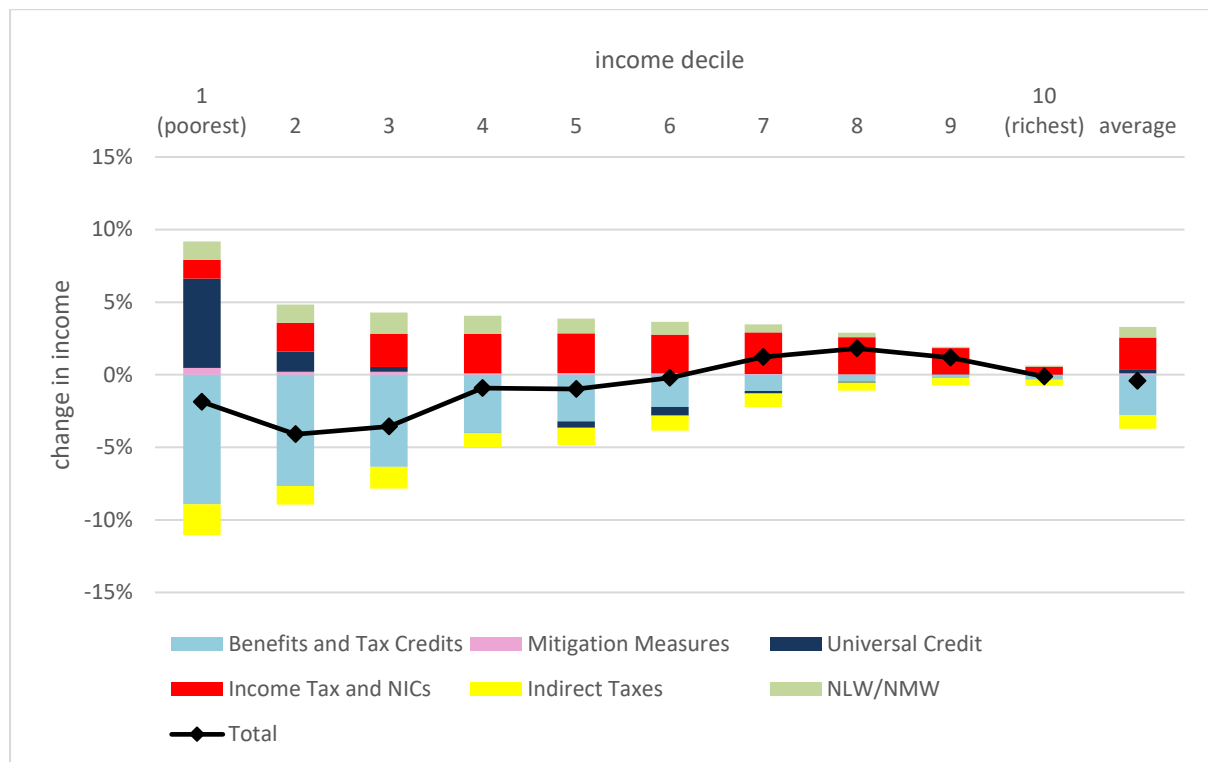
The right-hand column of Figure 4.1 shows the average annual cash impact across all households of each type of reform. The two types of measure with the largest impact are the benefit and tax credit reforms (average losses of just over £900 per household) and the income tax and NICs changes (average gains of just over £700 per household). Indirect tax changes result in an average loss of just over £300 per household, while real-terms increases in the NLW and NMW result in an average gain of just under £250 per household. The introduction of Universal Credit results in a small average gain of just under £100 per household, while the modelled mitigation measures increase household incomes by around £30 on average. Overall, the package of reforms results in a reduction in average incomes of just under £150 per year.

### **Impact in percentage terms**

Figure 4.2 shows the results from Figure 4.1 as a percentage of net income in the baseline scenario rather than in annual cash terms. The results show a broadly regressive overall pattern of total impacts across most of the income distribution (between deciles 2 and 8). The largest

negative net impact is for decile 2 at around 4% of net income; average losses for households in deciles 3 to 6 are smaller, while deciles 7, 8 and 9 experience small average gains (1.8% for decile 8 and 1.2% for deciles 7 and 9). The poorest decile loses around 1.9% of net income on average, while the richest decile loses 0.1%.

**Figure 4.2. Percentage impact of reforms by household net income decile and type of reform, 2021-22 tax year: Northern Ireland**



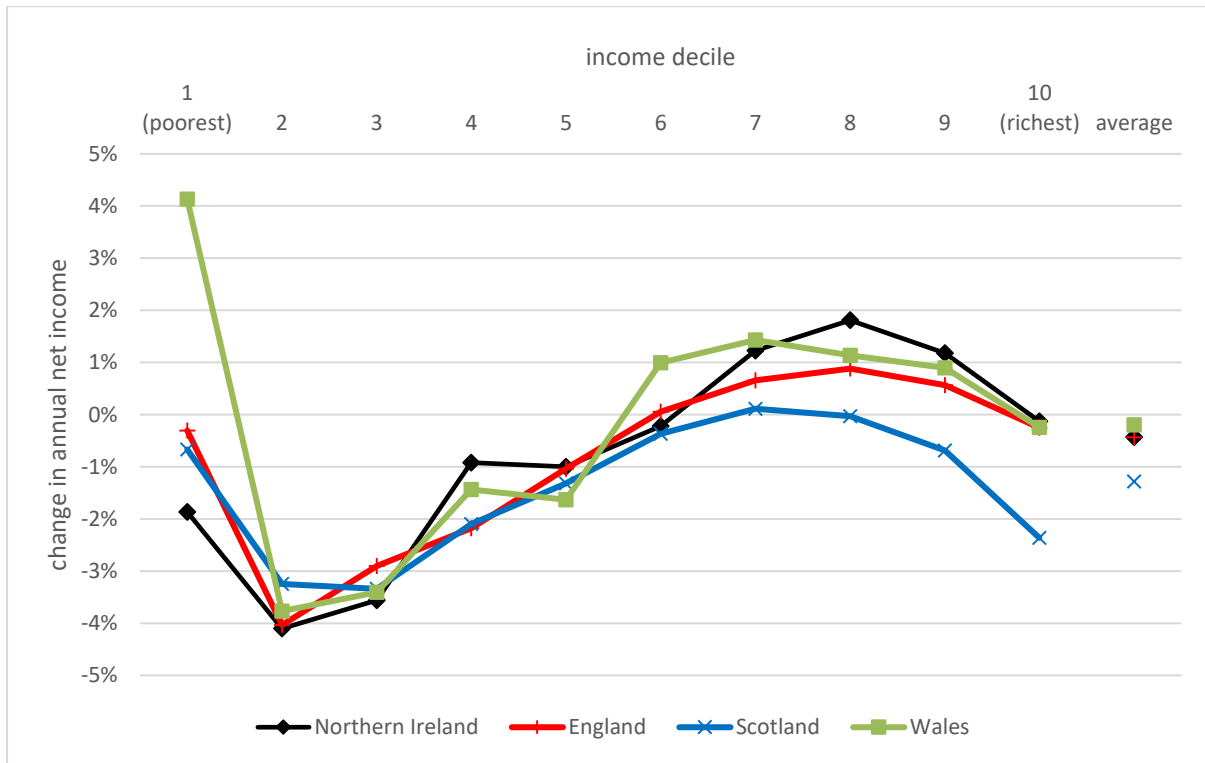
Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

### **Comparison of overall percentage impacts of tax and social security reforms for Northern Ireland and other UK countries**

Figure 4.3 shows a comparison between the overall percentage impact of tax and social security reforms in Northern Ireland (the black line from Figure 4.2 above) and the overall percentage impacts of the tax and social security reforms in the other three countries of the UK: England (in red), Scotland (blue) and Wales (green).

There are four main findings from Figure 4.3. First, the overall shape of the distributional impact of the reforms looks reasonably similar across all four countries. In particular, the lowest decile does better than deciles 2 or 3 (or deciles 4 and 5 in the case of England and Scotland) because of increased take-up of UC. There is a regressive impact of the tax and social security reforms across most of the distribution, with progressive impacts (higher percentage losses) in the top decile in all four countries. Second, the impact for households in the lowest decile in Northern Ireland is more negative than for any other UK country (an average loss of around 2 per cent, compared with average gains of 4 per cent in Wales, and average losses of between zero and one percent in England and Scotland). The increase in average incomes for households in the bottom income decile in Wales (around a 4% increase on average) occurs because the modelled increase in UC take-up has a more positive impact in Wales than in the other countries; for Northern Ireland, the opposite is true. Third, Scotland shows a more progressive impact of the reforms in deciles 9 and 10, with an average loss of around 2.5% of net income for households in the top income decile. This is due to progressive changes in income tax from 2018-19 onwards in Scotland, in particular an increase of 1 per cent in income tax rates for people earning over £24,000 per year. Finally, the distributional graph for Wales is more volatile than for the other countries due to a particularly small sample size of FRS households in Wales compared to England, Scotland or Northern Ireland.

**Figure 4.3. Percentage impact of all reforms, 2021-22 tax year:  
Northern Ireland, England, Scotland and Wales**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

### Comparison between results in this report and EHRC research by Portes and Reed (2018)

Compared to the distributional results for Great Britain in the analysis for EHRC by Portes and Reed (2018), the overall modelled distributional impacts of the tax and social security reforms shown here are significantly less negative. For example, the analysis for EHRC found that households in the bottom two deciles would lose, on average, approximately 10% of their net income from reforms implemented up to and including 2021-22, whereas the analysis here shows losses of around 2 per cent in decile 1 and 4 per cent in decile 2. As shown in Figure 4.3 above, these differences cannot be explained by the fact that this report looks at households in Northern Ireland whereas the EHRC analysis looked at Great Britain, because the results from the new analysis for England and Scotland look similar to Northern Ireland, while the Wales analysis shows more positive impacts in decile 1.

There are three main factors which explain the different pattern of results in this report compared to the analysis for EHRC by Portes and Reed (2018):

- 1) Transitional protection for households migrating from legacy benefits and tax credits to UC results in fewer households losing out – particularly in the lower deciles of the distribution – and so average losses are smaller. The analysis for EHRC did not model transitional protection.
- 2) Assumptions on the overall impact of the transition from DLA to PIP on net household incomes are completely opposite in this report compared to the analysis for EHRC. Here we assume an increase of around 15 per cent in total PIP expenditure compared to the DLA baseline whereas the EHRC analysis assumed a reduction of around 5 percent in spending. Our modelling assumptions have changed because of new evidence from OBR (2019) suggesting that PIP has resulted in increased expenditure compared to DLA (as explained in more detail in Section 3.3 above).
- 3) The algorithm for modelling partial take-up in the Landman Economics Tax-Transfer model has been refined since the EHRC analysis. The latest version of the algorithm suggests that the introduction of Universal Credit will lead to larger average cash gains in the bottom decile and also in deciles 2 and 3 than was previously forecast.

## **4.2 Impact by disability status of adults and children in the household**

This section shows the distributional impact of reforms to taxes and transfer payments since 2010 according to whether households contain disabled adults and/or children. We use two different definitions of 'household disability status' in this report:

1. A six-way classification based on the FRS questions regarding the 'core' measure of disability, the presence or absence of children in the household, and if children are present, whether any of them are disabled.
2. A 'score' measure based on the number of functional disabilities experienced by adults and children in FRS households.

This section discusses each of these definitions in turn. The LCF does not contain a disability status variable, which means we are unable to present results for the impact of indirect taxes by disability status. The average losses presented are therefore smaller than they are in analyses which include indirect taxes.

### **Adult-child household disability classification**

The six-way adult-child household disability classification is based on the combination of an adult-level and a child-level disability classification, as follows.

The adult-level classification divides households into two categories:

- 1) **No disabled adult(s)** – households with no adults who are disabled according to the core FRS definition (detailed in Section 3.3).
- 2) **Disabled adult(s)** – households with at least one adult who is disabled according to the core FRS definition.

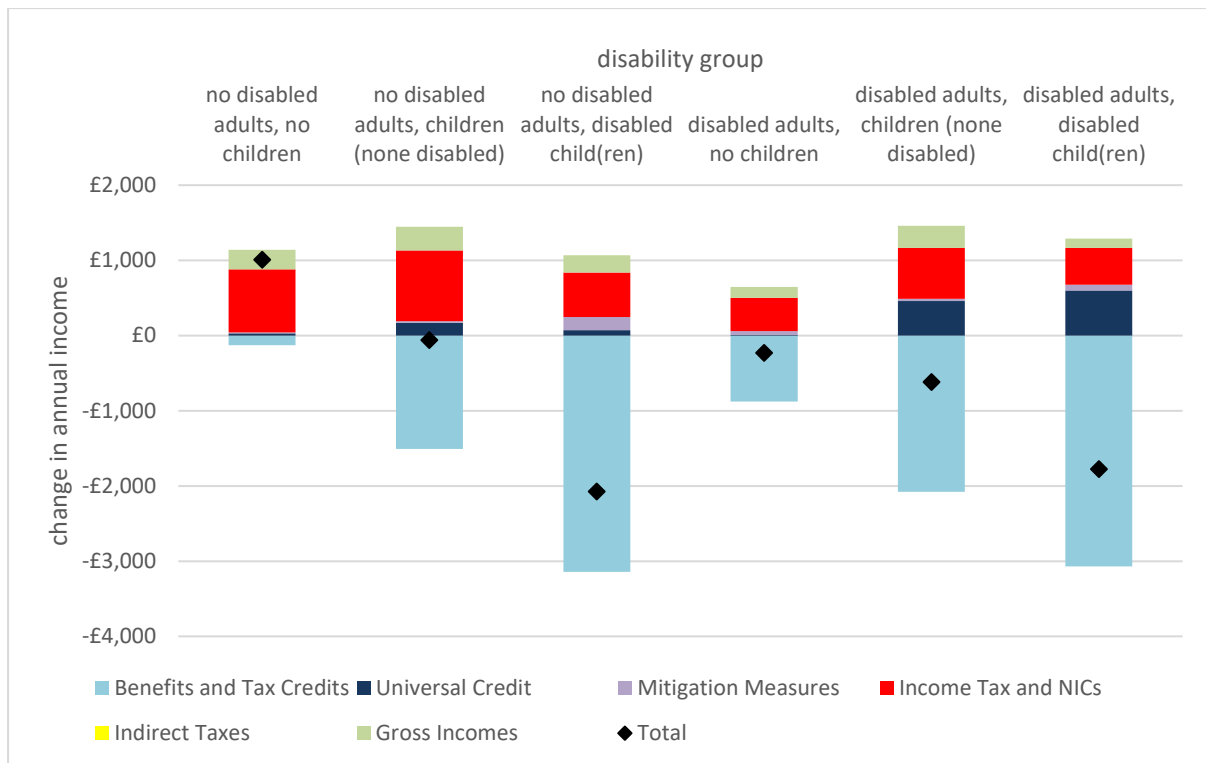
This classification is combined with a child-level classification, which also has three categories:

- a) Households with **no children**.
- b) **No disabled child(ren)** – households with at least one child, but no disabled children.
- c) **Disabled child(ren)** – households with at least one child who is disabled according to the core FRS definition.

The combination of categories 1) and 2) for adults and categories a), b) and c) for children creates six household-level disability categories.

Figure 4.4 shows the average cash impact of reforms to direct taxes and transfer payments according to this classification.

**Figure 4.4. Cash impact of reforms by FRS core disability status and type of reform, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 4.4 demonstrates four findings regarding the relationship between disability status and the impact of reforms to direct taxes and transfer payments. First, comparing the left-hand two columns with columns four and five indicates that where there are no disabled children in the household, households with at least one adult who is disabled under the core FRS definition experience greater average losses than households with no disabled adults. Second, within the left and right hand sets of columns, households with disabled children experience greater average losses than households with no disabled children. Third, households with children – whether disabled or not – also experience greater average losses than households without children. Finally, households with disabled children but no disabled adults experience slightly greater losses than households with disabled children and disabled adults.

These four findings taken together indicate stark differences between households with disabled adults and children, and those with neither. In the right-hand column of Figure 4.4, households with at least one FRS disabled adult, and at least one disabled child, experience average losses

of almost £1,800 per year, while households with at least one disabled adult, and children (but no disabled children) lose just over £600. By comparison, households with at least one FRS disabled adult but no children lose just under £250 on average from the reforms, while households with no disabled adults, but at least one disabled child, lose just under £2,100 on average. Households with children, none of whom are disabled, and with no disabled adults, lose an average of just over £50. Household with no disabled adults and no children gain around £1,000 per year from the reforms.

This pattern of distributional effects is mainly driven by cuts to benefits and tax credits; groups that are more likely to be in receipt of substantial amounts of benefits and tax credits lose out more significantly. The introduction of UC leads to substantial average gains for households with disabled adults and children (around £600 for households with disabled adults and disabled children, and £450 for households with disabled adults but no disabled children). The average impact of UC for the other groups is much smaller. The mitigation measures have the biggest positive impact for the households with no disabled adults but disabled children, with average gains of around £170 per year. The changes to income tax and NICs have the biggest positive impact for households with no disabled adults and either no children at all, or no disabled children (around £850 to £950 per year in each case) and the smallest impact for households with disabled adults and no children, and disabled adults with disabled children (between £400 and £500 in each case). Increases in the NLW and NMW have the largest positive impact for households with children who are not disabled (both in households without disabled adults, and those with disabled adults). The impact of the minimum wage increases is smallest for households with disabled adults and disabled children, mainly because these households have a lower employment rate than most other types of household.

### **Household disability 'score'**

The six-way adult-child household disability classification is a useful taxonomy for demonstrating the distributional impact of reforms according to whether households contain disabled adults and/or children, but takes little account of the severity or extent of disabilities. As an alternative disability classification, we use the ten binary indicators in the FRS for specific functional disabilities to develop a household disability



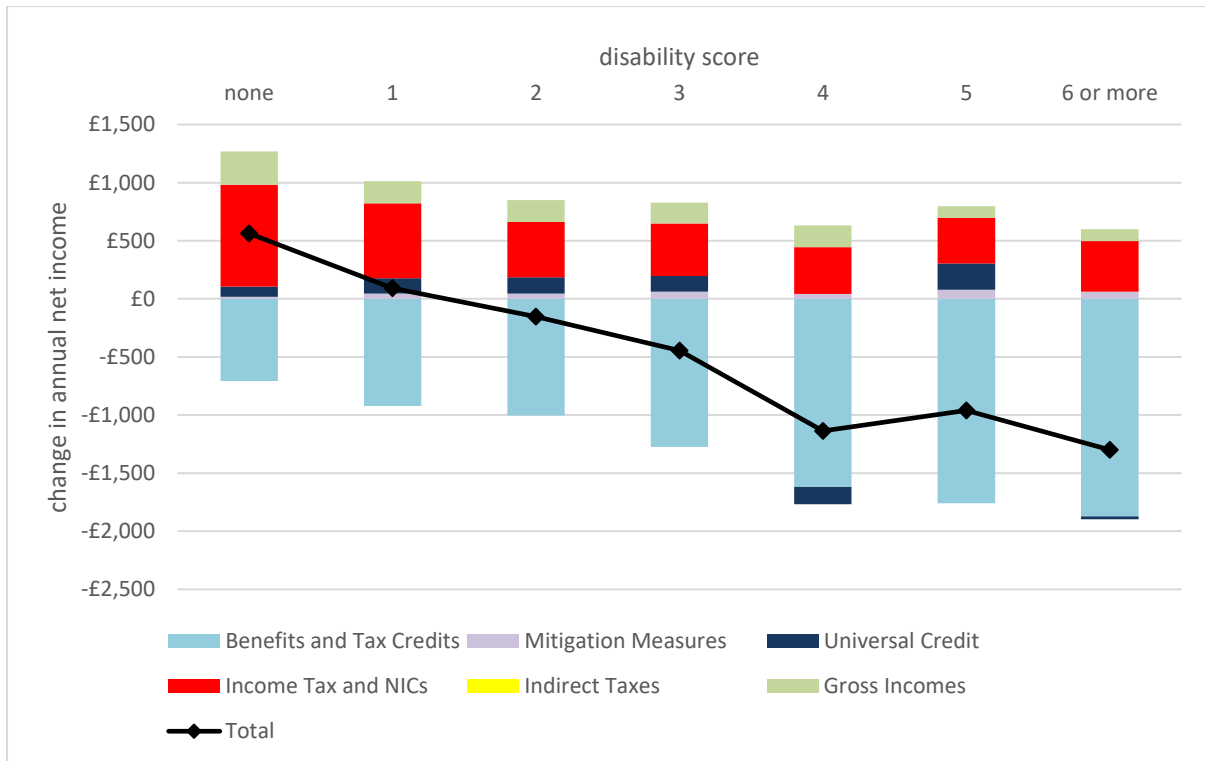
'score' variable. The household disability core is constructed for each FRS household using a two-stage process:

- The number of functional disabilities (between zero and ten) is summed for each person in the FRS household.
- These individual-level scores are then summed across the household.

The household disability score is a measure (crude, but nonetheless indicative) of the number of functional disabilities across all adults and children in the household.

Figure 4.5 shows the cash impact of reforms to direct taxes and transfer payments by household disability score. Relatively few households have disability scores above six, which means that households with scores of six or more are combined into a single category (the bar furthest to the right in the figure). The figure shows a clear negative slope, with households with higher disability scores experiencing greater average losses (except for households with a disability score of 5, where average losses are smaller than for households with a disability score of 4). Average changes in net income range from a gain of just under £550 per year for households with a disability score of zero to losses of around £1,300 per year for households with a disability score of six or more. This pattern of losses is clear evidence that households containing people with more extensive disabilities are losing more, on average, than households with relatively minor disabilities or no disabilities at all.

**Figure 4.5. Cash impact of reforms by household disability score and type of reform, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

The pattern of losses in Figure 4.5 is mainly driven by larger losses from benefit and tax credit cuts for households with a higher disability score. The introduction of Universal Credit has a small negative average impact for households with disability scores of 4 or 6, but positive impacts for other households. Households with a higher disability score benefit less on average from the income tax and NICs changes, and from increases in gross income as a result of the NLW and NMW uprating. These impacts are a result of the fact that households with a higher disability score have fewer adults in work (on average) than households with a lower disability score, partly because employment rates for disabled working-age adults are lower than for non-disabled working-age adults. In addition, households with disabled children have lower adult employment rates than households without disabled children, mainly because disabled children often require longer hours of care from adults in the household, which reduces opportunities for paid employment. The mitigation measures have a bigger impact for households with higher disability

scores, as these households are more likely to be affected by the bedroom tax and benefit cap than households with lower disability scores<sup>5</sup>.

### 4.3 Impact by household demographic type

This section analyses the distributional impact of reforms to taxes and transfer payments by household demographic type. This classification is a combination of three different household characteristics:

- Presence or absence of children in the household
- Number of adults in the household
- Whether the adult(s) in the household are working age or pensioner(s).

Based on various combinations of these factors, the demographic type classification divides households into eight categories:

- Working-age single adults with no children
- Lone parents
- Working-age couples with no children
- Couples with children
- Single pensioners
- Couple pensioners
- Multiple benefit units (MBUs) with no children
- Multiple benefit units (MBUs) with children

The MBU classifications comprise households where more than one 'benefit unit' lives at a single address. A benefit unit is defined by the DWP as a single adult or an adult couple. Examples of MBUs would be:

- More than one single adult sharing an address
- A single adult or lone parent living with his or her parents
- An adult couple living with their parents.

Figure 4.6 shows the average cash impact of reforms to taxes and transfer payments by household demographic type. The most striking finding demonstrated by the figure is that households with children experience much larger losses as a result of the reforms than households

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<sup>5</sup> This is the case even though households claiming DLA and/or PIP are exempt from the benefit cap. There are some households with high disability scores who do not claim any of the benefits which would exempt them from the cap.

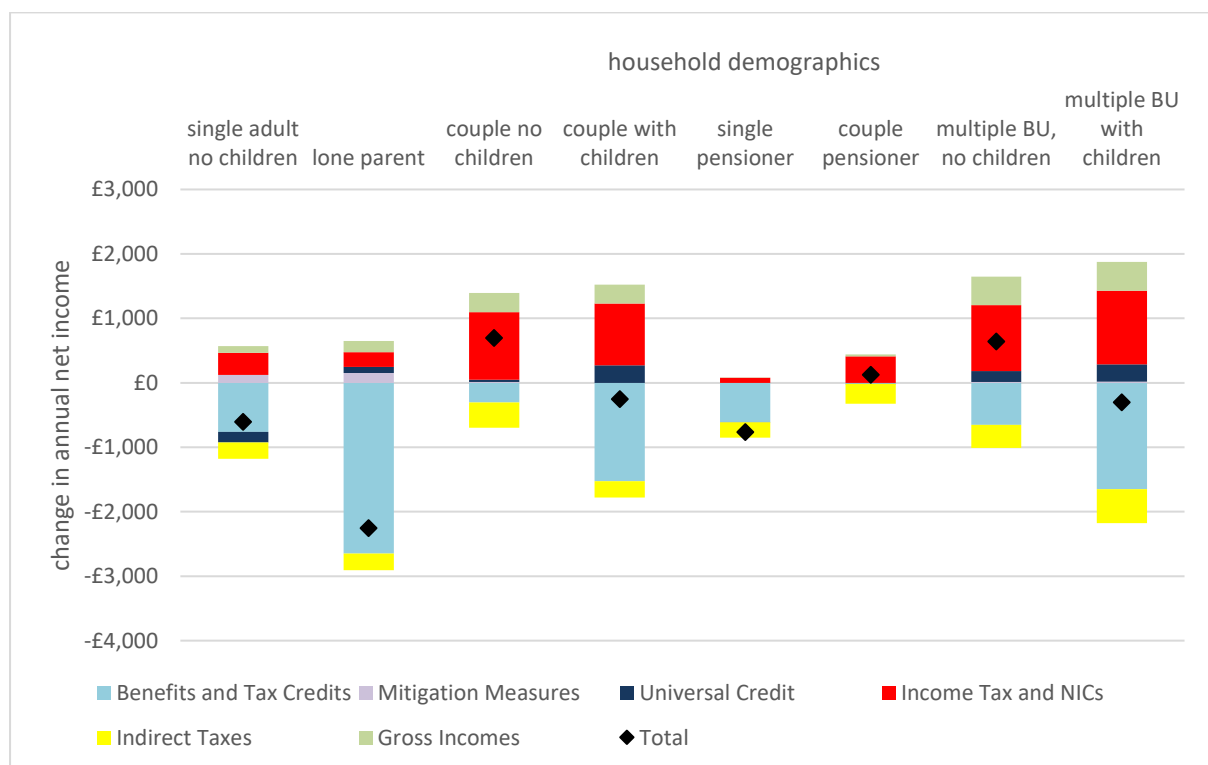
without children. Losses are especially dramatic for lone parents, who lose around £2,250 on average – equivalent to almost 10% of their net income. Given that over 90 per cent of lone parents in Northern Ireland (as elsewhere in the UK) are women, this suggests an important gender imbalance in the impact of the reforms, with a particular group of women being adversely affected. We analyse gender impacts of the reforms in more detail in Section 4.5 below. Average losses for couples with children and MBUs with children are smaller at around £250 and £300 respectively. Average losses for single adults without children are larger at around £600 per year, whereas couples with no children gain by £700 per year on average. MBUs without children gain by just under £650 per year on average, whereas single pensioners lose just over £750 per year on average. For couple pensioners the overall impact is a very small average gain (around £120 per year).

Losses in income from the benefits and tax credit changes are largest for households with children and particularly lone parents. These are offset by the introduction of UC and mitigation measures, but only to a small extent; for example for lone parents the introduction of UC leads to average gains of just under £100, and mitigation measures reverse average cuts of around £150 per lone parent household due to the bedroom tax and benefit cap, but total losses from benefit and tax credit changes are over £2,650 per year. The average gains from the income tax and NICs changes are much larger for couples and MBUs at between £950 and £1,150 per year compared to just over £200 for lone parents and just under £350 for childless working age adults. This partially reflects the fact that couples with two earners – and MBUs with multiple people in work – can benefit twice, or more than twice, from the increase in the income tax personal allowance, whereas single adult households can benefit only once. Benefits from the introduction of the NLW and increases in the NMW are also larger for working age couples (at around £300 per year) and MBUs (at just under £450 per year) than other groups, again because working age couples and MBUs are more likely to have multiple people in (low-paid) employment than the other groups.

For single pensioners, gains from the income tax changes are relatively limited, mainly because pensioners already had a more generous personal allowance in 2010-11 and so the increases in the personal allowance were of much more limited value to them. Single pensioners also lose out from the benefit changes on average, despite the fact that the State

Retirement Pension was subject to 'triple lock' uprating (being uprated annually by either CPI inflation, average earnings growth, or 2.5 per cent – whichever of the three was highest) from 2011, and roughly kept pace with the RPI baseline. The main reason is to do with less generous uprating of other benefits which pensioners receive – such as Attendance Allowance and Housing Benefit – where the uprating formula moved from RPI to CPI, which is less generous on average. Couple pensioners benefit from the income tax changes somewhat more than single pensioners – gaining just under £450 per year on average – because some pensioner couples have one adult who is under 65 and so would have had a much lower personal allowance under the baseline system, and so more potential gains from the increase to £12,500 by 2019-20.

**Figure 4.6. Cash impact of reforms by household demographic type and type of reform, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

## 4.4 Impact by number of children in the household

An analysis of distributional impacts by the number of children in households is instructive, showing the impact of reforms that are particularly disadvantageous for large households (Housing Benefit, tax credits and UC). This is particularly important in the Northern Ireland context due to the larger average family size in Northern Ireland compared to the rest of the UK.

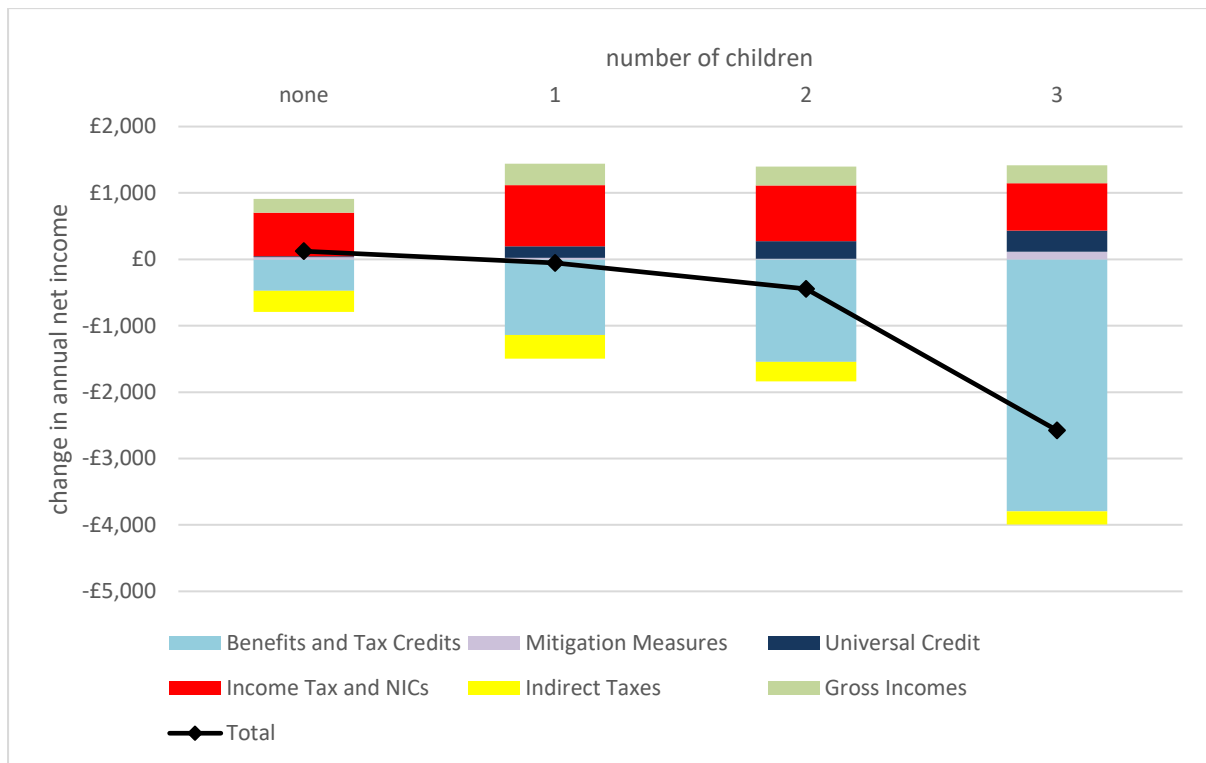
Figure 4.7 shows the average cash impact of reforms by number of children in the household. The figure has a clear negative slope; average cash losses are greater for households with more children. The average cash losses for households with three or more children (around £2,575) are almost six times the average cash losses for households with two children (around £450) and over fifty times the average cash losses for households with one child (around £50). These figures suggest a particular net income penalty to having three or more children in the household. This penalty is mostly driven by cuts in benefits and tax credits, which result in losses of almost £3,800 per year on average for households with three or more children. The roll-out of Universal Credit and the mitigation measures for the benefit cap and the bedroom tax only reduce these losses by around £450 per year.

One of the main reforms driving the results shown in Figure 4.7 is the announcement in the July 2015 Budget that, from 2017 onwards, premiums for children in Housing Benefit, tax credits and UC would be limited to a maximum of two children only for new claimants, and would not be available for existing claimants for most third and subsequent children born after April 2017 (Hudson-Sharp *et al.*, 2018: 115–16).<sup>6</sup> Chapter 5, which breaks down the impact of social security reforms by looking at the impact of specific measures, shows this in more detail.

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<sup>6</sup> There is an exception for children conceived as a result of rape.

**Figure 4.7. Cash impact of reforms by number of children in household and type of reform, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

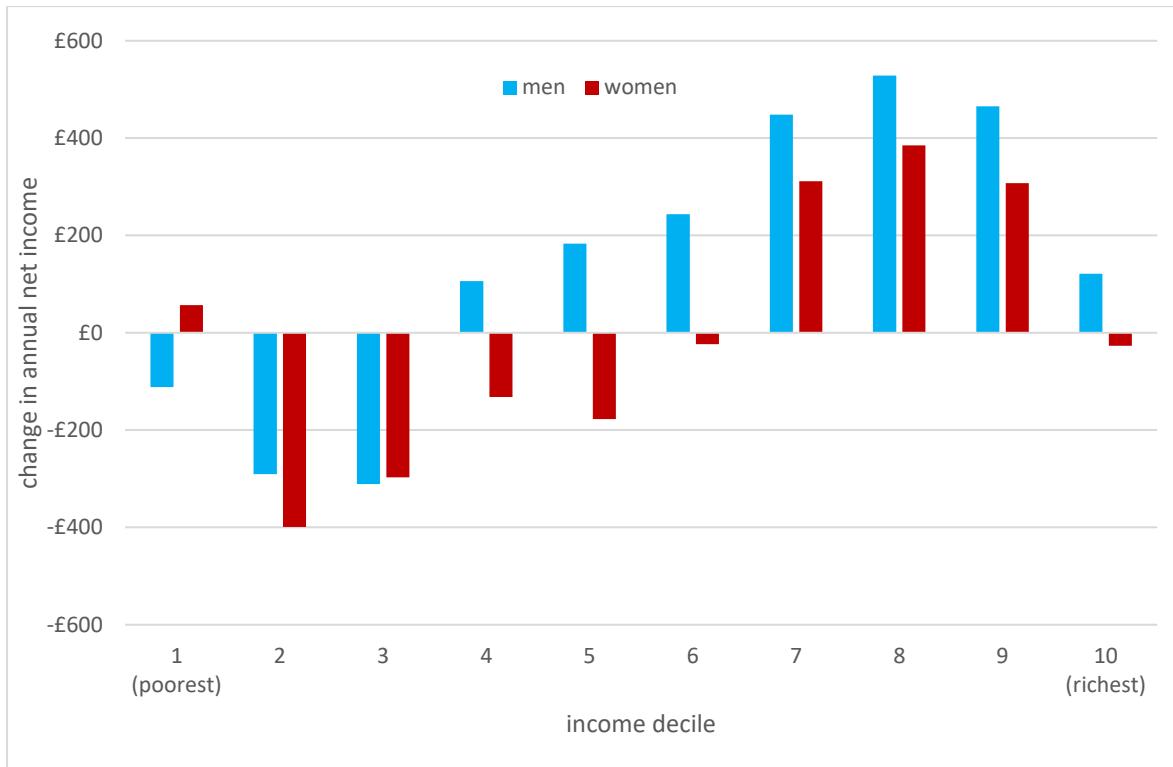
## 4.5 Impact by gender

### Gender and income decile

This section shows the impact of the direct tax and social security reforms by gender at the individual adult (rather than the household) level. We are not able to show the impacts of indirect taxes at the individual level because the LCF expenditure information is only available at the household level. The technical appendix gives details of how incomes (and in particular incomes from benefits and tax credits) are allocated between couples in the TTM. We also explore a number of different assumptions regarding who benefits from the payment of Universal Credit in couples, as shown below.

Figure 4.8 shows the overall average impact of the direct tax and social security reforms (including the impact of mitigation measures) for men (blue bars) and women (red bars) according to their position in the household income distribution.

**Figure 4.8. Cash impact of reforms by gender of adults and household income decile, 2021-22 tax year: Northern Ireland**



*Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18*

Figure 4.8 shows that across most of the deciles, the overall cash impact of the reforms is more negative for women than for men. This pattern is particularly pronounced in deciles 4, 5 and 6, where women lose from the reforms while men gain on average. However, in the lowest decile and in decile 3, men lose slightly more on average from the reforms than women.

Figures 4.9 and 4.10 provide a breakdown of these average impacts into the various components shown in the earlier Figures in this chapter, for men (in Figure 4.9) and women (in Figure 4.10). As the Figures show, on average women lose out more from the reductions in benefits and tax credits than men do, across all deciles. This is mainly because lone parents (over 90% of whom are women in Northern Ireland) receive larger amounts of benefits and tax credits on average than other family types. Also, in couples with children, Child Benefit is paid to the mother



rather than the father, while women are more likely to receive tax credits than men in couples in the FRS.

At the individual level, we model three different assumptions regarding the distribution of Universal Credit in couples:

- a) A 50/50 split (our default assumption, shown in the dark blue bars labelled 'UC', and used in the 'total (UC 50/50)' line;
- b) Payment to the primary earner (shown in the dotted 'total (UC primary earner)' line;
- c) Payment to the primary carer (shown in the dashed 'total (UC primary carer)' line.

Statistics from DWP cited by the Secretary of State for Work and Pensions in early 2019 suggest that in current claims for UC by couples with children, UC is paid to the mother in around 60% of cases (Work and Pensions and Northern Ireland Affairs Committees, 2019, p40). Based on our classification of primary earners and primary carers in the FRS data<sup>7</sup>, around three-quarters of primary earners are men, whereas three-quarters of primary carers are women. While the implementation of Universal Credit in Northern Ireland provides the option to split payments for couples between both partners, only a handful of cases have actually taken up this option (Work and Pensions Select Committee and Northern Ireland Affairs Select Committee, 2019, p 39). Our default assumption of a 50/50 split in payments should therefore be considered an 'average' assumption rather than an exact depiction of what is actually happening in practice. In Figures 4.9 and 4.10 we present three 'total' lines for the impact of the reforms, one corresponding to each of the UC payment assumptions above. The dark blue bars for the specific impact of UC reflect our default 50/50 payment assumption.

Under the default assumption of a 50/50 payment split in couples, the introduction of Universal Credit helps to offset the larger losses to women from other benefit and tax credit reforms to some extent because women gain more on average in the lowest decile than men do, and women's average losses from UC are smaller than men further up the income distribution. However, if instead we use the assumption that UC is paid to the primary earner in a couple, women experience additional losses

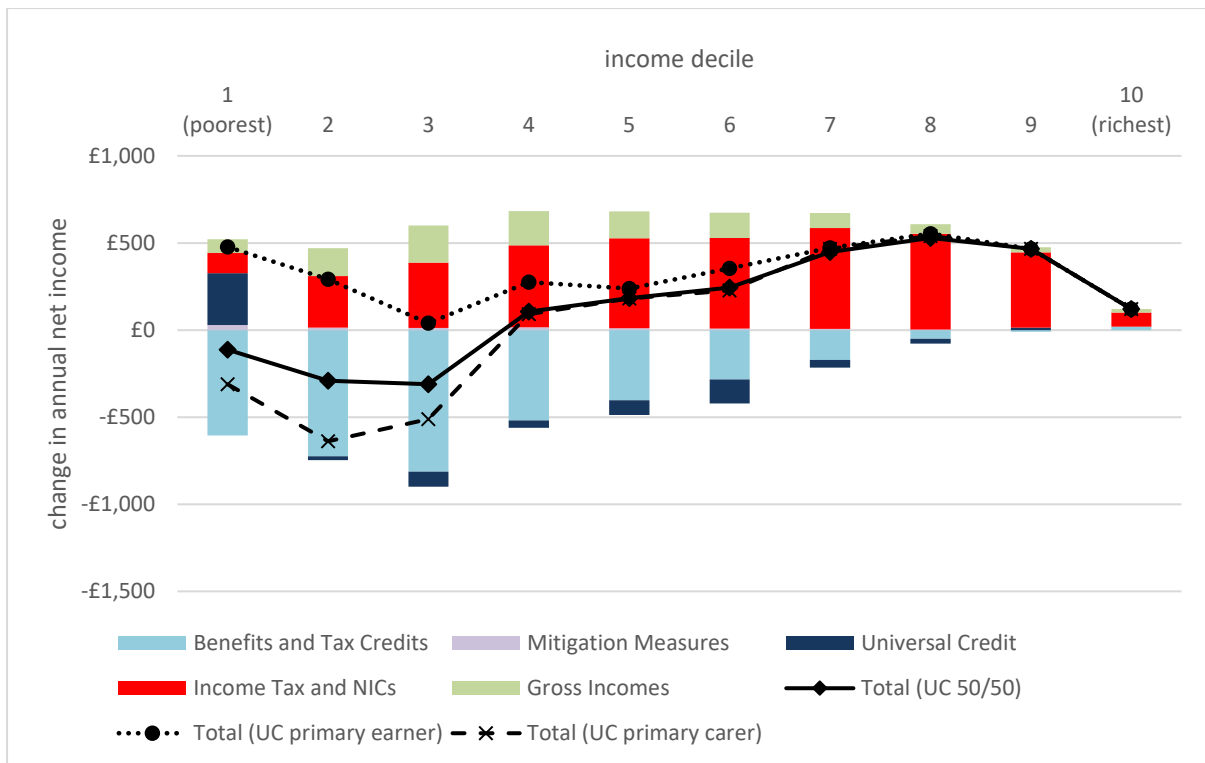
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<sup>7</sup> More detail on how we define the 'primary earner' and 'primary carer' in couples who claim UC is contained in the technical appendix.

across the lowest six deciles from the roll-out of UC, whereas men experience relative gains across these deciles. This is shown by the difference between the unbroken black lines in Figures 4.9 and 4.10 (which show the overall impacts of reforms under the 50/50 UC payment assumption for couples) and the dotted black lines (which show the overall impacts assuming UC is paid to the primary earner in couples). Conversely, if we use the assumption that UC is paid to the primary carer in a couple, women gain more, and men lose more, from the introduction of UC than under the 50/50 payment assumption. For example, in decile 3 women lose an average of just under £300 when UC payments are split 50/50 between couples. This average loss increases to just over £600 if UC is paid to the primary earner, but falls to just over £100 if UC is paid to the primary carer.

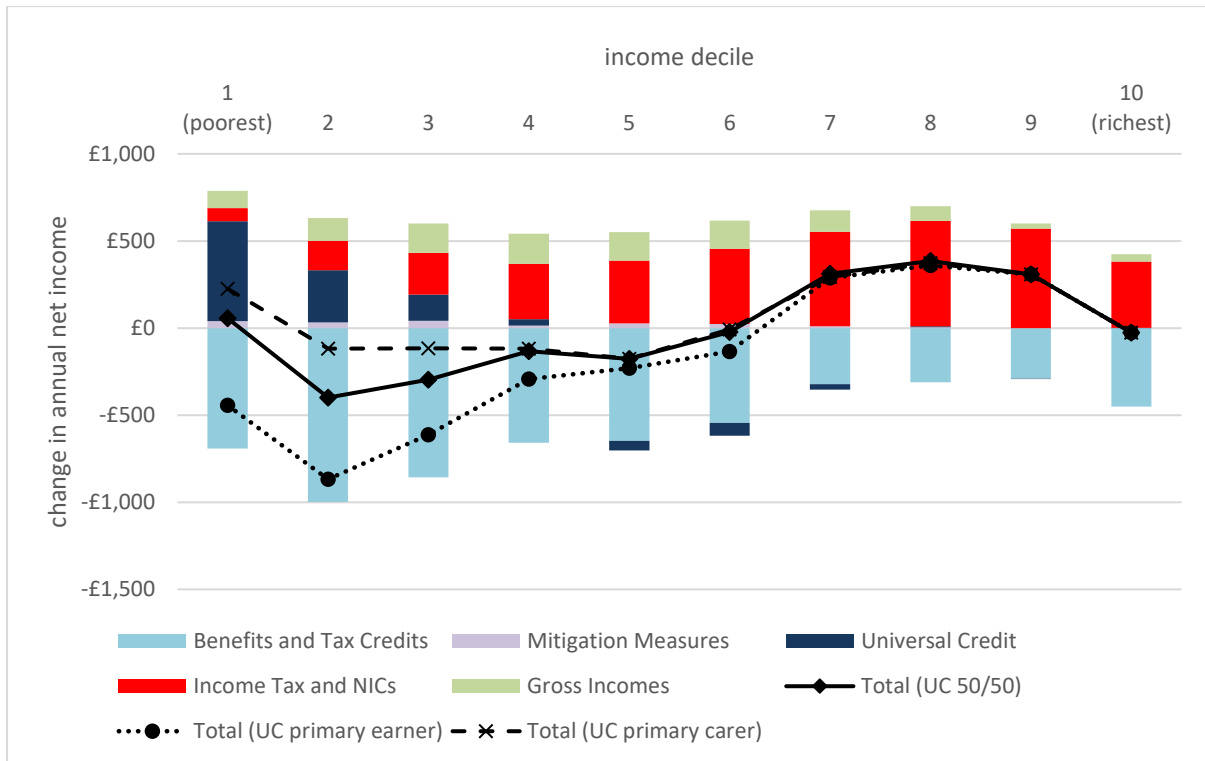
The changes to income tax and NICs have the higher impact for men across deciles 4 to 9, whereas for women the biggest impacts are in deciles 7 to 9. Women in the top decile do much better on average than men from the income tax changes because there are a substantial number of women in couples with relatively low earnings who are in the top (household) income decile because their partner has very high earnings. The distribution of low-paid women within couples also helps explain the distributional impact of the above-inflation increases in the NLW and NMW, with the biggest positive impacts for women spread a lot more evenly over deciles 2 to 7 compared to men, where the biggest impacts are in deciles 3 and 4.

**Figure 4.9. Cash impact of reforms for men by type of reform by household income decile, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

**Figure 4.10. Cash impact of reforms for women by type of reform by household income decile, 2021-22 tax year: Northern Ireland**

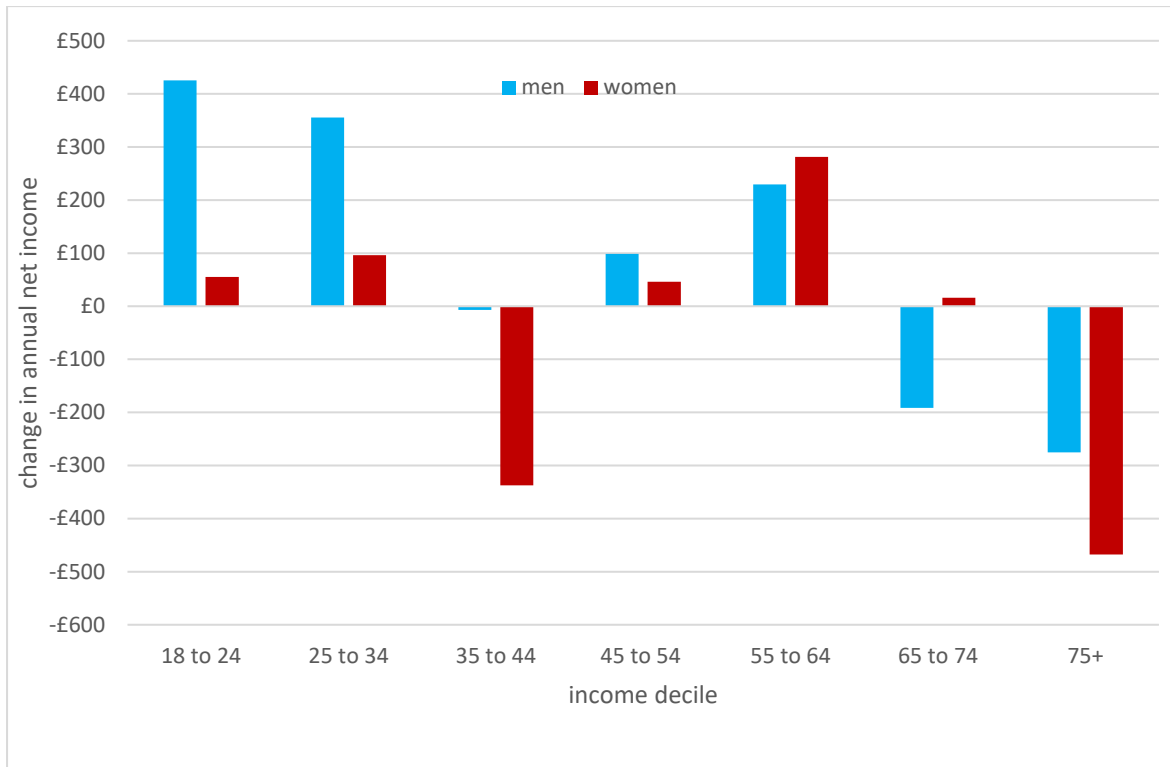


Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

### Gender and age

Figure 4.11 shows the overall impact of tax and social security reforms by gender and age group. The graphs divide men and women into seven age groups – 18 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, 65 to 74 and 75 and over. Women experience average losses from the reform in every age group, with the biggest average annual losses being for women aged 35-44 (just over £350) and those aged 75 and over (just over £450). By contrast, men aged 18 to 24 and 25 to 34 gain on average from the reforms (by between £350 and £400 per year in each case), and while men in older age groups lose on average, the losses are smaller than the equivalent age group for women in every age category except for men aged 65 to 74.

**Figure 4.11. Cash impact of reforms by gender and age group of adults, 2021-22 tax year: Northern Ireland**



*Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18*

Figures 4.12 and 4.13 show the breakdown of the overall results by specific type of reform for men and women respectively. The main difference between the impacts for men and women is that the negative impacts of benefit and tax credit reforms are much larger for women aged 25 to 34 and 35 to 44 in particular than for men in the same age groups. This arises because women in these age groups are more likely to be lone parents, and also more likely to receive benefits and tax credits for children, than men in these age groups, or women in younger or older age groups.

Under the default assumption of a 50/50 payment split to couples, the roll-out of Universal Credit offsets some, but not all, of the negative impacts of the tax credit and benefit changes for women. If we assume that UC is paid to the primary earner in couples rather than our default assumption of a 50/50 split, women are further disadvantaged by the reforms relative to men. Women aged 35 to 44 are £350 worse off on average from the roll-out of UC up to 2021-22 under the primary earner payment assumption compared to the 50/50 assumption. Conversely, if

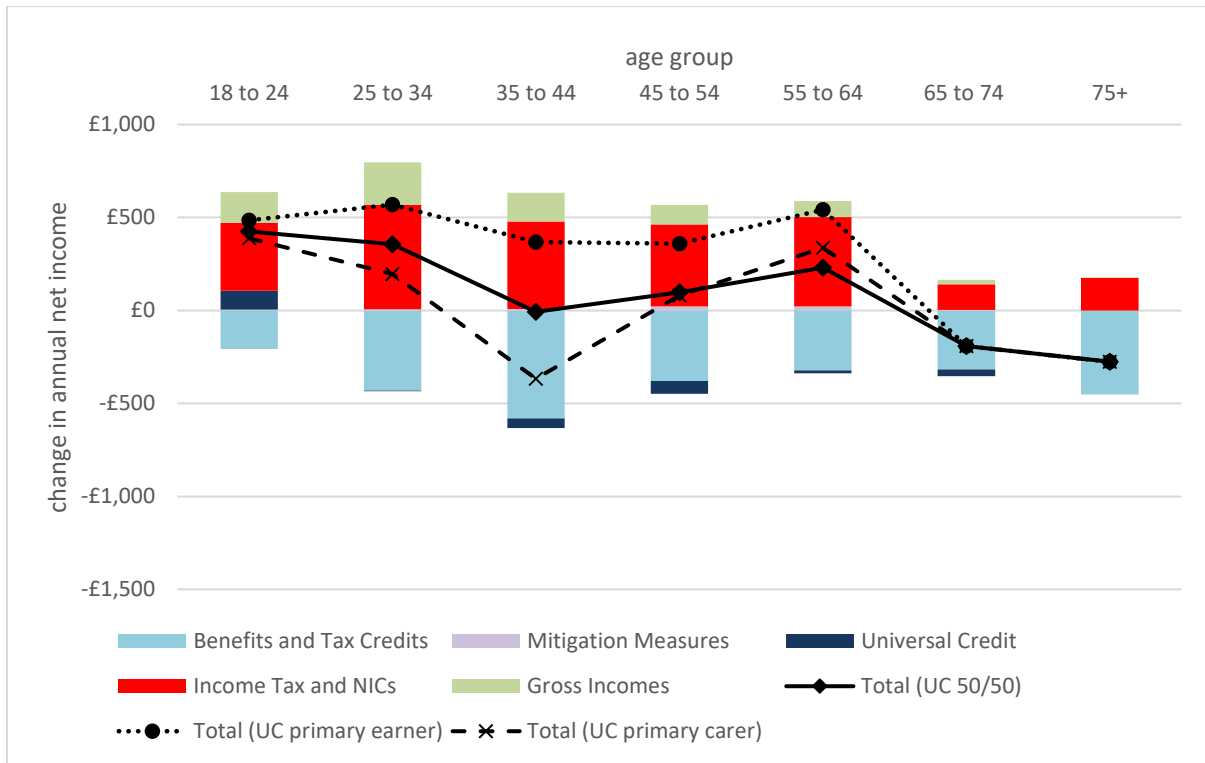
we assume that UC is paid to the primary carer rather than the primary earner, women aged 35-44 are £300 better off on average than under the default 50/50 assumption.

The impact of income tax and NICs changes is similar for men and women of working age (up to the 55 to 64 age group), except that men benefit somewhat more than women in all age groups between 18-24 and 55-64 inclusive. Partly this reflects the fact that men in couples with children (and especially young children) are more likely to be in work than women in these age groups, and more likely to be working full time than women, and so are more able to take advantage of the full increase in the income tax personal allowance. In the 45-54 and 55-64 age groups men benefit more on average from the income tax and NICs changes as they are more likely to have incomes over the £12,500 personal allowance value (in 2019-20) than women and so experience the full gain from the allowance increase.

For both men and women, the largest average gains from the above-inflation increases in the NMW and NLW are in the 25-34 age group, largely because this group are eligible for the NLW and are more likely to be low-waged employees than other age groups.

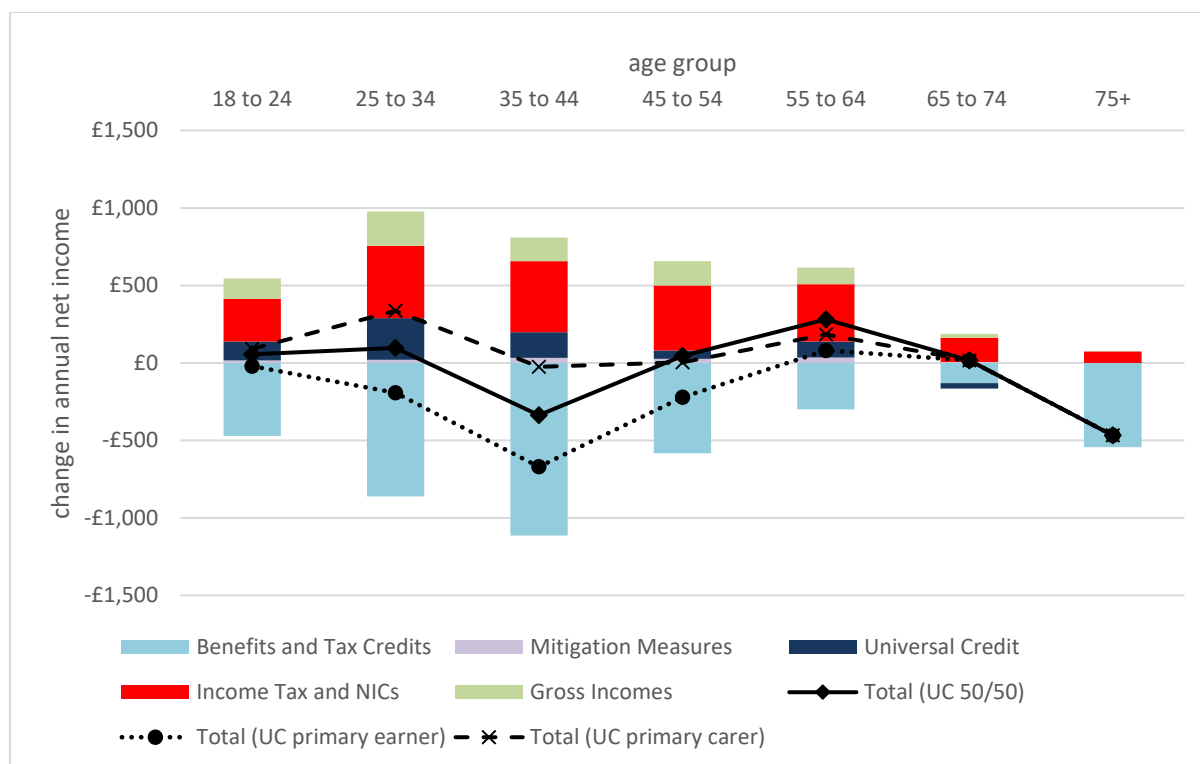
For men aged 65-74, overall losses are slightly larger than for women in the same age group, largely because of bigger reductions in net income from changes to benefits and tax credits. Conversely, women aged 75 and over lose more than men in the same age group because their gains from the tax changes are smaller and they lose slightly more in benefits (mainly because they are more likely to be claiming disability benefits such as Attendance Allowance which are affected by the changes from RPI to CPI uprating).

**Figure 4.12. Cash impact of reforms for men by type of reform by age group, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

**Figure 4.13. Cash impact of reforms for women by type of reform by age group, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

## 4.6 Analysis by employment status

Figure 4.14 presents the average distributional impact of the reforms at household level, according to the number of people in paid work in the household (using the groups: none, 1, and 2 or more). The results show that the negative impacts of benefit and tax credit reforms are largest for households with no-one in work (average losses of just under £1,200 per year) compared to households with one earner (losses of just under £1,050 per year) or households with two or more earners (losses of £600 per year). These differences arise because households are less likely to be claiming benefits or tax credits if they have at least one earner, and even more so if they have two (or more) earners. Universal credit has positive average impacts for households with one person in work, with average gains of just over £300. To a large extent this reflects the tax-free work allowances which many UC claimants benefit from. However, the additional impacts of the UC roll-out are (roughly) zero for workless

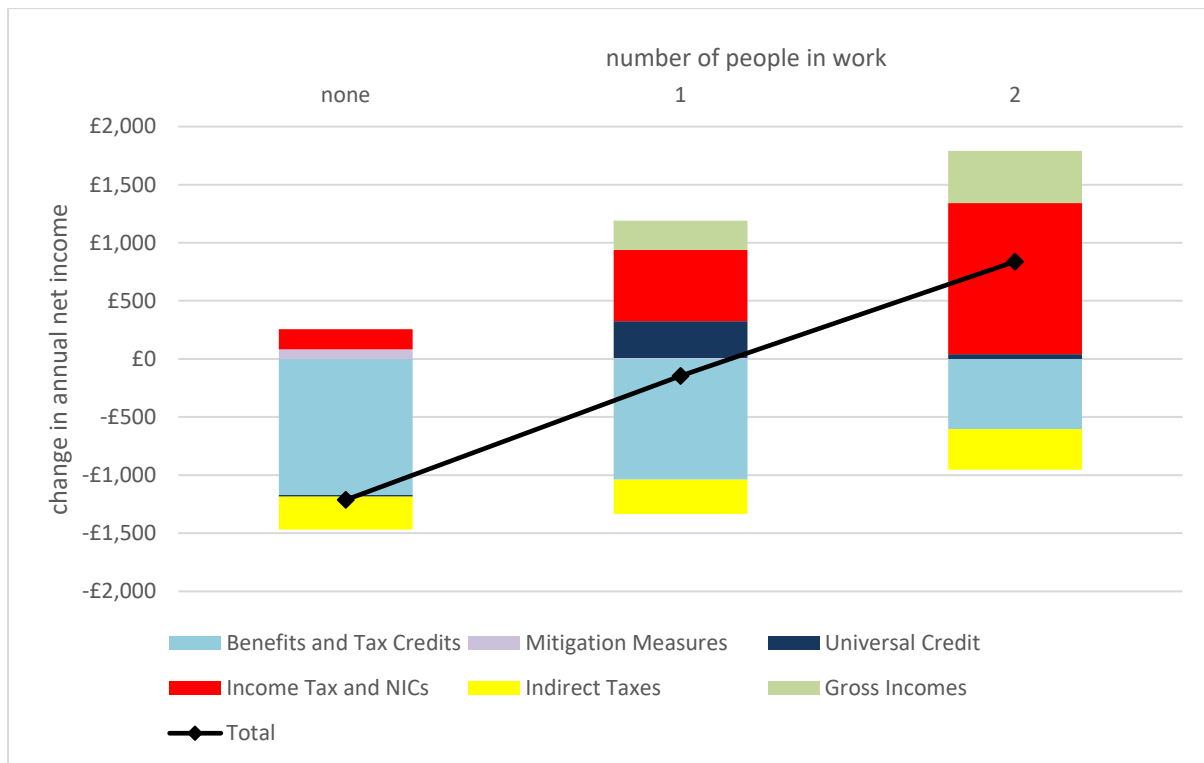


households and very small (average gains of less than £50) for households with two or more earners.

The changes to income tax and NICs and the above-inflation increases in the NMW and NLW lead to much bigger positive impacts for households with two or more earners than households with one earner, and the impacts for households with one earner are, in turn, bigger than for workless households. This is not surprising given that with two or more earners in a household, there are (potentially) two sets of gains from the increased income tax personal allowance and two sets of gains from increased minimum wages, whereas there is only one potential gainer for one-earner households (and none for workless households, although some workless pensioner households do gain from the tax changes). The mitigation measures have the biggest positive impacts for workless households (with average gains of around £80 per year) because these households are the only ones affected by the benefit cap in particular (working households are exempt from the cap). The negative impact of the indirect tax changes is slightly larger for households with two (or more) earners than for other households but the differences are not very large.

Overall, the average impact of all reforms is to produce an average loss of just over £1,200 for workless households compared to average losses of just under £150 for one-earner households and average gains of just under £850 for two-earner households.

**Figure 4.14. Cash impact of reforms by number of earners in household, 2021-22 tax year: Northern Ireland**



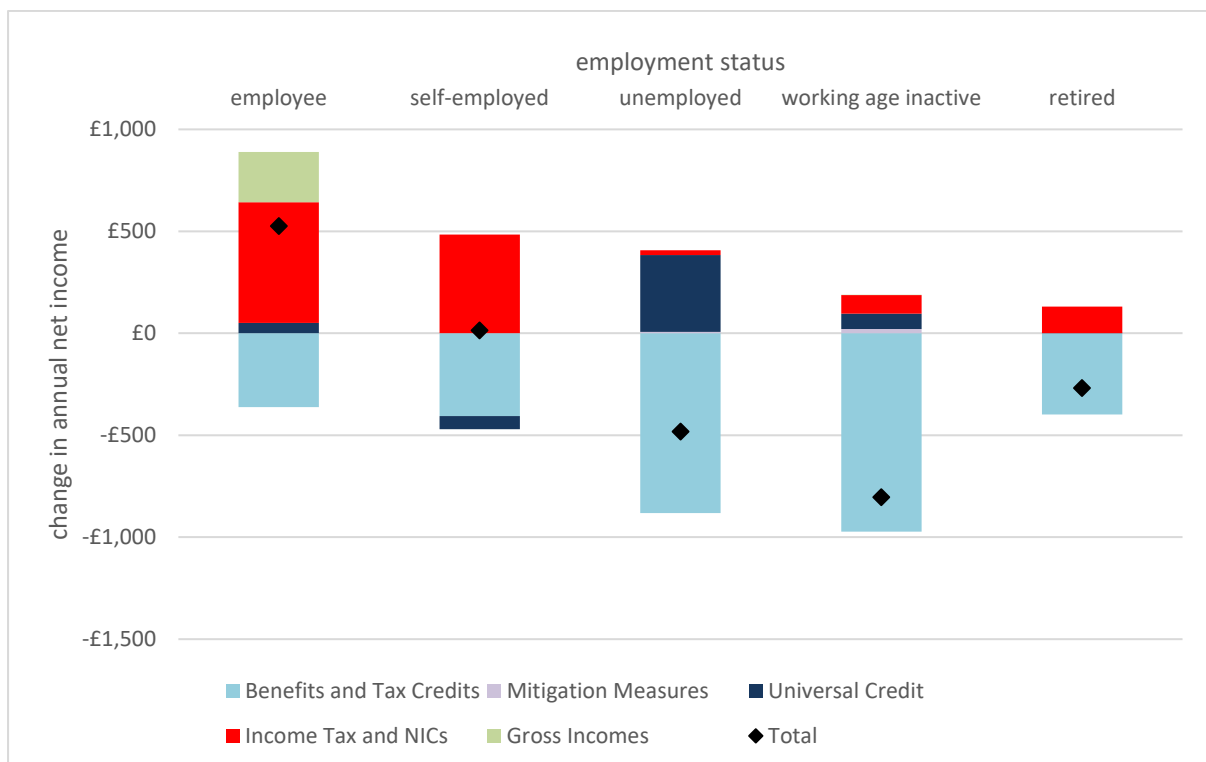
Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

Figure 4.15 shows the average impact of the reforms at the individual level, by adult employment status. The results show that the biggest annual losses from the benefit and tax credit changes are for individuals who are working age inactive (average losses of around £800) and unemployed (average losses of just under £500). The roll-out of UC leads to relatively large gains for unemployed individuals (of around £375 on average), mainly because there are a lot of unemployed individuals under the legacy benefit system who claim Housing Benefit and in some cases Child Tax Credit but not JSA. There are also small average gains for inactive individuals (around £75 per year).

The tax changes lead to the biggest gains for employees (average gains of just under £600) and self-employed workers (average gains of just under £500). Employees also gain just under £250 from the NLW and NMW increases on average, whereas self-employed people do not gain from the minimum wage because it only applies for employee jobs. The

roll-out of UC results in small additional losses for self-employed people (of just over £50 per year on average); this is mainly due to the 'minimum income floor' rule whereby most self-employed workers are assessed for UC as if they were working in an employee job for 35 hours per week at the age-appropriate NMW/NLW rate, even if their actual income is below this level.

**Figure 4.15. Cash impact of reforms by employment status of adult, 2021-22 tax year: Northern Ireland**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18

## 4.7 Summary of main findings

- In cash terms, the biggest average total losses from the reforms are in deciles 2 and 3 (about £900 per year).
- Losses are regressive across most of the household income distribution, with total negative impact of 4% of net income in decile 2. Average percentage losses in decile 1 are smaller (largely due to the implementation of Universal Credit, which is expected to increase take-up). There are average gains for households in deciles 7 to 9, and small losses in the top decile.
- The main driver of the shape of the results is that poorer households are more reliant (on average) on benefits and tax credits – and these have been subject to substantial real terms cuts since 2010.
- Households with at least one disabled child (according to the core FRS disability definition) experience average losses from the reforms of around £2,000 per year. By contrast, households with adults and children but no disabled adults or children, lose an average of around £50 per year.
- Households with greater numbers of functional disabilities experience greater average losses from the reforms. Average changes in net income range from an average gain of just under £550 per year for households with a disability score of zero to average losses of around £1,300 per year for households with six or more functional disabilities.
- Households with children experience much larger losses as a result of the reforms than households without children. Losses are especially dramatic for lone parent households, who lose around £2,250 on average – equivalent to almost 10% of their net income.
- Households with three or more children are particularly badly affected by the benefit and tax credit reforms with overall average losses of around £2,575, compared to average losses of £50 for households with one child.
- Women lose more on average from the direct tax and social security measures than men, mainly because they are more likely to be receiving benefits and tax credits than men.

- By gender and age group, the biggest average cash losses from the reforms are for women aged 35 to 44 and women aged 75 and over.
- Overall, groups who are in receipt of relatively large amounts of benefit and tax credit income (such as poorer households, lone parents and households with three or more children) lose out more than average from the reforms.
- Households with two or more people in work benefit more from the direct tax changes and the above inflation increase in the NLW and NMW than one-earner households, who in turn benefit more than households with no-one in work. The main driver of gains from the direct tax change is the substantial increase in the real terms value of the income tax personal allowance since 2010.

## 5 Impact of specific social security measures

This chapter assesses the distributional impact of a range of specific social security measures introduced since 2010. The aim is to look within the 'benefits and tax credits' and the 'Universal Credit' categories in the graphs shown in Chapter 4, and break the distributional impacts down into particular measures. The following policies are included in the analysis:

- **Below-inflation increases in the uprating of transfer payments for working-age individuals and families.** Beginning in April 2013, most elements of the transfer payments system for children and working-age adults – including tax credits, Universal Credit (UC), Housing Benefit, Jobseeker's Allowance (JSA) and Income Support – were uprated by only 1% per year until 2016. Then, from April 2016 onwards, these transfer payments were frozen in nominal terms for four years until 2020-21. The only exceptions are some of the benefits for disabled people (such as Disability Living Allowance (DLA) and Personal Independence People (PIP), the support component of Employment and Support Allowance, and the higher disability additions in UC and Carer's Allowance (CA). Meanwhile, Child Benefit has been frozen in nominal terms since 2011. All these below-inflation increases are included as a single category in this analysis (although the shift from RPI/ROSSI index uprating to CPI uprating of most benefits and tax credits from 2011 is not included).
- **DLA-PIP reassessment.** At the time of writing, adult DLA claimants below state pension age were being reassessed for PIP. The Department for Work and Pensions estimates this process will be complete by 2020. However, following a High Court ruling in December 2017 that the PIP assessments carried out to date had been 'blatantly discriminatory' against people with mental health conditions (Butler, 2018a), the UK Government agreed that all PIP claims made to date – around 1.6 million – should be reassessed. This process is likely to result in higher awards for around 220,000 PIP claimants (Butler, 2018a). Initially the DWP projected that expenditure on PIP would fall by around 10 per cent compared to a situation

where DLA had stayed in place. However, recent research from the Office for Budget Responsibility's January 2019 *Welfare Trends Report* (OBR, 2019) reaches the opposite conclusion: the introduction of PIP has led to a modest *increase* in projected expenditure of around 15 per cent relative to the situation had DLA stayed in place. In this report we model the impact of the DLA-PIP transition as an increase in expenditure to ensure that our modelling matches up with the latest OBR findings. This is a change in methodology from Portes and Reed (2018) who assumed a 5% overall *decrease* in PIP expenditure compared to DLA, in line with the most recent estimates from the OBR at the time that report was written.

- **UC work allowance reductions.** The UC system contains tax-free work allowances for some types of claimant (for example, lone parents). These allow claimants to earn a certain amount each month before UC payments are reduced (earnings above the work allowance are subject to a 'taper', which reduces UC payments by 63 pence for every additional pound) (Hudson-Sharp *et al.*, 2018: 137). Since UC started to be rolled out in England, Scotland and Wales (initially on a pilot basis in only a handful of local authorities) in April 2013, the value of these work allowances has been repeatedly cut and abolished altogether for some types of claimant. Although the policy was partially reversed in the 2018 Budget – which increased the value of the remaining (non-abolished) work allowances by just over £80 per month – this was not sufficient to fully offset the cuts since 2013 in most cases. Table 5.1 shows the current value of the work allowances for different types of claimant, and what the value would be if these allowances had been maintained at the level set when UC was introduced in 2013 and updated with CPI inflation each year.

**Table 5.1 Universal Credit maximum work allowances in 2019-20 compared with their value if the 2013-14 system had been uprated with CPI**

Claimant type	Taper-free work allowance per month (£)	
	Actual value, 2019-20	Value if 2013-14 system had been CPI-uprated
<b>No housing costs:</b>		
Lone-parent family	480	811
Couple with children	480	592
Disabled adult(s)	480	715
Single adult, no children	0	123
Couple adult, no children	0	123
<b>With housing costs:</b>		
Lone-parent family	275	291
Couple with children	275	245
Disabled adult(s)	275	212
Single adult, no children	0	123
Couple adult, no children	0	123

Source: analysis of original Universal Credit work allowance regulations in 2013-14 and current (2019-20) regulations.

- **Two-child limit on Housing Benefit, tax credits and Universal Credit.** In the July 2015 Budget, it was announced that premiums for children in Housing Benefit, tax credits and UC would be limited to a maximum of two children only for new claimants and would not be available for existing claimants for most third and subsequent children born after April 2017 (Hudson-Sharp *et al.*, 2018: 115–16).



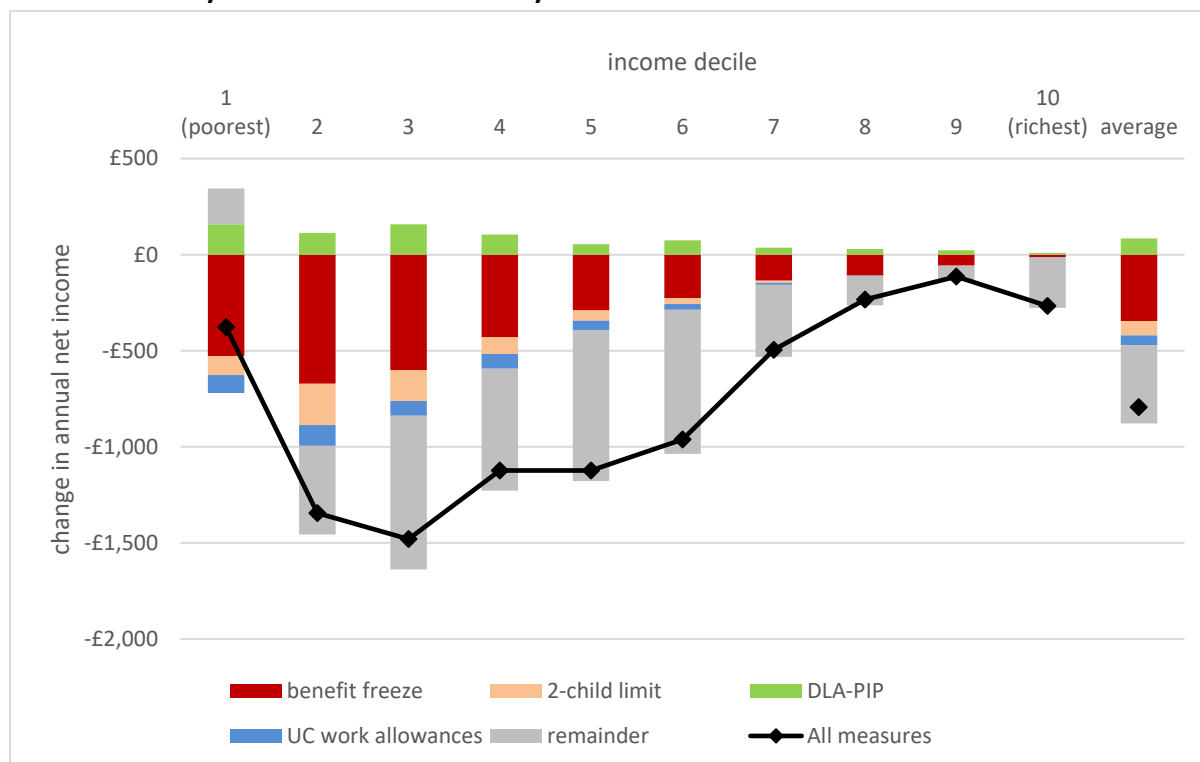
## 5.1 Impact of specific reforms by position in the household income distribution

Figure 5.1 shows the impact of the specific reforms for households in Northern Ireland, analysed by household net income decile. The Figure shows the average impact of each of the reforms as follows:

- The **benefit freeze** (including the Child Benefit freeze since 2011, the 1% uprating of many working age transfer payments since 2013 and the nominal freeze in uprating from 2016-2020) – *red*
- The **2-child limit** on HB, tax credits and UC – *pink*
- The **DLA-PIP** transition – *green*
- The **reduction in UC work allowances** – *blue*
- The **remainder** of modelled changes to benefits, tax credits and UC – *grey*

The black line shows the total impact of all modelled changes to benefits, tax credits and UC.

**Figure 5.1 Impact of specific reforms by household income decile, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

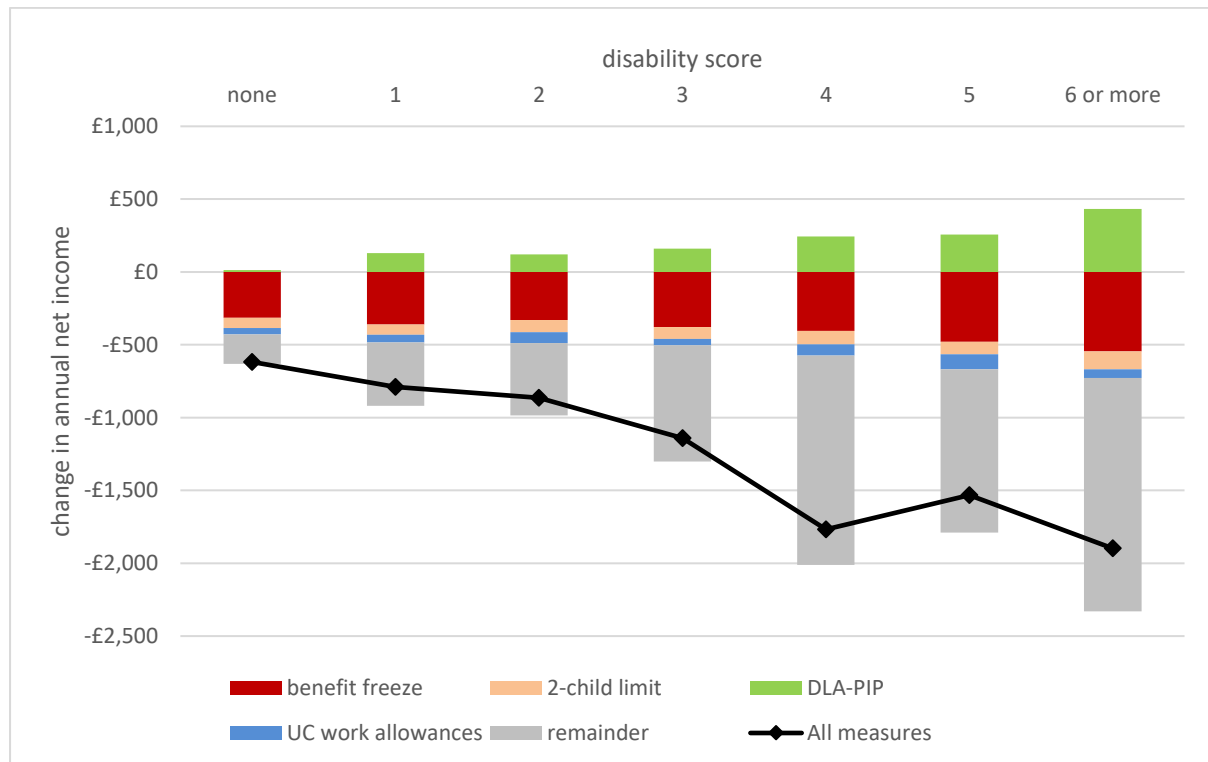
Figure 5.1 shows that the benefit freeze has the biggest impact of any individual modelled reform and is particularly regressive, with the biggest cash impacts for the lowest deciles. For each of the three lowest deciles the freeze results in losses of between £500 and £700 per year on average. The 2-child limit has the biggest negative impacts in decile 2 (average losses of just over £200 per year) and decile 3 (losses of just over £150 per year). The switchover from DLA to PIP has positive impacts with the biggest average gains in the lowest 4 deciles (around £100 to £150 in each decile). The reductions in UC work allowances have the largest negative impacts at the bottom of the income distribution, with average losses of around £100 per year in deciles 1 and 2. The remaining reforms have particularly large negative cash impacts in deciles 3 through 6, but a positive impact in the lowest decile (because of the modelled positive impact of the introduction of UC as shown in Figure 4.1 in the previous chapter, due to increased take-up rates for UC compared to legacy benefits and tax credits).

## **5.2 Specific reforms by household disability score**

Figure 5.2 shows the average cash impact of specific reforms using the household disability score variable developed in Section 4.2 above. The results show that the DLA-PIP transition has a positive impact that is larger for households with a higher disability score; households with a disability score of 6 or more gain around £430 per year on average from the switch to PIP compared to just over £130 for households with a score of 1. The benefit freeze has a larger negative impact for households with a higher disability score, but the disability 'gradient' is not especially steep; the average losses for households with a score of 6 or more are just under £550 compared to around £300 to £350 for households with a score of zero, 1 or 2. The 2 child limit also has a slightly bigger impact for households with a higher disability score. The impact of the cuts to UC work allowances is rather uneven across the disability score classification, with the largest average losses for households with a disability score of 5 (around £100 per year). Finally, the 'remainder' column has a steep disability gradient. This shows that the other benefit and tax credit changes not explicitly focused on here, such as the cuts in the generosity of tax credits and the change from RPI/ROSSI to CPI uprating, have a larger impact on households with greater levels of disability, simply

because more disabled households claim a larger amount of benefits and tax credits on average.

**Figure 5.2 Impact of specific reforms by household disability score, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

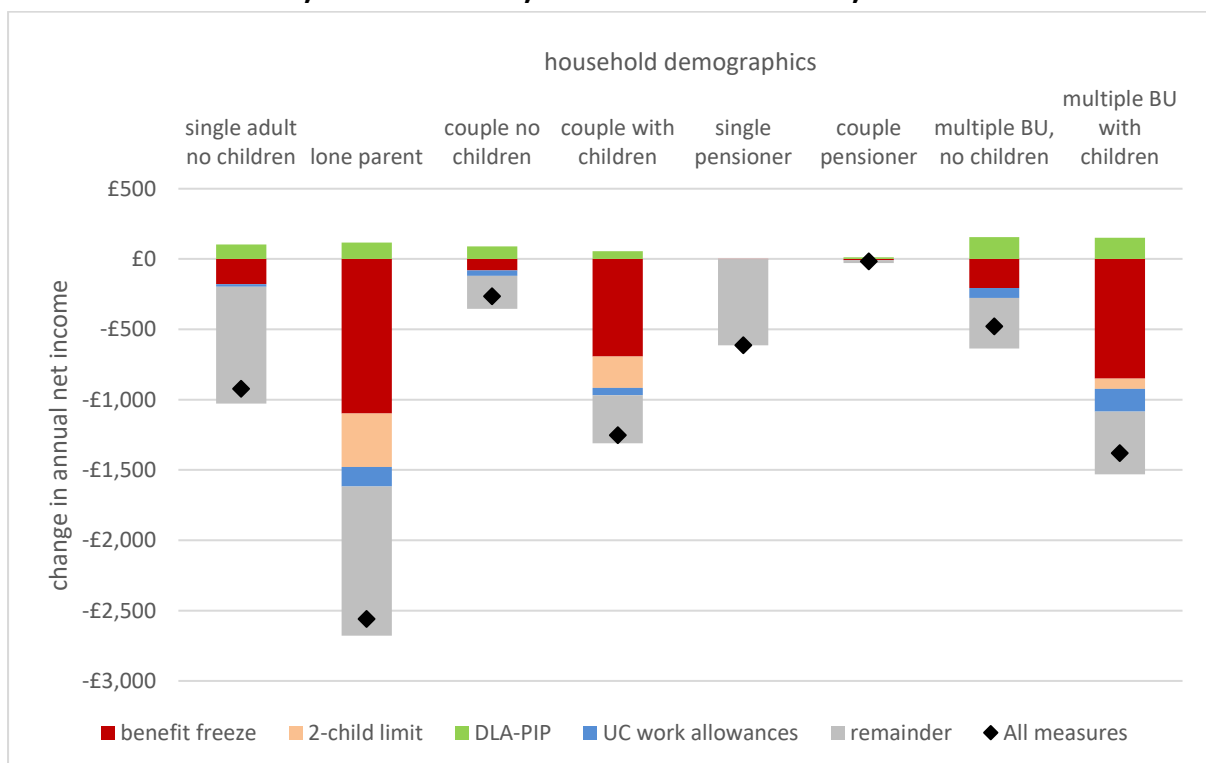
### 5.3 Impacts by household demographics

Figure 5.3 shows the average cash impact of specific reforms according to the demographic composition of the household. The benefit freeze and the 2-child limit have much bigger impacts for households with children – and especially lone parents – because these policies are specifically targeted at benefits for children for the most part. Lone parent households lose an average of around £1,100 per year from the benefit freeze and just under £400 from the 2-child limit. For couples with children the corresponding average losses are around £700 and £225.

The transition from DLA to PIP has the biggest positive impacts for MBUs with and without children (average annual gains of around £150 in each case). Lone parents and childless single adults also gain from this reform,

by around £100 per year on average. The cuts to UC work allowances have the biggest negative impacts for lone parent households and MBUs with children (average losses of around £150 per year). The columns for pensioners show that they are largely protected from the specific measures analysed in this chapter, with the losses for single pensioners in particular resulting from changes to the uprating formulae for benefits such as Attendance Allowance and Housing Benefit (shifting from RPI to CPI uprating from 2011 onwards) rather than specific cuts to benefit rates<sup>8</sup>.

**Figure 5.3 Impact of specific reforms by household demographic status, cash terms, Northern Ireland, 2021-22**



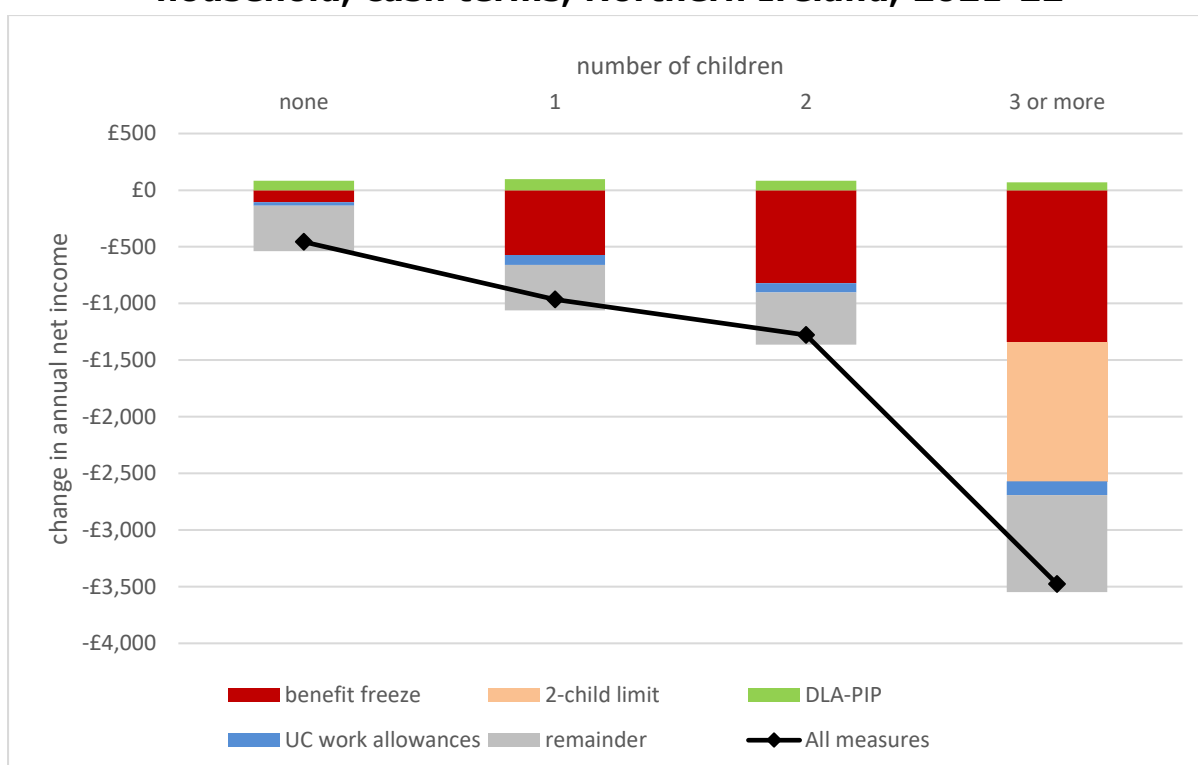
Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

<sup>8</sup>Note that the value of the state Retirement Pension is mostly unaffected by the switch from RPI/ROSSI to CPI uprating for other benefits because of the 'triple lock' formula for the Retirement Pension.

## 5.4 Impacts by number of children

Figure 5.4 shows the average cash impacts of the specific reforms according to the number of children in the household. The 2-child limit has large negative impacts on households with three or more children, while having no impact on smaller households, by definition. Households with 3 or more children lose over £1,200 per year from this measure on average. The benefit freeze and cuts in the UC work allowance also have a larger impact for households with three or more children compared to smaller households but the difference in impacts by household size is not as pronounced. As discussed in Section 2.3 of this report, the 2-child limit has a particularly large impact in Northern Ireland compared to other parts of the UK because there is a higher proportion of families with three or more children in Northern Ireland than elsewhere in the UK.

**Figure 5.4 Impact of specific reforms by number of children in household, cash terms, Northern Ireland, 2021-22**

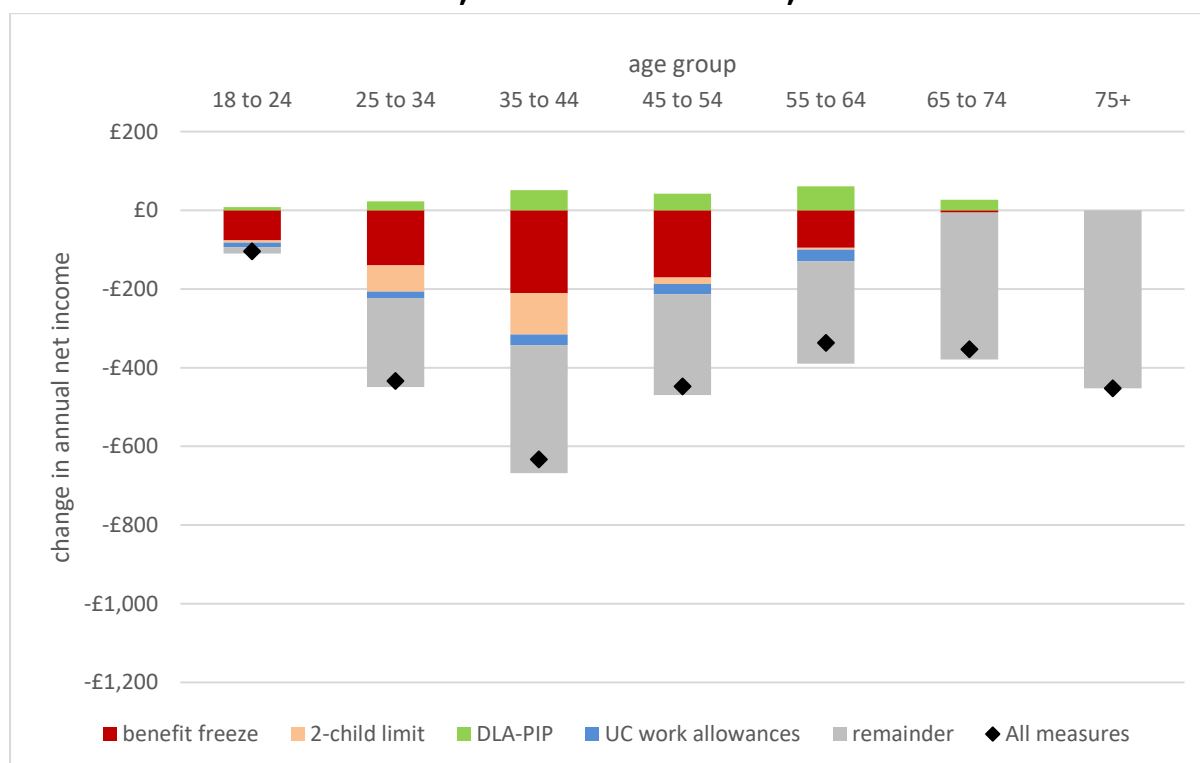


Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

## 5.5 Impact of specific reforms by gender and age

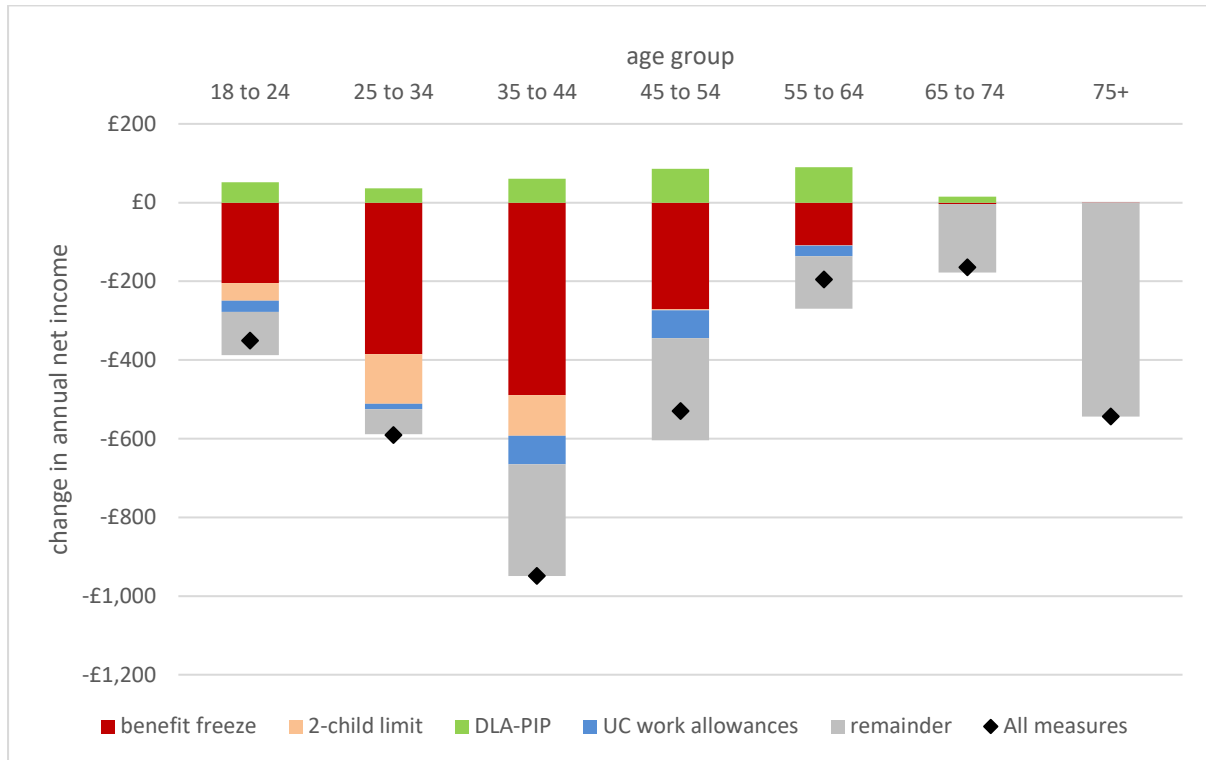
Figures 5.5 and 5.6 show the specific impact of reforms by gender and age group, modelled at the individual level. The benefit freeze has the biggest impact for women in the 25 to 34 and 35 to 44 age groups, because – as shown in Figure 4.14 in the previous chapter – women in these age groups receive the highest average amounts of benefits and tax credits (mainly on behalf of children). Women aged 35 to 44 lose an average of just under £500 per year as a result of the benefit freeze. The 2-child limit has the biggest negative impact on women (and men) aged 25 to 34 and 35 to 44, because these groups are more likely to live in households with three or more children. The DLA-PIP switchover has positive impacts across a wide range of ages between 18 and 64 for men and women, with the biggest average gains for women aged 45-54 and 55-64 (just under £100 per year in each group). The cuts in the UC work allowance have the biggest negative impacts for women aged 35 to 44 and 45 to 54, with average losses of around £70 per year in each group.

**Figure 5.5 Average impact of specific reforms by age group, men, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

**Figure 5.6 Average impact of specific reforms by age group, women, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

## 5.6 Summary of main findings

- The benefit freeze has the biggest impact of any modelled reform and is regressive, with the biggest cash impacts for the lowest household deciles (losses of between £500 and £700 per year in the lowest three deciles). The benefit freeze has particularly large impacts for households with children, and especially lone parent households. By age and gender, the freeze has the biggest impact for women aged 25 to 44.
- The 2-child limit is also regressive across the income distribution. By definition, its entire impact is felt by households with three or more children.
- The switchover from DLA to PIP results in gains in net income, particularly for households with a large number of functional disabilities, and households in the bottom four deciles of the income distribution.

- Real-terms reductions in UC work allowances have the largest negative impacts at the bottom of the income distribution. Their biggest impacts by household type are for lone parents and MBU households with children. By gender and age group they have the biggest negative impacts for women aged 35 to 54.



## 6 Impact of reforms on poverty

### 6.1 Introduction

The previous chapters of this report have focused on the impact of reforms to the tax and transfer payment system on net incomes according to households' and individual's positions in the income distribution and according to various protected characteristics. This chapter considers a different consequence of changes in net income arising from the reforms: the impact on the number of people in Northern Ireland falling below the poverty line.

A key human rights aspect of welfare state policies is the right to an adequate standard of living. This right is included in human rights treaties established by the United Nations. Article 27 of the UN Convention on the Rights of the Child states that: 'states parties recognise the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development' (United Nations Human Rights Office of the High Commissioner, 1990). The extent to which policy reforms affect the capability of households to reach an adequate standard of living is an important component of any comprehensive evaluation of the human rights impact of policies. Previous research for the EHRC by Portes and Reed (2018) analysed the impact of tax and social security reforms since 2010 on the number of households below an adequate standard of living in England, Scotland and Wales.

The UN human rights treaties do not specify a specific measure of an adequate standard of living, and a wide range of measures can be used. In this chapter, we focus on relative income poverty (measured using one of the definitions in the UK Government's Households Below Average Income (HBAI) statistics published by the Department for Work and Pensions) (DWP, 2019).

## 6.2 Relative income poverty

### Definition

The HBAI statistics published annually by the DWP use a range of four different poverty measures<sup>9</sup>. This chapter focuses on the relative poverty measure, through which a household is defined as being in poverty if its disposable income, adjusted for family size,<sup>10</sup> is below 60% of contemporary median household incomes in the UK population. The measure is calculated using data from the Family Resources Survey (FRS).

The HBAI statistics present two sets of relative poverty measures, calculated using income Before Housing Costs (BHC) and After Housing Costs (AHC). In this chapter, we report results using both measures.

### Estimating relative income poverty before and after reforms

The tax-transfer model is used to estimate the number of households in poverty before and after the full set of reforms to the tax and transfer payments system since 2010. As with the distributional results shown earlier in the report, the poverty estimates are modelled for the 2021–22 tax year. Forecasts from the Office for Budget Responsibility (OBR) are used to uprate gross incomes to 2021–22 levels, and the estimation procedure ensures that the estimated poverty rates are consistent with the HBAI relative AHC poverty rates for the 2017–18 tax year (the most recent year, at the time of writing, for which the HBAI micro-data are available).

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<sup>9</sup> The four different poverty measures used in the HBAI statistics are: relative income poverty, absolute income poverty, combined relative income poverty and material deprivation and persistent income poverty. In this report we focus on the first of these measures.

<sup>10</sup> The OECD equivalence scale is used to adjust household income to take account of family size. See Anyaegbu (2010).

### 6.3 Overall poverty estimates for Northern Ireland

Table 6.1 shows overall estimates for household, child and adult BHC and AHC relative poverty rates in the baseline scenario. This assumes that none of the reforms to the tax and social security system since 2010 had happened, and that the 2009-10 system had instead been uprated by inflation to 2021-22, using the uprating rules in place in 2010. The Table also shows estimates for the reform scenario after all the reforms introduced since the May 2010 election have been implemented (but with UC only partially rolled out, and with transitional protection for claimants migrated from legacy benefits and tax credits to UC, as specified in Chapter 3).

**Table 6.1. Estimated BHC and AHC relative poverty rates for households, children and adults before and after reforms: Northern Ireland, 2021-22**

	Numbers (thousands)			Percentage of group		
	Baseline	Reform	Change <sup>11</sup>	Baseline	Reform	Change
<b>BHC</b>						(pp)
Households	138	155	+17	18.9%	21.2%	+2.3%
Children	78	113	+36	18.4%	26.4%	+8.0%
Adults	235	254	+19	16.7%	18.1%	+1.4%
<b>AHC</b>						
Households	146	166	+19	19.8%	22.4%	+2.6%
Children	108	144	+36	23.4%	31.5%	+8.1%
Adults	271	295	+24	19.0%	20.7%	+1.7%

*Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18.*

Table 6.1 shows that BHC relative child poverty in Northern Ireland is forecast to be 18.4% in the baseline scenario and 26.4% after taking account of the tax and social security reforms – an increase of around 8 percentage points. AHC relative child poverty is forecast to increase by a similar amount, from 23.4% to 31.5%. This is a very substantial increase and would mean that almost a third of children in Northern Ireland are in AHC poverty by 2021-22. Household poverty and adult poverty are not forecast to increase by as much as a result of the reforms; household

<sup>11</sup> Any discrepancy in figures is due to rounding.

BHC and AHC increases by between 2 and 3 percentage points, and adult BHC and AHC poverty by between 1 and 2 percentage points, respectively. The substantial increase in child poverty relative to household and adult poverty is driven by the same factors that produce the patterns seen in Figure 4.7 in Chapter 4: households with children receive larger amounts of benefits and tax credits (and Universal Credit, when rolled out) than households without children on average. Cuts to these transfer payments therefore result in particularly large increases in poverty rates for households containing children. This contravenes the Sustainable Development Goal 1 that the UK Government has committed to achieve (namely: to reduce by at least half the proportion of people living in relative poverty and to ensure social protection for all by 2030).

#### **6.4 Detailed analysis of the impact of reforms on child poverty for various characteristics**

The estimated increase in child poverty as a result of reforms to taxes and social security since 2010 is significantly greater than the estimated increase in poverty for adults or for households as a whole. The rest of this section therefore focuses on breaking down the estimated increase in child poverty according to various household characteristics. Table 6.2 shows the BHC relative child poverty rate (in percentage points) for households with children, classified according to various Equality Act characteristics (as well as by the number of people in work in the household), for Northern Ireland. Table 6.3 shows the same breakdowns using the AHC relative child poverty measure.

**Table 6.2 Estimated BHC relative child poverty rates for children in households classified by Equality Act 2010 protected characteristics and selected other characteristics: Northern Ireland, 2021-22**

<b>Group</b>	<b>Base</b>	<b>Reform</b>	<b>Change</b>
<b>Demographic type</b>			(percentage points)
Lone parents	33.0%	55.4%	+22.4
Couples with children	18.9%	24.3%	+5.5
Multiple Benefit Units (MBUs) with children	16.8%	17.7%	+0.9
<b>Child disability status</b>			
Households without disabled children	17.4%	25.6%	+8.3
Households with disabled children	28.2%	34.2%	+6.0
<b>Number of children</b>			
1	17.7%	21.3%	+3.6
2	14.6%	19.8%	+5.2
3 or more	23.6%	38.3%	+14.7
<b>Number of people in work in household</b>			
none	58.4%	84.9%	+26.5
1	23.7%	32.3%	+8.6
2 or more	4.5%	6.4%	+1.9

Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18.

**Table 6.3 Estimated AHC relative child poverty rates for children in households classified by Equality Act 2010 protected characteristics and selected other characteristics: Northern Ireland, 2021-22**

<b>Group</b>	<b>Base</b>	<b>Reform</b>	<b>Change</b>
<b>Demographic type</b>			(percentage points)
Lone parents	39.3%	57.7%	+18.4
Couples with children	19.1%	24.1%	+5.0
Multiple Benefit Units (MBUs) with children	23.8%	27.1%	+3.3
<b>Child disability status</b>			
Households without disabled children	18.1%	25.8%	+7.7
Households with disabled children	34.6%	44.1%	+9.5
<b>Number of children</b>			
1	17.9%	22.1%	+4.2
2	18.8%	23.7%	+4.9
3 or more	22.7%	37.6%	+14.9
<b>Number of people in work in household</b>			
none	50.2%	76.8%	+26.6
1	22.2%	30.4%	+8.2
2 or more	9.6%	11.9%	+2.2

Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18.

Tables 6.2 and 6.3 show significant variations in the impact of the reforms on child poverty by household demographic type. The relative BHC child poverty rate for children in lone parent households increases from 33% to over 55%, an increase of over 22 percentage points. The increase in AHC child poverty for children in lone parent households increases by over 18 percentage points – also a very substantial increase. Relative BHC and AHC child poverty for children in households headed by an adult couple increase by 5.5 and 5 percentage points respectively. For BHC poverty this is around a quarter of the size of the increase for lone parent households. MBU households with children experience lower increases in BHC and AHC poverty (just under 1 percentage point and just over 3 percentage points respectively). The size of the increase in child poverty for lone parent households is explained by the particularly large reductions in their average net incomes relative to other households with children, due to reductions in transfer payments to working and non-working lone parents (shown in Figure 4.7 in Chapter 4).

A comparison of child poverty rates before and after the reforms for households without disabled children, with those for households containing disabled children, shows that on the BHC relative poverty measure the child poverty rate for the former group increases by just over 8 percentage points, whereas for the latter group the increase is 6 percentage points. As a result, after all reforms to taxes and transfer payments have been implemented, the BHC child poverty rate for households with disabled children in 2021-22 is forecast to be around 9 percentage points above the rate for non-disabled children – compared with a gap of 11 points in the baseline scenario. For AHC poverty, by contrast, the reforms *widen* the gap between households with disabled children and those without disabled children – from around 16 percentage points to 18 percentage points. After all reforms, AHC child poverty for households with disabled children is forecast to be 44.1% compared to 25.8% for households without disabled children. As shown in Figure 4.3 above, these increases in child poverty reflect a substantial reduction in social security transfer payments for families with and without disabled children after the reforms.

An analysis of child poverty rates according to the number of children in the household shows that on both the BHC and AHC relative poverty measures, the increase in the rate of child poverty is much higher for households with three or more children (around 15 percentage points)

than it is for households with two children (around 5 percentage points) or one child an increase of around (around 4 percentage points). This reflects the fact that the cuts to transfer payments have had a considerably larger impact on households with three or more children, as shown in Figure 4.8. Chapter 5 demonstrated that several of the specific benefit and tax credit changes introduced since 2010 have had a disproportionate impact on households with three or more children (see Figure 5.4).

Finally, the increase in child poverty for workless households is extremely high – more than 26 percentage points on the BHC or AHC measures – compared to an increase of between 8 and 9 percentage points for one-earner households, and around 2 points for households with two or more earners. As shown in Figure 4.14 in Chapter 4, this pattern of results reflects the fact that cuts in benefits and tax credits for workless households have been particularly severe.

## 6.5 Summary of main findings

- Overall, tax and social security reforms since 2010 are forecast to increase the BHC relative child poverty by 8 percentage points, household poverty by just over 2 percentage points, and adult poverty by just over 1 percentage points. Projected increases in adult poverty are similar, but slightly larger.
- Breaking the increase in child poverty down by household characteristics, children in lone parent households, households with three or more children in total, and households where no adult is in work are forecast to experience the largest percentage point rises in child poverty (on both the BHC and AHC measures).
- After all measures are taken into consideration, it is projected that almost three-fifths of children in lone parent households, just under two-fifths of children in households with three or more children and over three-quarters of children in workless households will be in poverty on the AHC relative measure.



## **7 Winners and losers from reforms**

### **7.1 Introduction**

The analysis in Chapters 4 and 6 looked at average distributional impacts of the cumulative set of reforms to taxes and transfer payments and the National Living Wage (NLW) across various household and individual characteristics. Within each group of households and individuals, there are winners and losers from the set of reforms, and considerable variation in the size of gains or losses. This chapter focuses on another aspect of the results from the tax-transfer model; the proportion of households in Northern Ireland who gain or lose from the full set of reforms.

This chapter uses Family Resources Survey (FRS) data and analyses the winners and losers from direct tax reforms (including National Insurance Contributions (NICs)), benefits, tax credits, Universal Credit (UC), and the NLW only. Indirect tax effects are excluded from the FRS analysis because the FRS does not contain expenditure information. However, we also include a separate analysis of the winners and losers from indirect tax reforms making use of the LCF data. An alternative approach would have been to analyse the impact of the full package of direct and indirect tax reforms (plus transfer payments and wage changes) using the Living Costs and Food Survey (LCF) rather than the FRS. We have used FRS for the analysis of winners and losers because it was not possible for this project to model certain parts of the algorithms used for the FRS transfer payments analysis using the LCF data. In particular, it is difficult to model the transfer of the DLA caseload to PIP and the partial take-up of means-tested benefits accurately using the LCF dataset.

### **7.2 Proportions of winners and losers from the package of reforms**

The left-hand column Table 7.1 shows the percentage of households that lose out from the package of reforms to direct taxes, transfer payments (social security) and real-terms increases to the NMW and NLW (in the top row) and then breaks these down by household income decile, household demographic type, number of children in the household, household disability 'score' and the number of people in paid work in the household. Of the remaining households – those who do not lose out from

the reform – the overwhelming majority are gainers; there are relatively few households whose net income is unchanged by the reforms (only around 0.5% of total households in Northern Ireland, and almost all of these consist of self-employed adults making losses).

The right-hand column shows the percentage of households that lose out from the package of reforms to indirect taxes (for household breakdowns where this information is available – because the LCF does not include disability measures we are unable to provide an analysis of winners and losers from the indirect tax measures according to disability score).

**Table 7.1. Percentage of households losing net income from reforms to direct taxes and transfer payments and indirect taxes by household income decile and various characteristics, Northern Ireland, 2021-22**

<b>Group</b>	<b>Percentage of households in Northern Ireland losing from:</b>	
	<b>Direct taxes/social security (%)</b>	<b>Indirect taxes (%)</b>
<b>All households</b>	43.2	76.8
<b>Household income decile</b>		
1 (poorest)	65.7	80.2
2	65.8	76.1
3	61.5	78.9
4	47.9	77.8
5	43.3	81.8
6	36.5	72.2
7	23.6	76.8
8	15.8	72.9
9	15.0	75.7
10 (richest)	33.6	74.2
<b>Household demographic type</b>		
Single working age, no children	44.0	84.9

Lone parents	84.7	82.9
Couple, no children	14.1	70.9
Couple with children	41.1	68.0
Single pensioner	88.4	85.9
Couple pensioner	41.0	78.5
MBU no children	30.1	73.9
MBU with children	46.4	78.7
<b>Household disability score</b>		
none	32.4	n/a
1	49.7	n/a
2	55.1	n/a
3	63.2	n/a
4	68.4	n/a
5	65.9	n/a
6 or more	68.0	n/a
<b>Number of children in household</b>		
none	39.2	78.5
1	41.5	72.9
2	51.0	75.9
3 or more	73.1	67.5
<b>Number of people in paid work in household</b>		
none	73.4	85.2
1	37.6	76.8
2 or more	19.2	68.8

*Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18 and LCF pooled dataset 2010 to 2017-18*

The top row of Table 7.1 shows that, across Northern Ireland, just over 43% of households lose from the package of direct tax and social security reforms (excluding indirect taxes). By income decile, the biggest proportion of losers (65.8%, just under two-thirds) is found in decile 2, followed by decile 1 (65.7%) and decile 3 (61.5%). The smallest proportions of losing households are in deciles 9 (15%) and decile 8 (just under 16%). The proportion of losers in the top decile is much higher

than for decile 9, at 33.6%; this mainly reflects the fact that the reforms to NICs result in higher payments for individuals above the upper earnings limit (£962 per week in 2019-20).

Analysis of winners and losers from the package of indirect tax reforms shows much more even impacts across the income distribution than for the direct tax and social security reforms. Overall, around 77% of households lose out from the indirect tax changes; for the most part this reflects the increase in VAT from 17.5% to 20% in January 2011, which was a particularly large tax increase. Although fuel duty has been substantially cut in real terms since 2010, for most households this is not a large enough cut in indirect taxation to offset the effects of the VAT increase and other increases (such as Insurance Premium Tax). There is a slightly higher than average proportion of losers from indirect tax changes among households in the bottom half of the income distribution, and lower-than-average proportions of losers in most of the top half of the income distribution (except for decile 7).

The breakdown by household demographic status shows that single pensioners are the household type with the highest proportion of losers from the direct tax and social security measures (just over 88%), followed by lone parent households (just under 85%) and MBUs with children (46%). The fact that so many single pensioners lose from the direct tax and social security reforms contrasts somewhat with the distributional analysis in Chapter 4, which shows that single pensioners lost less than £800 from the reforms compared to around £2,300 for lone parents. The result for single pensioners is mainly due to change in the uprating formula used for the State Pension, which moved from the Retail Price Index (RPI) to 'triple lock' (the maximum of either CPI inflation, average earnings growth, or 2.5%) in 2011. Because all three measures were slightly below RPI inflation in some of the years between 2011 and 2015, a large number of single pensioners who receive the State Pension lose out very slightly in the reform scenario compared with the baseline. Couples without children have the smallest proportion of losers from the reforms at 14.1% (around one-seventh). Just over 41% of couples with children lose from the reforms. If the winners/losers analysis were performed at the individual level within couples, there would tend to be a higher proportion of women losing from the reforms than men, reflecting the distributional patterns shown in Section 4.4.

Analysis of the impact of indirect tax changes by household demographic type shows that single working age adults without children, single and couple pensioners, lone parents and MBUs with children have a higher-than-average proportion of losers from the reforms, while for couples (with or without children) and MBUs without children the proportion of losers is lower than average.

An analysis of the pattern of losing households by number of children in the household shows that there is a clear gradient to the results, with a greater proportion of losers from the direct tax and social security reforms for households with 2 or more children. The severity of losses from cuts to transfer payments for households with three or more children ensures that almost three-quarters of these households are losers. However, by contrast, households with three or more children are less likely to lose out from the indirect tax changes than households with two or fewer children.

There is a clear relationship between household disability 'score' and proportion of households losing from the reforms. Overall, only just over 32% of households containing no members with functional disabilities lose from the reforms, whereas around 68% of households with disability scores of 4 or 6 or more, and 66% of households with a disability score of 5, lose out.

Finally, the proportion of workless households who lose out from the reforms is just over 73%, much bigger than the proportion of households with one earner (just under 38%) or two or more earners (just over 19%). Again, this mainly reflects the substantial real-terms cuts to benefits and tax credits that have taken place since 2010.

### **7.3 Summary of main findings**

- Overall, around 43 per cent of households in Northern Ireland lose out from changes to direct taxes and social security since 2010. Almost 77 per cent of households lose out from changes to indirect taxes.
- Breaking winners and losers down by household characteristics, the largest proportion of losers from the direct tax and social security reforms are found in the bottom three deciles of the income distribution, lone parent households, single pensioners, households with a high disability "score", households with three

or more children in them, and households with no-one in paid work.

- The household groups with the lowest proportions of losers in them are households in deciles 8 and 9, childless couples, households with no disabled people in them and households with two or more adults in paid work.

## 8 Designing an effective mitigations package from 2020 onwards

### 8.1 Introduction

This chapter builds on the analysis of the distributional effects of tax and social security reforms in Chapters 4 and 5 to design a package of mitigation measures and reforms which could be adopted after the current funding for mitigation ends in March 2020. As explained in the recent report from the UK House of Commons Work and Pensions and Northern Ireland Affairs Select Committees, unless an extension of the mitigation package is agreed by March 2020, thousands of households will find themselves substantially worse off when current mitigation funding expires. Specifically, the Department for Communities estimates that the ending of 'bedroom tax' mitigation would affect 34,000 households, who would be worse off by an average of £12.50 per week while the ending of benefit cap mitigation would affect 1,500 households, who would be worse off by an average of £42 per week (Department for Communities 2019a, pp36-37). The adoption of a new mitigation package, or the re-adoption of the existing mitigation package, after April 2020 would require either (a) the resumption of proceedings and new legislation in the Northern Ireland Assembly, suspended since January 2017, or (b) primary legislation in the UK House of Commons at Westminster.

In designing the mitigations package in this chapter, we include only measures that are designed to be **ongoing** and are **modellable** within the Landman Economics Tax-Transfer Model.

This means that:

- We do not model the one-year transitional mitigations included in the 2016-20 mitigations package (e.g. payments for DLA claimants whose claim is reduced or rejected after reassessment for PIP). Mainly this is because full transfer of the DLA caseload to PIP is scheduled to be completed before 2021-22 in any case.
- We do not model the additional funding in the 2016-20 package for advice to benefit claimants. This is not because we think that additional funding for advisory services is not useful – on the contrary, it is an extremely important part of the package, particularly given the big changes in the social security system

(for example the replacement of DLA with PIP, and the introduction of Universal Credit). But it is not possible to model the impacts of claimants (or potential claimants) receiving better advice about social security in a static microsimulation model such as TTM.

## 8.2 Details of the mitigation measures

We model a package of eight mitigation measures, set out in detail below. The first two (the mitigation of the 'Bedroom Tax' and the benefit cap) are included in the existing 2016-20 mitigations package, while measure 3 (the Cost of Work Allowance) was legislated for but has not been introduced. The other mitigation measures are new in the context of Northern Ireland, although two of them (increased Carer's Allowance and the Best Start grant for new mothers and mothers with young children) are included in the Scottish Government's recent package of reforms to the Scottish social security system. In each case, we give a description of the mitigations measure, and a rationale for its inclusion in the package. In most cases the rationale for each mitigation measure relates to particular features of the Northern Ireland socio-economic or policy context which make the need for mitigation more pressing. However, many of the mitigation measures could also be usefully applied in other parts of the UK (and indeed two of the measures have already been introduced in Scotland).

### **Measure 1: Offsetting the 'Bedroom Tax'**

*Description:* Since April 2013, tenants in the local authority or housing association sector in Great Britain, who are deemed by the UK Government to have one or more spare bedrooms, have had their Housing Benefit (or the housing costs component of their UC, if they are claiming UC) reduced by either 14% (for one spare bedroom) or 25% (for two or more spare bedrooms) (Hudson-Sharp et al., 2018: 99–114). This policy, known colloquially as the 'bedroom tax', only applies in England and Wales; in Scotland, the Scottish Government has provided extra funding to offset the effect of the removal of the spare room subsidy for social housing tenants. In Northern Ireland, social tenants who would be affected by the 'bedroom tax' receive offsetting compensation from the



existing mitigation package so that they are no worse off in terms of Housing Benefit or Universal Credit. We model the effect of continuing this mitigation after 2020.

*Rationale:* As explained in Section 2.3 of this report, there is a substantial mismatch between the size of properties available in the Northern Ireland social rented sector and the size of the households who rent social housing. The Northern Ireland social housing stock has a particularly large number of excess bedrooms meaning that the 'bedroom tax' would have particularly large adverse effects in Northern Ireland if it were applied without mitigation.

## **Measure 2: Offsetting the Benefit Cap**

*Description:* Since May 2016 in Northern Ireland, maximum transfer payments through the benefit and tax credit system (and the Universal Credit system, for households now claiming UC) have been limited to a specified maximum amount for most claimants of working age where no-one in the benefit unit is in work. From April 2017, the cap was reduced and regional rates were specified, with the maximum outside London being lower than the maximum for households living in London. Benefit units where at least one person claims Disability Living Allowance, Personal Independence Payment or Carer's Allowance are exempt. As with the 'bedroom tax', social security claimants in families who would be affected by the benefit cap have been compensated through the existing mitigation package so that they are no worse off in net terms. We model the effect of continuing this mitigation.

*Rationale:* Northern Ireland has a larger proportion of families with three or more children and lower economic activity rates for working age people than elsewhere in the UK (as shown in Section 2.3). This means that a higher proportion of households would be affected by the benefit cap in Northern Ireland than elsewhere in the UK in the absence of mitigation.

## **Measure 3: Cost of Work Allowance**

*Description:* The Cost of Work Allowance (CoWA) is a measure designed to offset some of the costs of work for claimants of Working Tax Credit or Universal Credit who are in work and have low earnings. This was

designed to be included in the 2016-20 mitigations package, but implementation of the CoWA is currently stalled due to a dispute between the Northern Ireland Executive and HMRC, who are insisting that the CoWA should count as taxable income (which could affect eligibility for Universal Credit and tax credit payments). Here, we assume that the CoWA is rolled out and *not* counted as taxable income for UC or tax credits.<sup>12</sup> We have modelled the CoWA as a payment of £30 per month for single and couple claimants of Working Tax Credit, or Universal Credit where the claimant(s) is/are in work and meeting the hours conditions for WTC (i.e. a minimum of 16 hours for single claimants, or a combined total of at least 24 hours for couple claimants).

*Rationale:* The costs of work for low income working families in Northern Ireland are high compared with other parts of the UK because Northern Ireland does not offer subsidised childcare for 3 and 4-year-old children unlike in England, Scotland and Wales. Additionally, as shown in Section 4.6 of this report, there have been substantial benefit and tax credit cuts for low-income working families since 2010 in Northern Ireland (and elsewhere in the UK).

#### **Measure 4: Carer's Allowance increase**

*Description:* This measure tops up the weekly payment for Carer's Allowance (CA) so that it is equal to the level of the Jobseeker's Allowance (JSA) payment for single adults aged 25 and over. At current (2019-20) benefit rates this would be an increase from £66.15 to £73.10 per week. This measure was introduced by the Scottish Government (which has control over the level of CA in Scotland) in 2018 to provide some additional support for working-age people who are full-time carers for other adults.

*Rationale:* Full-time carers in Northern Ireland (as well as the rest of the UK) are not well supported by the current social security system. As things stand the weekly rate of Carer's Allowance is around £7 lower than Jobseeker's Allowance, which is itself set at a rate insufficient to avoid

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<sup>12</sup> Note that even if the CoWA were counted as taxable income for UC and tax credits, it would still be possible to implement the CoWA but the gross cost to the Northern Ireland Executive would be larger because the payments would have to be bigger to produce the same impact on net incomes. taking account of the reduction in support due to the UC or tax credits taper.

poverty (and falling in real terms as a result of the 4-year benefit freeze between 2016 and 2020).

### **Measure 5: Best Start Grant**

*Description:* The Scottish Government has recently introduced the Best Start Grant, which expands the generosity of the Sure Start Maternity Grant (SSMG), which is a grant for new mothers in low-income families. Since 2010 the SSMG has been paid only for the first child in a low-income family. The Best Start Grant pays qualifying families £600 on the birth of their first child (compared with £500 for the SSMG) and £300 on the birth of any subsequent children. Qualifying families also receive £250 when each child begins nursery, and a further £250 when they start school. We model the introduction of a Best Start Grant for Northern Ireland which would work in the same way as the Scottish Best Start Grant.

*Rationale:* As mentioned earlier, the family size in Northern Ireland is larger than elsewhere in the UK. This means that there is a strong rationale for a maternity grant (and a grant for key transition stages such as entering nursery and entering primary school) which applied to second and subsequent children, as well as the first child in family.

### **Measure 6: Offsetting the two-child limit**

*Description:* This measure provides a payment to claimants of UC, Housing Benefit and/or Child Tax Credit which would offset the two-child limit introduced in 2017 whereby child additions for third or subsequent children born after April 2017 are not payable. As shown in Chapter 5, the two-child limit on these means-tested transfer payments has meant that households with three or more children lose out particularly heavily from the social security reforms introduced since 2010.

*Rationale:* As with measures 2 and 5, the larger average family size in Northern Ireland compared to elsewhere in the UK means that there is a strong case for mitigating the effects of the two-child limit.

## **Measure 7: Additional payment for children in low-income families**

*Description:* This measure is an additional payment of £20 per month per child for families in receipt of Universal Credit or Child Tax Credit.

*Rationale:* This measure is designed to offset some of the adverse consequences of the cuts to benefits, tax credits and UC since 2010 which have meant that households with children (and especially lone parent households) have lost out more heavily from the reforms than childless households (as shown in Figure 5.3 earlier in this report). Note that this is not a rationale specific to Northern Ireland in particular – the same argument applies elsewhere in the UK as well.

## **Measure 8: Additional payment for disabled people in low-income households**

This measure is an additional payment of £20 per month for claimants of Universal Credit who receive the higher or lower disability addition for any adults or children as part of their claim. (Claimants who receive disability additions for more than one person in the household receive £20 per month for each disabled person). The payment is also made to claimants of legacy tax credits and means-tested benefits such as Employment and Support Allowance and Housing Benefit who qualify for disability premia for those payments.

*Rationale:* This measure is designed to offset some of the adverse consequences of the cuts to benefits, tax credits and UC since 2010 which have affected households with disabled people more than other households (as shown in Section 4.2 of this report). The measure is also designed to compensate partially for the lower economic activity rate for people with disabilities in Northern Ireland than elsewhere in the UK which means that disabled households in Northern Ireland lose more on average from the social security reforms than their counterparts elsewhere in the UK.

## 8.3 Number of gainers, average gain, and cost of the mitigation measures

Table 8.1 sets out for each of the mitigation measures listed above:

- The number of households affected by the measure (in thousands, to the nearest thousand);
- The average gain in annual net income per affected household;
- The annual cost of the measure (in millions of pounds, to the nearest million).

For mitigation measures 1 and 2, the estimates are taken from the Northern Ireland Department for Communities' review of the mitigation schemes (Department for Communities 2019a, pp 36-37). For the other mitigation measures, where official estimates are not available, we have used the Landman Economics Tax-Transfer Model to derive the results. Note that where the estimated number of households affected is small – as with the Carer's Allowance increase and the offset of the 2-child limit – the estimates are subject to a wide margin of error as they are based on particularly small FRS sample sizes.

**Table 8.1. Proposed mitigation measures: estimates of number of households affected, average gain per household, and annual cost for Northern Ireland**

<b>Measure</b>	<b>Number of households affected (1000s)</b>	<b>Annual gain per affected household (£)</b>	<b>Cost (£m)</b>
1: Offsetting 'bedroom tax'	34	650	22
2: Offsetting benefit cap	2	2,184	3
3: Cost of Work Allowance	102	341	35
4: Increasing Carer's Allowance	9	302	3
5: Best Start Grant	36	283	10
6: Offsetting 2-child limit on UC, HB and CTC	17	3,325	56
7: Additional payment to children in low income families	127	195	25

8: Additional payment to disabled people in low income households	121	272	33
Total cost			186

*Notes: Estimates for measures 1 and 2 are taken from Department for Communities (2019a). Estimates for other measures are based on the Landman Economics Tax-Transfer Model.*

Table 8.1 shows that some of the mitigation measures are targeted at very small groups (particularly the benefit cap mitigation and the increase in Carer’s Allowance), whereas others (e.g. the Cost of Work Allowance, additional payment to children in low income families and the additional payment to disabled people in low income households) affect much larger groups of people. In terms of annual gain per affected household, the measure with the biggest impact is the offset to the 2-child limit on UC, housing benefit and Child Tax Credit, followed by the offset to the Benefit Cap.

The overall cost of the mitigations package is estimated at £186m per year. This compares to a budget of £585m for the four-year mitigation package between 2016 and 2020, which equates to an annual budget of around £146m per year (although the budget for the 2016-20 mitigations package was not designed to be spent exactly evenly over the four years (NIAO 2019, Appendix 3)). Around £60m per year relates to measures 1, 2 and 3 which were included in the 2016-20 mitigation plans (although only measures 1 and 2 were actually implemented). The other £126m per year relates to new mitigations. A mitigations package which included all eight of the mitigations featured here, plus additional funding for administration and advisory services, would probably cost around £200m per year. This is a significant increase on the 2016-20 mitigation funding budget but – as shown later in this chapter – the distributional effects of this new mitigations package would offset much, though not all, of the adverse impacts of the post-2010 social security reforms.

## 8.4 Impact of mitigation measures by household income

The remainder of this chapter shows the distributional effects of each mitigation measure according to a selection of the breakdown variables used in Chapters 4 and 5. First, we consider the distributional effects of mitigation measures by household income. Figure 8.1 shows the distributional effects of each of the eight mitigation measures in the package using a colour-coded schema as follows:

- Measure 1: Offsetting the 'Bedroom Tax' (black);
- Measure 2: Offsetting the benefit cap (grey);
- Measure 3: Cost of Work Allowance (green);
- Measure 4: Carer's Allowance increase (pink);
- Measure 5: Best Start grant (blue);
- Measure 6: Offsetting the 2-child limit (yellow);
- Measure 7: Additional payment for children in low-income families (orange);
- Measure 8: Additional payment for disabled people in low-income households (red).

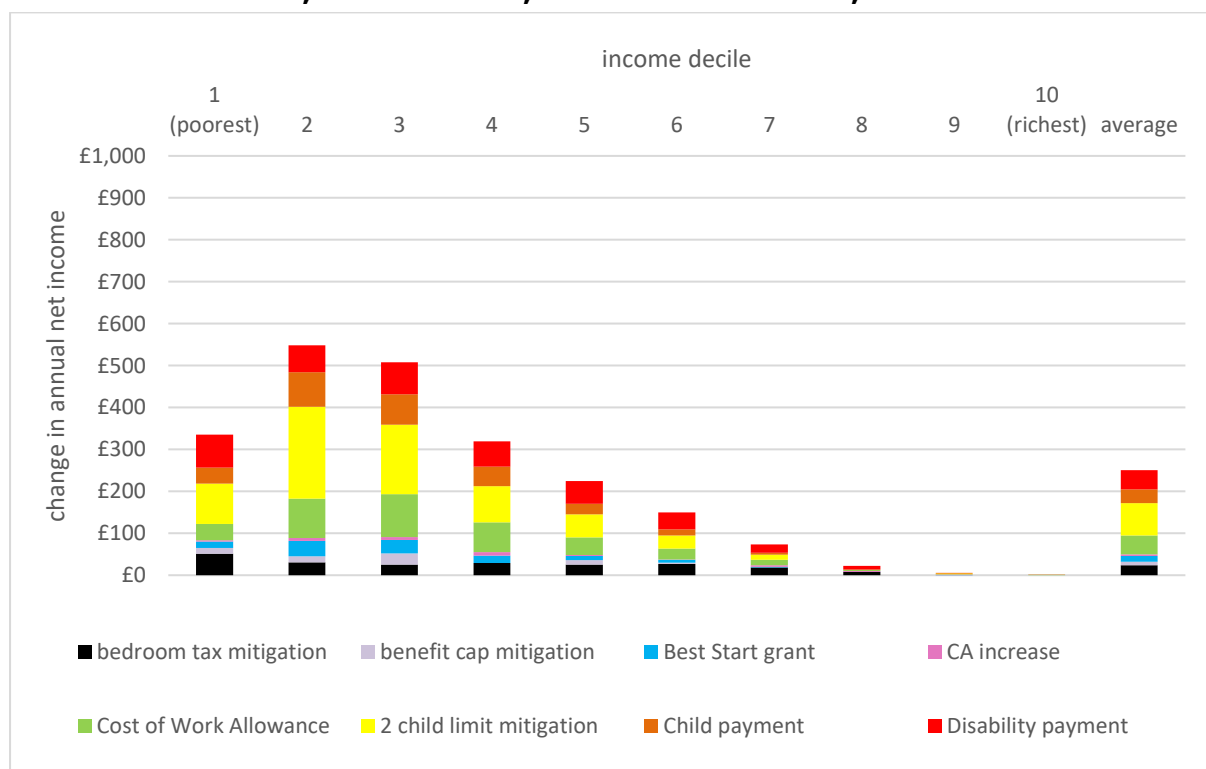
Figure 8.1 shows that the 'bedroom tax' mitigation and the additional payment for disabled people in low income households both result in the largest annual cash gains for households in the lowest decile, with smaller gains for households further up the income distribution. The disability payment is worth an average of £80 per year to households in the lowest decile, while bedroom tax mitigation is worth an average of around £50 in the same group. Most of the other mitigation measures – the additional payment for children in low income families, the offsetting of the 2-child limit, the Cost of Work Allowance and the Best Start grant – have the biggest impact in decile 2, with decreasing gains for households further up the income distribution.

The offset of the 2-child limit is worth an average of just over £200 per year for households in decile 2, while the additional child payment, Cost of Work Allowance and Best Start grant are worth around £80, £90 and £40 per year respectively in this decile. The reason that the child-targeted payments are worth most on average to households in decile 2 (and 3) is that there is a particularly large concentration of low income households with children in this part of the income distribution. The Cost of Work Allowance has its largest impacts in deciles 2, 3 and 4 as most low-

income UC or tax credit claimants who meet the hours eligibility conditions for the CoWA as we designed it are in this part of the income distribution.

The benefit cap mitigation has the biggest impact in decile 3 of the income distribution but because the number of affected households is relatively small, the average impact even in decile 3 is also small (an average gain of around £30 per year). The increase in Carer’s Allowance is the mitigation measure with the smallest overall distributional impact, partly because it is only worth a small amount of money (around £7 per week) to CA claimants and partly because there are a relatively small number of CA claimants in the Northern Ireland population. Also, for households claiming means-tested social security payments the increase in CA is counted as income when calculating entitlements, which reduces the net impact still further for low-income households.

**Figure 8.1 Impact of mitigation measures by household income decile, cash terms, Northern Ireland, 2021-22**

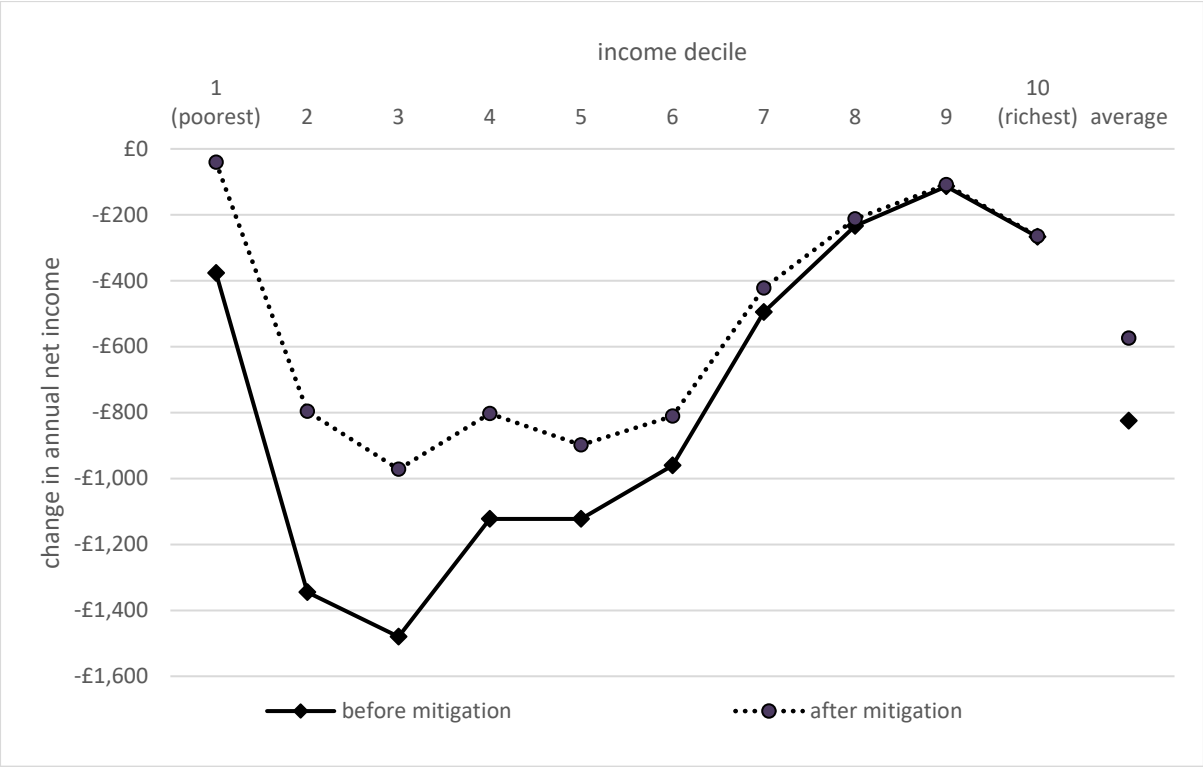


Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18



Figure 8.2 shows the overall impact of the mitigations package, taken as a whole, across the household income distribution. The unbroken line shows the distributional impact of all social security measures since 2010 (including benefit, tax credit and Universal Credit changes) for households in Northern Ireland before taking any mitigation measures into account, while the dotted line shows the distributional impacts net of the proposed package of mitigation measures in this chapter. The results show that the mitigation package significantly lessens the negative impact of tax and social security measures for deciles 1 to 4 in particular. For deciles 2 and 3 the negative impact of the reforms is reduced by an average of over £500 per household as a result of the mitigation package, while for deciles 1 and 4 the reduction in losses averages over £300 per household. After mitigation, the average cash losses for households in deciles 2 and 3 are similar to average losses in deciles 4 through 6 (at between £800 and £1,000 per year in each case) whereas before mitigation, deciles 2 and 3 are projected to lose substantially more than deciles 4, 5 and 6. Across the whole distribution, the mitigations package reduces average losses from social security reforms from £825 per year to £575 per year – a reduction in overall losses of 30 per cent.

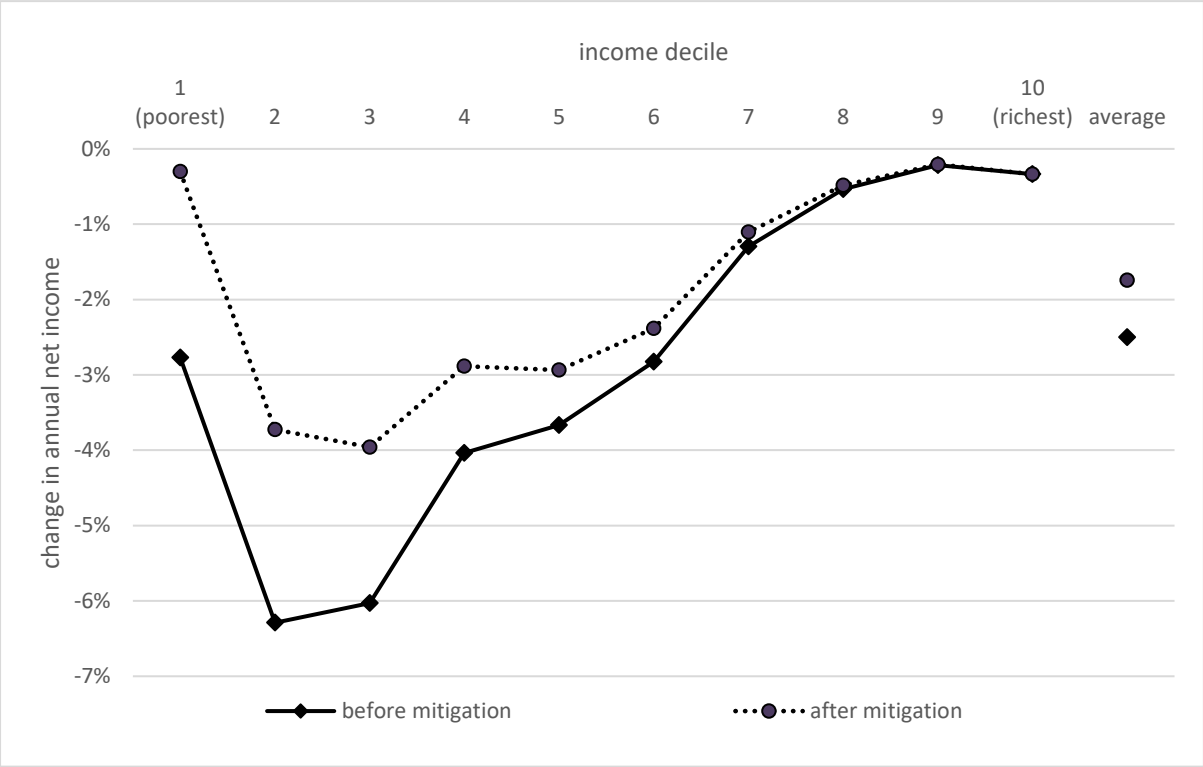
**Figure 8.2 Impact of social security reforms by household income decile before and after mitigation, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 8.3 shows the distributional effects of social security reforms before and after mitigation as a percentage of net income rather than in cash terms, to assess the impact of the mitigation package of the regressiveness of the social security reforms across the income distribution. Before mitigation, the reforms package leads to average losses of over 6 per cent of net incomes in deciles 2 and 3, whereas after mitigation, the average negative impact is less than 4 per cent in each decile. The overall impact of the social security measures is still regressive across deciles 2 to 9 after mitigation, but to a lesser degree than before mitigation.

**Figure 8.3 Impact of social security reforms by household income decile before and after mitigation, as percentage of net income, Northern Ireland, 2021-22**

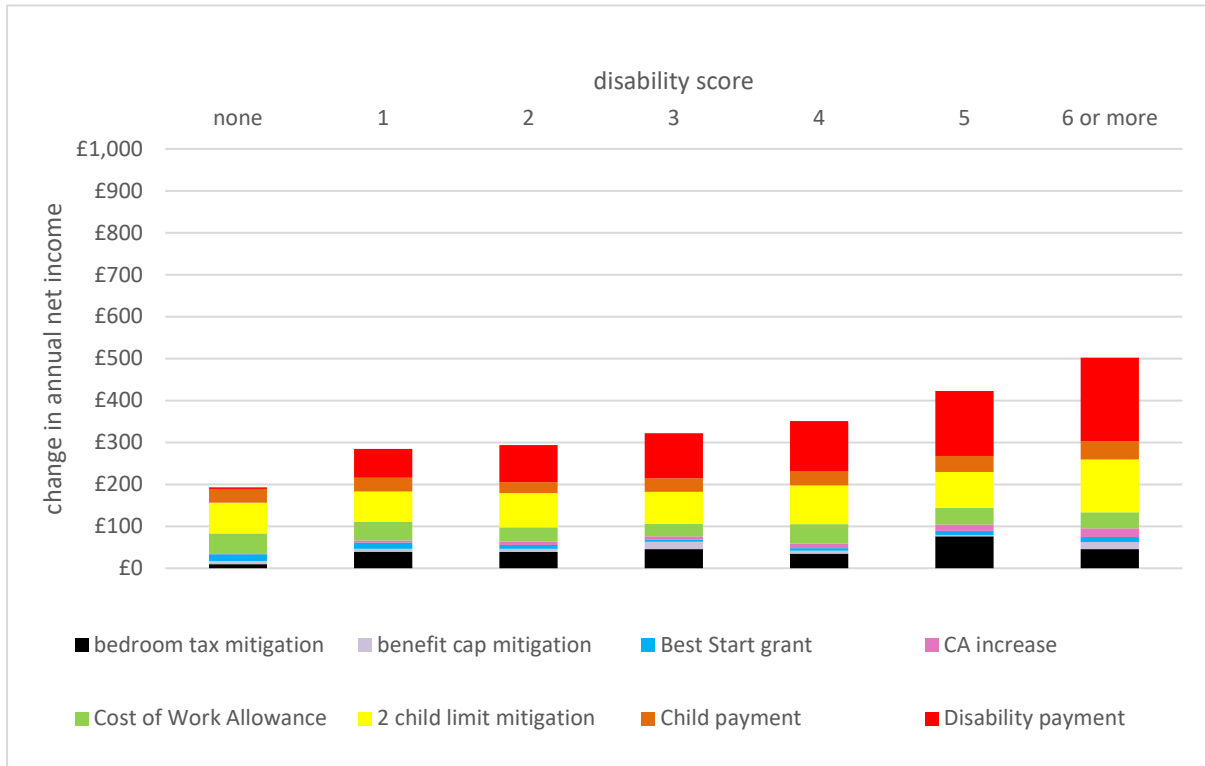


Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

## 8.5 Impact of mitigation measures by household disability score

Figure 8.4 shows the impact of mitigation measures by household disability score in cash terms. The additional disability payment for low-income households has a bigger positive impact for households with a higher disability score than those with a lower disability score – the average gain is around £200 per year for households with a disability score of 6 or more, and around £150 per year for households with a disability score of 5. The increase in Carer’s Allowance also has a bigger positive impact for households with a higher disability score as these households are more likely to have a Carer’s Allowance claimant in them than other households. The Carer’s Allowance increase is worth around £20 per year on average to households with a disability score of 6 or more. The other mitigation measures have a less strong ‘positive gradient’ with respect to household disability, but there is still a slight positive relationship between average receipt of mitigation payments and disability score. Taking the other six mitigation measures together, they are worth an average of just under £300 per year for households with a disability score of 6 or more compared to just under £200 per year for households with a disability score of zero.

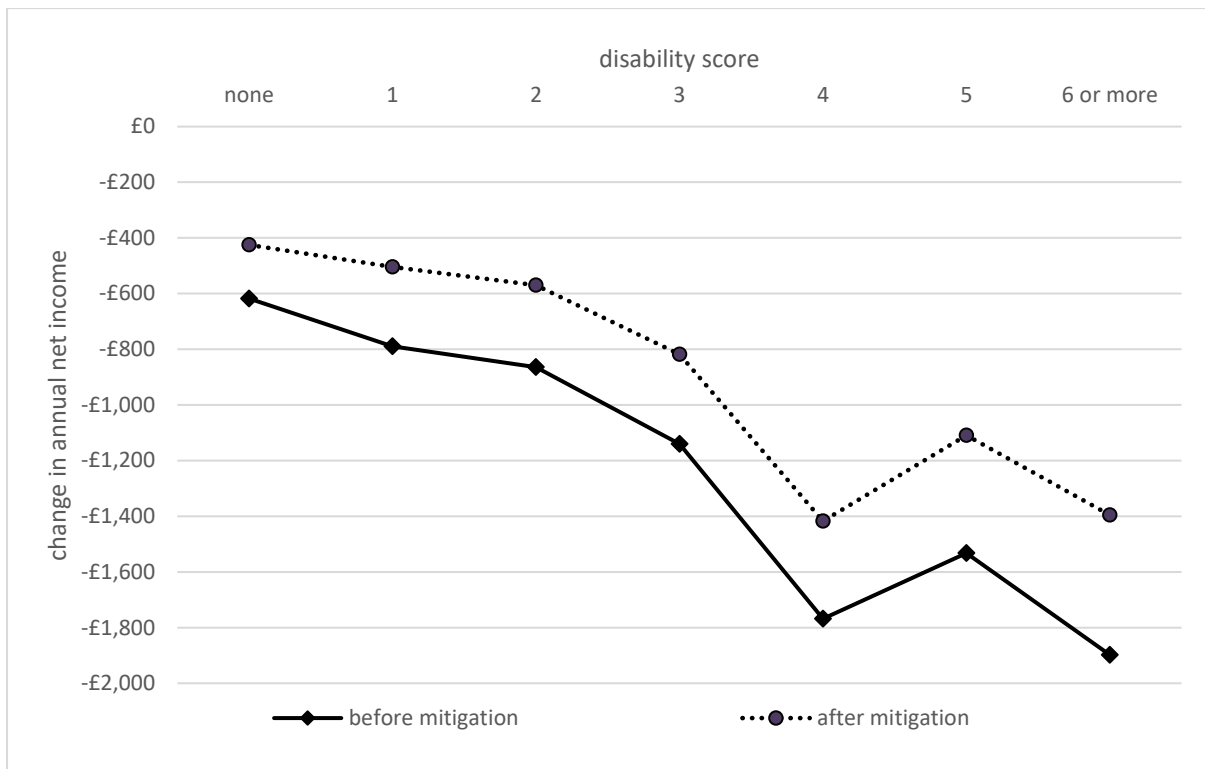
**Figure 8.4 Impact of mitigation measures by household disability score, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 8.5 shows the overall impact of social security reforms (in cash terms) before and after mitigation. Mitigation results in a bigger average reduction in losses from the reforms for households with a disability score of 5 or 6 or more than it does for households with a disability score of 4 or lower. For households with a disability score of 6 or more the mitigations package is worth an average of £500 per year and reduces overall average losses from the social security reforms by around one-third. For households with a disability score of 1 to 4 the cash impact of mitigations is fairly even, resulting in reductions of around £300 to £400 in losses per year on average. For households with a disability score of zero, average losses are reduced by around £200 per year.

**Figure 8.5 Impact of social security reforms by household disability score before and after mitigation, Northern Ireland, 2021-22**



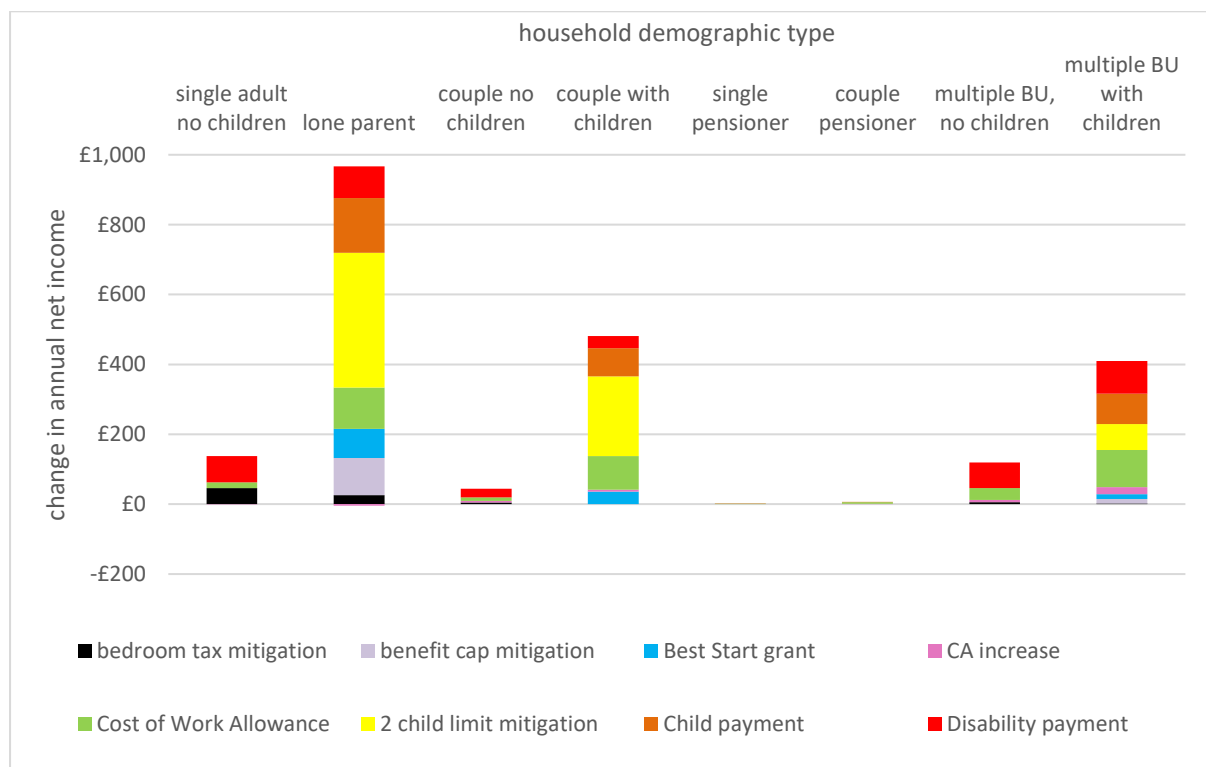
Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

## 8.6 Impact of mitigation measures by household demographics

Figure 8.6 shows the average impact of each of the mitigation measures according to household demographic type. By definition, the offset of the 2-child limit on payments, the additional payment to children in low income families and the Best Start Grant only have impacts for households with children, while most of the gains from the Cost of Work Allowance also accrue to households with children. The demographic group which benefits most from the mitigation measures is lone parents, with average gains of just under £1,000 per year. Just under £400 of these gains are due to the offset of the 2-child limit, with the extra payment to low-income families with children, the CoWA, the Best Start grant and the offset of the benefit cap also having the biggest impact for this group. The average gains for couples with children are around £450 per year on average with the offset of the 2-child limit also having the

biggest impact of any particular mitigation measure for this group (with average gains of around £225 per year). MBUs with children gain around £400, with the Cost of Work Allowance and the additional payment for low-income disabled people being the measures with the biggest impact. MBUs without children and single adults with no children gain just over £100 per year on average from the mitigation measures.

**Figure 8.6 Impact of mitigation measures by household demographic type, cash terms, Northern Ireland, 2021-22**

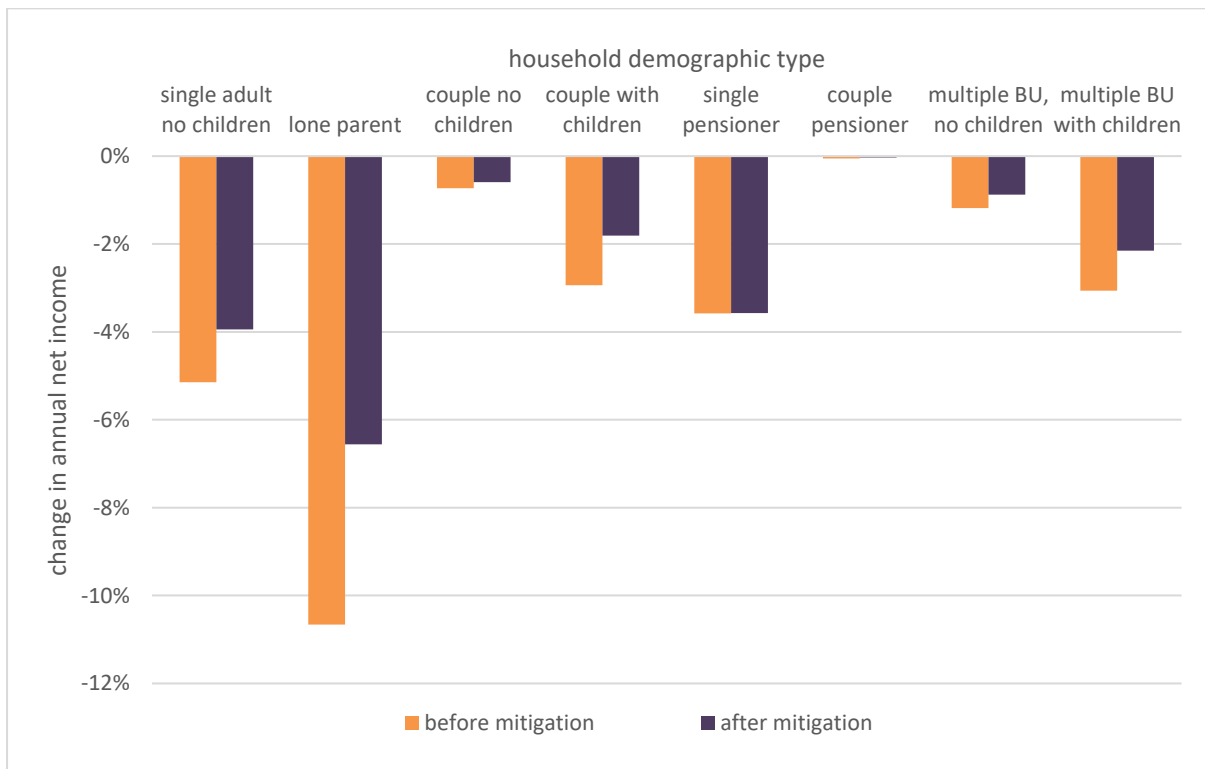


Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 8.7 shows the overall impact of mitigation measures as a percentage of net income. This is a useful way to analyse the impacts by demographic type as average incomes for some demographic groups (for example single adults with no children and lone parents) are considerably lower than for other groups (e.g. couples with no children, couples with children), meaning that the percentage impact of reforms can look quite different from the cash impacts. Figure 8.7 shows that before mitigation, lone parents lose out to a much greater extent on average than other

groups, with average losses of just under 11% of net income. After mitigation, average losses for lone parents are reduced to around 6.5% of net income – still substantial, but a reduction in losses of around two-fifths. For couples with children, losses are reduced from just under 3% of net income to just under 2%; results for MBUs with children are similar. Single adults with children experience reductions in average losses from just over 5% of net income to just under 4% after mitigation. For other demographic groups, mitigation has relatively small percentage impacts.

**Figure 8.7 Impact of social security reforms by household demographic type before and after mitigation, Northern Ireland, 2021-22**



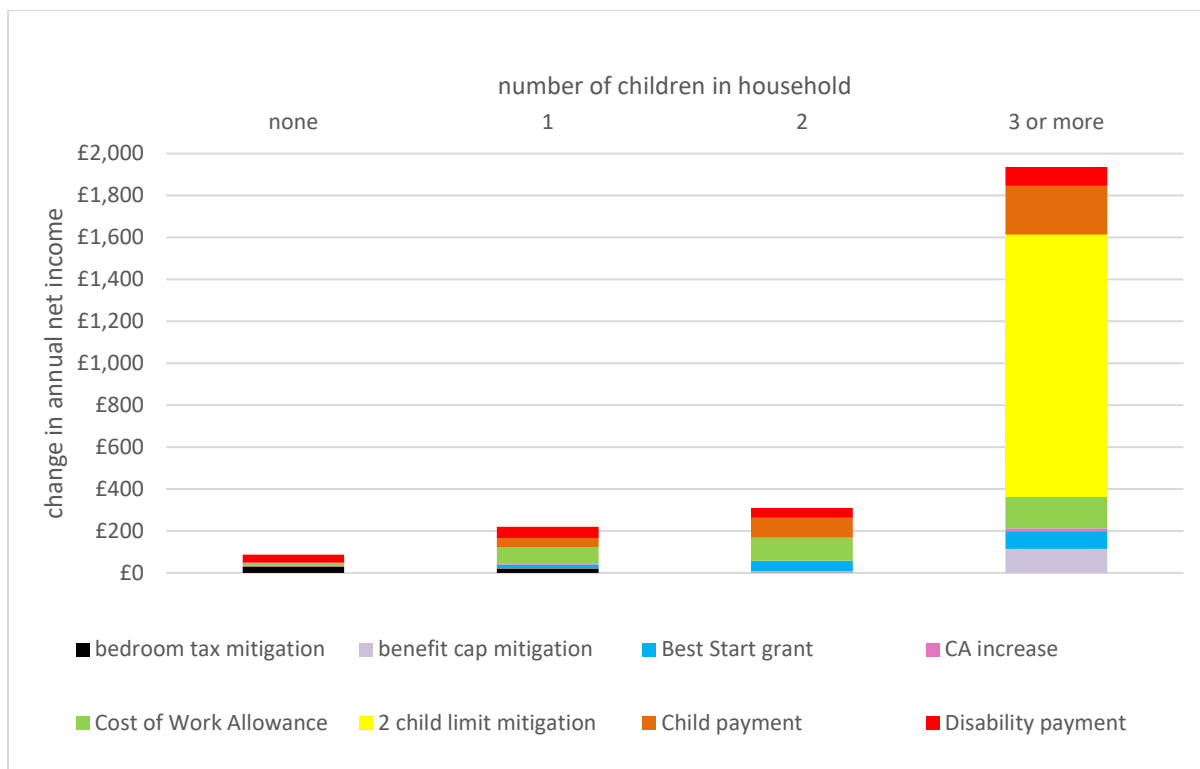
Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18



## 8.7 Impact of mitigation measures by number of children in household

Figure 8.8 shows the average cash impact of each mitigation measure according to the number of children in the household. The figure is dominated by the offset of the 2-child limit, which (by definition) has its whole positive impact for households with 3 or more children. The average impact of offsetting the 2-child limit is around £1,250 for households with 3 or more children. The additional payment for children in low-income households also has the largest impact for households with 3 or more children (averaging just over £200 per year). The same is true for the disability payment for low-income households (averaging just under £100 per year for this group), the Cost of Work Allowance (averaging £150 per year), the Best Start grant (just under £100 per year) and the benefit cap offset (just over £115 per year). Average gains from the mitigation measures total just under £2,000 per year for households with 3 or more children compared to around £300 for households with 2 children, £200 for households with 1 child and around £100 for childless households.

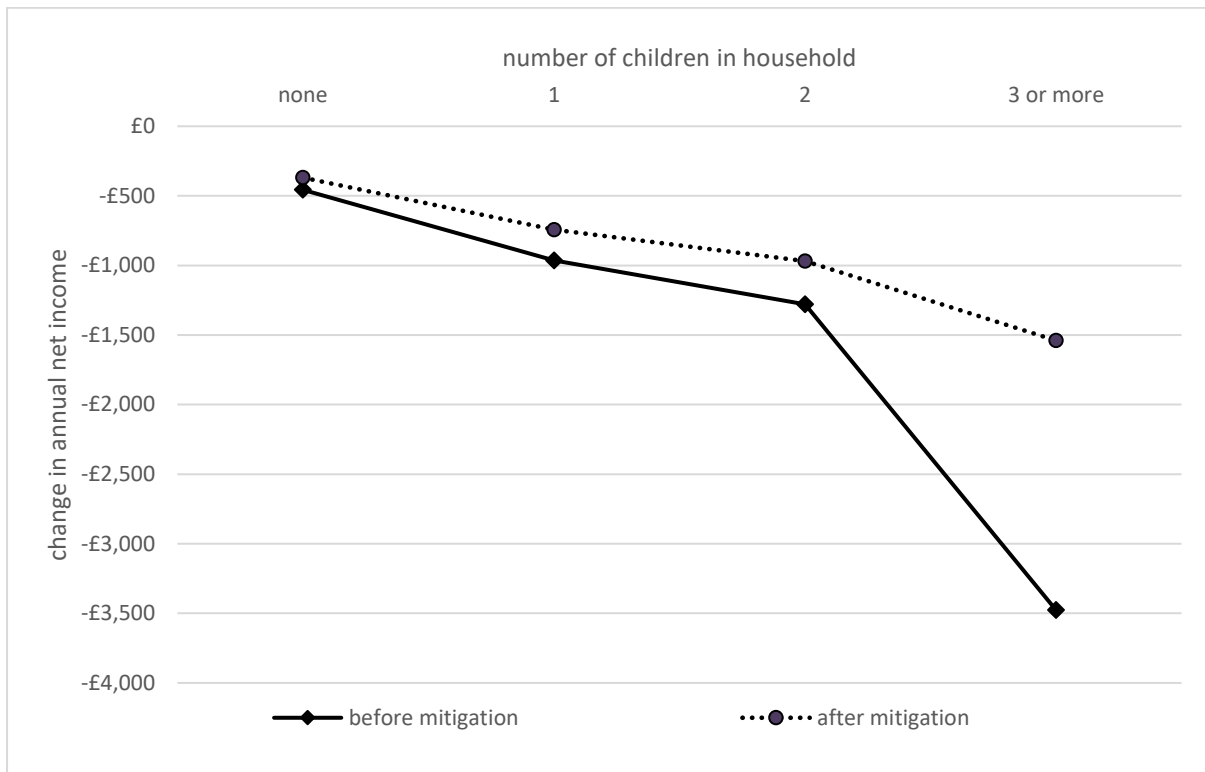
**Figure 8.8 Impact of mitigation measures by number of children in household, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 8.9 shows the impact of social security measures (in cash terms) before and after mitigation according to number of children in the household. While the social security measures still have a bigger impact for households with three or more children than for households with two or fewer children, the relationship between number of children and the negative impact of the social security reforms is much more linear after mitigation than it is before mitigation. The offset of the two-child limit, in conjunction with the other mitigations, remove most of the penalty to having three or more children which the social security reforms otherwise impose. For households with three or more children, overall average losses from the social security reforms fall from an average of £3,500 per year to £1,500 per year - a reduction of more than half. This is particularly important in a Northern Ireland context given the larger average family size in Northern Ireland compared to the rest of the UK.

**Figure 8.9 Impact of social security reforms by number of children in household before and after mitigation, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

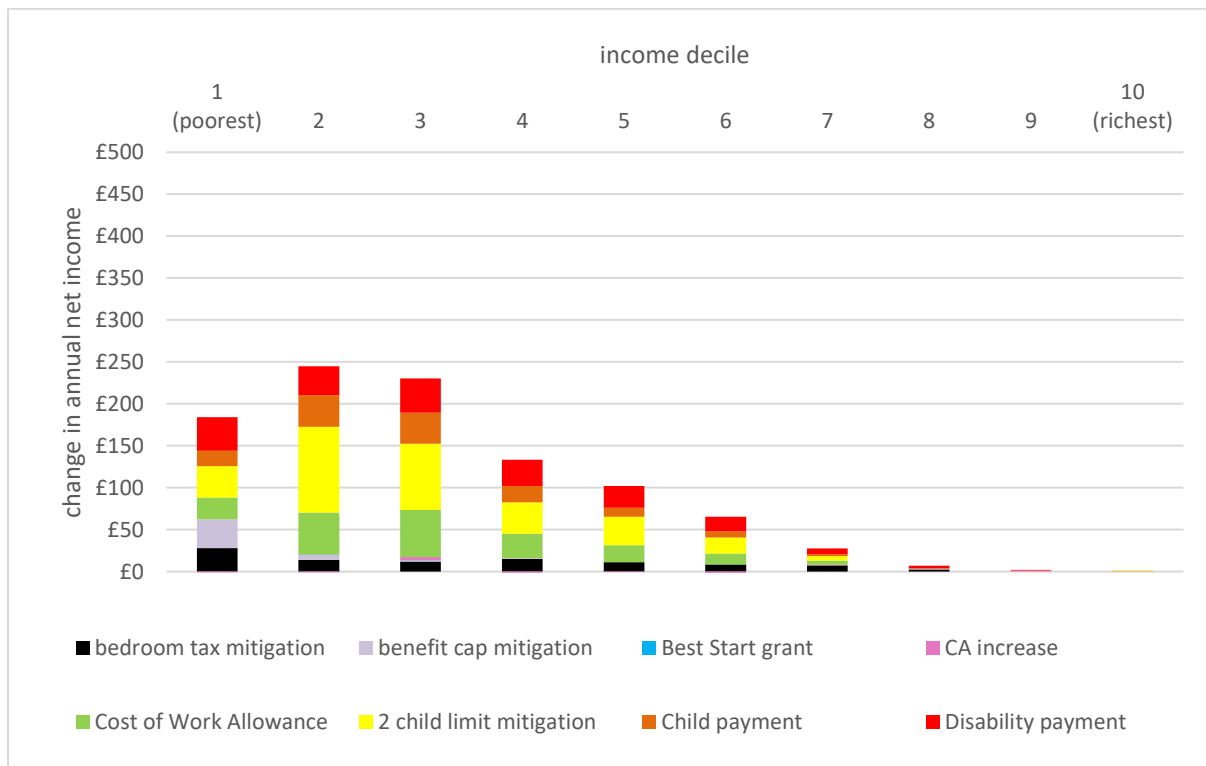
## 8.8 Impact of mitigation measures by gender and income decile

Figures 8.10 and 8.11 show the impact of the mitigation measures at the individual level for men and women by household income decile. The main differences between the impacts for men and women are:

- The benefit cap mitigation has a larger impact for women in the bottom three deciles of the income distribution than for men. For men the main impacts are in the lowest decile, whereas for women there are average gains of around £50 per year in each of the lowest three deciles. This difference arises because a large proportion of the households affected by the benefit cap are lone parent households, and over 90 per cent of lone parents in Northern Ireland are women.

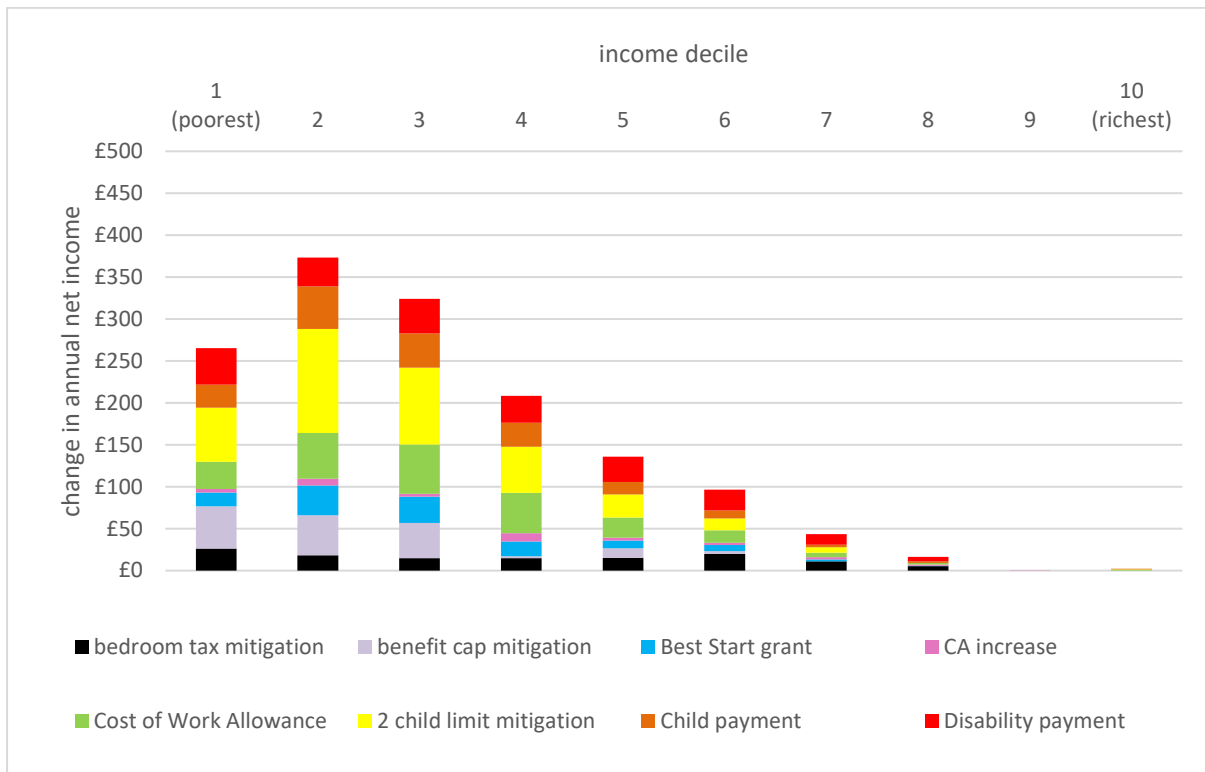
- The Best Start grant is a payment specifically for mothers and so leads to positive average impacts for women but not men. The largest average gains are for women in deciles 2 and 3 (gains of between £30 and £40 per year in each case).
- The offset of the 2-child limit and the additional payment to children in low income families have slightly larger impacts for women than men. This is mainly because lone parents are more likely to receive these mitigations than other groups (as shown in Section 9.5 above) and this increases average gains across women in income deciles 1 through 4 in particular.
- The increase in Carer's Allowance has a bigger impact for women than men as women are around twice as likely to be claiming Carer's Allowance as men are.

**Figure 8.10 Impact of mitigation measures at individual level, men by household income decile, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

**Figure 8.11 Impact of mitigation measures at individual level, women by household income decile, cash terms, Northern Ireland, 2021-22**



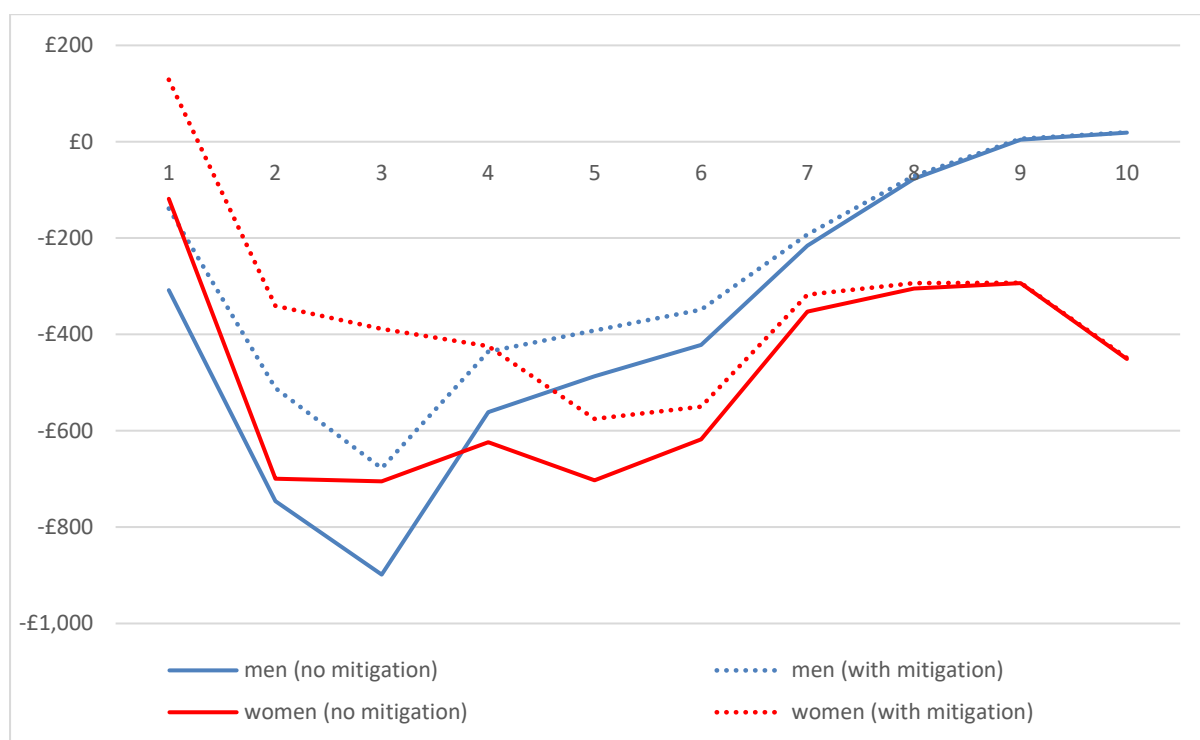
Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 8.12 shows the overall impact of the social security reforms before and after the mitigation measures by gender and income decile, with the impacts for men in blue and the impacts for women in red. The unbroken lines show the overall average impacts of reforms before mitigation, while the dotted lines show the impacts after mitigation.

Before mitigation, men lose more from the social security reforms on average in deciles 1 to 3 while women lose more in deciles 4 and above. The mitigation measures have a bigger positive impact on women than men in the bottom half of the income distribution. For example, in decile 2, the overall impact of the mitigation package for women is to reduce average losses by around £350 per year, compared with a reduction in losses of around £250 for men. In decile 4, average losses for men and women are approximately equal at about £425 per year after mitigation, whereas women lose about £75 more than men per year before mitigation. In the lowest decile, women *gain* on average from the social

security reforms after mitigation (by around £125 per year) whereas they lose on average by just over £100 per year before mitigation.

**Figure 8.12. Impact of social security reforms at the individual level before and after mitigation, men and women by income decile**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

## 8.9 Impact of mitigation measures by gender and age

Figures 8.13 and 8.14 show the impact of each mitigation measure at the individual level by gender and age group. The main findings from these graphs are as follows:

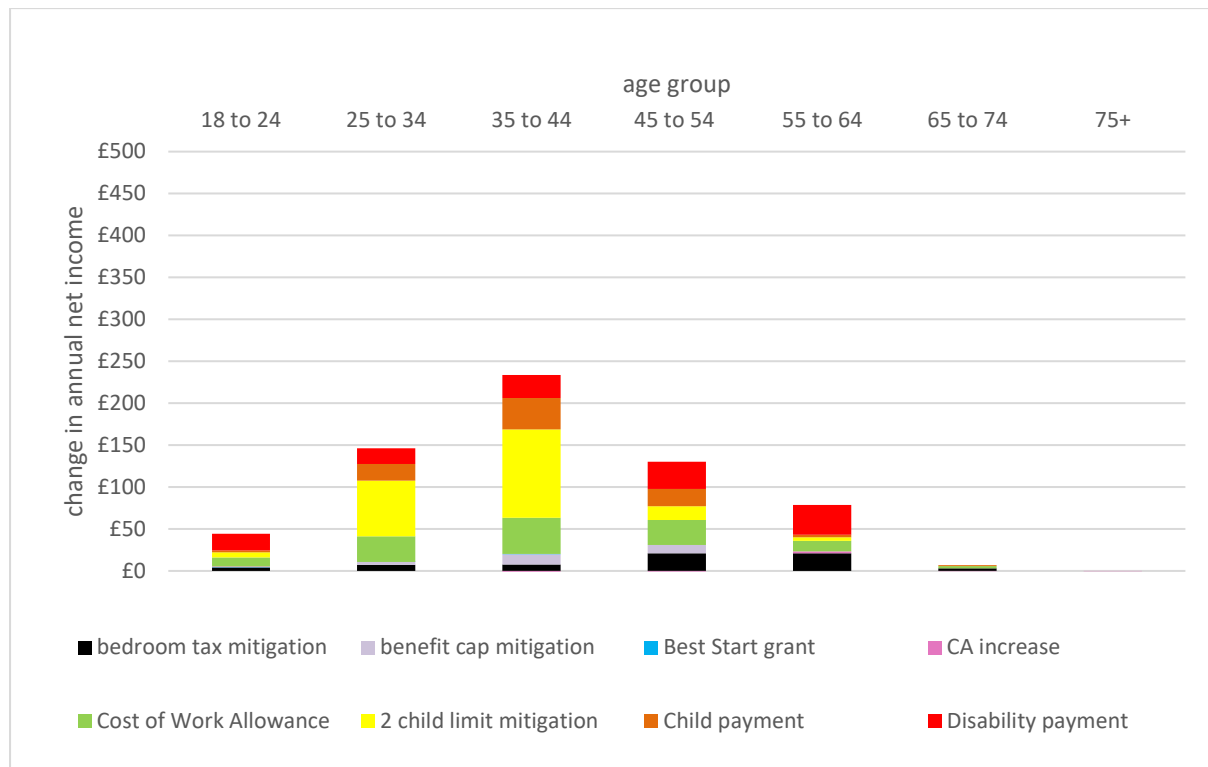
- The offset of the 'bedroom tax' has the biggest impact for adults aged 45 to 54 and 55 to 64, with the impact for women in these aged groups being slightly greater than for men (average gains of £35 per year for women aged 55 to 64, and just over £25 per year for women aged 45 to 54). This result reflects the fact that

men and women living in social housing in this age group are less likely to have children living with them than younger men and women, and so are more likely to be deemed to have excess bedrooms in their social housing and thus be subject to the bedroom tax (given that, as explained in Section 2.3, the social housing stock in Northern Ireland is mainly composed of properties with more than one bedroom).

- The biggest average gainers from the benefit cap offset are women aged 35 to 44 (average gains of just under £60 per year), followed by women aged 25 to 34 (average gains of £35 per year).
- The largest average gains from the Best Start grant go to women in the 18-24 and 25-34 age groups (£40 per year and £30 per year in each case). New mothers on low incomes are most likely to be located in these age groups.
- The biggest average gains from the offset of the 2-child benefit payment limit accrue to women aged 25-34 (around £125 per year), women aged 35-44 (just over £100 per year) and men aged 35-44 (just over £100 per year). These three groups are also the largest gainers from the additional payment for children in low-income families.
- The Cost of Work allowance results in the largest gains for women and men aged 25 through 54. In each of these six groups the average gains from the CoWA are between £30 and £50 per year.
- The payment to disabled people in low-income households has the biggest average impacts for women aged 35 to 64 and men aged 45 to 64 (gains of just over £30 per year in each case).
- The increase in Carer's Allowance has the biggest impact for women aged 45 to 64.

Overall, the biggest average positive impact from the mitigations package as a whole is for women aged 25 to 34 and women aged 35 to 44. In both of these groups the total average gain is between £300 and £350 per year.

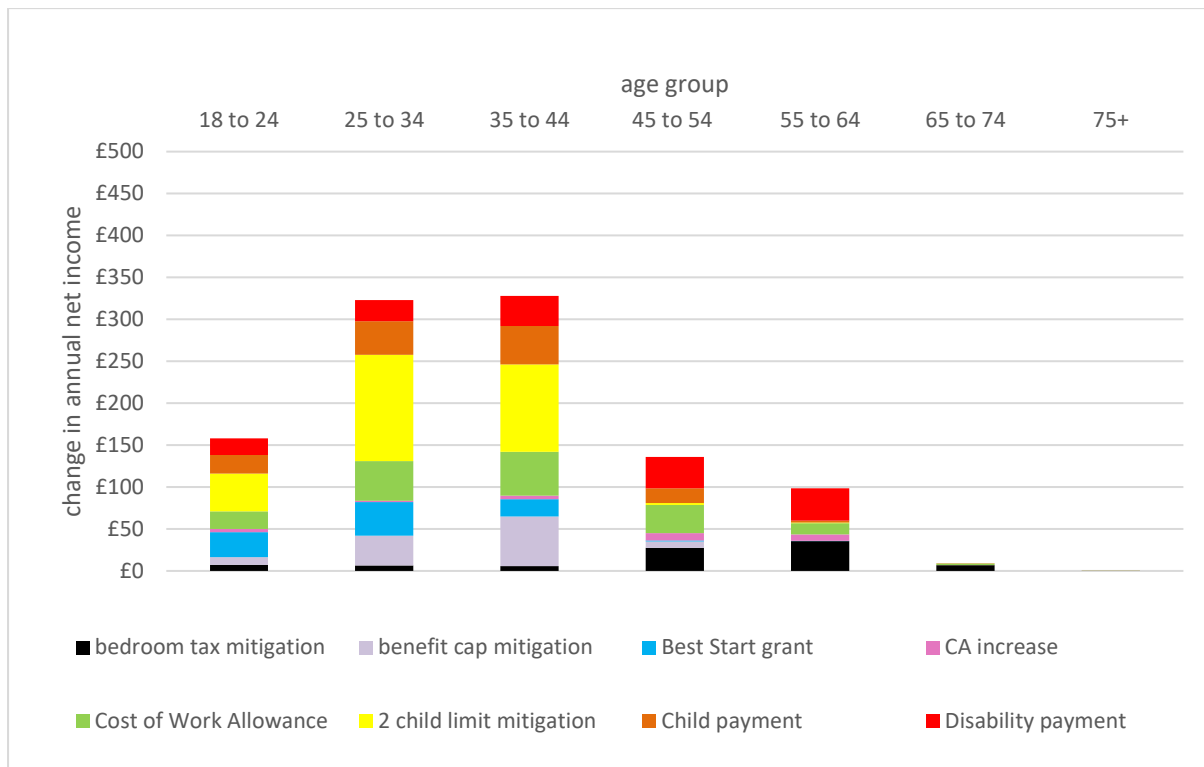
**Figure 8.13 Impact of mitigation measures at individual level, men by age group, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18



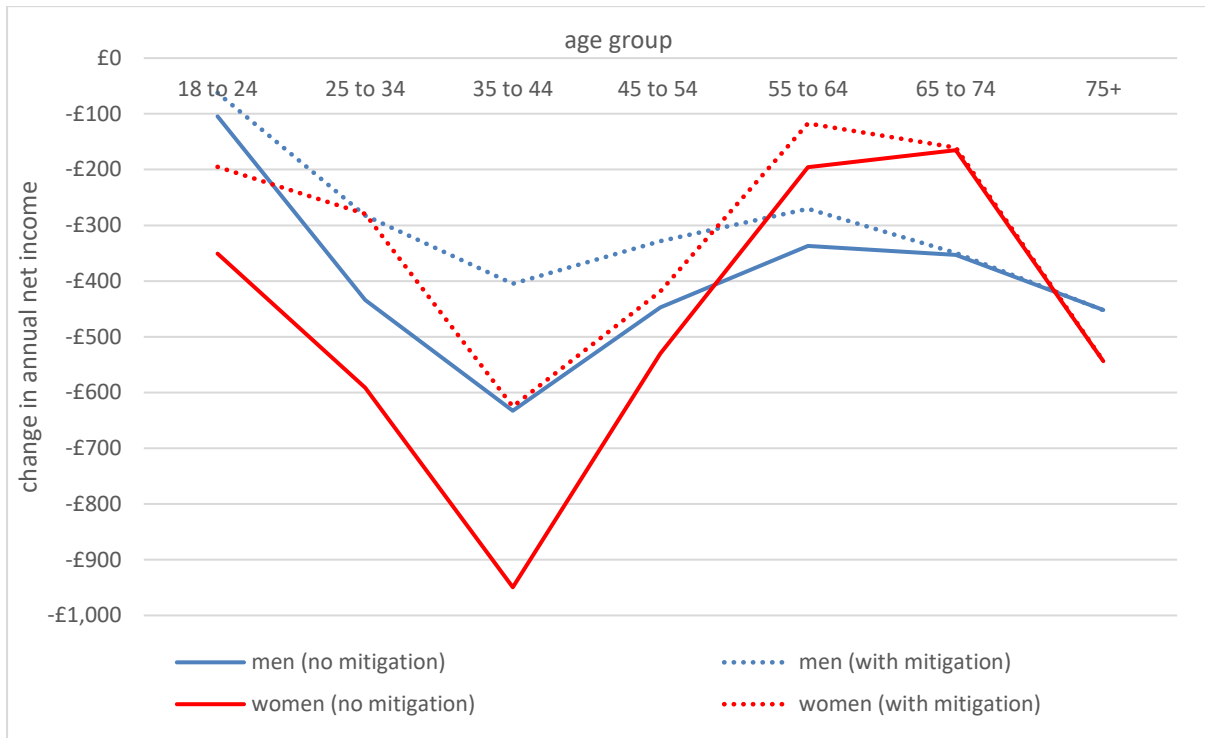
**Figure 8.14 Impact of mitigation measures at individual level, women by age group, cash terms, Northern Ireland, 2021-22**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

Figure 8.15 shows the overall impacts of the social security reforms before and after the mitigations package by gender and age group, using the same colour scheme as for Figure 8.12 above. In the youngest three age groups (18-24, 25-34 and 35-44) the mitigations package has a bigger impact in cash terms for women than for men. Women aged 18-24 lose out by around £350 per year more than men in the same age group due to social security measures before mitigation, but after mitigation the difference is reduced to around £250 per year. In the 25-34 year old age group, women lose out by around £150 more than men on average before mitigation, but after mitigation the losses for both groups are approximately equal. For 45-54 and 55-64 year olds the cash impact of mitigation measures is approximately equal for men and women, while for 65-74 year olds and people aged 75 and over the mitigation measures have very little impact (mainly because the mitigation measures are targeted at working age recipients of benefits, tax credits and UC).

**Figure 8.15. Impact of social security reforms at the individual level before and after mitigation, men and women by income decile**



Source: Landman Economics tax-transfer model analysis using FRS pooled dataset 2013-14 to 2017-18

## 8.10 Summary of main findings

- The overall cost of the package of eight mitigation measures modelled in this report is £186m per year. This compares to a budget of around £146m per year if the budget for the Northern Ireland Executive’s four-year mitigation package had been spent evenly over the four years 2016-20.
- Three of the mitigation measures modelled - the Cost of Work Allowance, an additional payment for children in low-income families, and an additional payment for disabled people in low-income households - would affect relatively large numbers of households (over 100,000 in each case). The other five

mitigations - the Best Start Grant for low-income mothers, increasing Carer's Allowance, offsetting the 'bedroom tax', offsetting the benefit cap and offsetting the two-child limit on social security payments to families - affect a smaller number of households but have larger annual gains per affected household (in the case of the latter two measures in particular).

- The payment for disabled people in low income households and the offset of the 'bedroom tax' have the largest annual cash gains for households in the lowest decile, while the Cost of Work Allowance and the other mitigation measures targeted at low income families have the largest impacts in decile 2.
- The mitigations package significantly lessens the negative impact of tax and social security measures in the bottom four deciles of the household income distribution in particular. Overall, the mitigations package reduces average losses from social security reforms from £825 per year to £575 per year - a reduction in overall losses of 30 per cent.
- The payment for disabled people in low income households and the increase in Carer's Allowance are particularly well targeted on households with larger numbers of disabilities. For households with a disability score of 6 or more the mitigations package is worth an average of £500 per year and reduces overall average losses from the social security reforms by around one-third.
- Lone parents see the largest gains from the mitigations package of any demographic group: their average losses are reduced from around 11% of net income to around 6.5% of net income. For couples with children, losses are reduced from just under 3% of net income to just under 2%.
- The offset of the two-child limit, in conjunction with the other mitigations, removes most of the penalty to having three or more children which the social security reforms other impose. For households with three or more children, overall average losses from the social security reforms fall from an average of £3,500 per year to £1,500 per year - a reduction of more than half. This is particularly important in a Northern Ireland context

given the larger average family size in Northern Ireland compared to the rest of the UK.

- By gender, the mitigation measures have a bigger positive impact on women than men in the bottom half of the income distribution. This is mainly due to the Best Start grant (which always goes to women rather than men) and the other child-focused mitigation measures such as the offset of the 2-child limit and the payment to children in low-income families (which are worth more to women than men on average in the lowest four income deciles).
- By gender and age group, the mitigation package has a bigger average impact in cash terms for women aged between 18 and 44 than for men. Once again, this is mainly due to the Best Start grant, 2-child limit offset and the payment for children in low income families having a bigger impact for women than men in these age groups. For 45-54 and 55-64 year olds the cash impact of mitigation measures is approximately equal for men and women.

## 9 Human rights implications of reforms

### 9.1 Introduction

This section discusses the implications of the cumulative impact assessment of tax and social security measures since 2010 in Northern Ireland for human rights in Northern Ireland. The content of this chapter is informed by the NIHRC's submission to the Northern Ireland Affairs and Work and Pensions Committee's Joint Inquiry into Northern Ireland's Social Security Policy (NIHRC 2019).

### 9.2 The right to social security

The right to social security is protected by the ECHR and the international human rights system. The United Kingdom is a State Party to the International Covenant on Economic, Social and Cultural Rights (ICESCR), which includes the right to social security. ICESCR Article 9 provides that "the States Parties to the present Covenant recognise the right of everyone to social security, including social insurance." The right is also provided for within several other UN and European treaties and charters<sup>13</sup>. By ratifying these human right treaties, the UK is bound by the obligations set out therein.

The UN Committee on Economic, Social and Cultural Rights confirms that the right to social security requires a social security system to be in place that is available, adequate and accessible. Social security must be accessible in terms of coverage, eligibility, affordability, participation and information, and physical access. The UN ICESCR Committee has stipulated that the UK Government:

*"should give special attention to those individuals and groups who traditionally face difficulties in exercising [the right to social security], in particular women, the unemployed, workers inadequately protected by social security, persons working in the informal economy, sick or injured workers, people with disabilities, older persons, children and adult dependents, domestic workers, homeworkers, minority groups, refugees,*

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<sup>13</sup> Specifically, the UN Convention on the Elimination of Discrimination against Women 1979, the UN Convention on the Rights of the Child 1989, the UN Convention on the Rights of Persons with Disabilities 2006, the European Social Charter 1961 and the Charter of Fundamental Rights of the EU 2000.

*asylum-seekers, internally displaced persons, returnees, non-nationals, prisoners and detainees*” (Office of the High Commissioner for Human Rights, 2016).

These obligations should be “enjoyed without discrimination and equally between men and women” (Office of the High Commissioner for Human Rights, 2016).

Article 2(1) of ICESCR requires the UK Government to take steps “to the maximum of its available resources, with a view to achieving progressively the full realisation” of the right to social security. This “imposes an obligation to move as expeditiously and effectively as possible towards that goal”. Benefits must be ‘adequate in amount and duration’ to ensure an adequate standard of living, and any reductions in benefits (driven, for example, by wider economic policy considerations) should be temporary, necessary and proportionate (Office of the High Commissioner for Human Rights, 2013). An evaluation of whether retrogressive measures infringe the right to social security requires considering whether:

- a) there was reasonable justification for the action;
- b) alternatives were comprehensively examined;
- c) there was genuine participation of affected groups in examining the proposed measures and alternatives;
- d) the measures were directly or indirectly discriminatory;
- e) the measures will have a sustained impact on the realisation of the right to social security, an unreasonable impact on acquired social security rights or whether an individual or group is deprived of access to the minimum essential level of social security; and
- f) whether there was an independent review of the measures at the national level.

### **9.3 The human rights impact of reforms to social security since 2010**

In this section we assess the reforms to the social security system since 2010 (alongside the tax reforms over the same period) to ascertain whether they meet criteria (a) to (f) above for not infringing the right to social security.

On the question of whether there was **justification for the action**, the reforms took place against a background of a clear and overarching UK Government commitment to deficit reduction; changes to taxes and benefits are obviously an inevitable consequence of this. However, it does not follow that the precise mix of reforms implemented was inevitable, nor was the impact on vulnerable protected groups, that emerged. Furthermore, as shown in Figure 4.1, the overall fiscal impact of tax and social security reforms since 2010 has only resulted in a modest improvement in the public finances by itself; while social security benefits and tax credits have been cut extensively, and the indirect tax burden has risen, much of this improvement in the government's fiscal position has been offset by discretionary giveaways through the income tax system (the large real-terms increases in the income tax personal allowance and National Insurance primary and secondary thresholds, in particular). Thus, actual tax and social security policy has only partially followed the stated justification of eliminating the deficit.

Based on the UK Government's published impact assessments of the reforms it does not look as if **alternatives to the measures** were comprehensively examined (although unpublished internal analysis may have taken place). Nor was it the case that there was **genuine participation of affected groups** in examining the proposed measures and alternatives. The initial set of social security cuts in the June 2010 Budget and the Autumn 2010 Spending Review was largely presented as a *fait accompli*, with little if any design input or pre-consultation from affected groups.

On the question of whether the measures are **directly or indirectly discriminatory**, the analysis in this report shows that the social security reforms have had a disproportionately negative impact on some of the most vulnerable groups in Northern Ireland (as elsewhere in the UK); specifically, low income households, lone parent households, households with a large number of functional disabilities among household members, households with three or more children, workless households, and (at the adult level) low income women, and women in specific age groups (particularly 35 to 44 year olds, and those aged 75 and older). Based on these differential impacts, the reforms definitely appear discriminatory in several dimensions. As noted by NIHRC (2019, p11), legal challenges to the reforms on the grounds that they are discriminatory under Articles 8 and 14 of the European Convention on Human Rights have received a

mixed response, with some aspects of the DLA-PIP transition and the 'bedroom tax' being ruled discriminatory but the benefit cap ruled as *not* discriminating against lone parents with young children.

Regarding point (e) – whether the reforms will have a **sustained impact on the realisation of the right to social security, an unreasonable impact on acquired social security rights or whether an individual or group is deprived of access to the minimum essential level of social security** – there seems little doubt that this is the case. The CIA undertaken in this report suggests that the package of tax and social reforms undertaken in Northern Ireland since 2010 has failed to take human rights considerations into account in two key dimensions. First, it is clear that benefits are not 'adequate in amount and duration to ensure an adequate standard of living'. This is particularly the case when looking at the impacts of the reforms on households with children. As shown in Chapter 6, the estimated rates of child poverty increase by over 20 percentage points for lone parent households, households with three or more children, and workless households as a result of the reforms, with significant increases for other households with children as well.

The UK Government's published impact assessments of the reforms to the social security system do not indicate, by themselves, that these obligations have been taken into account; nor do they indicate that the Government paid due regard to the impact of reforms on vulnerable groups under section 75 of the Northern Ireland Act 1998 or under the Public Sector Equality Duty in the Equality Act 2010 elsewhere in the UK.

It also does not appear to be the case that the reforms since 2010 are 'temporary, necessary and proportionate.' They are not temporary because the UK Government has no plans to reverse the reforms, even after the austerity which has characterised UK economic policymaking since 2010 comes to an end.

Furthermore, based on the results from our previous work for the Equality and Human Rights Commission in England, Scotland and Wales (Portes and Reed, 2018), it is likely that the impact of tax and social reforms is particularly negative for specific groups that we were unable to analyse in this report because of small sample sizes in the FRS and LCF data. Specifically, the sample size of BAME respondents in the Northern Ireland datasets is not large enough to analyse the impact of reforms by ethnicity in Northern Ireland. Also, our previous EHRC work contains a range of



intersectional analyses looking at the impact of the reforms on various *combinations* of protected characteristics – for example, demographic type and disability. The sample size of the FRS and LCF data in Northern Ireland was insufficient to allow these analyses to be performed.

Finally, there has been no official **independent review** of the measures at a national level (although there have been independent reviews of the measures by third parties – for example this report for Northern Ireland, Portes and Reed (2017) for Great Britain, and other reviews of specific aspects of the reforms such as De Agostini *et al* (2018) and Hall *et al* (2017)).

Overall, it seems justified to conclude that social security reforms since 2010 do infringe the right to social security as specified in the ICESCR and other international treaties to which the UK is a signatory.

## 9.4 The human rights impact of the mitigations package

The mitigations package designed in Chapter 8 partially addresses the infringement of the right to social security caused by reforms since 2010. In particular, the mitigations package reduces (but does not eliminate) the extent to which the reforms since 2010 adversely affect some of the most vulnerable groups in Northern Ireland – for example households on low incomes, households with extensive disabilities, lone parent households, households with three or more children and working-age households with no adults in work. The original package of mitigations introduced in 2016 which included the offsets of the 'bedroom tax' and benefit cap, and the (as yet unimplemented) Cost of Work Allowance, was also based on the recommendations of a working group chaired by Professor Eileen Evason which was appointed as part of the Fresh Start Agreement of November 2015, to examine how mitigation measures might be drawn up to counteract the most inequitable aspects of the introduction of social security reforms in Northern. This working group took evidence from stakeholder groups in the Northern Ireland third sector on its proposed mitigation package, addressing point (c) in the list above.

The two mitigation measures which were rolled out in the 2016-20 time period (the offsets of the benefit cap and 'bedroom tax') helped mitigate

the most adverse consequences of welfare reforms for a small number of the most affected households but were too small, in terms of the number of households affected and the overall amount of expenditure on mitigation, to offset more than a small fraction of the infringement of the right to social security caused by the reforms. The expanded mitigations package designed in Chapter 8 goes much further (and is more costly) than the 2016-20 package but does not fully compensate all affected households in the most vulnerable groups. In Chapter 10 below we recommend actions that the UK Government (which sets the levels of most social security payments in Northern Ireland) can take to further address the infringement of the right to social security caused by reforms since 2010.

## 10 Conclusions and policy recommendations

### 10.1 Conclusions

The headline conclusion from this report is that the impact of tax and social security reforms in Northern Ireland has been regressive (at least through deciles 2 to 7 of the income distribution), with poorer households losing a higher proportion of their net incomes on average. While households in the lowest decile experience smaller negative average impacts than the second and third lowest deciles, this result depends crucially on take-up of Universal Credit being higher (overall) than the legacy benefits and tax credits it replaces, as well as transitional protection for claimants who migrate from those legacy benefits and tax credits, which reduces the negative impacts on many claimants who would otherwise lose out. Our modelling also assumes that the roll-out of Universal Credit occurs smoothly and without technical problems, which has often not been the case in practice (Butler 2018b).

The reforms have particularly adverse impacts on households who claim relatively large amounts of social security benefits and tax credits in the baseline scenario. Specifically, there are large negative average impacts on households with children (and especially lone parents and households with three or more children), households with extensive disabilities, and working age households with no adult in work. Women lose out more than men on average, especially in the age groups between 18 and 44.

Looking at specific reforms, the freeze in most working age and family benefits and tax credits (and UC) since 2016 (and the below-inflation uprating for the years before that) and the two-child limit on tax credits, Housing Benefit and UC have particularly large impacts and are especially regressive. Conversely, the replacement of DLA with PIP has a *progressive* impact overall because it has led to increased expenditure on disabled adults compared with a baseline scenario where DLA would still have been in place. This runs counter to the UK Government's stated intention when introducing PIP, which was to reduce expenditure compared to DLA.

The reforms have also led to large increases in the number of households with children below an adequate standard of living (as measured by the relative HBAI poverty line), particularly lone parents and households with three or more children. For the groups who are most adversely affected

by the reforms (particularly low income households, households with large numbers of functional disabilities and households with children) the number of households who lose out from the reforms far outnumbers those who gain.

In chapter 8 of this report we have designed a mitigations package comprising eight separate measures including offsets of the 'bedroom tax' and benefit cap, a Cost of Work Allowance for workers in low-income households, a new Best Start grant for low income households, the offset of the two-child limit on Housing Benefits, tax credits and UC, additional payments for children in low-income families, additional payments for disabled people in low-income households and an increase to Carer's Allowance. This package addresses and offsets some of the most inequitable aspects of the post-2010 social security reforms, particularly those that derive from the particular socio-economic context of Northern Ireland. However, it does not entirely eliminate the regressive impact of all the reforms (and given the overall size of the package in expenditure terms, it would not be possible to fully eliminate the regressive impacts).

## 10.2 Policy recommendations

Our policy recommendations are divided into three sets: recommendations for the Northern Ireland Executive, recommendations for the UK Government and specific recommendations concerning survey datasets in Northern Ireland.

### **Recommendations for the Northern Ireland Executive**

- The Northern Ireland Assembly is currently suspended with no fixed date for its resumption. If and when the Assembly reconvenes, new legislation should be passed as soon as possible for an expanded package of mitigation measures to take effect once the current mitigation package expires in March 2020 (or as soon as possible after that date). The package of mitigations presented in Chapter 8 of this report is a viable template for an expanded mitigation package although, as with the Evason working group in 2015-16, we would suggest that further consultation with affected groups and stakeholders is conducted before a new mitigations package is finalised.

- The new mitigation package should include additional funding for independent advice services for social security benefit claimants (and especially for Universal Credit claimants, where the process of roll-out of UC and migration to UC has caused substantial confusion in many cases). We were unable to model the distributional impact of additional funding for advice services using the modelling framework in this report but that does not mean we do not think such services are important. On the contrary they are a vital component of an effective mitigation package.
- The mitigation package should be funded on an ongoing basis – until such time as the UK Government takes steps to reverse the retrogressive aspects of its post-2010 social security reforms.
- Funding should also be allocated to monitor the effectiveness of the mitigations package on a regular basis. In particular it is important to analyse whether there are any disadvantaged households who do not fall into any of the categories eligible for specific mitigations, and so “fall through the cracks” of the mitigations framework. If such households are identified, it would be useful to redesign and enhance the mitigation package so that it is a more effective safety net measure in future.
- Any underspend in future mitigation schemes should be earmarked for specific anti-poverty initiatives that should be worked out in advance by the Northern Ireland Executive, for example year-round meals for children receiving free school meals, or expanding the Independent Living Fund.
- Equality impact assessments (EIAs) should be performed for the components of the mitigations package, and any other policy reforms undertaken in Northern Ireland which cause its social security policies to diverge from the rest of the UK.

## Recommendations for the UK Government

The UK Government should:

- Consider how to mitigate the large negative impacts outlined within this report and previous research for the other countries in the UK (e.g. Portes and Reed, 2018). We recommend that the UK Government should review the level of social security benefits to ensure that they provide an adequate standard of living for households who rely partially or wholly on transfer payments. This includes establishing and ensuring that all maximum available resources are effectively utilised and ensuring adherence to the principles of non-retrogression.
- Review specific measures which have been shown to be particularly regressive – such as the four-year uprating freeze on most benefits, tax credits and UC rates for working age adults and families from 2016-17 onwards, the two-child limit for Housing Benefit, tax credits and UC, the benefit cap and the 'bedroom tax'. If the consequence of these measures is that households in receipt of social security payments cannot reach an adequate standard of living, then these reforms should be scrapped and payments to the affected households restored to what they would have been had the reforms never taken place.
- Conduct its own comprehensive cumulative impact assessment of tax and social security reforms across the UK.
- Adopt Scotland's approach, wherein it recognises and takes a legislatively grounded rights-based approach to social security reform.
- Conduct an equality impact assessment (EIA) for all fiscal events (Budgets and Spending Reviews), which incorporates a cumulative impact assessment (CIA) of the impact on protected groups, showing how distributional impacts vary across groups. In addition, the EIA should discuss and explain any major disparities in outcomes that adversely impact protected groups.

## **Recommendations concerning changes to Northern Ireland survey data**

We make the following recommendations to improve the quality of data for impact assessments in Northern Ireland:

- The Northern Ireland Executive and/or the UK Government should investigate changes to the FRS and LCF datasets for Northern Ireland to enable a larger sample size for analysis of protected characteristics which could not be included in this report because the sample size was too small – for example ethnicity (and also specific analysis of traveller households).
- The overall sample size of the LCF for Northern Ireland should be boosted as it is currently too small to allow analysis of the distributional impact of indirect taxes by any distributional or breakdown variable, without pooling several years of data. The sample size of the Northern Ireland LCF was already increased in 2016 but a further boost on top of this would still be useful.
- The religious affiliation variable in the FRS and LCF data should be made part of the End User Licence datasets available to researchers. This would be make it possible to analyse the distributional impact of tax and social security reforms by religious community, which is particularly important in the socio-economic and policy context of Northern Ireland.
- The LCF questionnaire should be amended to include a disability question or questions similar to those in the FRS. This would enable the impact of changes to indirect taxes on households to be assessed according to household disability status.

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## Technical Appendix

### Introduction

This Appendix gives details of the Landman Economics Tax-Transfer Model (TTM), which is a microsimulation model of the UK tax-benefit system used to produce most of the results in this report (with the exception of the results in Chapter 5). Section A.1 gives an overview of the model specification. Section A.2 gives details of the methodology used for modelling the replacement of Disability Living Allowance with Personal Independence Payment, while Section A.3 explains the methodologies used for modelling other specific reforms to benefits for disabled people that this report focuses on. Section A.4 discusses the assumptions behind modelling partial take-up of means-tested benefits and tax credits. Section A.5 explains the assumptions made regarding the roll-out of Universal Credit in Northern Ireland, in particular modelling partial roll-out of UC, transitional protection for claimants 'migrating' from legacy benefits to UC, and partial take-up of UC. Section A.6 discusses the assumptions used for producing distributional results from the model at the individual (rather than the benefit unit or household) level.

### A.1 Model overview

The Landman Economics Tax-Transfer Model (TTM) is a micro-simulation model of the UK tax-benefit system. The model was originally developed for the Institute for Public Policy Research in 2008/09 and has been regularly updated since then. Close variants of the model are also used by the Resolution Foundation and the Joseph Rowntree Foundation.

#### **Basic structure**

The TTM uses data from the UK Family Resources Survey (FRS) to analyse the impact of direct taxes, benefits, tax credits and Universal Credit, and data from the UK Living Costs and Food Survey (LCF) to model the impact of indirect taxes.

The model calculates, for each household in the FRS:

- Direct taxes paid by each individual in the household (income tax, National Insurance Contributions) and local taxes paid by the household;
- Benefits, tax credits and/or Universal Credit received by each individual and “benefit unit” (a single person or couple, plus any dependent children, who are assessed jointly for means-tested benefits, tax credits or Universal Credit).

For each household in the LCF, the model calculates indirect taxes (VAT, excise duties on fuel, alcoholic drinks, tobacco, and other expenditure taxes such as Insurance Premium Tax and Air Passenger Duty).

These calculations are performed for a number of different tax-benefit systems using parameters specified by the model user. For example, the model can be used to look at the impact of changes to the rate or band structure of income tax.

The results are summed across all households in the FRS and can be ‘grossed up’ using grossing factors in the FRS data to give aggregate costings of each component of the tax and benefit system using the parameters specified by the user. A similar procedure is used for the LCF data to give aggregate costings of indirect taxes.

### **Variables/outputs**

The information in the FRS allows payments of direct taxes and receipts of benefits, tax credits and/or Universal Credit to be modelled with a reasonable degree of precision for each household in the FRS using either the current tax-benefit system, or an alternative system of the user’s choice. For example, the user can look at what the impact of an increase in the income tax personal allowance would be. Using a ‘base’ system (often the actual current tax-benefit system, although the model can use any system as the base) and one or more ‘reform’ systems, the model can produce the following outputs:

- Aggregate costings of each system (amount received by the Exchequer in direct taxes and National Insurance Contributions, and amount paid out in benefits, tax credits and Universal Credit)
- Distributional impacts of the reform system compared with the base system (e.g. change in incomes in cash terms and as a

percentage of weekly incomes in the base system). The distributional effects can be broken down according to several different variables, for example:

- income decile (ten equally sized groups of households, from poorest to richest according to equivalised household disposable income);
  - household demographics (e.g. single adult or couple, number of children, working/pension age status);
  - economic status (e.g. two earner household/one earner household/workless household);
  - ethnicity of household members;
  - disability status;
  - region of residence.
- Winners and losers from a particular reform or set of reforms
  - Impact of reforms on overall inequality of disposable incomes (e.g. Gini coefficient)
  - Impact of reforms on household and child poverty rates (e.g. number of households below 60% of median equivalised disposable household income).
  - Impact of reforms on marginal deduction rates for working adults.

The analysis of indirect taxes in the FRS enables aggregate costings, distributional impacts and tabulation of winners and losers to be undertaken for indirect tax measures. The LCF contains a similar set of distributional breakdown variables (with the exception of disability measures).

### **Strengths/weaknesses of the model**

The model has the following strengths:

- It uses the most up-to-date microdata from the FRS and LCF (currently the 2017-18 data for both datasets, although the analysis in this report pools five years of FRS data and eight years of LCF data to enable a larger sample size for the distributional analyses).
- Detailed and accurate modelling of the current tax, benefit, tax credit and Universal Credit systems in England, Wales, Scotland and Northern Ireland (including specific differences between the tax and benefit systems of the four countries which have arisen as a result of devolution).



- It allows for partial take-up of means-tested benefits, tax credits and Universal Credit.

The base data from the FRS and LCF used as inputs to the model can be adjusted to simulate changes in the UK economy (for example, increased or decreased wages, higher or lower employment rates, changes to childcare costs and so on).

The main weaknesses of the model are:

- It is a static model and does not attempt to model the dynamic effects of policies (e.g. the impact of changes to work incentives on labour supply)
- Because the FRS does not include local authority indicators we are unable to look in detail at the impact of changes to benefits at the local level (e.g. Housing Benefit and Council Tax Support)

### **Examples of policy questions it is used for**

The type of policy questions this model is used for include the following:

- Estimating the distributional impact of reforms to the tax and benefit system (for example, increases in the income tax personal allowance, various cuts to benefits and tax credits since 2010, the introduction of Universal Credit, increases in VAT or excise duties etc.) by income group, household or family type, and a range of other characteristics (e.g. ethnicity, disability status, gender etc.)
- Looking at the number of winners and losers from tax and benefit reforms
- Forecasting trends in child poverty and inequality and how they might be affected by changes in tax and benefit policies
- Costing reforms to tax or benefit policies.

## **A.2 Modelling the replacement of Disability Living Allowance by Personal Independence Payment for working age adults**

Personal Independence Payment (PIP) was introduced for new claimants in 2013 in England, Scotland and Wales, and in 2016 in Northern Ireland, replacing Disability Living Allowance (DLA) for working-age adults. Following the introduction of PIP for new claimants, existing claimants of working-age DLA are gradually being reassessed for PIP, a process that is expected to be complete by 2020 in Northern Ireland. While new claimants of PIP are recorded as claiming PIP in the FRS data, and can be modelled with a high degree of accuracy, accurate modelling of the reassessment of DLA claimants for PIP presents far greater challenges. The main difficulty is that the FRS data do not contain sufficiently detailed information on disability for the reassessment process for the remaining stock of DLA claimants in the FRS data to be modelled with full accuracy. This is true even though the data contain more information on disability status since the 2012–13 FRS survey than it did before this date (for example, data on specific functional disabilities). Therefore, an econometric algorithm is necessary to simulate the impacts of the PIP assessment process for DLA claimants.

Earlier published distributional analyses using the TTM (for example, Reed and Portes, 2014) used a basic reassignment algorithm based on analysis of a 2012 DWP working paper (DWP, 2012) which reported the results of a simulated reassessment from DLA to PIP for a sub-sample of DLA claimants. This algorithm allocated claimants to a particular combination of PIP Daily Living and Mobility eligibility (or ineligibility) based on the level of their current DLA Care and Mobility eligibility. The methodology was fairly crude and, although the approach achieved the target of reducing overall modelled expenditure on DLA compared with PIP by around 20% (the UK Government's original forecast for reduced spending on PIP compared with DLA (OBR, 2016: 91)), the distributional pattern of reductions for individual claimants (which claimants actually received a reduced entitlement to PIP compared with DLA) was based on informed guesswork at best.

Previous analyses of DLA-PIP reassessment using the TTM were unable to use data on the actual distribution and extent of PIP claims compared

with DLA claims because the FRS did not actually record any claims of PIP until the 2013-14 survey (since PIP was only introduced in April 2013). In this report, we are helped by the fact that five years of FRS data (2013-14 through 2016-17 inclusive) now contain a sample of PIP claimants as well as 'legacy' working-age DLA claimants (although the sample of PIP claimants for 2013-14 is very small). The TTM is therefore now able to use a more sophisticated algorithm to predict the level of receipt of PIP Daily Living component and PIP Mobility component for individuals in the FRS data still in receipt of DLA Care and/or Mobility components. The details of this algorithm are described below. This method for modelling DLA-PIP reassessment was first used by Portes and Reed (2018) in research for the Equality and Human Rights Commission.

### **The DLA-PIP reassessment algorithm**

The algorithm operates by using four regressions for receipt of the components of DLA and PIP:

- 1) DLA Care component
- 2) DLA Mobility component
- 3) PIP Daily Living component
- 4) PIP Mobility component.

In each of these regressions, receipt of the benefit component is regressed against the following variables:

- Disability dummies (core FRS group; wider FRS group; 10 different functional disabilities)
- Age group (18–24; 25–34; 35–44; 45–54; 55–64)
- Ethnicity (aggregated FRS definition)
- Female dummy
- Employment dummy
- Receipt of the 'other' component of the relevant benefit (that is, DLA Mobility in regression 1; DLA Care in regression 2; PIP Mobility in regression 3; PIP Daily Living in regression 4).

The sample for each regression is all working-age adults in the pooled FRS 2014–15, 2015-16 2016-17 and 2017-18 samples (the FRS 2013–14 sample is not used because the sample of PIP claimants is too small.) The regressions are ordered probit regressions with the outcome variables corresponding to the levels of receipt of each of the four benefits (three

levels (High; Middle; Low) plus no receipt for DLA Care; two levels (High; Low) plus no receipt for DLA Mobility and both PIP components).

Each regression produces a set of coefficients relating receipt of each of the four benefit components 1) to 4) above to a common set of variables. To predict receipt of PIP for DLA claimants in the FRS, the coefficients for Regression 3) PIP Daily Living are applied to DLA Care recipients, and the coefficients for Regression 4) PIP Mobility are applied to DLA Mobility recipients.

This gives a predicted level of receipt of PIP Daily Living component for each DLA Care recipient and a predicted level of receipt of PIP Mobility component for each DLA Mobility recipient. A randomly distributed error term is added to each prediction to simulate the distribution of reassessment outcomes for DLA Care and Mobility recipients.

The predicted distribution of recipients (and levels of receipt) is then adjusted so that the total grossed up forecast spending on PIP for the reassessed DLA recipients in the FRS matches the OBR's current projection of a 15% increase in overall spending as closely as possible (OBR, 2019).

### **Limitations**

This algorithm has the drawback that the sub-sample of PIP claimants in the FRS dataset is not a random sample of disability benefit claimants; rather, it is a mixture of new claimants (since 2013) and reassessed claimants from the DLA caseload. Conversely, the sub-sample of DLA claimants in the FRS dataset is a 'legacy' stock of claimants and there is no reason to expect the two sub-samples to be similar in terms of individual characteristics (age, type and severity of disability, and so on). To some extent, the regression approach used in regressions 1) to 4) above should control for differences in the sub-samples, but this is not certain. However, the algorithm presented here offers the best option using the current information in the FRS dataset. To model the transition from DLA to PIP more accurately than this, we would need data on the actual reassessment of DLA claimants for PIP (which is not contained in the FRS data).

PIP was introduced for new adult claimants in April 2013, and soon afterwards a process of transferring the existing working-age DLA

caseload to PIP began (this was originally scheduled to be complete by 2017, but is still ongoing). The TTM uses an algorithm to simulate eligibility for PIP for DLA claimants in the FRS data, and also a reverse algorithm to simulate eligibility for DLA for PIP claimants in the FRS data. This enables us to estimate total PIP payments under a situation in which everyone in the FRS data who is currently on DLA will have been reassessed for PIP (and conversely, a baseline scenario where DLA was maintained for all claimants and PIP was never introduced).

### **A.3 Modelling partial take-up of means-tested benefits and tax credits**

#### **The take-up algorithm**

Before 2018, all research conducted using the TTM assumed full take-up of means-tested benefits, tax credits and UC. For the analysis of the impact of tax and welfare reforms for the EHRC (Portes and Reed 2018), a partial take-up algorithm was developed for the tax–benefit model. This algorithm is used (with further refinements) in the current report.

For a range of means-tested benefits (Housing Benefit, Income Support, income-based Employment and Support Allowance, income-based Jobseeker’s Allowance, and Pension Credit) and for tax credits, the algorithm operates as follows:

- First, actual benefit or tax credit receipt is compared with modelled receipt of the benefit or tax credit.
- Second, the benefit unit is assigned to a quadrant based on the decision matrix in Table A.1 below, and action is taken (or not taken) based on the assignment.

**Table A.1 Decision matrix for partial take-up algorithm: actual receipt versus modelled receipt**

Benefit unit status:	Modelled as receiving benefit/tax credit	Not modelled as receiving benefit/tax credit
Actually receiving benefit/tax credit	Award benefit	Don't award benefit
Not actually receiving benefit/tax credit	Award benefit based on take-up algorithm	Don't award benefit

The next course of action for each benefit unit depends on which box of the decision matrix the benefit unit is assigned to, based on a comparison of actual and modelled receipt. Four options are possible:

- 1) If the benefit unit is **actually receiving** the benefit (or tax credit) and is also **modelled as receiving** the benefit in the TTM, the benefit is paid.
- 2) If the benefit unit is **not receiving** the benefit and is **modelled as not receiving** the benefit, the benefit is not paid.
- 3) If the benefit unit is **actually receiving** the benefit but is **modelled as not receiving** the benefit, the benefit is not paid.
- 4) If the benefit unit is **not actually receiving** the benefit but is **modelled as receiving** the benefit, the partial take-up algorithm is applied.

The remaining explanation in this section relates to option (4) – benefit units who are modelled as receiving a benefit (or tax credit) but do not actually receive that benefit or tax credit.

The partial take-up algorithm for each benefit works as described below.

For benefit units who are modelled as receiving a benefit or tax credit, a take-up regression is estimated. The regression is a probit regression with the dependent variable being actual take-up of the benefit or tax credit in question, and the regressor variables are:

- Ethnicity
- Disability (FRS core group; wider group)

- Family demographic status (couple with children; couple without children; lone parent; single person with no children)
- Region
- Employment
- Housing tenure type (social tenant; private tenant; owner-occupier).<sup>14</sup>

The predictions from this regression (plus a random error term for each benefit unit) are used to create a ranking (from 0 to 100) that is used to calibrate take-up of each benefit and tax credit in the FRS so that the grossed-up percentage of benefit units claiming each benefit in the model matches published DWP and HMRC statistics.

Table A.4 compares estimated take-up rates from the pooled FRS data in the TTM (calculated as number of benefit units actually taking up each benefit, divided by number of benefit units modelled as receiving each benefit) with published take-up statistics from DWP (2017) and HMRC (2017) (calculated in the same way, but using administrative data combined with FRS-based modelling). The table shows that estimates from the TTM for take-up proportions of each featured benefit and tax credit, are below DWP and HMRC’s published statistics. This means that the estimated take-up rate in the FRS data needs to be adjusted upwards in the TTM so that estimated take-up matches published take-up rates. For example, our ‘raw’ estimate of take-up in the TTM is 42%; this needs to be adjusted upwards by 20 percentage points to match DWP’s Pension Credit take-up statistics.

**Table A.2. Comparison of estimated take-up rates for FRS data in tax-transfer model with published take-up statistics from DWP and HMRC, by caseload**

<b>Benefit/tax credit</b>	<b>TTM estimate (%)</b>	<b>DWP or HMRC estimate (%)</b>	<b>Difference, DWP/HMRC minus TTM</b>
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<sup>14</sup> The take-up regression for Housing Benefit does not include an owner-occupier dummy variable because Housing Benefit can only be claimed by tenants.

			<b>(percentage points)</b>
Pension Credit	42	62	20
JSA	46	50	4
IS/ESA	65	82	17
Working Tax Credit	48	68	20
Child Tax Credit	75	87	12

Source: take-up algorithm in tax-transfer model compared to take-up statistics in DWP (2017) and HMRC (2017).

Using the prediction ranking from the take-up regressions (as explained above), the simulated take-up rate for each benefit or tax credit in the TTM can be adjusted to match any percentage total between 0% and 100%. The parameter files provide the flexibility to do this separately for each of the benefits and tax credits in Table A.4. In the simulations presented within this report, we assume that the take-up rates for each benefit and tax credit match DWP and HMRC’s latest published statistics.

The specific assumptions for roll-out of Universal Credit are explained in more detail in Section A.4 below.

## **A.4 Modelling the roll-out of Universal Credit**

### **Speed of roll-out**

Universal Credit began to be rolled out for new claimants in 2017 in Northern Ireland (the roll-out in the rest of the UK started much earlier, in 2013, but was initially limited to a few pilot areas). The UK Government’s original plan for Universal Credit (UC) was that recipients of “legacy” benefits and tax credits (Income Support, Jobseeker’s Allowance, Employment and Support Allowance, Housing Benefit, Child Tax Credit and Working Tax Credit) would be moved onto UC by 2017, but this timetable has been delayed several times. At the time of writing (October 2019) UC was expected to be fully rolled out by 2023. Because this report estimates the distributional effect of social security reforms by 2021-22 –



before UC roll-out is expected to be complete – we need to make an assumption about how much of the legacy benefit and tax credit caseload will be complete by April 2022. Our working assumption is that **75%** of the legacy caseload in Northern Ireland will have migrated to UC by this date.

## **Modelling transitional protection for Universal Credit claimants**

### **The rules governing transitional protection**

Claimants of legacy benefits or tax credits who are 'migrated' on to UC (a process whereby their claim for legacy benefits is replaced by a UC claim) are entitled to *transitional protection* in particular circumstances – a process where, if their UC claim is worth less (in monthly terms) than their legacy benefit claim, they receive the cash value of the legacy benefit claim instead.

As detailed by Tucker (2018), transitional protection only applies in certain circumstances. In particular, the draft legislation (DWP, 2018) setting out how transitional protection will work specifies the following exclusions:

- Families living in temporary accommodation or supported housing (such as a refuge) are not eligible.
- Families affected by the benefit cap are not eligible.
- Transitional protection is only available to people who complete their UC claim successfully on their first attempt and before the deadline – if you make a mistake in your first claim and have to start again, or miss your deadline even by a few days, you won't qualify even if you successfully claim UC later. Currently 1 in 5 claims to UC fails because of difficulties people face with the application process, meaning hundreds of thousands are likely to lose out.
- Changes in circumstances can also lead to the loss of transitional protection. For example, if a couple moves in together or separates, if someone loses their job and doesn't get another one within three months, or if someone earns enough to move off UC and then reclaims after three months or more, they will lose transitional protection completely.

The Government announced some changes to the transitional protection system to make it more generous in some circumstances in June 2018 (and confirmed in the October 2018 Budget), in particular:

1. The Government announced backdated and ongoing transitional protection payments for Universal Credit claimants who had already naturally migrated from legacy benefits and would still be eligible for the **Severe Disability Premium**. This pre-empted a High Court decision on 14<sup>th</sup> June that ruled that two claimants in this situation had been discriminated against.
2. In their amendments to the UC managed migration regulations the Government proposed that transitional protection will not be eroded in the event that an overall UC award goes up as a result of an **increase in childcare costs**. (This will incentivise unemployed parents to work and underemployed parents to increase their hours.) – effective July 2019.
3. In their amendments to the UC managed migration regulations the Government proposed that transitional protection will be retained in the event that a **UC claim ends as a result of an increase in earnings** provided that a reclaim is made within three months. (This will protect people in insecure work and those paid every four weeks who will - at some point over a 12-month period - receive a double wage payment in a single assessment period.)

The change to the rules for Severe Disability Premium claimants is particularly important here, and is taken into account in the way we model transitional protection.

A further change to Universal Credit rules was announced in the 2018 Budget relating to the maximum rate at which debts can be repaid from Universal Credit awards, which was reduced from 40% to 30% of the standard allowance (HMT 2018, p77). This change is not modelled in the TTM as the model is static and unable to model repayment of previous debts arising from overpayment of UC or for other reasons.

### **Implementing transitional protection in the TTM**

Precise entitlement to transitional protection cannot be accurately modelled for each specific household due to insufficient information in the Northern Ireland FRS. Instead, an algorithm is used to assign a

probability of receiving transitional protection to each UC claimant benefit unit given their particular circumstances and characteristics. The algorithm works in 7 steps, as follows:

**Step 1:** for benefit units claiming tax credits, 70 per cent of the sample are assumed to qualify for transitional protection, with the rest not qualifying.

**Step 2:** for benefit units claiming legacy benefits (HB, IS, JSA or ESA), the 'duration of benefit claim' variables in FRS are used to identify units who have a length of claim of 2 years or greater for at least one of these benefits. These benefit units are assumed to be eligible for transitional protection. The rest of the claimants are assumed to be 'new claims' who do not qualify.

**Step 3.** Benefit units who are claiming both tax credits and legacy benefits can qualify for transitional protection via either of Steps 1 and 2.

**Step 4.** For benefit units containing at least one person eligible for the Severe Disability Premium of tax credits or legacy benefits, the qualifying conditions for transitional protection are less stringent; 85 per cent of the sample in Step 1 and a minimum claim of 1 year in Step 2.

**Step 5.** For claimants who are not eligible for transitional protection, we assume that these are 'new' claimants who receive their entitlement under UC (with no transitional protection).

**Step 6.** For claimants who are eligible for transitional protection, we assume that 30 per cent of these claimants are not yet migrated onto UC (and so they receive their legacy benefit entitlement).

**Step 7.** The remaining 70 per cent of claimants who are migrated on to UC receive whichever is higher out of the following:

- (a) their old legacy entitlement to benefits and/or tax credits (downrated by one year's CPI inflation);
- (b) their UC entitlement.

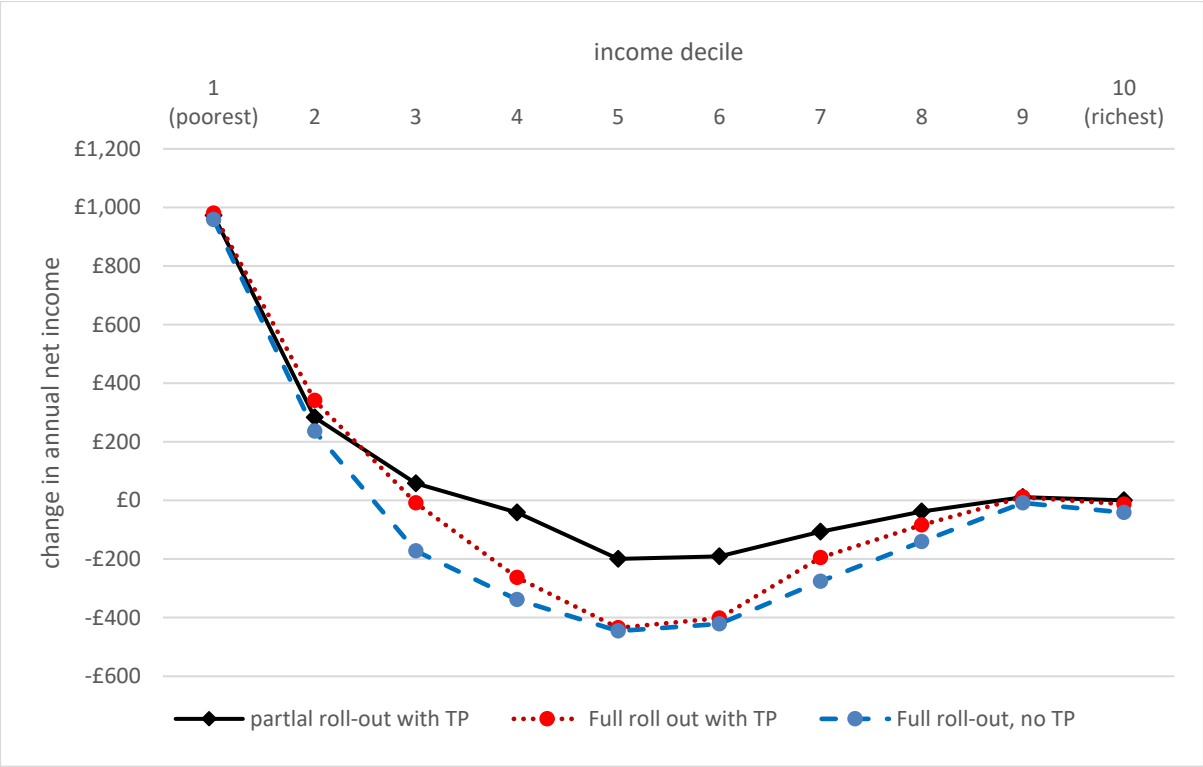
### **The distributional impact of partial roll-out with transitional protection compared to full roll-out without transitional protection for Universal Credit claimants in Northern Ireland**

Figure A.1 below shows the distributional impact of Universal Credit in Northern Ireland under three different assumptions:

- i) Partial roll-out of UC with transitional protection (the default assumption used in this report (black solid line));
- ii) Full roll-out of UC with transitional protection (red dotted line);
- iii) Full roll-out of UC without transitional protection (blue dashed line).

Figure A.1 shows that assuming 100% roll-out of UC in Northern Ireland (compared to our default assumption of 75%), with transitional protection (TP) in place, leads to average gains in the lowest two deciles (due to the assumption of increased take-up of UC compared with legacy benefits) and losses elsewhere, particularly in deciles 5 and 6 of the household income distribution. If no TP is assumed, there are higher average losses in deciles 2, 3 and 4 and decile 7 and 8 in particular. In the other deciles the average impacts are minimal. The biggest gains from TP are in decile 3 where households are around £150 per year better off on average as a result of TP. It should be noted however that the positive impact of TP will decrease over time for two reasons: first because the amount of protection is fixed in nominal terms whereas UC is set to be updated (after 2020) by CPI inflation, and second, because if the circumstances of claimants change, in most cases they lose entitlement to TP. Thus, the blue dashed line in Figure A.1 is a good approximation to the long-run distributional impact of Universal Credit in Northern Ireland.

**Figure A.1. Distributional impact of transitional protection and full roll-out of Universal Credit compared to partial roll-out, Northern Ireland, 2021-22**



Source: Landman Economics analysis using Tax-Transfer model and pooled FRS data, 2013-14 through 2016-17.

**Take-up assumptions for Universal Credit**

Compared to the legacy benefits and tax credits considered in Section A.4 above, UC presents an additional problem because there are, as yet, no official statistics from DWP on the UC take-up rate. However, it is generally assumed that the take-up rate for UC will be higher than the take-up rate for the benefits and tax credits it replaces, for one specific reason: there are currently many benefit units who are eligible for more than one of the benefits or tax credits that are being replaced by UC, but who do not claim the whole package of benefits. For example, there are benefit units eligible for tax credits and Housing Benefit which claim only one or the other. UC is a single payment replacing several different benefits, which means that, when a claim is processed, it is equivalent to the benefit unit applying for all the ‘legacy’ benefits and tax credits. This should result in a boost in take-up rates.

To estimate the extent to which UC might be expected to boost take-up rates (all else being equal) we used the TTM to calculate the number of

benefit units who claimed any of the benefits being replaced by UC (Income Support, income-based JSA, income-based ESA, Housing Benefit, Working Tax Credit and Child Tax Credit) as a proportion of the number of benefit units modelled as eligible to receive any of those benefits in the TTM. The calculation (adjusted for the gap between TTM estimates of take-up rates for the individual benefits and DWP/HMRC estimates) was a UC take-up rate of 80%. This is a relatively high take-up rate compared with the DWP/HMRC estimates for most of the individual benefits and tax credits. However, we adjust this assumption slightly downwards, by 5 percentage points, to take account of recent evidence from UC sanctions statistics that the sanction rate for claimants of UC is substantially higher than the average sanctions rate for the benefits and tax credits it replaces (Webster, 2017). Thus, **75% is our headline take-up rate assumption for Universal Credit in the reform scenario.**

## A.5 Individual-level distributional analysis

Analysing distributional impacts by family unit within households is relatively straightforward, but analysing impacts by individuals involves a far greater number of assumptions for couples. This is because it is necessary to make assumptions about how income is allocated within couples. The analysis in this chapter uses the following rules (similar to the assumptions used in Section 5.2 of Reed and Portes, 2014) for the allocation of income within couples:

- Gross incomes (earnings, income from self-employment, investment income, private pension incomes and incomes from other non-state sources such as property income) are allocated to individuals in the Family Resources Survey (FRS) data. This is relatively straightforward: the source of each of these incomes is specified in the FRS data.
- Direct taxes on income (income taxes and National Insurance Contributions (NICs)) are allocated to individuals in the FRS data. This is also straightforward: the tax and National Insurance systems operate at an individual rather than joint basis, and the FRS contains information on individual taxes and NICs.
- Benefits and tax credits received by couples (with the exception of the State Pension) are allocated according to which adult

records receipt of the benefit in the FRS data. If neither adult in a couple records receipt in the data (which occurs when a couple is assessed as eligible for a means-tested benefit or tax credit but no actual receipt is recorded in the data), the benefit or tax credit is split 50/50 between the couple. If both members of a couple report separate receipt of a benefit (which occurs with certain benefits such as Disability Living Allowance (DLA) or Personal Independence Payment (PIP)), the benefit is allocated to each person in the couple in proportion to the amount received in the FRS data.

- If the FRS data specifically indicate that State Pension is being received on behalf of a couple (that is, with a dependant addition), the pension amount is shared equally between the couple. If two adults in a couple are receiving separate amounts of State Pension in their own right, the pension is allocated separately to each partner as specified in the data.
- For most couples modelled as being in receipt of Universal Credit (UC) in the reform scenario, no individual is recorded as receiving UC in the data. This is because UC had not been rolled out to the vast majority of households in the pooled Northern Ireland FRS data (even in the 2017-18 data, only 1 UC case in payment is recorded out of 1,660 benefit units). Our default assumption for households assessed as eligible for UC, but where no actual receipt is recorded in the data, therefore becomes highly significant. The default assumption, as with other means-tested benefits and tax credits above, is a **50/50 split** between both partners. However, we also model two other scenarios:
  - i) that UC is paid to the primary earner. The “primary earner” in this case is the member of the couple with the highest weekly earnings; in the 2017-18 FRS, around three quarters of primary earners in couples are men (partly because men have higher hourly earnings than women on average, and partly because women are more likely to work part-time than men, particularly in couples with children).
  - ii) that UC is paid to the primary carer – this is the member of the couple with the lowest weekly hours of work (if both

members of the couple have the same number of weekly hours of work then the payment is split 50/50 between both partners).