

Analysis of Options for the Income Supplement



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Executive Summary

This paper sets out the analysis undertaken to inform the development of the income supplement policy.

One of the flagship commitments in the Scottish Government's Tackling Child Poverty Delivery Plan for 2018-22 was that the Scottish Government should work towards introducing an income supplement that delivers regular, additional financial help for low income families. The Delivery Plan commitment was that further work on developing this policy should be guided by the following tests:

- i. The income supplement is targeted at families who need it most, helping to lift the maximum number of children out of poverty.
- ii. There is a robust and viable delivery route to get the additional income to those families.

We followed a systematic approach in developing and assessing policy options to satisfy the first test. The approach taken was also guided by the **first two of three objectives** that have subsequently been set for this policy. The objectives specify that the income supplement should:

- achieve a reduction in relative child poverty (after housing costs) of **3 percentage points** when the income supplement is fully rolled out;
- reduce the **depth of poverty** and provide support to those who need it most;
- ensure a **sustainable and lasting** reduction in poverty for families with children.

When developing the options we considered what the target population of the income supplement should be, whether it should be a benefit based on existing qualifying benefits or a benefit with its own means test and finally whether it would be paid automatically or require an application.

As a result, a list of **five policy options** was generated:

1. **Child Benefit** based entitlement (£10 a week per child)
2. **Universal Credit** based entitlement (£10 a week per child)
3. **Universal Credit** based entitlement with targeted groups (£10 a week per child)
4. Entitlement based on **a means test** (£10 a week per child)
5. **Council Tax Reduction** based entitlement (£45 a week per child)

Option 1 is targeted at almost all children, whilst Options 2, 3, 4 and 5 are targeted at children in low-income families. Options 1, 2, 3 and 5 are based on existing qualifying benefits whereas Option 4 is based on a separate means test.

All options have been modelled on the basis of both automation and application (although for Option 4 automation is for comparison purposes only and is better interpreted as an application-based option with full take-up). They have been calibrated to meet the first policy objective, and the required weekly payments, policy cost and distributional impacts have been compared. We expect that given reasonable assumptions about take-up, in line with that of reserved benefits, the impacts on child poverty could be similar for automation and application-based approaches.

Options 2, 3 and 4 were found to have similar costs (between £200 million and £250 million a year) and to strike a balance between how many children in poverty they could reach (coverage) and how many of all children receiving the payment could be expected to be in poverty (targeting).

Option 1 was estimated to require higher policy expenditure (between £420 million and £460 million a year) with better coverage of children in poverty but reduced targeting. Option 5 was estimated to have a policy cost between £290 million and £330 million a year, with the lowest coverage but highest level of targeting.

Finally, all options were compared against additional criteria to ensure that other aspects important for policy success were considered when developing the income supplement. These criteria and a summary of our assessment against each is provided below.

- **Simplicity and Transparency** – how straightforward and transparent the option is for families

Options 1 and 2 in particular should be relatively easy to understand as they attach eligibility to an existing benefit. Option 3 is slightly more complex, as entitlements differ depending on household characteristics. Option 4 would be the most complex of all, as it introduces a new income-based test rather than being linked to existing support. With Option 5, households may not associate Council Tax Reduction with child-related support which could impact on transparency. For all options, an automatic payment would be more straightforward from the families' perspective, however, could be perceived as being less transparent if not all eligible families are aware of the policy.

- **Consistency and Take-up** – how likely the option is to ensure a consistent impact across all eligible population and secure high take-up

Option 5 could be problematic in terms of consistency because eligibility would vary across local authorities and Council Tax property bands that could also have an impact on take-up. To achieve consistency, Options 2 and 3 would require either full UC rollout or implementation of a temporary solution to allow families on legacy benefits to be reached. If an application process is adopted, Child Benefit based entitlement could result in higher take-up for Option 1 compared to other options, although take-up is also relatively high for Child Tax Credit (for which eligibility is more comparable to Options 2, 3 and 4), especially for households with the lowest incomes. Automated payments would, by definition, result in full take-up of the income supplement, although non-take-up of the qualifying benefits would remain an issue.

- **Employment and Earnings** – what is the potential impact of each option on claimants' decision to work and/or increase their earnings.

Estimated at £45 a week, Option 5 is likely to require a much higher payment per child to achieve the desired poverty impacts, compared to £10 a week for all other options. A payment of this level, especially without an appropriate gradual withdrawal mechanism (tapering), could distort work incentives for some households. Although some differences may be expected between Option 1 and Options 2, 3 and 4 because of the income levels at which eligibility would end, it is much less clear that there would be significant impacts for the payment amounts involved.

The analysis presented was used to shape the direction of the income supplement policy, in conjunction with other evidence.

1. Introduction

This paper sets out the analytical evidence used to inform the income supplement policy to help tackle child poverty in Scotland. It includes modelling of policy options, as well as an additional assessment of some of the other aspects that can be considered when making policy choices.

The Child Poverty (Scotland) Act 2017 places a duty on Scottish Ministers to ensure that interim and final child poverty targets are met by 2023 and 2030 respectively to reduce the number of children who live in poverty.¹

In March 2018, the Scottish Government published the Tackling Child Poverty Delivery Plan (TCPDP) for 2018-22 that set out new policies and proposals to make progress towards these targets.² One of the flagship commitments in the TCPDP was that the Scottish Government should work towards introducing an income supplement for low income families.

The TCPDP recognises that child poverty is a multifaceted issue and that reductions in child poverty can be achieved by focusing on three main drivers:

- increasing income from work and earnings
- reducing household costs
- maximising income from social security and benefits in kind

The Poverty and Inequality Commission in their advice on the TCPDP warn that “*reaching the targets through use of devolved social security powers alone is not realistic and would require billions of pounds of additional spending*”.³ Therefore, while an income supplement for low income families would contribute towards meeting the child poverty targets, a suite of other policies and programmes targeting the other main drivers would also be needed.

As advised by the Poverty and Inequality Commission, the TCPDP states that work on developing an income supplement should be guided by the following tests:

- i. The income supplement is targeted on families who need it most, helping to lift the maximum number of children out of poverty;
- ii. There is a robust and viable delivery route to get the additional income to those families.

Analysis provided in this paper aims to help assess the options against the first test and provide additional evidence for the direction of the policy. The rationale for the choices made in relation to the income supplement is set out in the policy position paper,⁴ which also discusses the delivery route considerations required to satisfy the second test.

Section 2 of this report provides the necessary context for the analysis, covering the child poverty targets and the most up-to-date statistics on families with children in poverty. Section 3 sets out factual information on devolved and reserved powers of social security. Section 4 outlines the policy objectives and the process of generating the options. Section 5 presents and compares the policy modelling results, whilst Section 6 provides a discussion of additional considerations relevant to the policy decision. Section 7 provides concluding remarks.

1 Child Poverty (Scotland) Act 2017, [Child Poverty Targets](#)

2 Scottish Government (March 2018), [Tackling Child Poverty Delivery Plan: 2018-2022](#)

3 Poverty and Inequality Commission (2018), [Advice on the Scottish Government's Child Poverty Delivery Plan 2018](#)

4 Scottish Government (June 2019), [Scottish Child Payment Position Paper](#)

2. Child Poverty in Context

2.1 Poverty Measures

The Child Poverty (Scotland) Act 2017 targets are based on four measures of child poverty that relate to different aspects of poverty. These are: relative child poverty; absolute child poverty; combined low income and child material deprivation; and persistent child poverty. These can be measured both before and after the housing costs of the household have been accounted for although the targets are based on after housing costs measures.

In addition, a measure reporting severe child poverty is published annually. Although severe poverty is not a target in the Act, it is nevertheless helpful to consider any impacts on those children living in deeper poverty. Box 1 sets out a brief definition of the different measures of poverty.

Box 1: Definitions of poverty measures	
Measure	Definition
Relative child poverty	Children living in households with equivalised net income ⁵ less than 60% of the UK median income. Relative child poverty is a measure of whether the income of the poorest families are keeping pace with middle income families across the UK.
Absolute child poverty	Children living in households with equivalised net income less than 60% of the UK median income in 2010-11 (adjusted for inflation). Absolute child poverty is a measure of whether the incomes of the poorest families are keeping pace with inflation.
Children in combined low income and material deprivation	Children in households with equivalised net income less than 70% of the UK median and who cannot afford basic goods and activities that are seen as necessities in society. This is an additional way of measuring living standards.
Persistent child poverty	Children in households who have been in relative poverty for three or more of the last four years. This is an indicator of whether children live for a long time in poverty as opposed to experiencing brief spells of poverty.
Severe child poverty	Children in households with equivalised net incomes less than 50% of the UK median income. It is an indicator of the depth of poverty.

⁵ Equivalised income is income adjusted to take into account the size and composition of the household, reflecting the notion that in order to enjoy a comparable standard of living a larger household would require a higher income than a smaller one. Income is net of: income tax payments; National Insurance contributions; contributions to occupational, stakeholder and personal pension schemes; council tax; maintenance and child support payments made; and parental contributions to students living away from home.

2.2 Child Poverty Rates

Based on the latest poverty statistics,⁶ in 2017/18, 240,000 children lived in relative poverty after housing costs (AHC), a rate of 24%. This is the highest rate of relative poverty across population groups, with relative poverty rate for working-age adults and pensioners at 19% and 15% respectively. Table 1 presents the most recent rates of child poverty across all measures.

TABLE 1: CHILD POVERTY RATES – LATEST ESTIMATES

	Relative poverty AHC (2017/18)	Absolute Poverty AHC (2017/2018)	Combined low income and material deprivation (2017/18)	Persistent poverty AHC (between 2013 and 2017)⁷	Severe poverty AHC (2015/16- 2017/18)
Rate	24%	22%	14%	17%	17%
Numbers	240,000	220,000	140,000		160,000

Some families are at a higher risk of poverty. The TCPDP identified 6 'priority families' that are at high risk of poverty.

- Lone parents
- Families with a disabled adult or child
- Larger families (3+ children)
- Minority ethnic families
- Youngest child aged <1
- Mother aged <25

These families are often faced with greater barriers to enter work or increase hours due to care responsibilities, lack of flexible working or supported employment, lack of affordable childcare and increased costs of living. The most recent rates of poverty for children living in families with high risk factors of poverty are shown in table 2.

TABLE 2: FAMILIES MOST AT RISK OF POVERTY

2015/16- 2017/18	Lone parents	Disabled adult or child	Larger families	Minority ethnic families	Youngest child aged <1	Mother aged <25
Relative poverty	41%	31%	32%	40%	32%	56%
Severe poverty	26%	21%	23%	32%	24%	41%

6 Scottish Government (March 2019), [Poverty and income inequality in Scotland: 2015-2018](#)

7 Scottish Government (March 2019), [Experimental Statistics – Persistent poverty in Scotland: 2010-2017](#)

2.3 Child Poverty Targets

A summary of the Child Poverty (Scotland) Act’s interim and final child poverty targets, alongside the latest estimates of child poverty in Scotland, are provided in table 3. Looking at the headline figure of relative child poverty, the interim target requires the current rate of 24% to be reduced to 18% by 2023/24 and 10% by 2030/31.

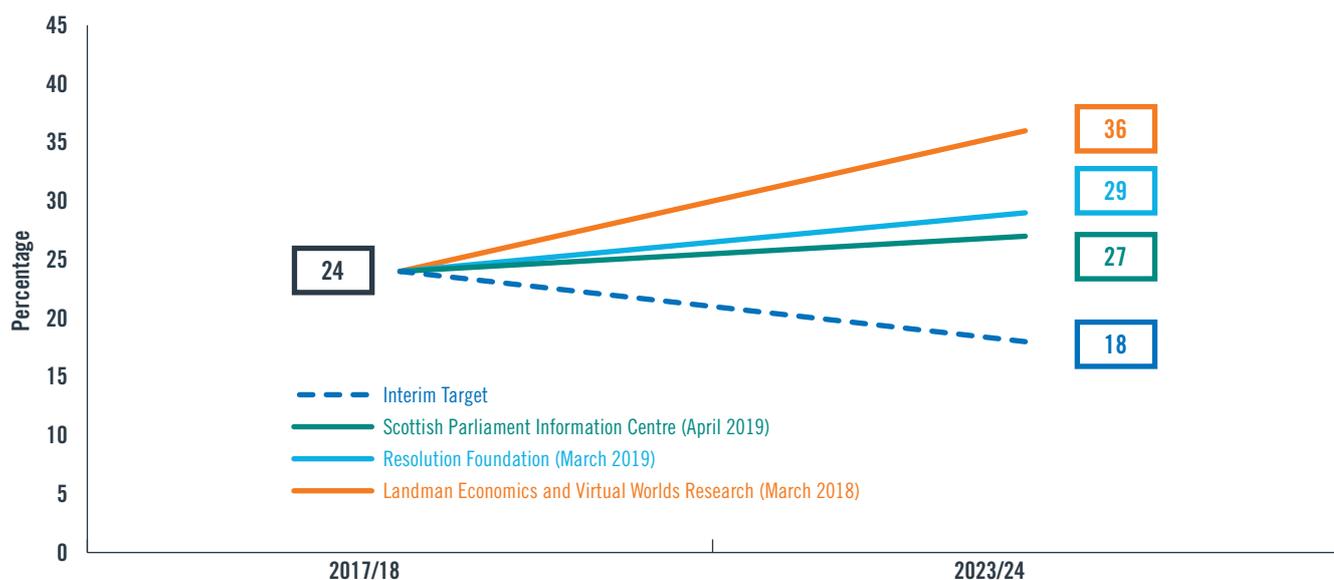
TABLE 3: CHILD POVERTY INTERIM AND FINAL TARGETS

Poverty measure	Latest estimate	Interim target 2023/24	Final target 2030/31
Relative poverty AHC	24%	18%	10%
Absolute poverty AHC	22%	14%	5%
Combined low income and material deprivation AHC	14%	8%	5%
Persistent poverty AHC	17%	8%	5%

A number of child poverty forecasts have been produced over the past couple of years which vary depending on the baseline data, assumptions and approach to modelling. The more recent forecasts from Resolution Foundation⁸ and the Scottish Parliament Information Centre⁹ benefitted from using the most recent survey data while the Landman Economics¹⁰ estimates are slightly older and include years of data where relative poverty was found to be particularly high compared to the longer term trend.

As a result, as figure 1 shows, there is a degree of uncertainty about the rate of increase in child poverty, but all of the projections show that there will be a rising trend in child poverty in the coming years which is largely attributed to the UK welfare reform.

FIGURE 1: RELATIVE CHILD POVERTY RATE AHC 2023/24 – INDEPENDENT PROJECTIONS



8 Resolution Foundation (March 2019), [Wrong direction - Can Scotland hit its child poverty targets?](#)

9 Scottish Parliament Information Centre (April 2019), [Child poverty in Scotland: forecasting the impact of policy options](#)

10 Scottish Government (March 2018), [Tackling child poverty delivery plan: forecasting child poverty in Scotland](#)

3. Social Security for Families with Children

This section provides an overview of the social security system and sets out key facts about the Scottish Parliament's powers in relation to low income, child-related benefits and introducing new or top-up payments, as well as the reserved means-tested system.

3.1 Devolved Social Security

The Scotland Act 2016 devolved powers to the Scottish Parliament in relation to social security. These powers include:

1. Full responsibility for setting the rules and rates for eleven benefits in three broad categories:
 - Benefits for disabled people, people with ill-health and carers
 - Benefits within the Regulated Social Fund
 - Discretionary Housing Payments
2. Powers to make administrative changes to Universal Credit and vary the housing cost element within it.
3. Powers to create new benefits in areas of devolved responsibility and top-up reserved benefits.

Over the next few years the Scottish Government will take control over these benefits from DWP. Carers Allowance Supplement, Best Start Grant and Universal Credit Scottish Choices are already being implemented.

The Scottish Government's new social security system is being administered by Social Security Scotland. As an executive agency of the Scottish Government, its purpose is to administer the Scottish social security system effectively, in accordance with the principles in the Social Security (Scotland) Act 2018 and the Social Security Charter. Once fully operational, Social Security Scotland will deliver benefits to an estimated 1.4 million people and provide £3.5 billion in payments every year.

The new social security system in Scotland is underpinned by core principles as set out in Section 1 of the Social Security (Scotland) 2018.¹¹ These eight principles have been adopted in the Social Security Charter and are presented in Box 2.¹²

11 National Archives, [Social Security \(Scotland\) Act 2018](#)

12 Scottish Government (January 2019), [Social Security Scotland Charter](#)

Box 2: Social Security Scotland – The Core Principles

1. social security is an investment in the people of Scotland
2. social security is itself a human right and essential to the realisation of other human rights
3. the delivery of social security is a public service
4. respect for the dignity of individuals is to be at the heart of the Scottish social security system
5. the Scottish social security system is to contribute to reducing poverty in Scotland
6. the Scottish social security system is to be designed with the people of Scotland on the basis of evidence
7. opportunities are to be sought to continuously improve the Scottish social security system in ways which–
 - (i) put the needs of those who require assistance first, and
 - (ii) advance equality and non-discrimination
8. the Scottish social security system is to be efficient and deliver value for money

Prior to the Scotland Act 2016, local authorities in Scotland were already delivering social security assistance through discretionary payments via, for example, the Scottish Welfare Fund and Discretionary Housing Payments. These payments are primarily targeted at households on low income.

Discretionary Housing Payments (DHPs) are delivered by local authorities to provide financial assistance towards housing costs for recipients of Housing Benefit or Universal Credit (housing entitlement), including where entitlement has been affected by the Removal of the Spare Room Subsidy, also known as the Bedroom Tax. In 2019/20 the Scottish Government is expected to spend £64 million on DHPs.¹³

The Scottish Welfare Fund (SWF), introduced in 2013, is a national discretionary grant scheme delivered on behalf of the Scottish Government by local authorities. Every year it provides around £33 million to low income families who are in need through the Crisis Grants and Community Care grants.¹⁴

Whilst not a social security benefit, Council Tax Reduction (CTR) replaced the Council Tax Benefit in April 2013 and is also delivered by local authorities. CTR provides low income households with a reduction in their Council Tax liability and can offer significant support for families. The CTR¹⁵ scheme currently supports around 500,000 households to meet their council tax liability and more detail is provided in Box 3.

13 Scottish Fiscal Commission (May 2019), [Scotland's Economic and Fiscal Forecasts](#)

14 Scottish Fiscal Commission (May 2019), [Scotland's Economic and Fiscal Forecasts](#)

15 Scottish Government (June 2018), [Council Tax Reduction in Scotland 2017-18](#)

Box 3: Council Tax Reduction – key facts

- ✓ Eligibility for CTR is determined by each Council based on household net income.
- ✓ Eligibility relies on the individual being resident of a chargeable dwelling for Council Tax purposes.
- ✓ Each Local Authority compares the household's weekly income to an 'applicable amount' which is effectively an income threshold under which a household is not expected to pay any council tax. The applicable amount consists of different allowances and/or premiums to reflect different household circumstances.
- ✓ How much CTR a household receives depends on whether household net income is above or below the applicable amount. If household net income is below the applicable amount, the household receives a 100% CTR and pays no council tax (nil council tax liability).
- ✓ If household net income is above the applicable amount, then CTR is determined through a formula dependent on how much higher income is relative to the applicable amount and the council tax liability.
- ✓ If the household receives UC then the applicable amount is the UC maximum amount plus an additional child element of £16.73 per child.
- ✓ Council tax liability is determined by the property band and the local authority the household lives in and whether the household is a single-occupier (excluding dependents).

3.2 Reserved Social Security

This section sets out the existing reserved benefit support that is available for working-age families with children. The UK Government remains responsible for all regular means-tested benefits, although some of the one-off benefits, such as the Best Start Grant, Funeral Support Payments and Cold Spell Heating Assistance, which are delivered or due to be delivered by the Scottish Government, are means-tested.

Over recent years, the UK system of working age means-tested benefits has been undergoing significant reform, with the replacement of six working-age benefits by Universal Credit (UC).

Under UC, a household's maximum award is calculated based on household's characteristics, such as the number of children, or housing costs. The household net income is then considered to determine whether, and by how much, this maximum award should be reduced. Should this income exceed a set income threshold (known as the UC work allowance), the UC award will be gradually withdrawn by applying a taper. The UC taper rate, currently set at 63%, means that each additional £1 of income reduces UC entitlement by 63 pence. This ensures a phased withdrawal of the UC award once the family's income exceeds the work allowance. Further information on how UC works is included in Box 4 and Annex I.

Box 4: Universal Credit – key facts

- ✓ The UC payment is a means-tested, tapered benefit where the final award depends on household composition and level of net income (post income tax and National Insurance contributions).
- ✓ UC award can be reduced where households have capital higher than £6,000. Households with capital above £16,000 are not eligible for UC.
- ✓ Families with children can earn a certain amount before the UC award starts getting withdrawn. This is known as the work allowance. In 2019/20, families with children who receive support for their housing costs can earn up to £287 a month after tax before their UC award starts reducing by 63p for any additional £1 earned. A higher work allowance of £503 per month is in place for households who do not receive housing support.
- ✓ Families with children are entitled to the child element of Universal Credit. They can receive up to an additional £2,780 per year per child for a maximum of two children for those born after April 2017.
- ✓ This two child limit does not apply if the children are born before April 2017. Exemptions can apply in some circumstances, such as multiple births.
- ✓ For children born before April 2017 families can receive a higher child element for the first child (an additional £3,324 per year rather than £2,780). For first children born after April 2017 this higher amount is not available.
- ✓ UC is paid on a monthly basis.

Families with children also receive support from the reserved system through Child Benefit. Prior to 2013, Child Benefit was not means-tested and all parents could receive payments for each of their children. The new means test meant that households with individuals on high incomes receive reduced or no support. The detail is provided in Box 5.

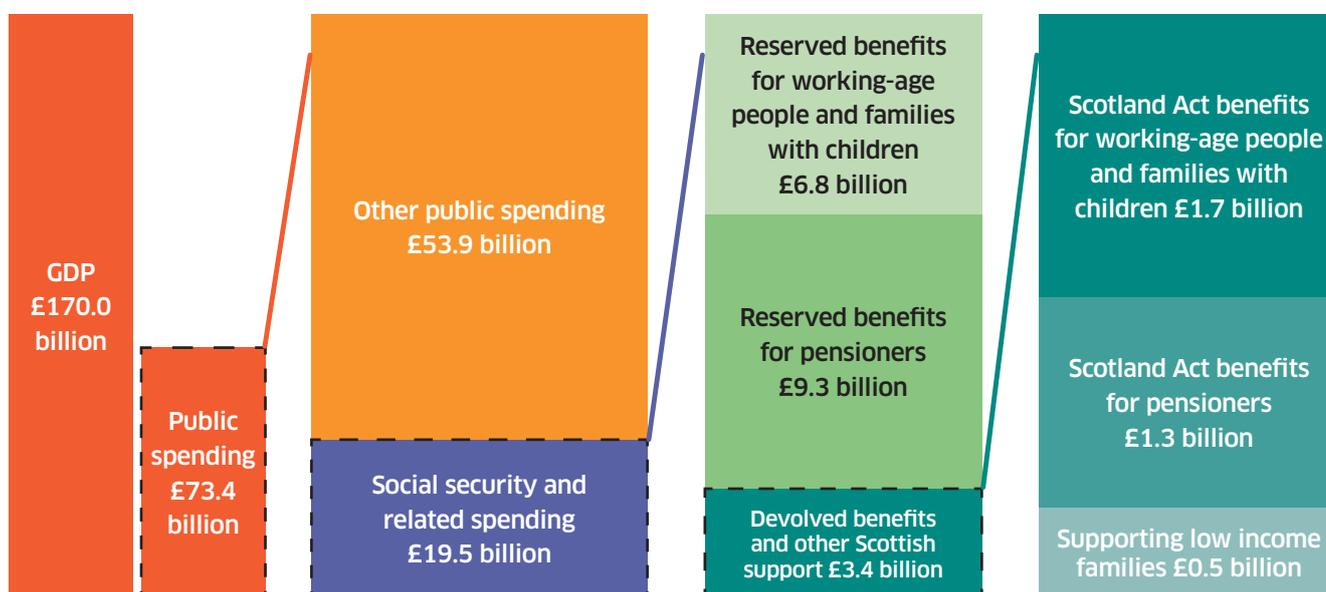
Box 5: Child Benefit – key facts

- ✓ People responsible for one or more children under 16 (or 20 if they are in approved education or training) can claim Child Benefit.
- ✓ In 2019/20, the weekly entitlement is £20.70 for the eldest or only child in the family.
- ✓ In 2019/20, the weekly entitlement is £13.70 for subsequent children.
- ✓ Payments are normally made on a four-weekly basis, although lone parents and Income Support recipients can request weekly payments.
- ✓ Entitlements have been frozen since 2015/16 and are expected to resume rising in line with CPI inflation in 2019/20.
- ✓ Eligibility is determined by annual gross individual income. This means that income tax and contributions are not taken into account, although pension contributions are deductible.
- ✓ In couple families eligibility is determined by the annual gross income of the highest earner.
- ✓ Child Benefit used to be entirely universal until 2013 when HMRC introduced a means test for individual annual incomes above £50,000. For each £100 of gross income beyond £50,000, 1% of the family's entitlement is claimed back through the tax system.
- ✓ If the claimant or their partner earn more than £50,000 then some of the benefit is claimed back through the tax system.
- ✓ Therefore entitlement is effectively reduced to zero when individual gross income exceeds £60,000.

3.3 Spending on Social Security

As illustrated in figure 2, £19.5 billion was spent on social security in Scotland in 2017/18. Of this spending, £6.8 billion came through benefits reserved to the UK Government and was targeted towards children and working-age people, with Tax Credit spending being the single largest component. A further £1.7 billion of spending on children and working-age people comprised benefits which have or will be devolved to the Scottish Government as a result of Scotland Act 2016. Discretionary payments administered by local authorities, together with the Council Tax Reduction, amount to around £0.5 billion. The remainder of spending on social security is aimed at pensioner households, with both devolved and reserved spend amounting to around £10.6 billion.

FIGURE 2: SOCIAL SECURITY SPENDING IN CONTEXT^{16,17}



16 Department for Work and Pensions, [Benefit expenditure and caseload Tables 2017/18](#)

17 Scottish Government, [Government Expenditure and Revenue Scotland Tables 2017-18](#)

4. Policy Objectives and Options

This section provides evidence that underpins the rationale for introducing the income supplement policy and sets out our approach to developing options. Developing a clear rationale for intervention and a set of objectives before creating and analysing policy options is imperative for robust and evidence-led decision-making and is in line with the approach recommended by the HM Treasury's Green Book guidance.¹⁸

4.1 Rationale for Intervention

Improving children's outcomes

As identified by the TCPDP, there is a strong rationale for intervention on child poverty in terms of improving children's outcomes. Children in low income households tend to experience a range of disadvantages including lower educational attainment and poorer health which will shape their future life. Poverty can have lasting impacts long into adulthood such as increased risk of homelessness, lower earning potential and greater likelihood of limiting illness.

It is difficult to disentangle the effect of poverty from other factors associated with low income that may affect children's outcomes. However, the growing evidence in developed economies suggests that gaining additional income has causal effects on health, behaviour, educational attainment and other outcomes for children in households at the lower end of the income distribution.¹⁹ These studies isolate the effect of income changes from household characteristics and other factors that may affect children's outcomes.²⁰ Box 6 discusses evidence of how a means-tested in-work benefit has affected children outcomes in the United States.

Box 6: Earned Income Tax Credits and children outcomes

A number of studies examine the effect of increased level of support provided by Earned Income Tax Credits (EITC) – a US means-tested in-work benefit. These studies find significant effects from EITC expansions on a range of child outcomes. For example, one recent study found that EITC expansion reduces incidence of low birth weights.²¹ Another study found that increasing EITC has raised math and reading test scores.²² Similarly a further study suggests that this policy change has generated improvements in subjective well-being of mothers which is an important indirect determinant of child outcomes.²³

18 HM Treasury (2018) [The Green Book – Central Government Guidance On Appraisal And Evaluation](#)

19 Cooper and Stewart (2017), [Does money affect children's outcomes?](#), Centre for Analysis of Social Exclusion

20 Cooper and Stewart review the literature examining the causal relationship between household finances and children's outcomes. This includes evidence from Randomised Control Trials (RCTs) as well as quasi-experimental and longitudinal studies.

21 Hoynes et al (2015), [Income, the Earned Income Tax Credit and Infant Health](#), American Economic Association

22 Dahl and Lochner (2010), [The impact of family income on child achievement](#), National Bureau of Economic Research

23 Boyd-Swan et al. (2016), [The earned income tax credit, mental health and happiness](#), Journal of Economic Behavior & Organisation

While there is evidence that additional income can create better outcomes, the evidence base is still being developed in this area, for example around the strength of the relationship. Although, the effects of income changes on outcomes are found to be larger for children growing up in poorer households, there is no clear cut-off point in terms of income beyond which further increases stop affecting outcomes of children. Finally, further evidence is being developed around whether income increases are likely to have stronger effects at particular stages of childhood. Whilst the picture is mixed, there is evidence of positive impacts on cognitive outcomes in the early years.²⁴

Economic cost of child poverty

The detrimental impacts of poverty on outcomes for children can also be viewed through a lens of the resulting increased economic costs associated with increased spending on various public services. Many children will grow up in poverty but still achieve good long term outcomes. For others, the structural disadvantages surrounding growing up in poverty may result in children turning to paths that are damaging both to them as individuals and to wider society.

For example, evidence suggests that growing up in poverty may prevent individuals from realising their potential and fully participating in economic activity later in their life. Low income may limit opportunities for children to participate in school activities which may prevent them from accumulating soft and technical skills that could be useful later in their working life.²⁵

Growing up in poverty can also have an impact on children's health. Evidence shows that children growing up in poverty tend to have poorer health outcomes which could again prevent the accumulation of skills through diverse experiences.

As a result, children who grew up in poverty often tend to end up in lower paid employment and miss opportunities to accumulate different skills through diverse experiences. The economic consequences of child poverty therefore manifest themselves through lower skills and decreased productivity.

24 Cooper and Stewart (2013), [Does money affect children's outcomes?](#), Joseph Rowntree Foundation

25 Joseph Rowntree Foundation (October 2008), [Estimating the costs of child poverty](#)

Finally, investing in services to help alleviate the actual or potential undesirable outcomes or to promote better opportunities can increase spending on various public services. The key areas of additional public spending are discussed in Box 7.

Box 7: Additional public spending associated with child poverty

Social Services

A large share of spending on social services is attributed to child poverty. This reflects the targeted nature of these services: children who grow up in poverty tend to face specific problems. The focus of these services is to improve outcomes for children.²⁶

Education

Children growing up in low income households tend to do less well in school. This effect gets stronger the longer children spend in poverty.²⁷ These children may require additional support from school staff and schools in deprived areas tend to have higher spend per pupil.²⁸ Poor performance in school, however, may also be related to parental education and lack of environment where education aspirations can develop. Both factors are correlated with low income and poverty.

Health

Children who are born in poor households are more likely to experience health issues from birth. They are also more likely to be exposed to specific health issues later in life which may stem from inherited and accrued health risks when living in poverty. This does not only concern physical health since children growing up in poverty are also more likely to have poor mental health later in life.²⁹

Crime

There is a strong association between living in poverty and rates of offending and anti-social behaviour.³⁰ The costs of crime and anti-social behaviour to society mainly occur through the youth justice system as a result of early offending and higher likelihood of re-offending in later life.³¹

26 Joseph Rowntree Foundation (October 2018), [Estimating the costs of child poverty](#)

27 Joseph Rowntree Foundation (September 2007), [Experiences of poverty and educational disadvantage](#)

28 Joseph Rowntree Foundation (October 2008), [The costs of child poverty for individuals and society](#)

29 Joseph Rowntree Foundation (October 2008), [The costs of child poverty for individuals and society](#)

30 Journal of children and poverty (March 2008), [The economic costs of childhood poverty in the United States](#)

31 Joseph Rowntree Foundation (October 2018), [Estimating the costs of child poverty](#)

4.2 Policy Objectives

Setting clear and measurable policy objectives is imperative for the development and assessment of appropriate options.

The income supplement policy will ensure that social security provides a substantial role in helping achieve a tangible reduction in child poverty, while at the same time recognising that it cannot be the only solution. Therefore, the main objective for the income supplement has been set to:

- **Achieve a reduction in child poverty (relative, AHC) of 3 percentage points when the income supplement is fully rolled out.**

The second objective has been set so that the income supplement supports people in the lower deciles of the income distribution. As such, the second objective of the income supplement is to:

- **Reduce the depth of poverty and provide support to those who need it most.**

Social security is the most immediate route to boost family incomes, however, the TCPDP recognises that it should not be the only way to tackle child poverty. To improve prospects for children and families it is vital that people are able to easily access the wider services and support that is available. The income supplement should “passport” people to this support, for example through fast tracked access to a financial health check, or employment advice, should people want and require it. Therefore, a longer term objective of the income supplement is to:

- **Ensure a sustainable and lasting reduction in poverty for families with children.**

An assessment of this objective does not form part of this analytical report but this, and how the income supplement interacts with wider public services in Scotland, will be considered as part of the implementation and design of the new benefit.

4.3 Option Generation

The first stage in the process of generating options for the income supplement involved considering the policy objectives as set out in the previous sections.

Legislative considerations have also been taken into account. The Scotland Act 2016³² provided the power for the Scottish Parliament to:

(a) Create new benefits (Section 28): Provides competence to the Scottish Parliament to create new benefits in any area of devolved competence.

(b) Top-up reserved benefits (Section 24): Provides competence for the Scottish Parliament to create top-up payments to people who are entitled to a reserved benefit and appear to require additional financial assistance for the purpose, or one of the purposes, for which the reserved benefit is provided (*e.g. child benefit could not be topped-up to provide support for someone out of work, only for child related costs*).

32 The National Archives, [Scotland Act 2016](#)

Different aspects of policy solutions were systematically considered to help ensure that a potentially viable policy option was not missed out. We have therefore followed a three step approach as presented in Box 8 below.

Box 8: Options building blocks

What is the target population?	<ol style="list-style-type: none"> 1. All (or most) children 2. Children in low income families (as defined by the existing benefit system) 3. Children in low income families (as defined by the income supplement policy) 4. Children in low income families - targeted groups
How would the income supplement be paid?	<ol style="list-style-type: none"> 1. A new benefit based on qualifying benefits and/or a means test 2. A top-up of an existing reserved benefit
How would the target population be identified?	<ol style="list-style-type: none"> 1. Automatic /passported entitlement 2. Application process

The first two policy objectives set out that the income supplement should achieve a 3 percentage point reduction in relative child poverty when it is fully rolled out and that it is also paid to families with children who need it most. Guided by these, we have considered options that would try to capture all or nearly all children in poverty and options that target children in poverty more specifically.

We have also considered options that are targeted at children in specific family groups who are found to be most at risk of poverty, such as families with young children, lone parents, large families, or families with a disabled adult or child. We have considered options that target both out of work and working families and have excluded options that target working families only. In designing the options, we were driven by pragmatism and have focussed on simplicity, which is key to good benefit design. The five options we arrived at were as follows:

1. An income supplement that would reach most children in Scotland, with Child Benefit as a qualifying benefit.
2. An income supplement that would reach children in low income households via an additional payment to families receiving Universal Credit (UC).
3. An income supplement targeted at specific family groups, for example large families. This could be based on UC eligibility with higher payments for households with certain characteristics who are identified as being most at risk of poverty.
4. An income supplement targeted at children in low income families could also be introduced by creating a new benefit that is not linked to the existing benefit system and instead uses a bespoke means test.
5. An income supplement targeted at low income families as defined by the Council Tax Reduction (CTR) scheme.

Table 4 below sets out how the payments could be made to reach different population targets.

TABLE 4: OPTIONS FOR THE INCOME SUPPLEMENT

Policy Option	Target population	Delivery mechanism
1. Child Benefit based entitlement	Most children – near universal	Automation Application
2. Universal Credit based entitlement	Children in low income families – as defined by benefit system	Automation Application
3. Universal Credit based entitlement – targeted groups	Children in low income families – as defined by benefit system, plus poverty risk factors	Automation Application
4. Entitlement based on a means test	Children in low income families – as defined by policy	Application
5. Council Tax Reduction based entitlement	Children in low income families – as defined by benefit system	Automation Application

A final key stage in the options generation was to test the developed options with key stakeholders, following the commitment in the TCPDP to work with stakeholders to develop options. Therefore two workshops were held with representatives from local government, academia, think tanks, third sector and anti-poverty organisations. More detail on the stakeholder workshops is provided in Annex II.

5. Modelling of Policy Options

We have calibrated the options set out in Table 5 in line with the first objective of the income supplement to achieve a 3 percentage point reduction in relative child poverty after housing costs. We then compared the weekly payments and the level of spending required.

The second objective of the income supplement is to ensure that there is a tangible impact on the depth of poverty. Therefore, more detailed distributional impacts are also considered to examine the extent to which families on very low incomes benefit relative to families closer to or above the poverty line under each option.

We model each of the five options based on an automated payment (Section 5.1) and an application-based payment (Section 5.2). Since we are not modelling the delivery costs and impacts, the difference between these two sets of options is in what they assume about take-up, with the former being based on full (100%) take-up by definition.

In addition to the modelling, we assess all options against a set of criteria to ensure that a range of aspects are considered to provide a guide for discussion and decision on the income supplement policy. This is covered in Section 6.

TABLE 5: SUMMARY OF POLICY OPTIONS

	Policy Option	Design
1	Child Benefit based entitlement	<ul style="list-style-type: none"> • A payment for every child in a household receiving Child Benefit • Households in receipt of a reduced amount of Child Benefit (because their annual individual income is between £50,000 and £60,000) receive the full payment • Households with annual individual income in excess of £60,000 do not receive the payment • There is no taper and all families in receipt of the payment receive the same amount per child.
2	Universal Credit based entitlement	<ul style="list-style-type: none"> • A payment for every child in a household receiving Universal Credit (regardless of the number of children) • UC taper rate is not applied
3	Universal Credit based entitlement – targeted groups	<ul style="list-style-type: none"> • A payment for every child in a household receiving Universal Credit (regardless of the number of children) • Additional payment to households having one or more of certain characteristics, informed by the ‘priority families’ of the TCPDP. These characteristics include: lone parent; child under age of 5; 3 or more children; disabled child; disabled adult; and mother aged under 25 • UC taper rate is not applied

4	Entitlement based on a means test	<ul style="list-style-type: none"> • A payment for every child in a household with net earnings below a set threshold • Size and composition of the household are not taken into consideration for setting the income threshold
5	Council Tax Reduction based entitlement	<ul style="list-style-type: none"> • A payment for every child in a household that is receiving some level of Council Tax Reduction • CTR or UC taper rate is not applied

All policy options have been modelled using the DWP Policy Simulation Model (PSM) that utilises the 2016/17 Family Resources Survey (FRS) dataset for Scotland. Policy costings, poverty impacts and distributional impacts of each option are modelled by projecting forward to the year 2023/24, which coincides with the planned full rollout of UC and makes long-term comparisons more appropriate.

PSM is a static microsimulation model of the tax and benefit system. Annex III provides more detail on the methodology underlying the PSM and the associated caveats. While the PSM framework is owned by the DWP, the assumptions, methodology, and analysis presented here are the responsibility of the Scottish Government. The modelling approach (as outlined in Annex IV) and the results have been scrutinised by DWP analysts.

Box 9: Microsimulation Modelling

The FRS is the main dataset used for modelling social security policy and is commonly used as the basis for UK microsimulation models. Examples include the Institute for Fiscal Studies' tax and benefit simulation model TAXBEN,³³ the Institute for Public Policy Research Scotland's microsimulation tax-benefit model³⁴ also used by Resolution Foundation and Joseph Rowntree Foundation and the Institute for Social and Economic Research's tax-benefit microsimulation model for the European Union, EUROMOD.³⁵

Although the fundamentals of these models are similar, some have a better developed tax modelling capacity. They also vary in their assumptions, for example about how take-up of benefits is modelled, what they assume about the future and the approach to modelling policies that are in the process of being rolled out (most notably UC).

In order to estimate policy impacts in the long-term, the PSM relies on a wide range of assumptions – the most fundamental being that past FRS data, suitably reweighted,³⁶ gives a good representation of the future – which each add a degree of uncertainty to the impacts estimated. In addition, the size of the FRS Scottish sample adds to the uncertainty of estimates. As such, the figures presented in this section are best interpreted as providing illustrative examples of how the income supplement policy could work, using comparisons between the different options under consideration and the baseline of no policy change.

33 Institute for Fiscal Studies (November 2017), [The IFS tax and benefit microsimulation model](#).

34 Institute for Public Policy Research Scotland (February 2018), [How much would it cost to reduce child poverty in Scotland?](#) p.8

35 De Agostini, P. (December 2018), [EUROMOD Country Report – United Kingdom 2015-2018](#)

36 Annex III contains more detail about reweighting.

5.1 Automatic Entitlement Options

This section analyses each option assuming an automatic payment as presented in table 5 above. We do not believe there is a practical way to deliver automated payments under Option 4. However, we have presented this option for comparison and it can be interpreted as an application-based approach with full (100%) take-up (i.e. everyone who is eligible at any point in time applies and receives the income supplement). It should be noted that the results for other options can also be interpreted as application-based options with very high take-up from the modelling perspective.

Relative poverty

For each option, we have estimated weekly payments and the associated policy expenditure required to achieve a 3 percentage point (pp) reduction in relative child poverty after housing costs (AHC) in 2023/24.

We note that each option is assumed to have no impact on the UK median income and therefore the poverty line against which poverty in Scotland is measured.³⁷ In addition, behavioural responses have not been considered in the modelling. We also note that estimated expenditure figures include the cost of the amount paid to income supplement recipients and not the cost of delivering the payments.

All illustrative weekly payments are modelled as multiples of £5, annual policy cost figures are rounded to the nearest 10 million and poverty impacts are rounded to the nearest 10,000 and 1 pp respectively. Because each household in the FRS sample represents many households in the real world and a number of other assumptions are made (as detailed in Annex III and IV), microsimulation modelling of this nature, especially given Scotland sample size limitations, cannot be too specific about the value of payment required or the impact on poverty. We therefore round the results to account for this uncertainty.

According to the modelling:

- A Child Benefit based automatic entitlement would require paying an additional £10 per child per week to bring around 30,000 children out of relative poverty in 2023/24, achieving a 3 pp reduction. This option is estimated to reach 870,000 children at an annual policy cost of £460 million.
- A Universal Credit based automatic entitlement would require paying an additional £10 per child per week to lift around 30,000 children out of relative poverty and achieve a reduction of 3 pp in 2023/24. This option is estimated to reach 480,000 children at an annual policy cost of £250 million.
- A targeted Universal Credit based automatic entitlement would require a payment of £5 per child per week for all families receiving UC and an additional £5 for families with one or more priority characteristics to lift around 30,000 children out of relative poverty and achieve a reduction of 3 pp in 2023/24. This option is estimated to reach 480,000 children at an annual policy cost of £240 million.

³⁷ Individuals in Scotland are defined as being in poverty if their equivalised net disposable household income is below 60 percent of the UK median. The median is the income value which divides a population, when ranked by income, into two equal sized groups.

- An automatic entitlement based on a means test that (for illustrative purposes only) results in full take-up would require a payment of £10 per child per week to families with annual net earnings below £25,000 to bring around 30,000 children out of relative poverty in 2023/24, a reduction of 3 pp. This option is estimated to reach 460,000 children at an annual policy cost of £240 million. It should be noted that within this option there are a range of policy variations, as a number of different thresholds and weekly payments could be chosen to meet the policy objective of reducing relative child poverty by 3 pp. However, for simplicity purposes we are presenting a single illustrative payment here.
- A Council Tax Reduction based automatic entitlement would require an additional £45 per child per week to lift around 30,000 children out of relative poverty and achieve a 3 pp reduction in 2023/24. This option is estimated to reach 140,000 children at an annual policy cost of £330 million.

The results are summarised in Table 6 below.

TABLE 6: IMPACTS ON CHILD POVERTY – AUTOMATIC ENTITLEMENT OPTIONS

	Policy Option	Illustrative weekly payment	Children benefitting	Change in children in relative poverty	Percentage point change in children in relative poverty	Annual policy cost
1a	Child Benefit based entitlement	£10 per child	870,000	-30,000	-3 pp	£460 million
2a	Universal Credit based entitlement	£10 per child	480,000	-30,000	-3 pp	£250 million
3a	Universal Credit based entitlement – targeted groups	£5 per child plus £5 for one or more priority characteristics	480,000	-30,000	-3 pp	£240 million
4a	Entitlement based on a means test	£10 per child per week to families with net earnings below £25,000	460,000	-30,000	-3 pp	£240 million
5a	Council Tax Reduction based entitlement	£45 per child	140,000	-30,000	-3 pp	£330 million

Decile analysis

The second objective for the income supplement requires us to consider the impact on the depth of poverty. One way of assessing this is to look at the distributional analysis of the options modelled as presented in the charts in Box 10 below. The decile analysis divides the Scottish families with children into ten equal groups. The first decile group represents the 10% of households with children with the lowest incomes and the tenth decile group the 10% of households with the highest incomes.³⁸

When comparing the impacts of each option, the distributional analysis is presented on the basis of both the number of children in each decile that would receive the payment as well as the total spend per decile.³⁹

- The charts highlight that on both measures the impact of option 1a is spread more widely across the income distribution compared to other options as almost all children would benefit from this option. Less than 40% of the impact on both measures is concentrated in the bottom three deciles with around 13% of children benefitting and estimated cost in each of the bottom three deciles. However, the number of children benefitting and the corresponding spend in the 10th decile are notably lower (1% of the total number of children benefitting and spend), because those families with individual income of £60,000 and higher would not be eligible.
- Over 60% of the impact of Options 2a and 3a, on both measures, is concentrated in the bottom three deciles with 20% of children benefitting in the bottom decile, 21% in the second decile and 20% in the third decile.⁴⁰
- For Option 4a, 65% of the impact on both measures is concentrated in the bottom three deciles, with 23% of children benefitting and estimated spend in the bottom two deciles respectively and 19% in the third decile.
- Over 70% of the impact of option 5a on both measures is concentrated in the bottom three deciles, with 43% of children benefitting and estimated spend in the first decile, 20% in the second decile and 8% in the third decile. This suggests that, under this option, children in the bottom income decile benefit the most.

38 Household income takes into account taxes, social security payments and housing costs. It also accounts for the household size and composition, i.e. how many adults and children live in the household.

39 It should be noted that because all options, apart from Option 3, are based on uniform payments per child which are not tapered, the distributional impacts are the same regardless of which measure is adopted.

40 It is noted that for Option 3a, whilst the total number of children benefitting is the same with Option 2a, because of the targeted payments in this option the impact on spend in each decile can be marginally different, as some children would be paid £5 whereas some children could be paid £10 if they have priority characteristics. This also means for Option 3a that the impact on children benefitting in each decile can be marginally different to the impact on expenditure.

Box 10: Distributional impacts of automatic entitlement options

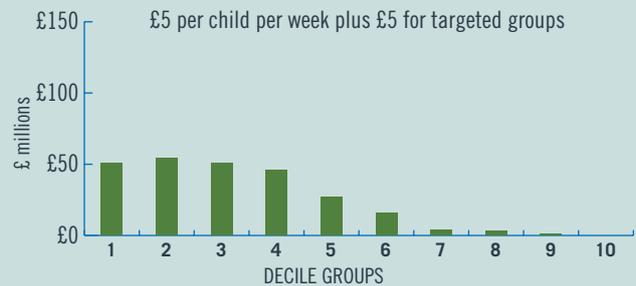
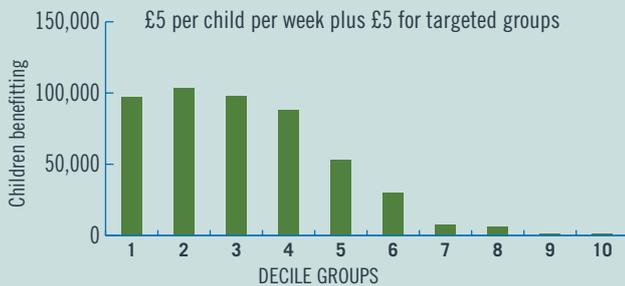
Option 1a: Child Benefit based entitlement



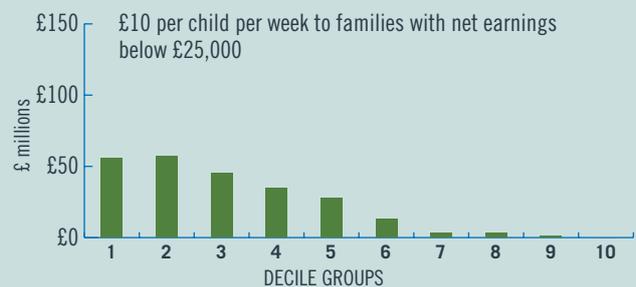
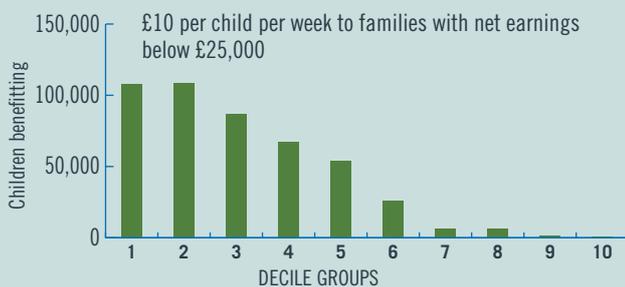
Option 2a: Universal Credit based entitlement



Option 3a: Universal Credit based entitlement – targeted groups



Option 4a: Entitlement based on a means test



Option 5a: Council Tax Reduction based entitlement



Estimated coverage versus targeting

In addition to the decile analysis, table 7 sets out for each option an estimate of children in poverty who would receive the payment both as a percentage of all children in poverty (what we refer to as ‘coverage’) and as a percentage of all children receiving the payment (what we refer to as ‘targeting’). All figures are rounded to the nearest 5%.

TABLE 7: ESTIMATED COVERAGE VERSUS TARGETING

	Policy Option	Illustrative weekly payment	Coverage: children in poverty receiving the payment as % of all children in poverty	Targeting: children in poverty receiving the payment as % of all children receiving the payment
1a	Child Benefit based entitlement	£10 per child	100%	25%
2a	Universal Credit based entitlement	£10 per child	90%	45%
3a	Universal Credit based entitlement – targeted groups	£5 per child plus £5 for one or more priority characteristics	90%	45%
4a	Entitlement based on a means test	£10 per child per week to families with net earnings below £25,000	95%	50%
5a	Council Tax Reduction based entitlement	£45 per child	40%	65%

The modelling suggests that Option 1a is the only option that ensures that almost all children in relative poverty would receive a payment. This is because of both the eligibility criteria (which captures most households) and high take-up of Child Benefit. However, this also means that only 25% of children in families in receipt of this payment are likely to live in relative poverty, suggesting that around 75% of children who could benefit from the policy would not be living in relative poverty. This is consistent with fact that the cost of this policy is higher than the other options modelled.

Under Options 2a and 3a, 90% of children living in relative poverty would be expected to receive the income supplement and 45% of all children receiving the income supplement are estimated to live in relative poverty, suggesting better poverty targeting than Option 1a.

At 50%, poverty targeting appears to be marginally better under option 4a. Coverage is also higher at 95%. It should be noted again that this option is for comparison purposes only as automated payments not linked to an existing benefit are not considered viable.

Under Option 5a, 65% of the children in families receiving the income supplement are estimated to live in relative poverty. Conversely the policy coverage decreases and only 40% of children living in poverty would receive the income supplement.

This analysis suggests that there is a clear trade-off between coverage and targeting. By introducing a more targeted income supplement, the risk that some children in poverty may not be included increases and the coverage of the policy falls. Conversely, the more universal the income supplement, the higher the likelihood of paying it to families whose incomes are substantially above the poverty line.

Severe poverty

Another way to assess the impact on the depth of poverty is to look at the impact on severe child poverty (those in households with incomes below 50% of the median). Our modelling shows that the impacts on severe poverty for Options 1a to 4a are modest and we cannot report them with confidence. The modelling suggests that Option 5a has the potential to deliver a 5 pp reduction in severe poverty. This is because Option 5a is targeted at families with children further away from the poverty line, and therefore more likely to experience severe poverty.

5.2 Application Process Options

This section analyses the options set out in Table 5 but on the basis of an application process.

In terms of policy modelling, the key difference from the automatic payment options presented in the previous section is the assumed take-up rate. This allows us to make a more realistic assumption for options requiring an application as opposed to automatic payments. For Option 1 we have used the most recent take-up rate for Child Benefit, estimated at 93% as we expect take-up of a nearly universal income supplement to be similar to Child Benefit. As Options 2, 3, 4 and 5 are directed at low-income families we have used Child Tax Credit take-up rate which is the closest comparator. The overall rate is estimated at 83% and we have modelled take-up rate by income bands. Because under Option 5 most of the families receiving Council Tax Reduction are in the lower income bands, the overall take-up rate for this option is 89%. Further detail on modelling take-up is set out in Annex IV.

As discussed in section 6.2, it is very difficult to predict the direction of take-up as there are several factors that can affect it. Therefore, the assumed take-up rates in this section are subject to a high level of uncertainty.

Relative poverty

Based on the policy modelling:

- A Child Benefit based entitlement with an application process would require paying an additional £10 per child per week to lift around 30,000 children out of relative poverty in 2023/24, achieving a 3 pp reduction. This option is estimated to reach 810,000 children at an annual policy cost of £420 million.
- A Universal Credit based entitlement with an application process would require paying an additional £10 per child per week to lift around 30,000 children out of relative poverty in 2023/24, achieving a 3 pp reduction. This option is estimated to reach 400,000 children at an annual policy cost of £210 million.

- A targeted Universal Credit based entitlement, with an application process would require paying £5 per child per week to all families receiving UC and an additional £5 for one or more of the priority characteristics to lift around 30,000 children out of relative poverty and achieve a reduction of 3 pp in 2023/24. This option is estimated to reach 400,000 children at an annual policy cost of £200 million.
- An entitlement based on a means test would require a payment of £10 per child per week to families with annual net earnings below £25,000 to lift around 30,000 children out of relative poverty in 2023/24, a reduction of 3 pp. This option is estimated to reach 400,000 children at an annual policy cost of £210 million.
- A Council Tax Reduction based entitlement with an application process would require paying an additional £45 per child per week to lift around 30,000 children out of relative poverty in 2023/24, achieving a 3 pp reduction. This option is estimated to reach 120,000 children at an annual policy cost of £290 million.

These results are summarised below in table 8.

TABLE 8: IMPACTS ON CHILD POVERTY – APPLICATION PROCESS OPTIONS

	Policy Option	Illustrative weekly payment	Children benefitting	Change in children in relative poverty	Percentage point change in children in relative poverty	Annual policy cost	Assumed take-up rate
1b	Child Benefit based entitlement – application	£10 per child	810,000	-30,000	-3 pp	£420 million	93%
2b	Universal Credit based entitlement – application	£10 per child	400,000	-30,000	-3 pp	£210 million	83%
3b	Universal Credit based entitlement – targeted with application	£5 per child plus £5 for one or more priority	400,000	-30,000	-3 pp	£200 million	83%
4b	Entitlement based on a means test and an application	£10 per child	400,000	-30,000	-3 pp	£210 million	83%
5b	Council Tax Reduction based entitlement – application	£45 per child	120,000	-30,000	-3 pp	£290 million	89%

Decile analysis

- The charts below highlight that the impact of Option 1b is spread across the income distribution as with Option 1a. As a result less than 40% of the impact on both measures is concentrated in the bottom three deciles, with around 13% of children benefitting and estimated cost in each of the bottom three deciles.
- Options 2b and 3b could benefit families with children in the bottom three income deciles and result in nearly 65% of the impact on both measures, being concentrated in the bottom three deciles, with 20% of children benefitting in the bottom decile, 23% in the second decile and 21% in the third decile.⁴¹
- Over 65% of the impact of Option 4b, on both measures, is concentrated in the bottom three deciles, with 26% of children benefitting and estimated spend in the bottom decile, 24% in the second decile and 16% in the third decile.
- Nearly 70% of the impact of option 5a on both measures is concentrated in the bottom three deciles, with 43% of children benefitting and estimated spend in the first decile, 17% in the second decile and 9% in the third decile. This suggests that, as with Option 5a, children in the bottom income decile benefit the most.

41 It is noted that for Option 3b, whilst the total number of children benefitting is the same with Option 2b, because of the targeted payments in this option the impact on spend in each decile can be marginally different, as some children would be paid £5 whereas some children could be paid £10 if they have priority characteristics. This also means for Option 3b that the impact on children benefitting in each decile can be marginally different to the impact on expenditure.

Box 11: Distributional impacts of application process options

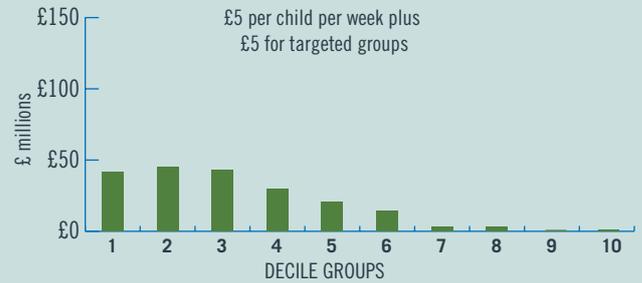
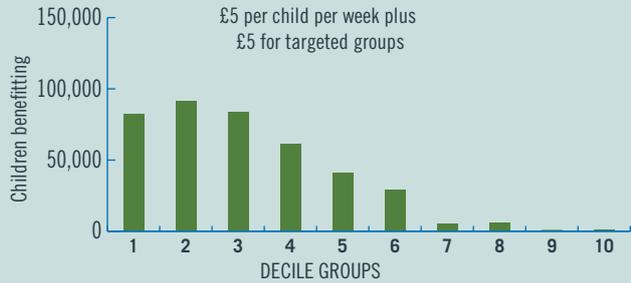
Option 1b: Child Benefit based entitlement – application



Option 2b: Universal Credit based entitlement – application



Option 3b: Universal Credit based entitlement – targeted with application



Option 4b: Entitlement based on a means test and an application



Option 5b: Council Tax Reduction based entitlement – application



Estimated Coverage versus Targeting

Since the application process would be expected to have an impact on take-up, coverage of these options will be lower than for the automated process. This means that all application-based options would be expected to reach a lower share of children than the automated options. The pattern of take-up, e.g. the extent to which those on lowest incomes are more likely to take up the income supplement will influence both coverage and targeting. Take-up is discussed in more detail in section 6.2.

- Looking at table 9 where each option is compared in terms of estimated coverage and targeting, under Option 1b the income supplement would reach around 90% of children in relative poverty; 25% of children benefitting from the income supplement would be living in poverty. As with Option 1, most of children who could benefit from the policy (75%) would not be living in relative poverty.
- Options 2b and 3b are estimated to reach around 80% of children who live in relative poverty and around 45% of children benefitting from these options would be living in poverty.
- Under Option 4b, targeting – estimated at 50% – is better as higher payments are made to families with lower earnings, suggesting that more children benefitting from this option were living in poverty.
- Option 5b, as with Option 5a, would reach a relatively smaller share of children living in poverty, estimated at 35%. However 60% of children receiving the payment would be living in poverty.

TABLE 9: ESTIMATED COVERAGE VERSUS TARGETING

	Policy Option	Illustrative weekly payment	Coverage: children in poverty receiving the payment as % of all children in poverty	Targeting: children in poverty receiving the payment as % of all children receiving the payment
1b	Child Benefit based entitlement	£10 per child	90%	25%
2b	Universal Credit based entitlement	£10 per child	80%	45%
3b	Universal Credit based entitlement – targeted groups	£5 per child plus £5 for one or more priority characteristics	80%	45%
4b	Entitlement based on a means test	£10 per child per week to families with net earnings below £25,000	90%	50%
5b	Council Tax Reduction based entitlement	£45 per child	35%	60%

As with the automatic entitlement options, this analysis shows the clear trade-off between coverage and targeting. The more universal the income supplement the higher the coverage of the policy and at the same time the higher the likelihood of paying it to families whose incomes are substantially above the poverty line. On the other hand, by introducing a more targeted payment the risk of not including some children in poverty increases.

Severe poverty

As with the core options, the impact each application-based option may have on severe poverty has also been considered. All options with the exception of Option 5b are found to have a small impact on severe poverty that we cannot report with confidence. Option 5b is estimated to reduce severe poverty by 4 pp.

5.3 Comparing the Options

The previous sections have analysed five policy options for the income supplement. All options were assessed on the basis of both automation and application.

1. Child Benefit based entitlement
2. Universal Credit based entitlement
3. Universal Credit based entitlement with targeted groups
4. Entitlement based on a means test
5. Council Tax Reduction based entitlement

Below we bring together the results of the modelling set out above.

The key assessment is the effectiveness of each option in reducing child poverty. Table 10 summarises how each option performs against the primary objective of the income supplement to achieve a 3 pp reduction in relative child poverty.

Within each option the delivery process – automation or application – would achieve the same reduction in child poverty at different costs. This is because fewer children would be captured if an application process is in place.

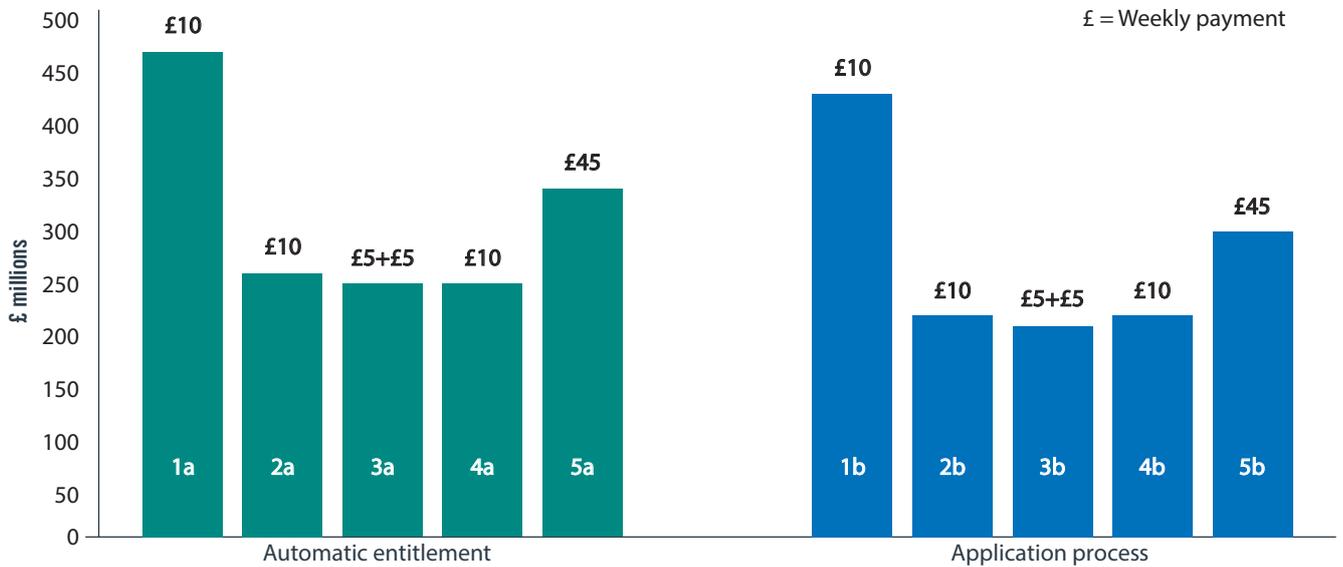
TABLE 10: EFFECTIVENESS IN ACHIEVING 3 PP REDUCTION IN CHILD POVERTY

	Policy Option	Automation vs Application	Illustrative weekly payment	Children benefitting	Change in children in relative poverty	Percentage point change in children in relative poverty	Annual policy cost
1a	Child Benefit based entitlement	Automation	£10 per child	870,000	-30,000	-3 pp	£460 million
1b		Application		810,000			£420 million
2a	Universal Credit based entitlement	Automation	£10 per child	480,000	-30,000	-3 pp	£250 million
2b		Application		400,000			£210 million
3a	Universal Credit based entitlement – targeted groups	Automation	£5 per child plus £5 for one or more priority	480,000	-30,000	-3 pp	£240 million
3b		Application		400,000			£200 million
4a	Entitlement based on a means test	Automation (full take-up) ⁴²	£10 per child per week to families with net earnings below £25,000	460,000	-30,000	-3 pp	£240 million
4b		Application		400,000			£210 million
5a	Council Tax Reduction based entitlement	Automation	£45 per child	140,000	-30,000	-3 pp	£330 million
5b		Application		120,000			£290 million

As presented in figure 3, Options 2, 3 and 4 are estimated to have similar annual policy costs ranging between £200 million and £250 million. Option 1 would require the highest policy expenditure, estimated at £460 million with automation and £420 million with application, followed by Option 5, estimated to require £330 million with automation and £290 million with application. It would also require the highest payment per child at £45 per week as opposed to £10 per week required for all other options.

42 As discussed in Section 5.2 this is provided for comparison purposes and can be interpreted as an application-based approach with full (100%) take-up.

FIGURE 3: COMPARING ESTIMATED WEEKLY PAYMENT AND ANNUAL POLICY EXPENDITURE

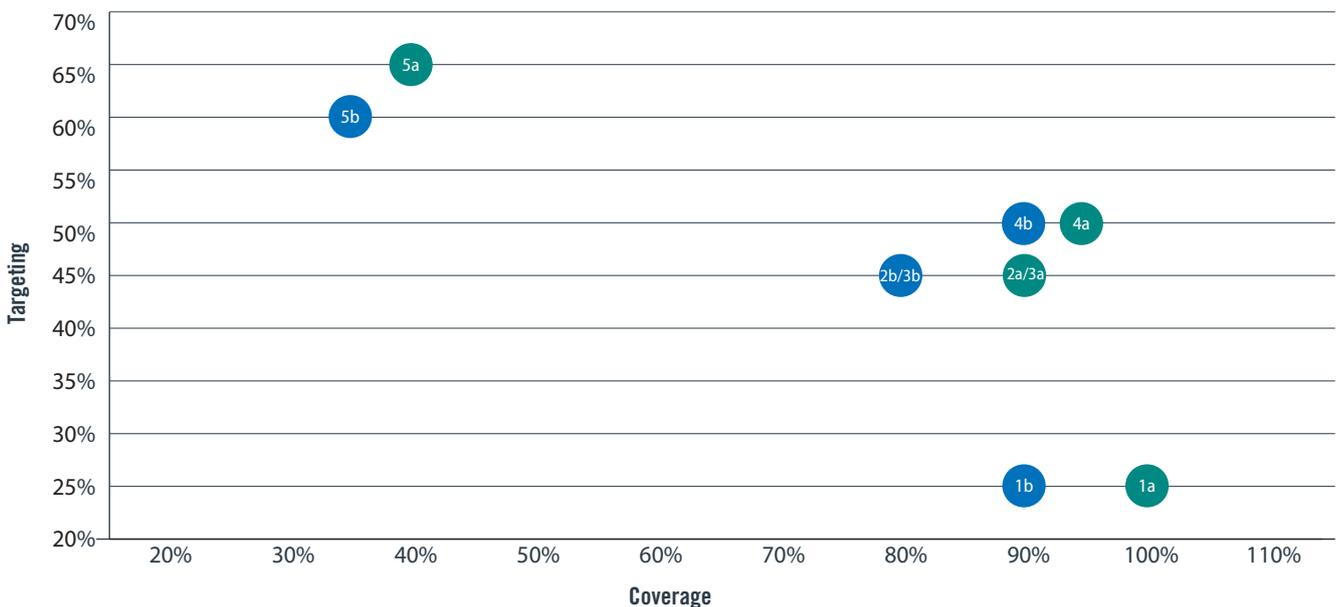


The difference in estimated policy costs is explained by the trade-off between coverage (how many children in poverty the payment can reach) and targeting (how many of all children receiving the payment are in poverty) as summarised in figure 4.

Option 1 would reach a large number of children who are not in relative poverty and therefore would be more expensive. Option 5 would also require a relatively higher policy expenditure, because it is paid to a smaller share of children in relative poverty and therefore larger weekly payments would be required to achieve the 3 pp reduction.

Options 2, 3 and 4, whilst requiring the same payment as Option 1, are found to be more targeted at children in poverty.

FIGURE 4: COMPARING ESTIMATED COVERAGE AND TARGETING



6. Additional Assessment of Options

In this section, we assess all options against a set of criteria to ensure that the full range of policy aspects is considered when developing the income supplement. This also provides a guide for discussion and decision on the income supplement policy.

The criteria we employ to provide additional assessment are closely aligned to the principles for Social Security that were set out in Box 2. This approach has already been used to inform a number of decisions in relation to setting up Social Security Scotland.^{43,44} Here, we are using it in a specific policy context, which required us to revise and reprioritise the criteria applied to the options.

In developing the detail of the criteria, we considered the first two policy objectives for the income supplement, as well as the first test prescribed in the TCPDP.

Simplicity and Transparency. In the context of this criterion, we assess how straightforward and transparent each option is from a family's perspective.

Take-up and Consistency. Under this criterion, we consider how likely each option is to ensure that the income supplement is taken-up and its impacts are felt consistently across Scotland.

Employment and Earnings. This criterion considers the potential behavioural aspects of the income supplement by discussing how recipients may change their labour market behaviour, on the basis of each option.

These additional criteria are now discussed in more detail.

6.1 Simplicity and Transparency

In the context of this analysis, we assess how simple and transparent each option is likely to be for families.

Overall, most of the options considered in this paper are relatively straightforward.

Options 1 and 2 in particular should be relatively easy to understand as they attach eligibility to an existing benefit. Option 3 could be seen as more complex as entitlements differ depending on household characteristics. Option 4 would be the most complex of all, as it introduces a separate means test which may be relatively difficult to understand when set against an option based on qualifying benefits. Whilst we have not modelled this, there may be some differences between the new benefit and the existing UK benefit system in terms of eligibility criteria, for example around the treatment of savings. Although Option 5 is also attached to an existing benefit, households may not associate CTR with child-related support. Also, some of the factors around consistency discussed in Section 6.2 may make it less simple and transparent than other options that are based on qualifying benefits.

43 Scottish Government (April 2017), [Social security agency in Scotland: outline business case](#)

44 Scottish Government (September 2017), [Social security agency: central functions location analysis](#)

An automatic payment assumed in our modelling of Options 1a, 2a, 3a and 5a would be the most straightforward from the families' perspective. It would not require recipients to engage further with the benefit system – i.e. to make an application to receive the income supplement. However, automatic payments could be perceived as being less transparent than application based ones, if not all eligible families are aware of the income supplement or clear on the eligibility criteria. This could be potentially addressed by clear communication about additional entitlements available.

On the other hand, an application process assumed for Options 1b, 2b, 3b, 4b and 5b could increase complexity for families. The more targeted the option, the more detailed the information required in the application process and therefore, these options may well be less straightforward for families. However, the increased complexity could be addressed by an application process that enables different channels of communication and information about entitlement that adapt to the needs and requirements of individual claimants.

6.2 Consistency and Take-up

This assessment considers the consistency of coverage of children in poverty, as well as the level of take-up that each option could achieve.

Consistency

Option 1 is based on a near-universal benefit that most households with children receive. Although Child Benefit is now subject to a means test, we would not expect different household types or households in different regions or local authorities to have different experiences of the benefit.

Options 2 and 3 would require full UC rollout to achieve consistency for all households. The UK Government has stated that UC will be fully rolled out by December 2023. However, further delays would limit the initial reach of these options. Unless there is a solution that allows families on legacy benefits to be reached before UC is rolled out, there could be inconsistencies across different family types and regions in terms of their eligibility for the income supplement.

By definition, Option 3 provides different levels of support to different family types, based on characteristics informed by the TCPDP 'priority families'. The purpose of identifying priority families was to ensure the needs of particularly disadvantaged groups were taken into account in policy development. Whilst this is an intentional feature of policy design it could have two significant drawbacks. First one of principle because it could be seen to differentiate between children in poverty; and second one of pragmatism because it would not be easy or appropriate to identify all priority family characteristics.

Option 4 would introduce an entirely new benefit and certain households may be less likely to apply, although whether there would be any inconsistencies across the eligible population that do not already appear in the qualifying benefits for Options 1, 2 and 3 is difficult to tell.

Option 5 is least likely to ensure a consistent impact across Scotland. CTR is targeted at households with high council tax liability relative to their income. However, it may not capture all households with children in poverty as their income may not be low enough to entitle them to CTR, particularly if they are in one of the lowest council tax bands. In addition, households not liable for Council Tax⁴⁵ would not be eligible for the income supplement. Examples include parents (most likely lone parents) who live with or have moved back to their parents' house. In addition, students and mothers under 18 are exempt from council tax and therefore would not be in receipt of CTR.

Council Tax liability, and therefore CTR entitlement, is local authority/property band specific. It is therefore possible for a household with the same level of income to be eligible for CTR in one local authority/property but be eligible for a lower amount or not eligible at all in another local authority. Therefore, moving across local authority boundaries or to a different property could affect CTR entitlement.

Overall, for all policy options, the automated payment route can be considered to be more consistent than the application route, as it minimises the chance of missing families with children in poverty. Certain households may be less likely to apply for benefits and this could still be reflected even in automated payment options where eligibility is based on a qualifying benefit.

Take-up

If the income supplement payment is automated, the issue of take-up becomes more about the take-up of the qualifying benefit for Options 1a, 2a, 3a and 5a, rather than the take-up of the income supplement itself.

Option 1a is likely to reach most households if the payment is automated, as it is linked to Child Benefit, which is already paid to most families with an estimated take-up rate of 93% in the UK in 2016/17.⁴⁶ Although widespread awareness of Child Benefit and the lack of stigma associated with it would suggest that take-up could be higher than for other options, it is not certain this high take-up would be retained. It should be noted that take-up of Child Benefit has been on a downward trend in recent years.

45 To be liable for Council Tax, an individual needs to be the main occupier of a chargeable dwelling for Council Tax purposes.

46 HM Revenue and Customs (December 2018), [Child Benefit, Child Tax Credit and Working Tax Credit 2016-17](#)

For Options 2a and 3a, whilst the take-up rate of UC is not yet reported, take-up of Child Tax Credit (which UC child entitlement is replacing) in 2016/17 was estimated at 83%. Analysis by the Office for Budget Responsibility and the Joseph Rowntree Foundation suggests that UC take-up is likely to be higher than for the legacy benefits it replaces. As a result, take-up for these options may eventually be higher than current Child Tax Credit take-up.^{47,48}

For Option 3a, it is useful to consider that Child Tax Credit take-up by larger families was 90% (as opposed to 80% for families with one child) and take-up by lone parents was 96% (as opposed to 72% for couples with children).⁴⁹ We have not modelled these aspects because of the risk of introducing too much precision into the analysis but these patterns may have implications for policy impact and spend.

Although Option 4a is not linked to any existing benefit, it is largely targeting similar groups to UC and Child Tax Credit, which are households on low incomes but not necessarily all in poverty. The take-up could be higher than for Options 2a and 3a because it would not be linked to the UC conditionality regime, although eligibility rules may be perceived as being less straightforward and there would be an issue about raising awareness so that families apply.

Although for Option 5a estimates of CTR take-up are not readily available, DWP estimates suggest that in 2009/10, take-up of Council Tax Benefit (which CTR replaced in 2013) for working-age claimants was between 72% to 81%.⁵⁰

If the income supplement is delivered through an application process, as per Options 1b, 2b, 3b, 4b and 5b, there is the additional issue of how many eligible households apply. Take-up is difficult to predict and model as there is a wide range of factors that can affect it. These include attractiveness of the benefit, awareness of the benefit, awareness of entitlement to the benefit or any perceived stigma attached to it.⁵¹ In addition, complexity and transaction costs associated with applying for benefits is considered an important factor in explaining take-up.⁵²

47 Office for Budget Responsibility (October 2018), [Economic and Fiscal Outlook](#), p. 150

48 Joseph Rowntree Foundation (February 2019), [Where next for Universal Credit and Tackling Poverty?](#), p. 10

49 HM Revenue and Customs (December 2018), [Child Benefit, Child Tax Credit and Working Tax Credit 2016-17](#)

50 Department for Work and Pensions (February 2012), [Income Related Benefits: Estimates of Take-up in 2009-10](#)

51 Eurofound (2015), [Access to social benefits: Reducing non-take-up](#)

52 Institute for Fiscal Studies (July 2012), [Tax and benefit policy: insights from behavioural economics](#)

6.3 Employment and Earnings

When considering changes to the benefit system, it is important to factor in not only the immediate impacts on poverty and income distribution, but also the impact that it can have on recipient behaviour. This is particularly the case in relation to how people engage with the labour market. However, whilst there is evidence that individuals do respond to changing incentives in the tax and benefit system, quantifying this is a challenging task.

For simplicity purposes, the options we considered in Section 5 assume that the income supplement is a flat payment, and that eligibility ends when a household is no longer entitled to a qualifying benefit (Options 1, 2, 3 and 5) or when income reaches a certain threshold (Option 4). This is often referred to as 'cliff edge' means-testing. Further consideration of behavioural responses may be required when refining the final income supplement policy.

Whilst there is extensive literature on behavioural responses to changes in income tax^{53,54} the evidence is more limited on responses to changes in social security specifically, although similar considerations apply. Box 12 discusses some of the concepts and provides a brief overview of what we know about how different groups respond to changes in social security support.

Box 12: Behavioural responses – insights

For some households, a large part of the additional earnings from taking up employment or working more hours can be lost through higher taxes or reduced benefits. Although not discussed specifically here, costs associated with employment (e.g. childcare or commuting costs) can have similar effects. As a result, some households may gain little or, at the extreme, nothing at all by entering work or working more.

There are two broad ways in which the tax and benefit system can influence households' behaviour when it comes to work incentives. Conceptually, a household can be seen as having to make two decisions 1) whether to work at all and 2) whether to increase earnings through more hours or higher pay. Some tax and benefit policies will have an impact on the first one whilst others on the second one, and many will have an impact on both.

For some means-tested benefits, where eligibility is determined by income, a very small increase in earnings may result in a loss of the full amount of the benefit. This is known as 'cliff-edge' withdrawal and can in turn distort work incentives for those with earnings potential near the threshold where eligibility ends. One way to avoid a 'cliff edge' is to withdraw benefits gradually as earnings rise by applying a taper rate, where for an additional £1 earned the benefit entitlement is reduced by less than £1. However, the actual behavioural impact would depend not only on the relative changes in incentives, but also the number of people whose incentives have changed and their level of responsiveness to incentives. In theory, gradual phasing-out of support should reduce the severity of the impact on work incentives but at the same time it would also bring more people into eligibility, thus weakening incentives over a wider range of earnings, and could affect more people than a cliff-edge withdrawal.

53 Scottish Fiscal Commission (March 2019), [How we forecast behavioural responses to income tax policy](#)

54 Scottish Government (November 2017), [The role of income tax in Scotland's budget](#)

Different groups may respond differently to work incentives. Some evidence shows that responsiveness (both in terms of work participation and hours) varies with the level of education and income suggesting that low earning parents and parents with lower levels of education tend to be more responsive. This evidence is consistent across lone parents and both partners in couples with children.⁵⁵ However, some evidence finds that, among men with lower levels of education, only participation response is sensitive to changes in work incentives and that male hours are mostly irresponsive.⁵⁶

Lone parents (most of whom are women) face significant barriers to entering work (e.g. due to high childcare costs). In empirical literature, there is a broad consensus that lone mothers' decisions around whether to enter work are the most sensitive to incentives across all groups. This observation holds, albeit to a lesser degree, for married/cohabiting women and married men with lower levels of income/education^{57,58} and the range of estimates available in literature is fairly wide for these two groups. A range of empirical studies find that, in terms of hours of work, men are much less responsive to incentives.⁵⁹ Lone mothers' hours responses are similar to those of married women – both are moderately sized and may depend on the age of their children.^{60,61}

A few studies have looked at how responsiveness varies with the age of youngest child and there is some evidence that this is higher for women with younger children suggesting that they are more responsive to changes in benefit payments. This may be because women who are already in work gain more flexibility around hours when their children enter nursery/school but the responsiveness falls as children get older.^{62,63} In addition, responsiveness may also depend on the level of earnings as high-earning parents can afford to pay for childcare.⁶⁴ The evidence is, however, mixed and some studies suggest that mothers with all children of school age are more responsive to incentives than mothers with children aged under 5.⁶⁵

Modelling the impact on work incentives is beyond the scope of this paper. However, what can be offered is some commentary around how the options may differ in terms of the impact on the labour market, as well as the scope for refining these options to minimise any negative impacts.

55 Mastrogiacomo, M. et al (2013) [A structural analysis of labour supply elasticities in the Netherlands](#)

56 Institute for Fiscal Studies (December 2009), [Labour Supply and Taxes](#)

57 Institute for Fiscal Studies (December 2009), [Labour Supply and Taxes](#)

58 Institute for Fiscal Studies, (February 2013),

[An ex-ante analysis of the effects of the UK government's welfare reforms on labour supply in Wales](#)

59 Institute for Fiscal Studies (December 2009), [Labour Supply and Taxes](#)

60 Institute for Fiscal Studies (December 2009), [Labour Supply and Taxes](#)

61 Mastrogiacomo, M. et al (2013) [A structural analysis of labour supply elasticities in the Netherlands](#)

62 Institute for Fiscal Studies, (February 2013),

[An ex-ante analysis of the effects of the UK government's welfare reforms on labour supply in Wales](#)

63 Mastrogiacomo, M. et al (2013) [A structural analysis of labour supply elasticities in the Netherlands](#)

64 Institute for Fiscal Studies, (February 2013),

[An ex-ante analysis of the effects of the UK government's welfare reforms on labour supply in Wales](#)

65 Institute for Fiscal Studies, [Mirrlees Review, Chapter 4](#)

Under Option 1, eligibility ends when the household no longer receives Child Benefit. We have assumed that those who currently receive a reduced amount due to the High Income Child Benefit Charge (i.e. households with individuals earning between £50,000 and £60,000) would still receive the full income supplement under this option. If such an approach was adopted, the households affected by the withdrawal of the income supplement are those with individual earnings in excess of £60,000. For a household with two children, assuming a £10 weekly income supplement payment per child, the annual reduction would be in excess of £1,000. For families on lower incomes, who may be more responsive (see Box 12), this option is unlikely to distort incentives to increase hours or earn more, although incentives to move into work could be affected since out-of-work support would increase.

Option 2 has been modelled assuming that the income supplement is fully withdrawn once the household no longer receives UC. Unlike for Option 1, this threshold will be different for different types of households. This is because the number of children, housing costs and other UC entitlements will vary which means the point at which the Maximum Award is reduced to zero through tapering will be different for different households (see Annex I). For a family with two children, assuming a £10 weekly income supplement payment per child, the annual loss in benefit income would be in excess of £1,000, as per Option 1.

Under Option 3 the payment is higher for certain types of families – lone parents, families with young children, larger families, families where a child or adult is disabled and young mothers. This means that these groups will be entitled to a higher payment if they have one or more of these priority characteristics and as a result they will stand to lose a higher amount if their eligibility to UC ends. Some evidence (as presented in Box 12) suggests that parents (mothers in particular) of young children may not be as responsive to incentives if their earning potential is low which may soften the impact on employment, although lone parents' responses were found to be more sensitive.

The considerations are similar for Option 4, where eligibility for the income supplement ends at net household earnings of £25,000. There are a number of variations that could be considered when developing a new means-tested benefit. For example, the income threshold could be based on income from earnings only or income from a range of sources, including other benefit income. Similarly, the income threshold could account for the size and composition of the household. Therefore, the impact on work incentives will depend on the way the means test is designed and the level of payment. It is noted that the weekly payment required would be higher if the income test was based on a lower earnings threshold. This could in turn result in a higher distortion of work incentives since a larger amount of income supplement would be withdrawn.

Under Option 5, eligibility for the income supplement is assumed to end once a family has stopped receiving CTR. Given how CTR operates, this would happen at different income levels for households in different council tax bands, and would also depend on the local authority in which they live (as the amount of council tax paid for each band differs across authorities). Assuming a £45 weekly income supplement payment per child, the loss in income once the family stops receiving CTR will be very large and will increase with the number of children. A family with two children would lose around £4,700 per year.

Scope for refinement of options

There is a case for tapering the income supplement, as it would allow the payment to be withdrawn gradually and avoid situations when a household does not gain from increasing hours or earnings. However, the advantages of tapering should be viewed in context of the size of payment and the ease of designing and implementing a taper.

Of all the options considered, Option 5 presents the clearest case for tapering the benefit because of the high weekly payment (at £45) required to achieve the 3 pp reduction in child poverty. Unless there is a mechanism for tapering, this option could result in negative labour market responses.

The case is less clear for other options where payments are lower (£10) and in particular for Option 1, where the households affected are higher income households who may be less responsive in terms of hours worked (although the increase in entitlement overall could still affect the decision to enter employment for those out of work).

For Options 2 and 3, ensuring that everyone in receipt of UC is paid the full income supplement while tapering the payment at the same time could impact the simplicity of these options. In theory, the most efficient approach would be for the income supplement to effectively simulate an increase in the UC Maximum Award, which is tapered when a household is no longer eligible for UC, thereby creating a uniform taper with the UC. However, this approach would involve identifying and means-testing payments for households outside of the UC system, which is likely to be complex and could create confusion for claimants. Tapering payments for households in receipt of UC creates the issue of overlapping tapers and high benefit withdrawal rates which can impact on incentives. To address this income from UC could be taken into account for taper purposes but this would merely reduce rather than eliminate the problem.

The same issues apply to Option 5 with the additional consideration of the CTR taper. Designing a suitable taper for this option would be the most challenging as the interaction with UC and CTR taper would need to be carefully considered.

For Option 4, any taper would have to be chosen carefully so that, for households already subject to the UC taper, the two do not interact. Alternatively, income from UC could be taken into account before a taper is applied to ensure that the total benefit withdrawal rates do not exceed 100%.

Simplicity is key for good benefit design, and there are advantages in having simple and easily understandable rules to give households certainty about their entitlement, which may be more difficult to achieve with some of the more complex means-testing approaches. Therefore, the relative unclear benefits of tapering must be weighed against the complexity of administering the taper.

7. Conclusion

This paper has set out analysis and modelling of a suite of options which were considered as part of the evidence in the process of developing the income supplement policy.

When developing the options we considered what the target population of the income supplement should be, whether it should be based on existing qualifying benefits or an entirely new means test and finally whether it should be paid through an automatic process or an application.

The level of payment was largely driven by the objective to reduce relative child poverty after housing costs by 3 percentage points. Options have been compared in terms of the level of payment, their cost and also against the second objective for the income supplement related to the impact on the depth of poverty for which detailed distributional analysis has been provided.

Several policy options were found to have similar impacts and costs – these included Universal Credit based options and setting up a payment with its own means test based on income. These options were also found to strike a balance between ‘coverage’ and ‘targeting’. The two remaining policy options either offered better coverage but substantially reduced targeting (Child Benefit based entitlement) or vice versa (Council Tax Reduction based entitlement).

The modelling results should be considered alongside other criteria that should be taken into account when designing the income supplement. A less quantitative and more discursive assessment of how the options may compare against some of these was also provided. As set out in TCPDP, policy impacts must also be considered together with the delivery challenges, which are not discussed in this paper. Instead the policy position paper⁶⁶ sets out how both the evidence presented here and delivery considerations have informed the decision on the income supplement policy.

66 Scottish Government (June 2019), [Scottish Child Payment Position Paper](#)

Annex I – Universal Credit

The level of Universal Credit that a household is entitled to is calculated by adding together its various elements to establish the Maximum Award and then reducing (tapering) this award in line with the household's earned income. For households with children, the award is only tapered once income reaches a set level called the Work Allowance.

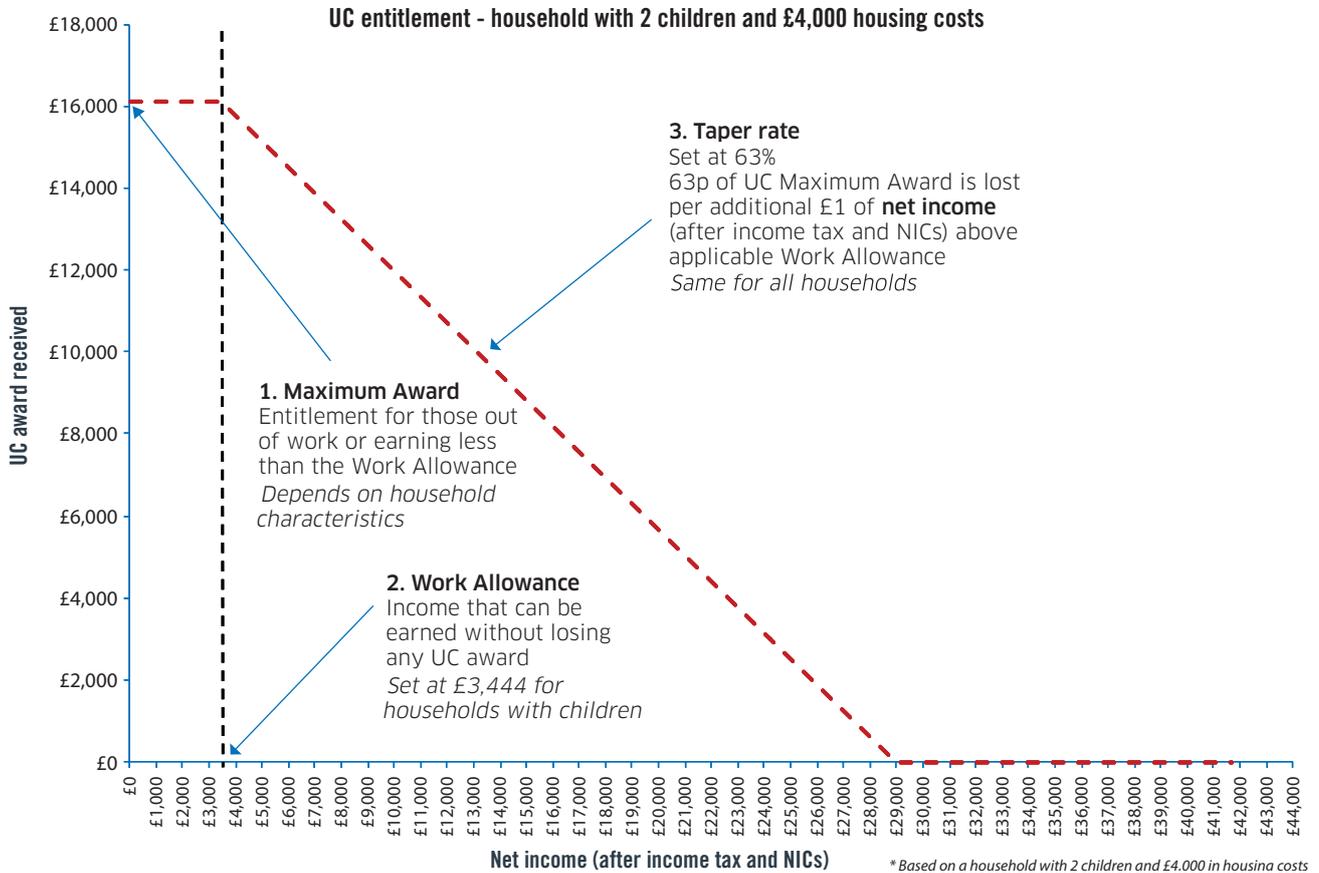
UC Maximum Award. The three main elements are the Standard Element, Child Element and Housing Element.⁶⁷ The level of Standard Element depends on whether the household is made up of a) a single person or a couple and b) adults aged under 25 or 25 or older. The Child Element is then added for each child, with the First Child Element being higher than for subsequent children. From April 2017, the Child Element will be limited to 2 children and the payment for the first child will be lowered to that for subsequent children. This will apply to new claims only. Eligible housing costs, which are within the Local Housing Allowances, are added to this amount as Housing Element.

UC Work Allowances and Tapering. If a household's income exceeds a certain amount – called the Work Allowance – the Maximum Award is reduced at a set taper rate. This is currently set to 63% and means that for each additional £1 of net income above the Work Allowance, the UC Maximum Award is reduced by 63p. Net income refers to earned income (from employment or other sources) after labour taxes, i.e. income tax and employee's National Insurance contributions. There are two Work Allowance levels, depending on whether the household receives the Housing Element. Households without children, or a health condition that affects their ability to work, do not have a Work Allowance.

The figure below illustrates the annual UC entitlement for a household at different levels of net (after income tax and NICs) earned income. For this particular household made up of a couple with 2 children with £4,000 in annual housing costs, the Maximum Award is £16,092. This is made up of £5,987 in Standard Allowance, £3,325 and £2,780 for the first and second child respectively and £4,000 in housing costs. As shown in the chart, this Maximum Award does not start to taper until the net household income reaches £3,444 a year – the Work Allowance for a couple with children with housing costs. At incomes beyond this point, each additional £1 of net income reduces the UC Maximum Award by 63p. This particular household would not receive any UC at annual net income above £28,998. This corresponds to annual gross earned income (before taxes and NICs) of around £37,600.

⁶⁷ Other elements include the Carer, Childcare and Limited Capability for Work element.

Figure A1: Universal Credit means-testing parameters



Annex II – Stakeholder Workshops

In February 2019, the Scottish Government held two workshops with stakeholder organisations to consider the draft objectives and options for the income supplement. Attendees included:

- Roundtable 1: 17 representatives from 13 local authorities and local authority representative organisations.
- Roundtable 2: 16 representatives from 14 third sector and anti-poverty organisations, think tanks and universities.

Participants noted that while the objectives were helpful, it was important they align with wider aims in the Child Poverty (Scotland) Bill and the Tackling Child Poverty Delivery Plan. There was a discussion about the rationale for a three percentage point reduction in relative child poverty and whether that this should be set as the minimum reduction. There was broad support of the objective to reduce the depth (severity) of poverty for those families whose incomes are furthest below the poverty line, although some participants considered that objective may be challenging to achieve given the specific target to reduce relative child poverty. In relation to the third objective, it was noted that the provision of a “sustainable and long lasting” route out of poverty would not merely involve income solutions but non-monetary solutions too. Whilst there was support for this objective, some participants queried whether this was more pertinent to the implementation of the benefit and how it interacts with the wider system, rather than to the design of the supplement itself.

The benefits and limitations to targeting different groups was discussed, with some participants favouring a carefully targeted approach for low-income families and other participants who were generally more supportive of a universal approach. Lone parent families (particularly mothers) and families with a disabled adult or child were mentioned as potential target groups. However, others argued that targeting support so narrowly might be problematic as there is a risk of excluding people who do not fit into such tight criteria and who may be at risk of poverty. Participants at both roundtables emphasised the importance of ensuring the benefit is accessible to marginalised groups, or those not receiving benefits who may be entitled to them.

There was debate in both roundtables around the benefits and limitations of implementing a top-up of a UK administered benefit (such as Universal Credit) balancing the simplicity of such an approach against the risks of mitigating UK welfare reforms. There was a suggestion that means-testing may be too resource intensive and there is a need for benefit to be as streamlined and financially efficient as possible so that more money is spent on the benefit itself.

There was support in both roundtables for an interim solution to be implemented as soon as possible, potentially through local authorities, though it was noted this should be balanced against the need to avoid undermining the advancement of a more permanent solution.

Annex III – The Policy Simulation Model

The Policy Simulation Model (PSM) is a static micro-simulation model⁶⁸ of the UK tax and benefit system. It is primarily used as a tool for policy appraisal⁶⁹ – estimating the relative impacts of different policy options – and is also currently used by DWP as a part of Universal Credit forecasting at fiscal events.

It is actively maintained, developed, and quality assured by a dedicated professional resource within the DWP's Model Development Division. PSM methodology and assumptions are regularly reviewed, scrutinised, and quality assured by analysts in DWP as well as the Office for Budgetary Responsibility (OBR). The model and its outputs are used by analysts in DWP and across Government.

While DWP owns the PSM framework, the specific modelling approach, analysis, and assumptions outlined in this document (see Annex IV) are the responsibility of the Scottish Government.

DWP provide the Scottish Government with a version of PSM based on Scotland only Family Resources Survey (FRS) data under a Service Level Agreement. Scottish Government are grateful to DWP analysts for the provision of PSM and their support and scrutiny of the income supplement work.

Policy simulation in the PSM is based on two processes. The first is to create simulated future survey data to use for policy appraisal. The PSM works by modelling future versions of the FRS, a continuous household survey which collects information on a representative sample of private households in the United Kingdom. Each household in FRS represents a number of other households who were not surveyed, by being multiplied by a weight. The total of the weights of all the households in the survey adds up to the number of households in the country overall, and the total of the weights of all the households in certain groups adds up to the number of households in those groups. The FRS data is projected forward on a 'static' basis: all household attributes are held constant from the base year, but sample weights are adjusted to match forecasted changes in the population.⁷⁰ For example, to simulate an ageing society, the sample weight of young people would gradually decrease and the weight of older people gradually rise. The PSM is calibrated,⁷¹ in this fashion, to demographic as well as benefit outturn forecasts.⁷² The resulting future projections of FRS datasets can then be used to model the impacts of a policy in future years.

The second process in the PSM is to apply a model of the tax and benefit system to these projected datasets. By modelling tax and benefit rules in each year, household attributes reported in the FRS can be used to estimate tax liability and benefit entitlement for each household. This allows simulation of a given policy for a given household or sub-group (e.g. by disability status) of the population. The micro impacts from these individual

68 See Li, J. and O'Donoghue, C. (2013) for an overview of micro-simulation modelling: [A survey of dynamic microsimulation models: uses, model structure and methodology](#)

69 See the [Universal Credit 2011 business case](#) as an example.

70 For around 20,000 households per year, the FRS collects information on income from all sources, housing tenure, household characteristics, employment, caring, disability, and pension participation. Department for Work and Pensions, [Family Resources Survey Collection](#)

71 The PSM uses the calibration software CALMAR. For a methodological description see: [The calibration software CALMAR - What is it?](#)

72 A dynamic model, by contrast, would change the attributes of individuals over time rather than altering their weights.

household records can also be aggregated up to the population level through using the survey grossing weights. Note that, some additional information which is necessary to calculate benefit entitlement/ receipt, but not collected in the FRS, is also included in the model.

The impacts of different prospective policies can be simulated by integrating them into the tax and benefits model, and comparing them to other versions of the PSM with baseline and alternative tax and benefit models (i.e. alternative scenarios). Annex IV outlines the assumptions used for the scenarios modelled in this document.

There are several caveats and interpretive notes which should be borne in mind when considering PSM outputs.

1. The PSM is largely based on the FRS and like any self-reported sample survey has certain limitations, e.g. it relies on claimants (and interviewers) providing accurate responses, and is subject to sampling variation and other forms of error associated with a sample survey. While the FRS is the best available source for modelling benefit entitlement, there are known issues such as the under-reporting of benefit receipt,⁷³ and reporting of respondent's 'usual pay' being inaccurate for the purposes of reporting benefit receipt.
2. The PSM provides some correction for the under-reporting of income-related benefit receipt. It does not correct for under-reporting of non-income related benefits.
3. As any model, the PSM is based on a certain set of assumptions, which introduces uncertainty into the modelling results produced by the model. It uses data from the past, reweighted and with remodelled benefit entitlements and take-up, to predict the impact of policies in the future. The range of assumptions in this approach – the most fundamental being that past FRS data (suitably reweighted) gives a good representation of the future – all carry associated uncertainty. It should be noted that the reweighting regime also calibrates PSM outputs to official forecasts, which are themselves central estimates with their own underlying assumptions and hence are subject to uncertainty.
4. The PSM assumes no behavioural responses to any policy changes modelled. In some cases, this assumption is likely to be unrealistic, e.g. some policies or other external factors can have a significant and unexpected impact on behaviour, whilst certain policies are specifically designed to engender changes in behaviour. The PSM does not have the capacity to take such effects into account.
5. The version of the PSM we are provided is based on a Scotland-only subset of the FRS, which currently contains around 3,000 sample cases (benefit units), representing the Scottish population. Specific policies may only affect a subset of the population (e.g. certain age-groups), and further sub-setting can lead to small sample sizes. In such cases, a small number of sample observations can account for a large absolute number of individuals through their sample weights.⁷⁴ Conclusions drawn at lower levels are therefore highly sensitive and should be treated with care.

73 A working paper explores this here: Balarajan, M. and Collins, D. (2013) [A review of questions asked about receipt of state benefits on the Family Resources Survey](#)

74 See an example of this given in the [OBR's 2018 Welfare Trends Report](#)

Annex IV – Modelling Assumptions

PSM version: The version of PSM used for the analysis is based on 2016/17 FRS data. It incorporates the tax and benefit rules from the UK Governments 2018 Spring Statement with the addition of the policy announcements shown in the following paragraph.

Policy Announcements: We are factoring in the following recent UK policy announcements and Scottish Government policies:

- Following the 2018 UK Autumn Budget, we have increased the UC work allowances by £1,000 per year in 2019/20. To forecast the work allowances in future years, we applied Spring Statement 2018 CPI.
- We increased the minimum wage and national living wage to the values announced in the 2018 UK Autumn Budget. To forecast the minimum wage and national living wage for future years, we applied Spring Statement 2018 CPI. We then checked that the values for the minimum wage for 21-24 year olds and the national living wage matched the most recent OBR forecasts.⁷⁵
- The Scottish Government has introduced a supplement to Carer's Allowance, paid twice per year. This has been incorporated into future years using Scottish Government forecasts of the value of the supplement, modelled as a weekly payment.
- In April 2017 the Scottish Government increased the applicable amount for Council Tax Reduction depending on the number of dependent children in a household. This additional amount is assumed to remain static in cash terms in forecasting years.

Policy Comparison Year: The analysis of the impact of the proposed income supplement policies in 2023/24 is using PSM functionality to project forward from the 2016/17 FRS year.

Two Child Limit: UC is planned to be fully rolled out in 2023/24, however the two child limit will not be implemented in full, since some families will still have children born before April 2017. Therefore we have applied the two child limit only to those children estimated to have been born after April 2017 in 2023/24.

Scottish Income Tax Rates: The model incorporates the changes to the income tax bands made by the Scottish Government from 2018/19, which replaced three income tax bands with five. To estimate the bands for years beyond 2019/20, inflation forecasts (Spring Statement 2018 CPI forecast was used) were applied to the two Scottish-specific bands (the Scottish Basic Rate and the Intermediate Rate) and the Scottish Higher Rate threshold. The Personal Allowance, which is set by the UK Government, is also assumed to be updated with CPI from 2021/22 onwards as per UK Government announced plans.⁷⁶ The Additional Rate threshold is kept constant at £150,000 across all years.

⁷⁵ Office for Budget Responsibility, [Where can I find the latest forecasts?](#)

⁷⁶ HM Revenue & Customs (October 2018), [Income Tax: Personal Allowance and basic rate limit from 2019-20](#)

Median Income: Poverty in Scotland is measured using the 60% of the median equivalised income of households in the UK. Because of the PSM calibration processes that constrain it to the administrative sources of outturn caseload, there is not an equivalent to this measure produced by the PSM. To ensure that the estimated poverty impacts are as close to the reported Scottish poverty statistics as possible, we use our off-model estimate of the UK median income in 2023/24 which is based on 2016/17 published HBAI statistics.⁷⁷ The UK median income is kept the same for the calculation of poverty rates before and after we apply the income supplement as it is assumed that a change to incomes in Scotland will not have a meaningful effect on the median income of the UK as a whole.

Application Process Take-Up Assumption: For options that involve an application process, an assumption for the potential take-up of the income supplement was made. This allows us to make a more realistic assumption on options requiring application as opposed to automatic payments. Considering that Option 1b is nearly universal, targeted at most children, we made an assumption about take-up of this option based on Child Benefit take-up in 2016/17, estimated at 93%.⁷⁸ As Options 2b, 3b, 4b and 5b are targeted at low income families, we made an assumption about the take-up of these options based on Child Tax Credit take-up by income in 2016/17, estimated at 93% for those with income less than £10,000; 82% for those with income between £10,000 and £20,000; 71% for those with income between £20,000 and £30,000; 58% for those with income above £30,000. This averages out to 83% take-up overall.⁷⁹ For option 5b (CTR-based entitlement with application required) the average take-up is higher, at 89%, because most of the families eligible for this option are in the lower income bands. In all cases we assume that there is an element of randomness in whether a household takes up its entitlement.

Rounding of Figures: To allow for meaningful comparisons across the options, policy cost figures have been rounded to the nearest £10 million, the number of children and households affected have been rounded to the nearest 10,000 and the impacts on the rates of poverty have been rounded to the nearest percentage point.

77 Department for Work and Pensions (March 2019), [Households below average income: 1994/95 to 2017/18](#)

78 HM Revenue & Customs (December 2018), [Child Benefit, Child Tax Credit and Working Tax Credit Take-up rates 2016 to 2017](#), Table A.1

79 HM Revenue & Customs (December 2018), Child Benefit, [Child Tax Credit and Working Tax Credit Take-up rates 2016 to 2017](#), Table B.4



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