

BLANK SLATE UBI: A CONSTRUCTIVE CHALLENGE FOR THE UK BASIC INCOME DEBATE

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Foreword

As the authors of this report note, it was Juliet Rhys-Williams who in 1943 first put forward an idea largely recognisable as a Universal Basic Income as a political proposal for the United Kingdom. A Liberal Party politician and Honorary Secretary of the Women's Liberal Federation, Rhys-Williams articulated her idea explicitly as "a suggestion for a new social contract": one rooted in the great liberal ideal of enabling everyone to live the life they choose. As she knew and argued nearly 80 years ago, UBI is and always has been a social liberal idea.

Today, we are in the midst of a pandemic, and facing the onset of even greater uncertainty to come, in the form of the arrival of new technologies and the intensification of the climate emergency. This combination of the current context and the heritage and essential social liberal nature of the idea explains why the Social Liberal Forum has chosen to devote significant energy to the concept of UBI over the last year and more. The role the SLF aims to play, as in all its work, is that of a pathfinder: complementing and constructively challenging British liberalism and the Liberal Democrats in particular, with a view to opening the way for these to follow. This is why the SLF is proud of its partnership with the Lib Dems for Basic Income campaign group and with the Basic Income Conversation over the last year, a partnership which has played a key role in driving the Liberal Democrats' adoption of UBI as official party policy at the party's 2020 Autumn Conference and in sustaining the conversation since.

This report, developed by the US-based UBI Center, has taken that work to the next stage. Following the appointment of an official party working group to develop the specifics of the Liberal Democrats' UBI policy, the SLF approached the UBI Center team with a view to tapping into their rigour, mathematical and modelling expertise - but also their greater distance from the detail of the existing UK tax and benefits system. The ask was to take a "blank slate" approach.

The resulting report does not represent the agreed policy position of the SLF as an organisation, and was never intended to do so. Rather, the core objective was to stimulate and challenge the Liberal Democrat working group to sustain a high level of ambition in the policy development process. This is why the SLF arranged for the UBI Center to present to this group during their development process; and why the SLF is now publishing the resulting report for all Liberal Democrats to be able to refer to during the official consultation phase.

The UBI Center has developed a proposal which shows the potential of an ambitious UBI policy to reduce poverty and inequality in the UK drastically. The SLF is very grateful to Max Ghenis, Nikhil Woodruff, Deepak Singh, and Charles Bauman of the UBI Center in particular for authoring the report, and also to Brendan Hassan, Will Fedder and Katarina van Alebeek (also of the UBI Center) who provided further supporting research.



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Introduction

The Basic Income Earth Network defines universal basic income, or UBI, as “a periodic cash payment unconditionally delivered to all on an individual basis, without means-test or work requirement.”¹ It is an idea often dismissed as “utopian” for its apparent high cost. But the United Kingdom responded to the devastation of World War II with a new social contract, manifested in the National Health Service. Could the country respond to the Covid-19 pandemic with another universal social program? Could universal basic income be “our generation’s NHS”?²

Covid-19 has challenged the notion of work requirements around the world, with many countries paying people not to work, either directly or through their employers, to promote public health and stem poverty among people whose jobs evaporated. Yet means-testing persists, with the desire to target assistance at those who need it. This nominally reduces budgetary outlays, at the expense of recipients who face implicit taxes from benefit withdrawal, and administrative overhead from determining eligibility.

In this paper, we model UBI policies based on a “blank slate” approach. We abandon the existing suite of benefits, and the means-testing, work requirements, and other monitoring that come with it. We also abandon the existing taxation system, with its various rates and separate treatment of different income categories.

Instead, we consider a new social contract that emphasises simplicity, transparency, and egalitarianism. Under this social contract, each member of society keeps half of their income, and shares the other half with all. Formally, we model the replacement of all taxes and benefits with a 50 percent flat income tax, and the resulting surplus distributed as a UBI.

In taking this approach, we acknowledge the high cost of a UBI that meets people’s basic needs, and meet that cost with a large revenue base. This allows us to take full advantage of UBI’s poverty- and inequality-reducing potential, on the basis that if UBI is worth doing, it is worth doing properly.

The complexity of the current tax and benefit system makes it difficult to see who will fare better and who worse with any given change. Outcomes also depend on how the UBI is structured: How much do children, working-age adults, and pension-age adults get? Should disabled people get additional amounts? Should people in different geographic areas, with different housing costs and incomes, get different amounts?

We avoid excessive disruption explicitly by adjusting these UBI parameters. Rather than defining a single UBI policy based on best guesses at each of these numbers, we let computers answer it for us. In fact, we simulated over 40,000 different budget-neutral UBI policies, each of which tries different values for each of these design parameters. Of these, we selected three that minimise a measure of disruption, for different levels of policy complexity.

UBI policy	Weekly amounts					Impacts		
	0-17	18-64	65+	Disabled	Regional	Poverty	Deep poverty	Inequality (Gini)
1: Foundational	£67	£142	£221	-	-	-32%	-86%	-8%
2: Disability	£64	£139	£208	£81	-	-38%	-86%	-9%
3: Disability+geo	£60	£135	£205	£83	£0-11	-37%	-86%	-9%

The result is a trio of highly progressive UBI policies. The poverty rate falls by more than 30 percent, deep poverty (population share below half the poverty line) is nearly eradicated, and inequality falls by over eight percent. Almost three in five Britons come out ahead, and more than two in five see their income rise by five percent or more.

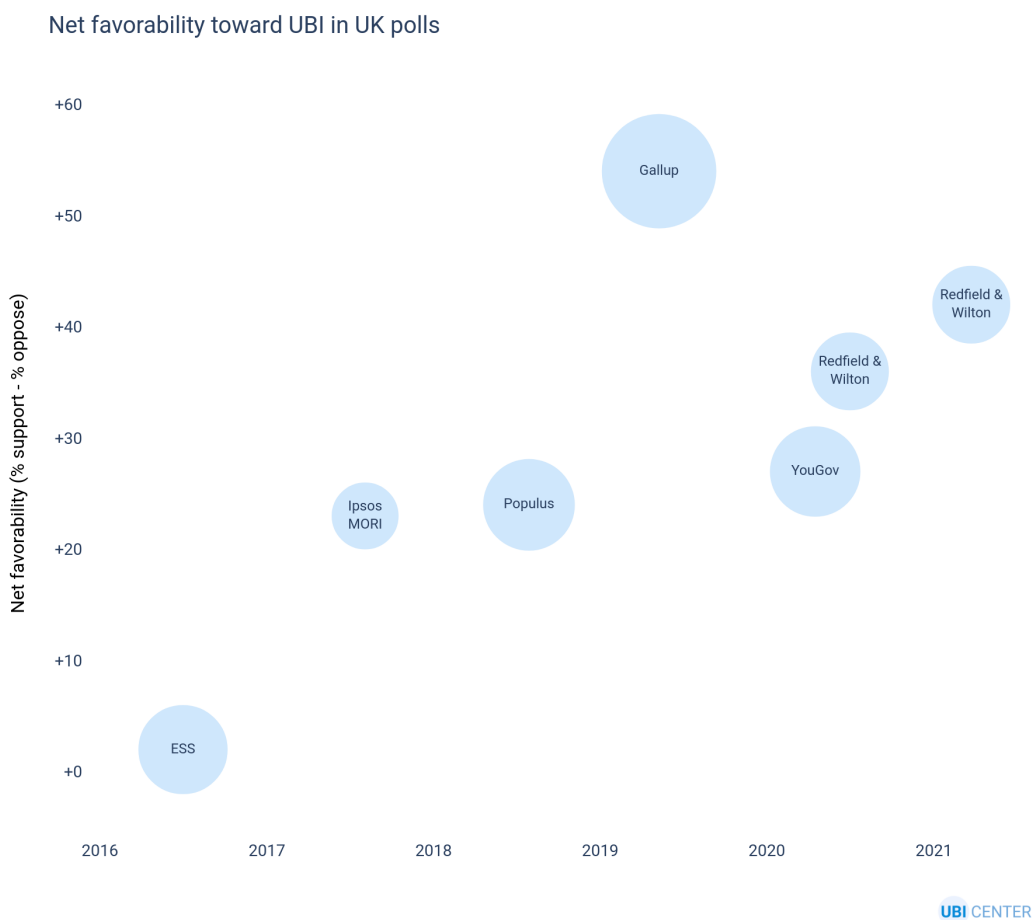
This paper begins with the background of UBI in the UK, followed by a brief summary of the existing tax and benefit system. The remainder of the paper describes our simulation. We close with a discussion of impacts and future research directions.

History and public opinion of UBI in the UK

The long history of basic income originates in the United Kingdom. In 1516, Thomas More suggested “to provide everyone with some means of livelihood” as a means of reducing crime;³ in 1796, Thomas Spence called for dividing a share of land rents “among the whole number of souls”;⁴ in 1797, Thomas Paine theorised a payment system to support the landless in England;⁵ in 1849, John Stuart Mill suggested a minimum subsistence for every member of the community;⁶ in 1918, Bertrand Russell argued for a UBI “sufficient for necessities”;⁷ and in 1943, Juliet Rhys-Williams advocated a cash transfer following the societal upheavals of the World Wars.⁸

Today, over twenty councils, as well as the Welsh Senedd, have passed motions supporting pilot projects.⁹ In 2020, 169 MPs (26% of the Commons) and 78 Lords (10%) committed their support to basic income, and debated the idea in the Houses and in committee.¹⁰ Among political parties, both the Greens and the Liberal Democrats have officially declared their support of basic income.¹¹

Majorities of the public support UBI as well. The most recent poll, conducted by Redfield & Wilton Strategies in March 2021, found that 59% of eligible voters in Great Britain supported implementation of UBI in the UK, compared to 17% who opposed. This net favorability of +42 points shows an upward trend over time, as well as compared to +36 net favorability in an identical poll from July 2020.¹²



Polling also reveals willingness to pay some higher taxes, as a UBI would demand. For example, a 2019 Gallup poll found that 53% were “willing to pay higher taxes to fund a universal basic income,”¹³ and a 2020 Demos poll found that UK adults supported by a 40-point margin “raising Income Tax on earnings over £50,000 per year by 5p in the pound.”¹⁴

However, simulations show that a full UBI would require more expansive tax reforms than these. For example, a 2019 report from Compass¹⁵ analyzed a UBI of £40 per week for children, £60 per week for adults aged 18 to 64, and £175 per week for adults older than 64. To fund it, they proposed: counting UBI payments above £25 as income for means-tested programs, replacing Child Benefit and State Pension, abolishing the personal allowance, raising income tax rates by 3p, raising National Insurance to a flat 12% on all earnings, and further tax reform, as well as £28 billion in external funding.

The UK now stands at a moment where public opinion favours UBI, policymakers are calling for trials, and a number of proposals have already been put forward. The challenge we raise in this paper is to match that energy with sufficient ambition to capitalise on UBI’s potential.

Today's tax and benefit system

Here we review some elements of the UK tax and benefit system affected by our reform: income tax, National Insurance, and benefits. We focus on Universal Credit over legacy benefits, and we omit tax and benefit elements that are not part of the model, such as VAT, capital gains taxes, Council Tax, Council Tax Reduction, and Maternity Allowance. Rather than comprehensively describing the full tax and benefit system (as modeled in our simulation), this summary illustrates the variety of structures it comprises. Any numbers reflect the 2018-19 tax year.

Income tax and National Insurance

Income tax makes up the largest part of HMRC's revenue, primarily taxing income from employment (or profit if self-employed), Jobseeker's Allowance, retirement pensions, rental income, bank and building society interest, and dividends from shares.¹⁶ While most means-tested benefits are exempt, most non-means-tested benefits are taxed. Income tax is calculated based on a system of allowances and band rates:¹⁷

Band	Taxable income	Tax rate
Personal Allowance	Up to £12,500	0%
Basic rate	£12,501 to £50,000	20%
Higher rate	£50,001 to £150,000	40%
Additional rate	Over £150,000	45%

Personal Allowance phases out at 50% of income between £100,000 and £125,000.¹⁸ Particular income sources such as savings interest and dividends have their own tax-free allowances, typically around £1,000.

National Insurance Contributions (NICs) also function as a tax on earnings.¹⁹ The amount of tax to be paid, and by whom, depends on a taxpayer's NI class.²⁰ Employees under State Pension age pay a three-tier NIC of 0%, 12%, and 2% on different marginal earnings (employers also pay NI, though we do not model those impacts). Self-employed people, too, pay on a three-tier schedule of 0%, 9%, and 2%, plus a flat rate, and all individuals can fill in gaps with voluntary contributions.

Benefits

The current welfare state comprises tax credits and benefits for six broad groups: the unemployed, those on low incomes, families with children, the sick or disabled and their carers, older people, and the bereaved.²¹ Some of the largest programs serving these groups include Universal Credit, Child Benefit, Disability Living Allowance, Personal Independence Payment, and State Pension. Moreover, these programs condition receipt on factors like income, assets, age, family structure, employment status (and whether one is actively seeking work), disability (largely assessed in terms of work capacity), NI contribution history, housing situation, and location.

Universal Credit was created in 2010 by the coalition government as a “generational welfare reform” to replace six “legacy benefits”: income-based Employment and Support Allowance, income-based Jobseeker’s Allowance, Income Support, Child Tax Credit, Working Tax Credit, and Housing Benefit. It is currently being rolled out across the UK. Some requirements to claim Universal Credit include being low-income or unemployed, over age 17 and under State Pension age,²² and having less than £16,000 in savings (whether single or jointly as a couple).²³ Some recipients are subject to claimant commitments that require them to seek employment. Payment consists of a standard allowance for all claimants and additional payments for children, housing, disabilities, and other situations.

Child Benefit is a monthly benefit to those caring for a person under 16 years old (or 20 if they are in full time education). Recipients are ineligible if their child starts paid work for more than 24 hours a week and is no longer in approved education or training, starts an apprenticeship in England, or claims certain benefits on their own.²⁴ The payment for the first child exceeds that for subsequent children. Child Benefit is effectively means-tested through the High Income Tax Charge, which taxes either parent whose income exceeds £50,000 on 1% of their Child Benefit per £100 earnings (such that the entirety phases out upon earning £60,000).

Programs for the disabled generally require applicants to complete a questionnaire and undergo an in-person medical assessment. Different programs (such as the sample below) may also have different assessments, beyond other targeting and requirements of each program.

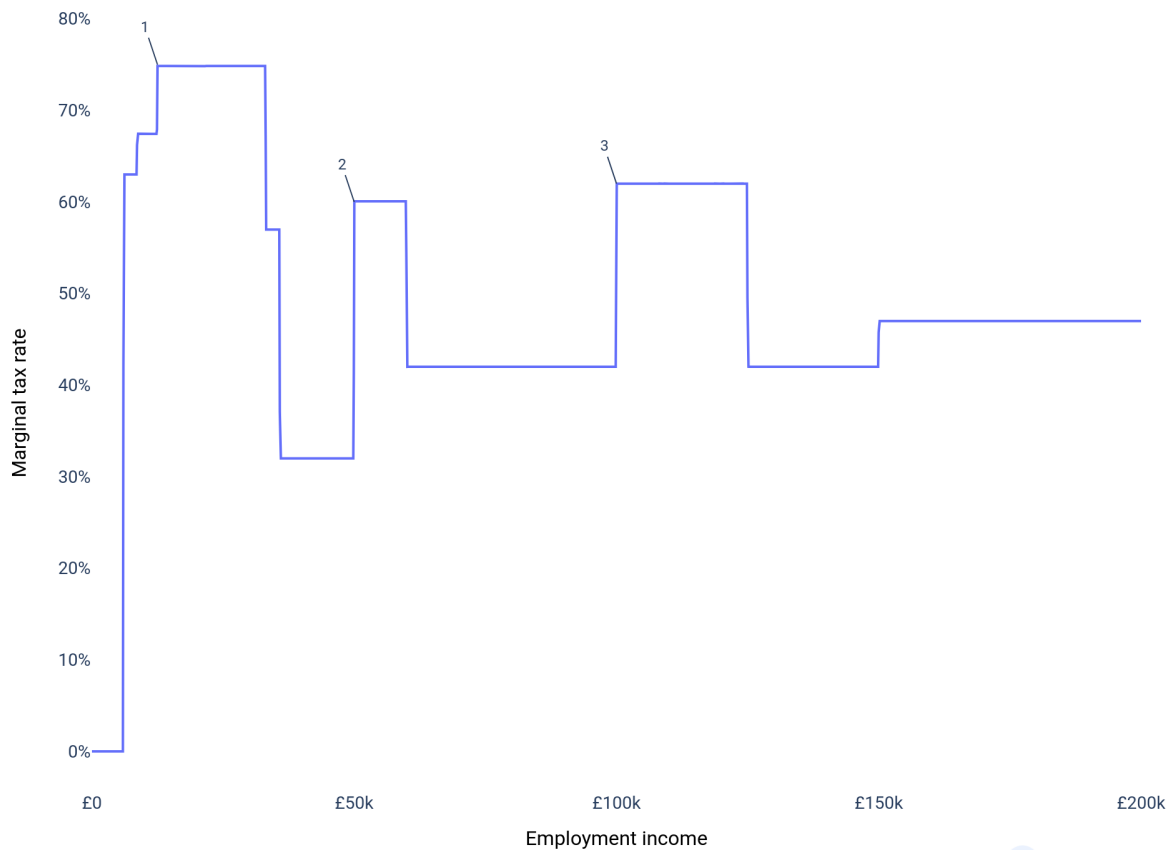
Program	Target group	Work limitations
Employment and Support Allowance	Working-age adults	Hours and earnings limits
Disability Living Allowance	Children	None
Personal Independence Payment	Working-age adults	None
Attendance Allowance	Pensioners	None

Beyond these specific program requirements, households’ total benefit receipt is limited by a “benefit cap,” which depends on family structure and whether the household is in London. The benefit cap affects those of working age and applies to Universal Credit, Child Benefit, Child Tax Credit, Employment and Support Allowance, Housing Benefit, Incapacity Benefit,²⁵ Income Support, Jobseeker’s Allowance, Maternity Allowance, Severe Disablement Allowance, and Widowed Parent’s Allowance.²⁶

Marginal tax rates

The tax and benefit system described here interacts to create erratic, sometimes extremely high marginal tax rates. While the tax side of the current tax-benefit system increases with income, accounting for benefit phase-outs shows that marginal tax rates do not follow a clear progressive schedule.

Marginal tax rate faced by couple with two children



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For example, a couple with two children will face marginal tax rates well in excess of 50% in three separate earnings regions (depicted above):

1. The phase-out of Universal Credit, similar to the phase-out of legacy benefits (75%)
2. The High-Income Tax Charge, constituting a repayment of the Child Benefit (60%)
3. The withdrawal of the Personal Allowance (62%)

Other parts of the benefit system create even worse incentives. Pension Credit creates a 100% marginal tax rate, while Jobseeker's Allowance and Employment and Support Allowance create cliffs where recipients lose more in benefits than they get from earning a marginal £1 (i.e., recipients face marginal tax rates above 100%).

Despite the intentions for Universal Credit to simplify the suite of benefits and improve incentives, the fundamental fragmentation of targeting different subpopulations inevitably constrains progress.

The UK's tax and benefits system is neither simple enough to navigate easily, nor efficient enough to ensure productive incentives, nor redistributive enough to provide a solid foundation for society. Rather than model yet another incremental step, we examine what the UK could achieve if given a fresh start.

Simulation of blank slate UBI policies

Data and microsimulation

To conduct our analysis, we used the 2018-19 Family Resources Survey (FRS),²⁷ a representative survey of households including household structure, income sources, tax liabilities, benefit receipt, and other information. While the FRS is commonly used for microsimulations like ours, it has some limitations: it understates income and benefits; omits capital gains; and only provides regional geographic detail, limiting the precision of housing benefit/payment estimation (see Appendix B for a discussion of these limitations). We corrected some of these underestimations using OpenFisca-UK,²⁸ an open-source static microsimulation model of the UK tax and benefit system which we developed. OpenFisca-UK also enabled us to calculate marginal tax rates and ultimately to simulate the UBI policies.

Our analysis is “static,” meaning that we assumed no behavioral changes. Since our reform affects income and marginal tax rates, a dynamic macroeconomic model would produce different estimates based on projected labour supply effects.

Interactive figures and all source code necessary to reproduce findings in this section are publicly available.²⁹

Reforms

We modeled three separate reforms, each of which shares the following features:

- Replacement of the current income tax with a 50% tax on total income (including the removal of allowances and reliefs)
- Removal of employee-side National Insurance contributions
- Removal of benefits³⁰
 - Child Benefit
 - Income Support
 - JSA (contribution- and income-based)
 - Child Tax Credit
 - Working Tax Credit
 - Universal Credit
 - State Pension³¹
 - Pension Credit
 - ESA (contribution- and income-based)
 - Housing Benefit
 - PIP (Daily Living and Mobility components)
 - Carer's Allowance
 - Incapacity Benefit
 - Severe Disablement Allowance
 - Attendance Allowance
 - Disability Living Allowance (Self-Care and Mobility components)

These reforms raise £478bn, or £140 per week per UK resident.

Additional tax revenue	Repeal of State Pension	Repeal of other benefits	Total surplus
£296bn	£86bn	£96bn	£478bn

We estimate that adjustments to the FRS, taxing capital gains at 50%, and “aging” the data to 2021 would increase the revenue from our reform by 15 to 20 percent under a static basis, making the reform more progressive, though incorporation of dynamic effects could reduce revenue (see Appendix B).

From here, we applied optimisation algorithms to define UBI amounts as to minimise the mean percentage loss. That is, we let computing techniques identify the budget-neutral UBI amounts for each demographic group that avoid leaving people worse off than they are today (though note that each policy also leaves most people better off, especially low-income people).

Mean percentage loss

Loss is defined for each individual in a population for a reform, and is calculated as the reduction in that individual’s household’s disposable income (before housing costs). *Percentage loss* is the loss as a percentage of the original disposable income. *Mean percentage loss* is defined as the mean of the non-negative percentage losses—the average percentage loss, with winners losing 0%.

We judged reforms on mean percentage loss for two reasons:

1. Progressivity: losses to people with initially low incomes will impact the mean score more than equal losses to those with initially high incomes.
2. Safety: the metric is not affected by increasing already positive gains; instead, the reform is incentivised to reduce induced losses as far as possible.

To illustrate mean percentage loss, consider this sample population:

Person	Baseline household disposable income (£/week)	Reformed household disposable income (£/week)	Percentage loss
1	150	200	No loss
2	1,000	950	5%
3	4,000	3,000	25%

In this instance, we would calculate mean percentage loss as: $(0 + 0.05 + 0.25) / 3 = 10\%$

Reform specifications

We specify three candidate basic income reforms:

Reform 1. Foundational: Payments varying with age: under 18, 18 to 64, and over 64.

Reform 2. Disability: As above, with an additional supplement for disability.

Reform 3. Disability + geo: As above, with additional supplements for UK regions.

The disability supplement provides a flat weekly payment to current claimants of any of the following disability benefits:

- Incapacity Benefit
- Severe Disablement Allowance
- Attendance Allowance
- Disability Living Allowance
- Industrial Injuries Disablement Allowance
- Personal Independence Payment

We do not include Employment and Support Allowance as a qualifying benefit for the disability supplement, since it is means-tested.

The regional supplement is paid to every individual in the UK, independent of their household composition. The regions used are the standard regions in the United Kingdom, formerly known as Government Office Regions. The regional supplements intend to account for variance in Housing Benefit and the housing component of Universal Credit, but it is not constrained to any specific data and can therefore act as a rebalancing agent across the regions for other changes resulting from tax and benefit reforms.

Basic income amounts

The basic income amounts were generated by *differential evolution*, an optimisation algorithm that samples and evaluates basic income reforms to iteratively improve the selection.³² We optimised all UBI parameters: amounts for age, disability, and geography. The optimisation results for each reform are given below:

Reform	Mean percentage loss	Reforms evaluated
1: Foundational	4.91%	3,090
2: Disability	4.45%	4,207
3: Disability + geo	4.49%	41,966

The availability of disability supplements reduces losses, while the availability of geographic supplements has essentially no effect. The final basic income reforms are shown below:

Attribute	1: Foundational	2: Disability	3: Disability + geo
Age 0 to 17	£67	£64	£60
Age 18 to 64	£142	£139	£135
Age 65 or older	£221	£208	£205
Disability	£0	£81	£83
North East	£0	£0	£5
North West	£0	£0	£2
Yorkshire and the Humber	£0	£0	£4
East Midlands	£0	£0	£4
West Midlands	£0	£0	£1
East of England	£0	£0	£3
London	£0	£0	£11
South East	£0	£0	£4
South West	£0	£0	£3
Wales	£0	£0	£2
Scotland	£0	£0	£1
Northern Ireland	£0	£0	£0

These UBI amounts indicate that, in order to approximate the existing system, basic income policies at this level of funding should spend considerably higher amounts on senior citizens and lower amounts on children. The improvement of *Reform 2: Disability* over *Reform 1: Foundational* also indicates that disability supplements, funded primarily by lowering payments to non-disabled senior citizens, reduce losses by offsetting benefit removal.

We optimise each reform under the constraint of budget-neutrality, but due to rounding, each reform generates a small deficit or surplus (under £700 million per year).

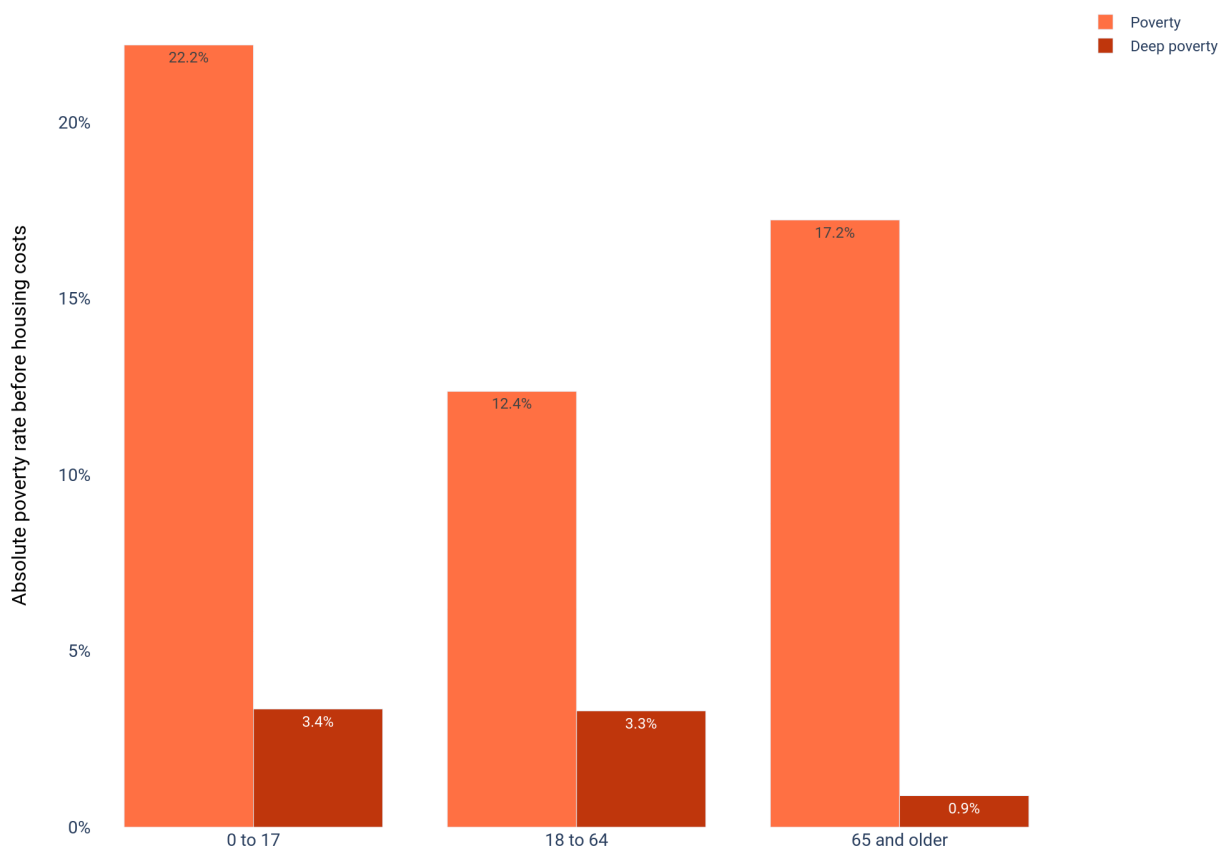
Reform comparisons

Each of the three reforms is highly progressive, at minimum reducing poverty by 30% and deep poverty by 85%, raising the bottom decile's income by 50%, and reducing a broad measure of income inequality by 8%. Here we show the minor distributional differences between the reforms.

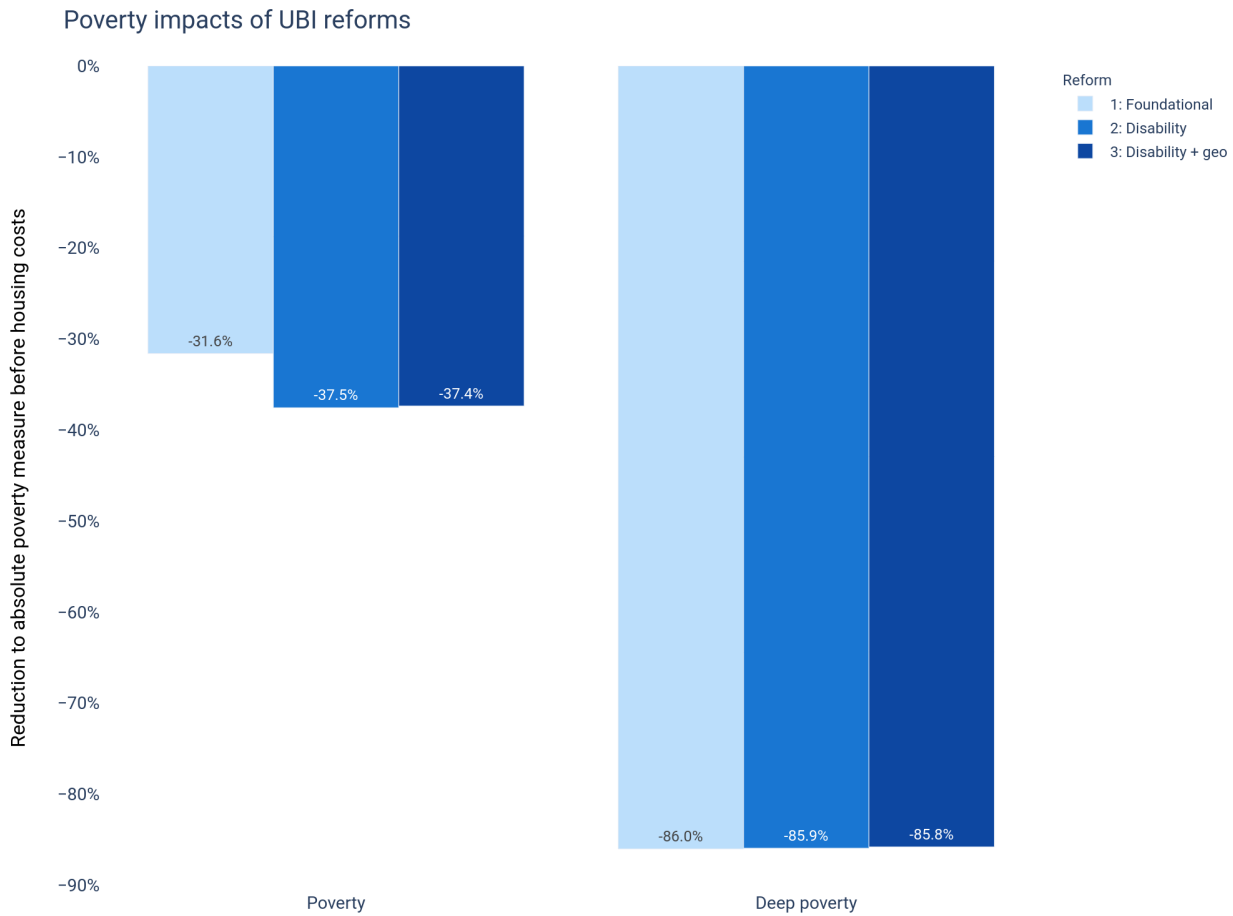
Poverty

UBI is chiefly an antipoverty policy, and our simulation shows that these reforms succeed on this front. We report absolute poverty rates before housing costs, defined as 60% of the 2010/11 median income adjusted for inflation. In addition, we report deep poverty, which sets a line at half the normal poverty line. The current poverty and deep poverty rates are 15.3% and 2.9%, respectively, based on the 2018/19 FRS³³ and OpenFisca-UK. Working-age adults face relatively lower poverty rates than other age groups, while seniors face relatively lower rates of deep poverty.

Current poverty rates by age group



Our reforms reduce poverty by between 31% and 38% (reducing the rate below 11%), with the disability supplements adding to the effect. As a matter of context, the poverty rate fell only 29% from 2003 to 2019.³⁴ Each also reduces deep poverty by 86% (reducing the rate below 0.5%).

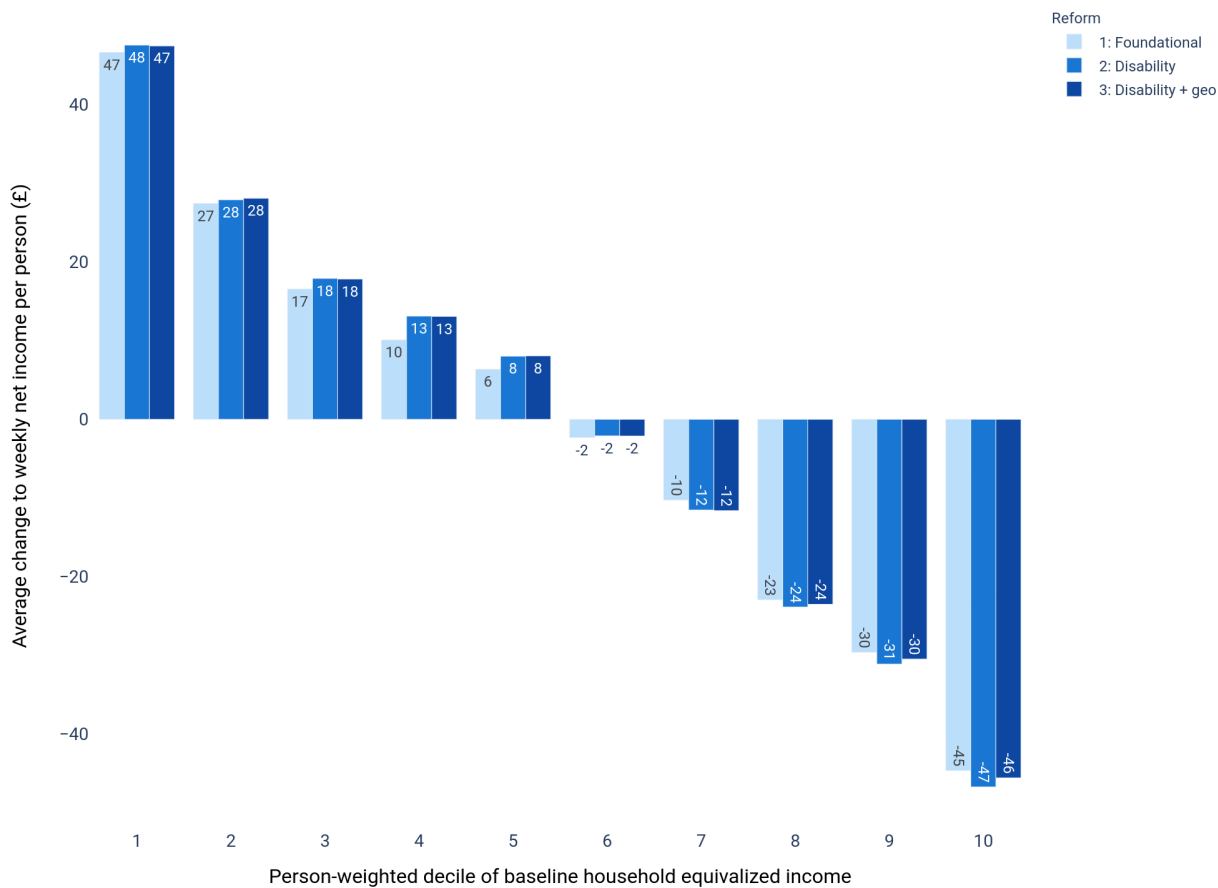


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Changes to income deciles

All three reforms raise disposable income for the bottom five deciles, with a negligible impact on the sixth and a negative average effect on the upper four deciles. The reforms redistribute pounds consistently from higher earners to lower earners, adding an average of £47 per person per week to households in the bottom income decile³⁵ and lowering top-decile incomes by about the same amount.

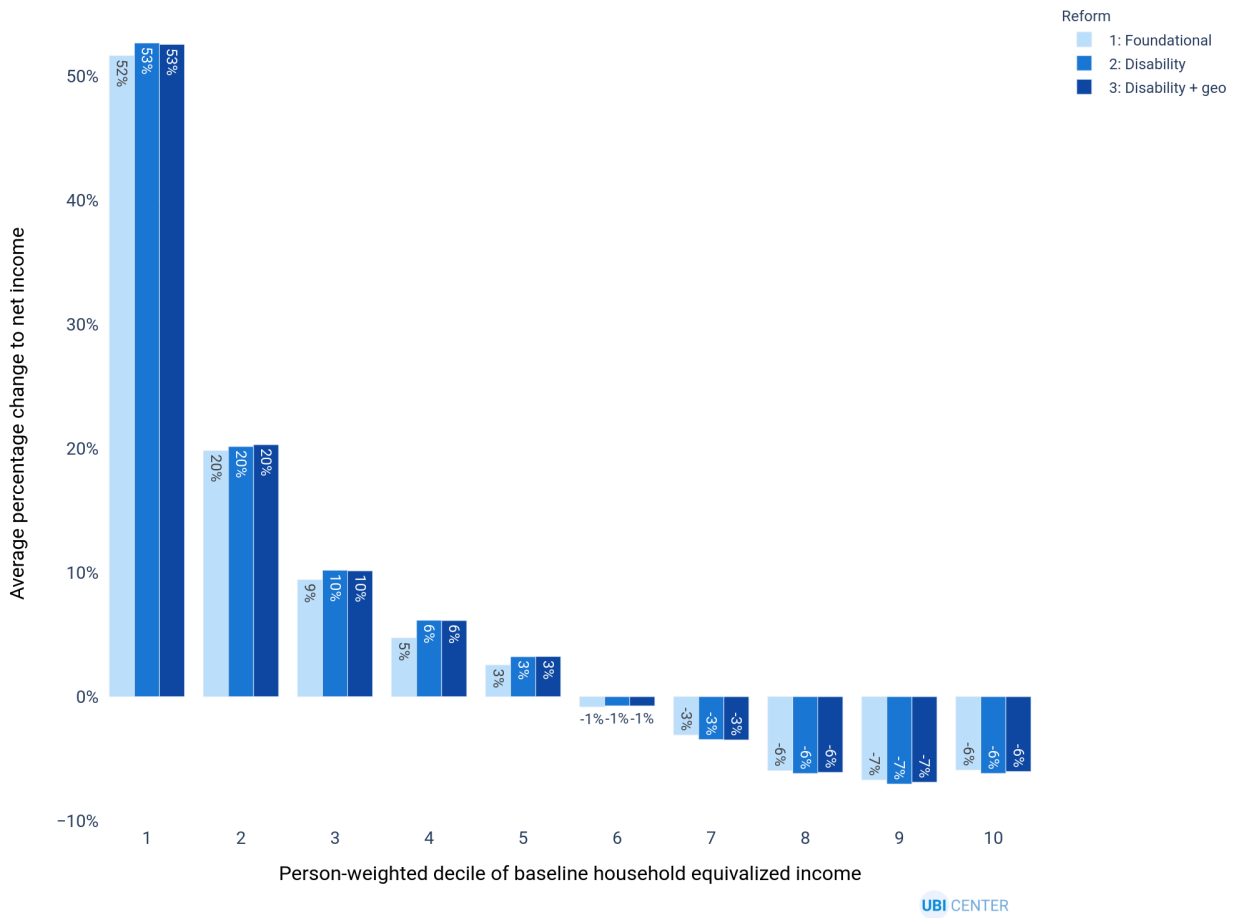
Change to weekly net income by decile and reform



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The progressivity emerges more starkly in percentage terms: the bottom decile's income rises by more than 50% in each reform, at the cost of income losses of 6-7% among the upper third.

Change to net income by decile and reform

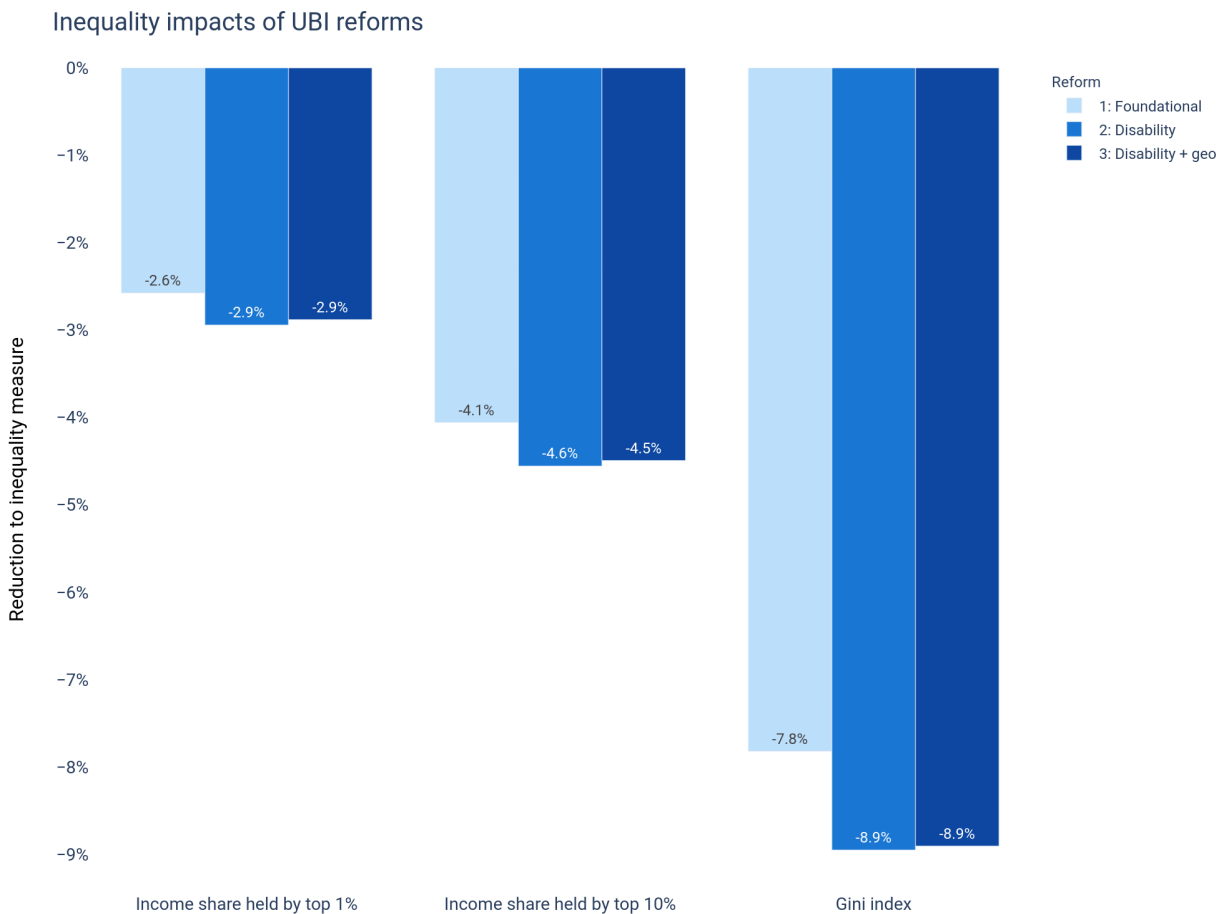


Inequality

We summarize these distributional impacts in three ways, in increasing broadness:

1. The income share of the top 1%, currently 10.5%
2. The income share of the top 10%, currently 32.7%
3. Gini index, which characterizes the full distribution, ranging from 0 (perfect equality) to 1 (perfect inequality, with one person holding all the income), currently 0.41

Each reform reduces the income share of the top 1% by about 3%, and the income share of the top 10% by 4-5%. The Gini index was most sensitive to the reforms of the measures, in accordance with the large increase to incomes at the bottom of the distribution; reforms lowered this inequality measure by 8-9%. Across measures, adding the disability supplement slightly increases inequality reduction.



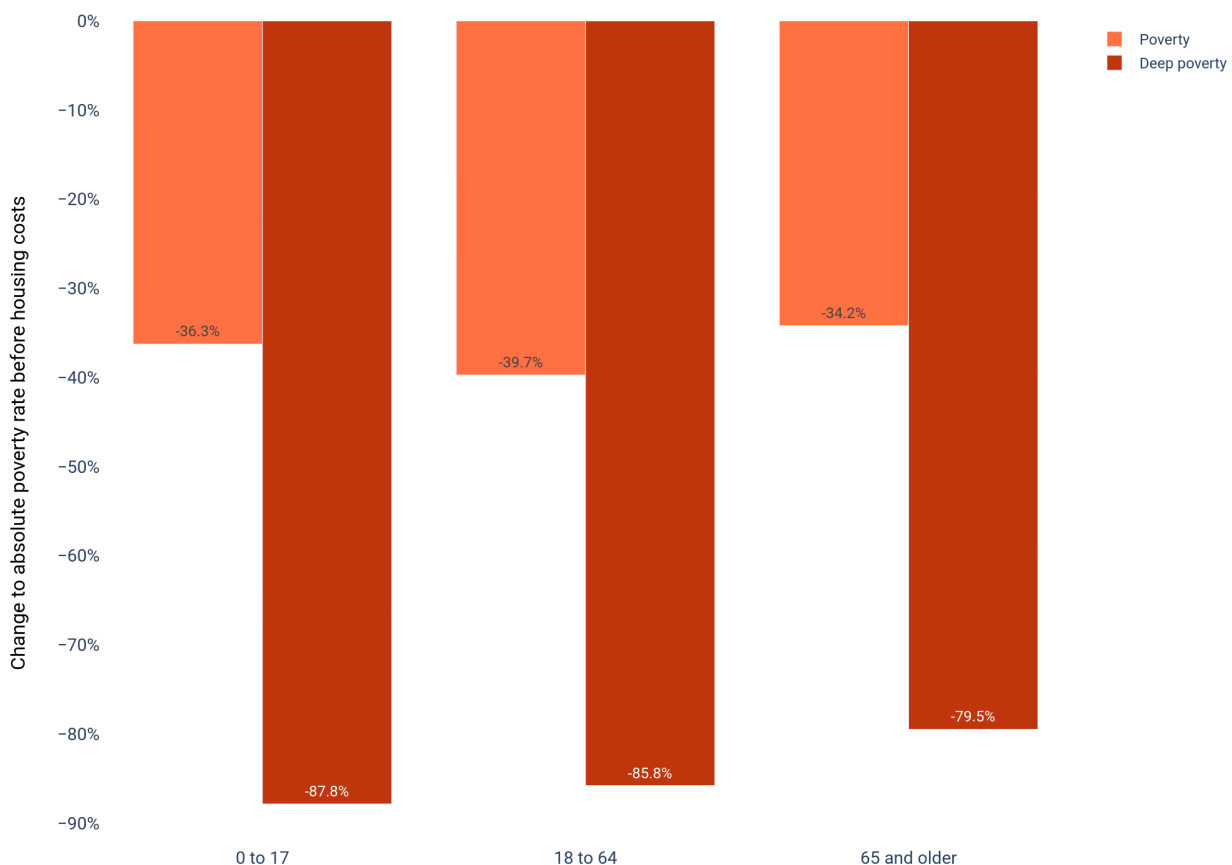
Focus on Reform 2: Disability

In order to more closely inspect the results of the reform, we will focus on *Reform 2: Disability* and its effects on groups in the population, on the basis that it reduces losses and inequality substantially more than *Reform 1: Foundational*, while effectively equivalent on those fronts to the more complex *Reform 3: Disability + geo*. See Appendix C for versions of these charts for the other two reforms.

Poverty by age group

Reform 2: Disability cuts poverty by at least 34% across age groups (somewhat more for working-age adults), and cuts deep poverty by at least 79% across age groups (somewhat less for seniors). Other reforms have similar poverty effects by age.

Change to poverty rates by age group under Reform 2: Disability



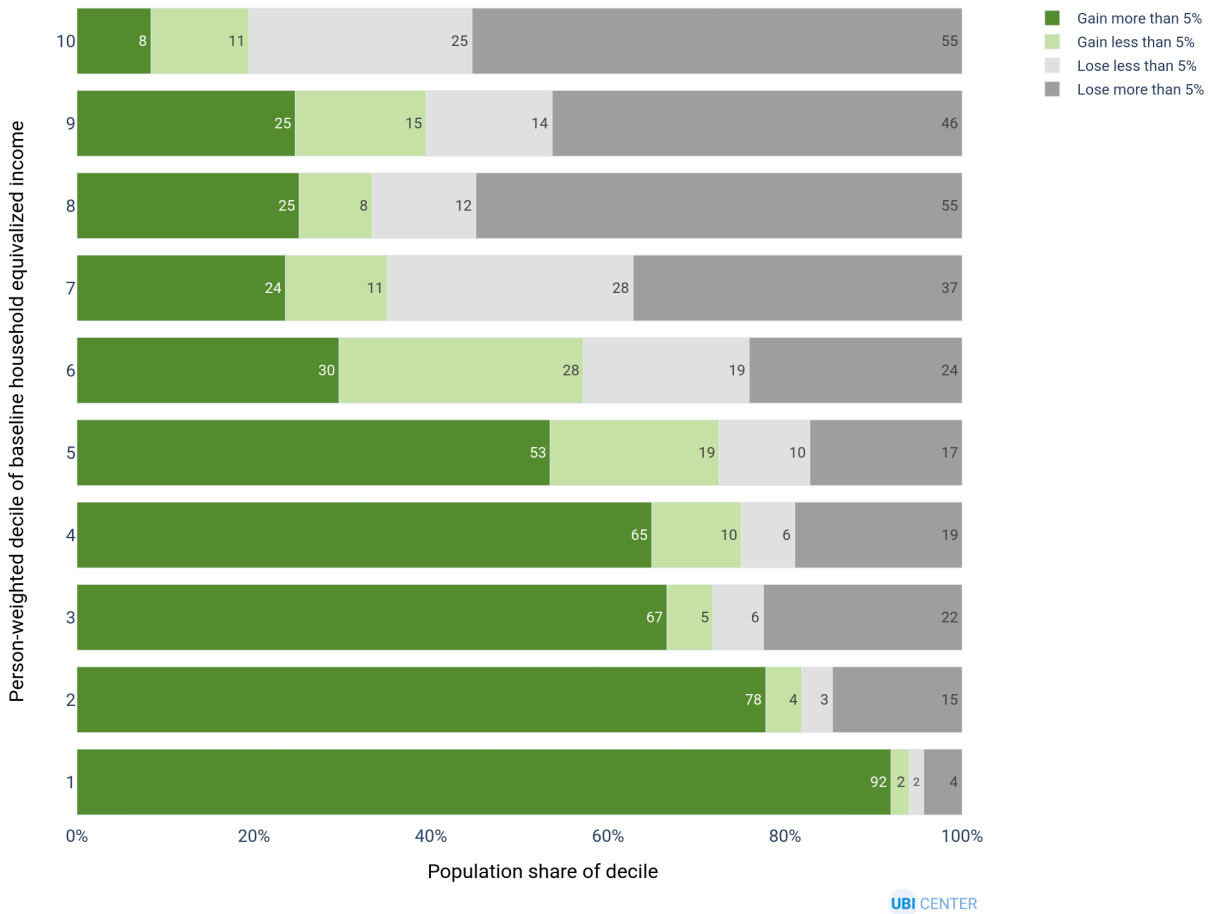
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Intra-decile changes

Previous charts show that each reform increases average incomes at low deciles and lowers them at upper deciles, but this does not necessarily translate to uniform outcomes within each decile. Households within each decile vary in income composition, family structure, benefit receipt, and individual characteristics such as disability, and as a result they would experience diverse effects.

Aside from the bottom decile, where 94% of people come out ahead, this within-decile diversity is significant. Most people in each of the bottom six deciles come out ahead, including 58% of those in the sixth decile. But even in the top decile, more than one in six people also comes out ahead, and one in 12 gain more than 5%; these could be people whose income falls in currently highly-taxed categories (and who therefore don't incur significant new tax liabilities), and also have children for whom they newly get benefits.

Distribution of impacts within deciles - Reform 2: Disability

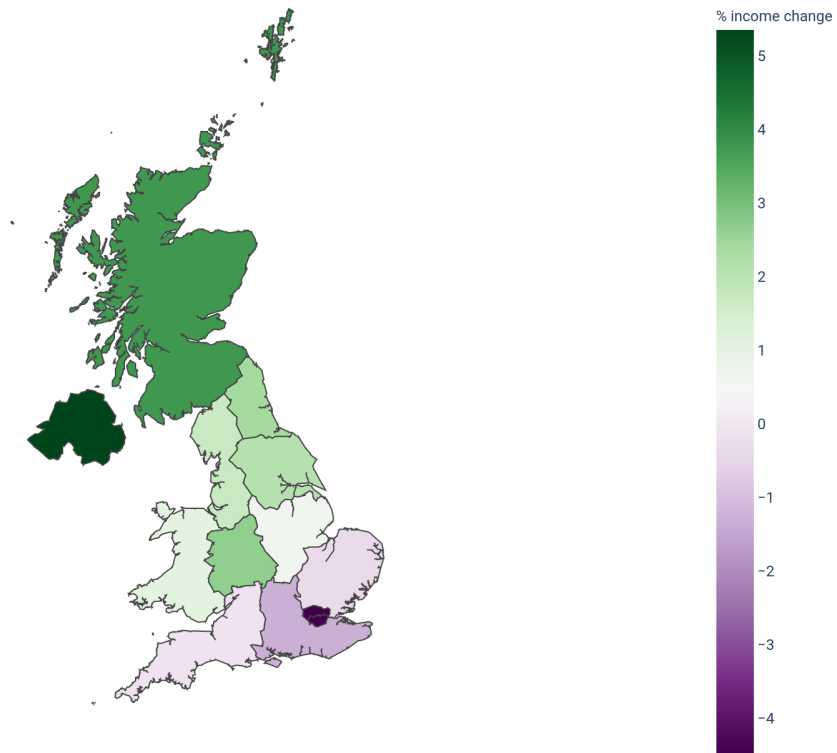


Overall, *Reform 2: Disability* increases net incomes of 58% of the population, increases net incomes by more than 5% for 46% of the population, and reduces income by more than 5% for 30% of the population.

Regional differences

Just as these reforms largely redistribute from high-income households to low-income households, they also redistribute from high-income regions to low-income regions. The largest absolute effects occur in Northern Ireland, where *Reform 2: Disability* raises net income by 5.4%, and in London, where it lowers net income by 4.5%.

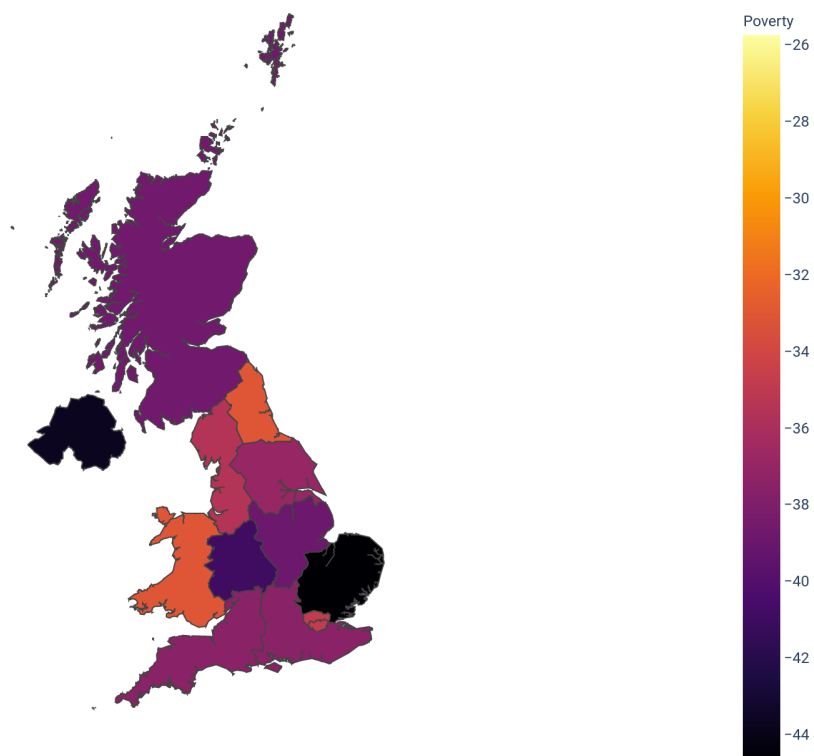
Percentage income change by region - Reform 2: Disability



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Similarly, *Reform 2: Disability* reduces poverty more in Northern Ireland (44%) and East of England (45%) than any other region. North East and Wales see the smallest poverty reductions (33%), and poverty in London falls by 35%.

Change in absolute BHC poverty by region - Reform 2: Disability



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The introduction of regional supplements in *Reform 3: Disability + geo* mutes some of the regional variance; see Appendix C.

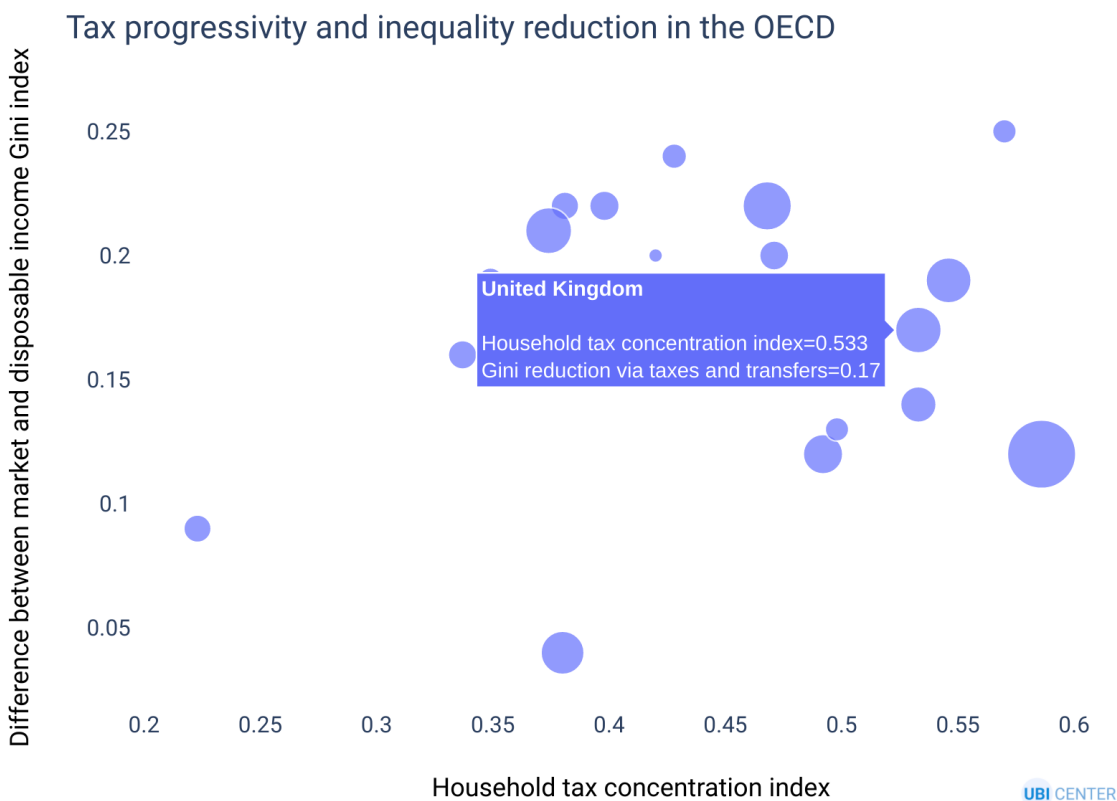
Discussion

We have introduced several novel ideas in this blank-slate UBI policy analysis in the UK. This paper is the first to use our open-source OpenFisca-UK microsimulation model of the UK tax and benefit system (OpenFisca-UK is also the first open-source UK microsimulation model). It is the first to model replacing the vast majority of the tax and benefit system with a flat income tax and UBI. It is also the first application of optimisation algorithms to UBI policy design.³⁶

These novel techniques reaffirm what others have found in similar simulations: UBI reduces poverty and inequality, and the bigger the UBI is, the more it does so. In fact, despite our reform's flat taxation and budget-neutrality, it reduces poverty more than the *Compass* simulation, which retained progressive taxation and relied on £28 billion in new funds per year,³⁷ thanks to the larger UBI amounts.

By moving to a high-rate broad-based income tax, our reforms fund generous UBIs that produce highly progressive outcomes. They lift more people out of poverty than the UK has done in the past 15 years, and virtually eliminate deep poverty. The reforms also eliminate welfare cliffs from programs like the Jobseeker's Allowance, and equalise marginal tax rates to reward work and savings consistently across income and family categories. By eliminating progressive taxation, the reforms also eliminate disparate treatment of single vs. married people³⁸ and avoid distorting labour supply across years.³⁹

This combination of high tax levels, low tax progressivity, and large cash transfers correlates to inequality reduction (from market income to disposable income), according to a UBI Center analysis of OECD countries.⁴⁰ The UK has some of the most progressive taxation in the OECD, yet because it raises less than the OECD average in tax revenue⁴¹ and distributes less cash assistance than most OECD countries, its redistribution system fails to reduce inequality as much as countries like Ireland and Finland.



Lower poverty rates would both relieve suffering today and yield dividends in the future. Studies show that cash transfer programs accelerate transitions out of homelessness⁴² and reduce property crime,⁴³ and don't increase consumption of alcohol or tobacco.⁴⁴ Poverty reduction especially benefits children, raising test scores,⁴⁵ improving mental well-being and development,⁴⁶ increasing future earnings, and even extending lifespans.⁴⁷

This system will end delays resulting from engagement with means-testing and eligibility verification bureaucracies. Universal Credit has increased the time required to receive benefits, and research from both the Trussell Trust⁴⁸ and the Peabody Trust⁴⁹ suggests that these delays increase food poverty and rent arrears. Some requirements, like Universal Credit's asset limit, distort behavior (in this case, discouraging savings) and keep people from getting needed assistance altogether, especially in unexpected downturns like the pandemic.⁵⁰ Under a UBI system, the government would begin paying a person's parents on a regular basis upon birth, then pay them directly on their 18th birthday and every week thereafter until death. When people lose jobs, gain jobs, become married, become divorced, or experience other life events that currently require them to interface with welfare agencies, they could instead focus on managing those life events and know that they'll have money for basic needs. A universalist welfare state would not only free up cognitive resources of the citizenry, it would also free up taxpayer resources currently spent on administrative overhead for more productive uses.

Taxing all income equally would also reduce labour market distortions. A recent report from the Institute for Fiscal Studies (IFS) claimed: "there is a large, unjustified and problematic bias against employment and labour incomes and in favour of business ownership and capital incomes" in the current UK tax system.⁵¹ This disparate treatment may contribute to the move toward gig work and self-employment: business owner-managers have been the fastest-growing part of the labour market. This may be harming productivity: while the rapid growth in the number of small businesses in the UK has often been hailed as a success, "the UK has a longer tail of low-productivity businesses than other countries."⁵²

A transparent and equal marginal tax rate schedule provides individuals more certainty over how changes to their incomes will affect their disposable income, avoiding complexities that suppress take-up of benefit programs for which eligibility is ambiguous and compliance is burdensome. A simpler, more legible tax and benefit system yields advantages from the measurable, such as administrative overhead costs and variance in marginal tax rates, to the intangible, like trust in a comprehensible government.⁵³

Nevertheless, open questions about our reform remain. Eligibility for the disability supplement is probably the most dubious component: our model gives the supplement to people who currently receive some disability benefit, but this (by design) excludes many disabled workers. However, we don't have a good signal of who would be sufficiently disabled for a supplement if such a supplement were not (explicitly or implicitly) means-tested. This is largely a medical question, and may ultimately be out of scope of UBIs; however, the entanglement of various disability benefits with other benefit programs, and its severe means-testing, precluded retaining existing programs while flattening the tax and benefit system. Existing disability benefits vary with the type and severity of the limitation, and future research could simulate something similar (though this too would be limited to current recipients).

Similarly, the heterogeneity of Housing Benefit values means that replacing it with UBI will introduce disruption. We expected that geographic supplements would level this out, given how housing prices vary across regions, but they had a minimal impact on disruption. Retaining Housing Benefit was not a viable option, because it's not separated from the rest of Universal Credit for households on Universal Credit. Payments that vary with consumption choices are inconsistent with UBI's tenets of choice and equal treatment (in this case, they give more money

to people who consume more housing), but avoiding displacement of current Housing Benefit recipients may require extra care, such as phasing out the benefit or grandfathering households in.

Beyond these considerations, future research could go in several directions to model more expansive (and potentially progressive) UBI reforms, facilitate other policy objectives, and improve the accuracy of the estimates:

- Adjusting or introducing more taxes and benefits, such as capital gains taxes, carbon taxes, VAT, land value taxes, wealth taxes, and council tax (and council tax reduction).
- Incorporating dynamic general equilibrium modeling that considers labour supply effects.
- Considering impacts on related government services, such as DWP administration, homelessness programs, law enforcement, and healthcare.
- Extrapolating into the future as to model transitional policies, such as phasing in the UBI and tax increases while phasing out other benefits.⁵⁴
- Separating UBI amounts into finer age groups, such as for young children (who require additional childcare expenses) and adults under age 25 (given some existing benefits like Universal Credit treat them differently).
- Optimising for other criteria like poverty, inequality, or social welfare functions borrowed from optimal taxation literature, and/or treating certain groups, like disabled people, with greater weight.
- Finally, connecting our research to the call for UBI pilots may accelerate understanding of the policy. For instance, could local pilots be paired with taxes needed to make the policy sustainable? Or could UBI replace some existing benefit like JSA, as Finland did?⁵⁵

Conclusion

Our objective in this report has been first and foremost to stimulate and challenge the existing UK basic income debate. Some, we know, will recoil at the headline features of the approach we model. Repealing all means-tested benefits and implementing a flat rate of income tax may well spark negative reactions.

However, as a final word, we would like to emphasize the outcomes of the reform, rather than the features. We have put forward a model that drastically reduces poverty and inequality, while also razing the demeaning hurdles currently in the way of poor people obtaining what they need to survive, and putting an end to erratic tax rates that distort economic behaviour throughout the labour market.

It may well be that the policy approach that can be adopted looks different from this. The challenge we would like to leave, though, is to fulfill UBI's potential by untethering from the current system. Any proposal that is developed should be judged by its impact on social welfare: How much poverty does it avert? How does it treat those in need? How does it enable human flourishing?

By framing UBI as the centerpiece of a new social contract, rather than an incremental improvement upon the existing one, we have shown that these goals are achievable. If another UBI policy does not achieve them to the same degree, perhaps greater ambition is needed.

Appendices

Appendix A: Polls on UBI

Poll	Date	Sample	Support	Oppose	Question
Redfield and Wilton Strategies	2021-03-24	1,500	59%	17%	To what extent, if at all, would you support or oppose the implementation of UBI in the UK?
Redfield and Wilton Strategies	2020-07-01	1,500	56%	20%	To what extent, if at all, would you support or oppose the implementation of UBI in the UK?
YouGov	2020-04-16	2,015	51%	24%	To what extent, if at all, would you support or oppose the government introducing a UBI?
Gallup	2019-05-10	3,208	77%	23%	Do you support or not a UBI program as a way to help people in the UK who lose their jobs because of advances in artificial intelligence?
Populus	2018-07-29	2,070	41%	17%	Which of the following statements best fits your view on UBI?
Ipsos MORI	2017-08-04	1,111	48%	25%	To what extent would you support or oppose the UK Government introducing a basic income?
ESS	2016	1,959	48%	46%	Would you be against or in favour of having a UBI in the UK?

Appendix B: FRS data limitations and dynamic effects

Below is a set of data limitations in the Family Resources Survey, and our estimate of the impact on our reform's revenue surplus.

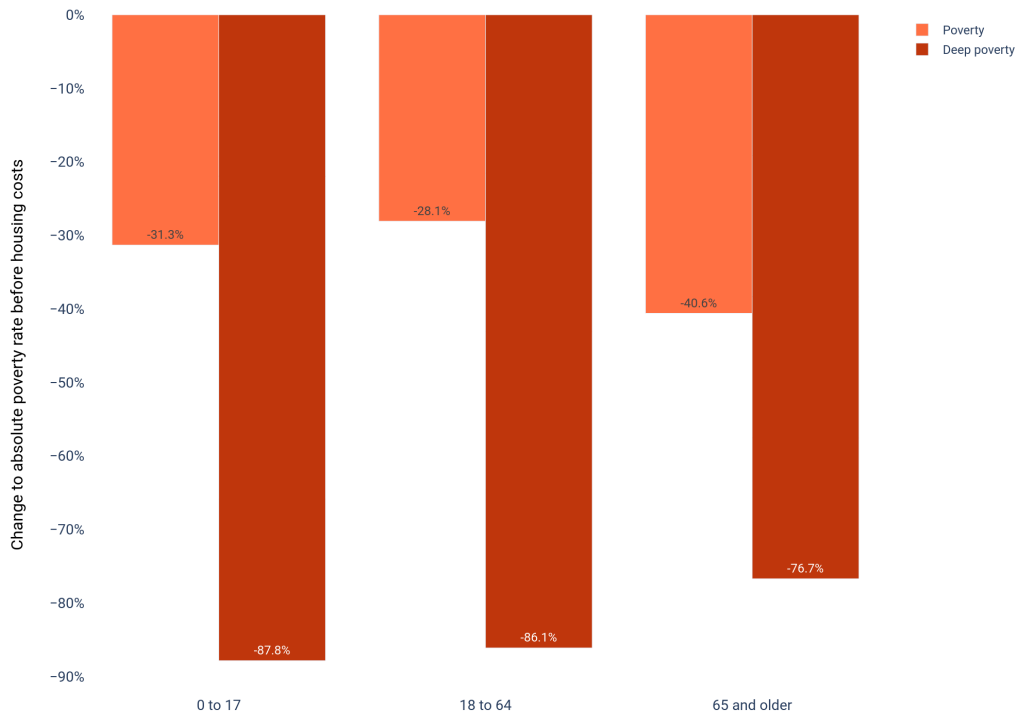
Issue (link to our GitHub issue)	Details	Estimated revenue impact (£bn)
Benefits in the FRS are underreported	Simulating benefits with OpenFisca-UK closes £19bn of the gap between FRS and administrative totals. The remaining £16bn requires statistical imputation for each benefit program.	16
Income in the FRS is underreported	The FRS is short about 100b in income, mostly from dividends which we propose taxing significantly higher than today (unlike top wages which we only tax by an additional 3%).	30
FRS excludes capital gains	Given capital gains totaled 60bn as of 2018-19, of which 9bn were collected as taxes, we can expect about 25bn in additional revenue from taxing capital gains at 50% (considering growth from 2019)	20
FRS is from 2018-19	Nominal incomes per capita are projected to have grown about 4% from 2019 to 2021	20

That comes to about 86bn over our current 480bn revenue, or about 18%, though these are ballparks until we implement the changes. Addressing these issues should make the policy more progressive overall, since the 50bn of missing income is very disproportionately among the rich, and that should outweigh missing benefits. Based on other simulations, we also expect that the extra money will increase the adult UBI the most, since the current child amount already avoids losses for most families with children. This should make more low- and middle-income childless adults whole.

Modeling labour supply responses would affect these figures as well. Some people would face higher marginal tax rates, while others would face lower marginal tax rates, especially those currently facing cliffs. Some would also adjust their labour supply to their new income, which could also rise or fall, though part of this too may go toward unpaid care work (for children or parents) that, while not part of GDP, is nevertheless important.⁵⁶ The net effect is ambiguous with the selected policies, but it could also affect the optimisation, so the optimal policies could change substantively as a result.

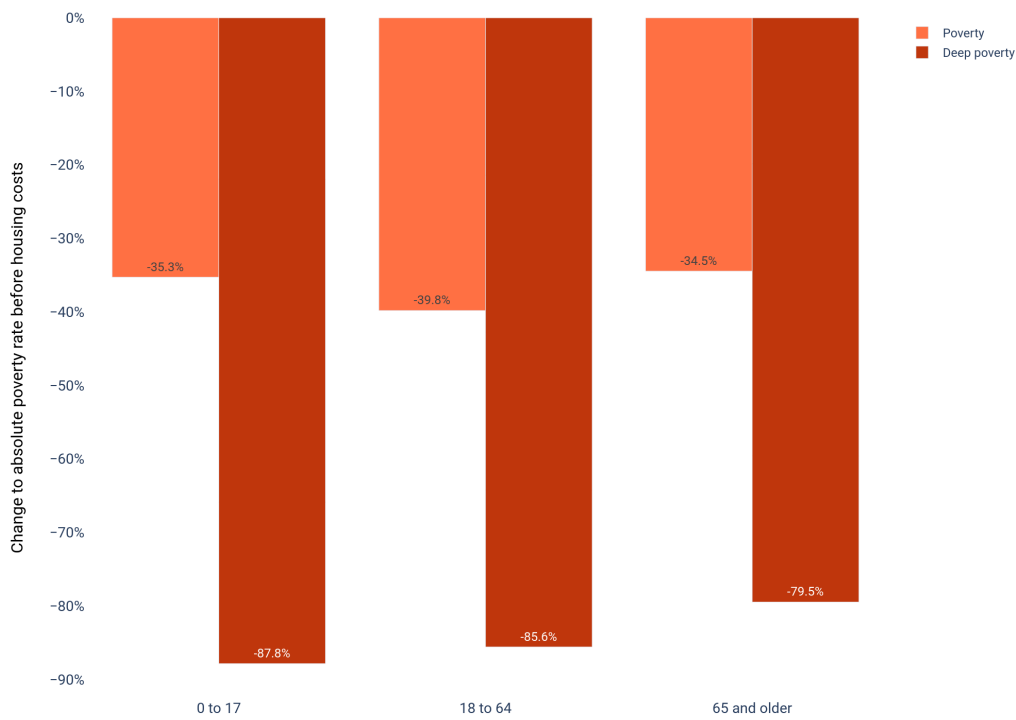
Appendix C: Charts for Reforms 1 and 3

Change to poverty rates by age group under Reform 1: Foundational



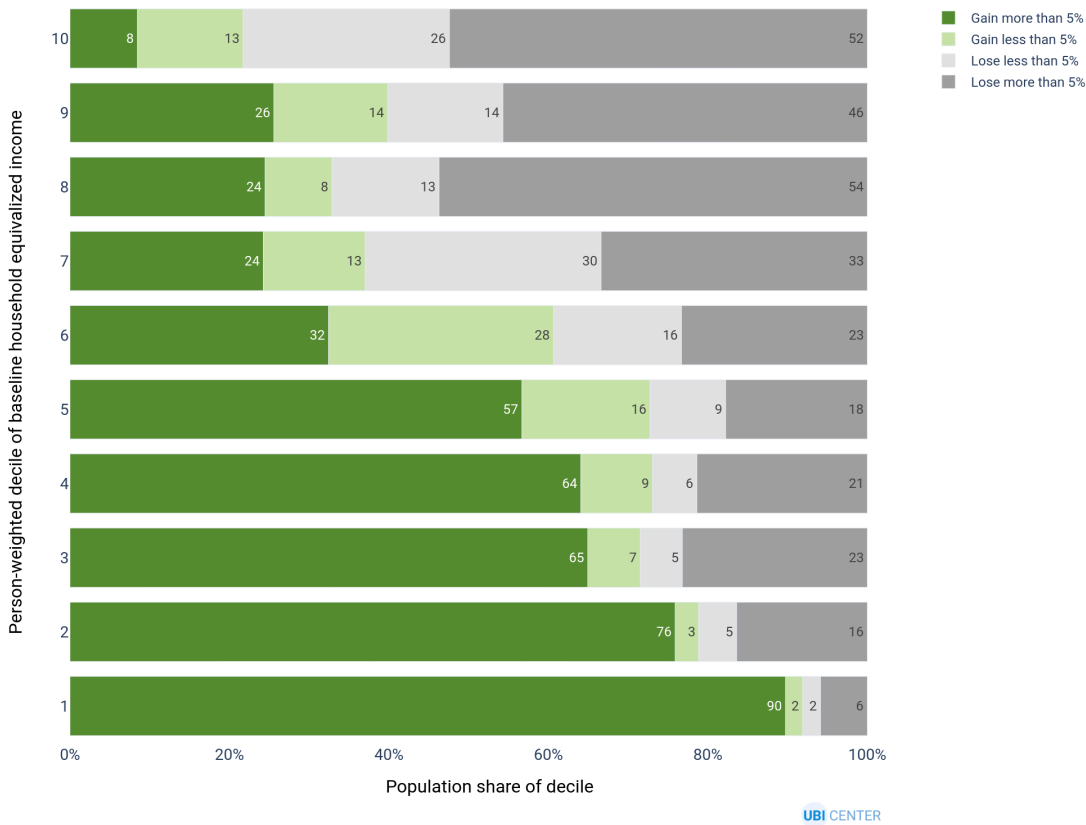
UBI CENTER

Change to poverty rates by age group under Reform 3: Disability + geo

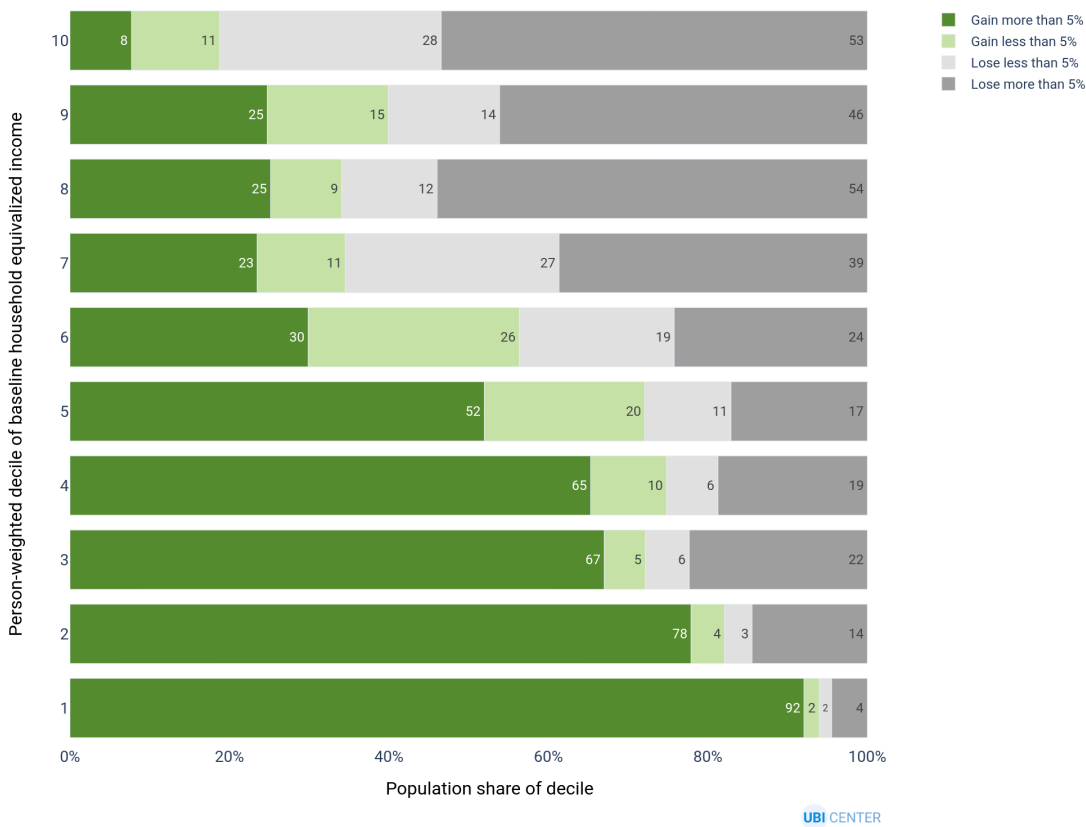


UBI CENTER

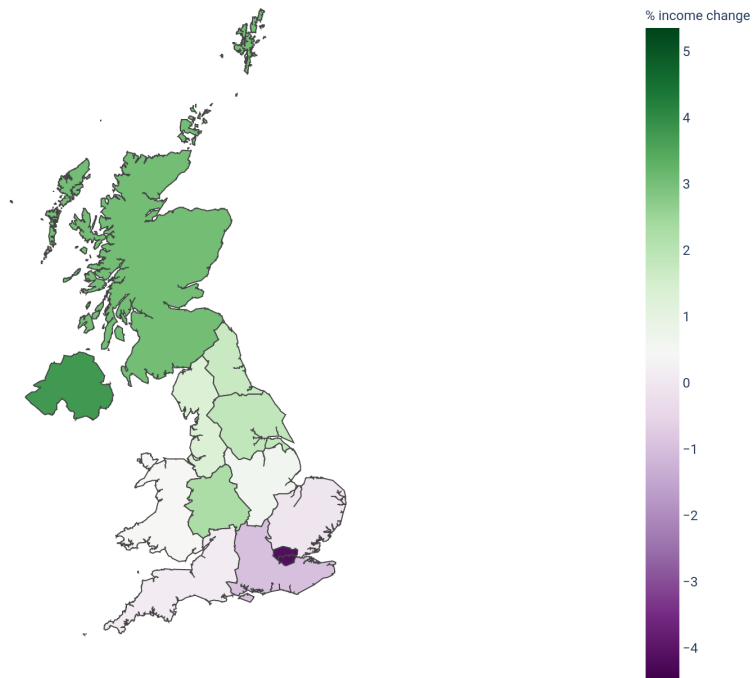
Distribution of impacts within deciles - Reform 1: Foundational



Distribution of impacts within deciles - Reform 3: Disability + geo

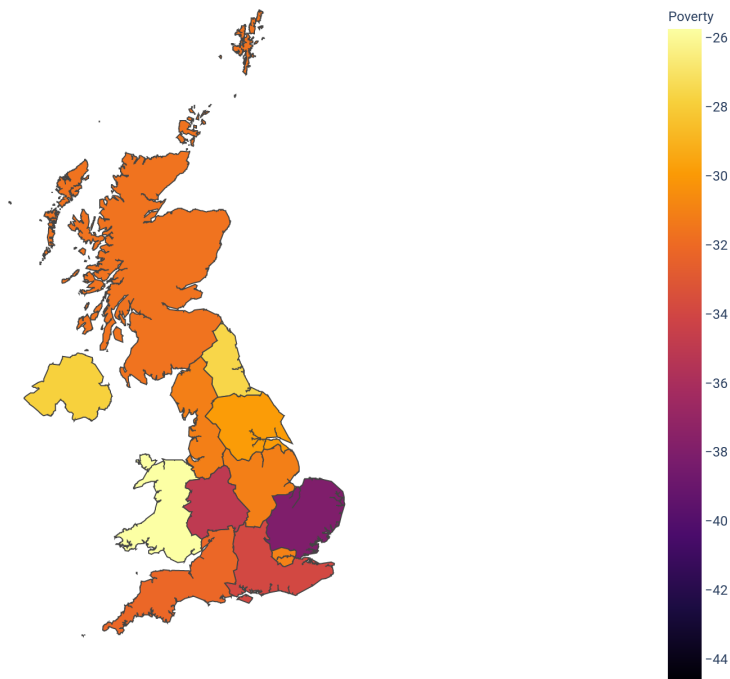


Percentage income change by region - Reform 1: Foundational



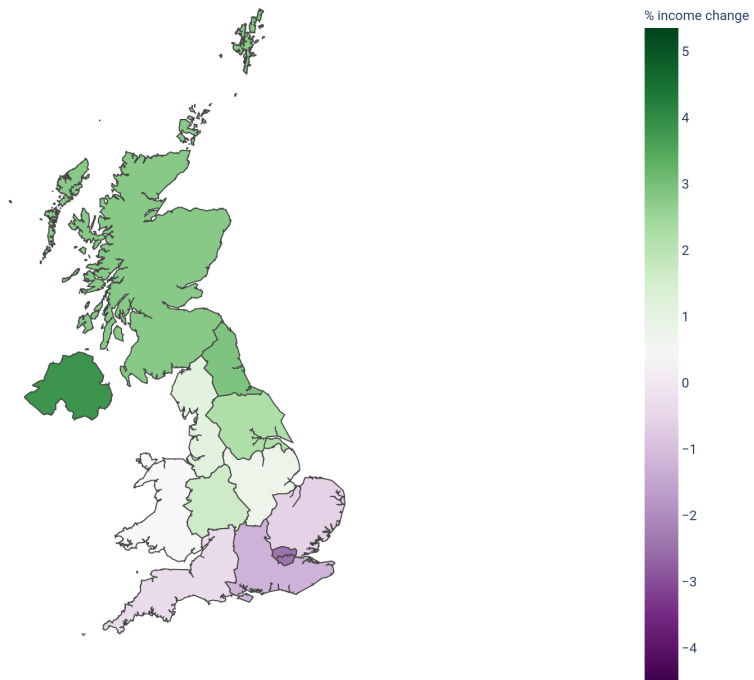
UBI CENTER

Change in absolute BHC poverty by region - Reform 1: Foundational



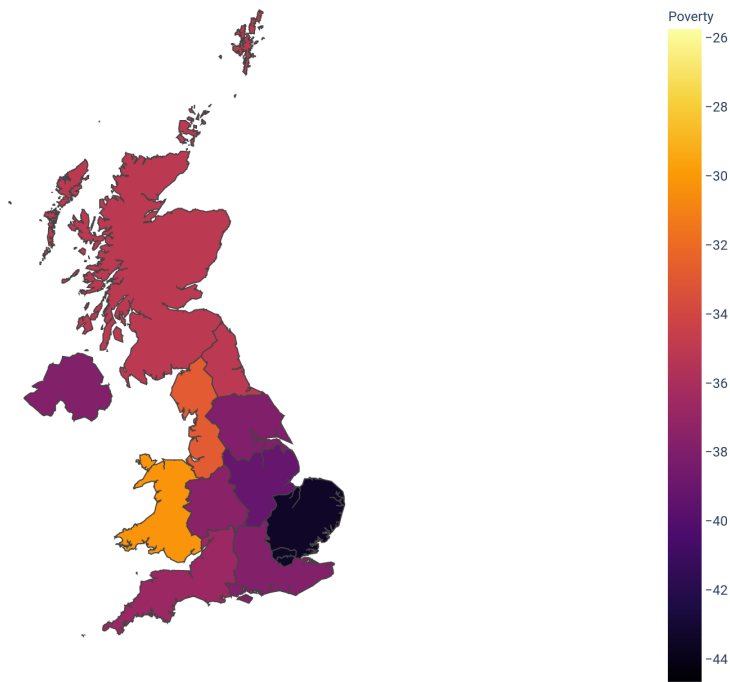
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Percentage income change by region - Reform 3: Disability + geo



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Change in absolute BHC poverty by region - Reform 3: Disability + geo



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