EUROMOD WORKING PAPER SERIES

EM 07/20

Evaluation of a Recovery Basic Income, and of a sustainable revenue neutral Citizen's Basic Income, with an appendix relating to different Universal Credit roll-out scenarios

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April 2020

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Abstract

A Citizen's Basic Income, sometimes called a Basic Income, a Universal Basic Income, or a Citizen's Income, is an unconditional and nonwithdrawable income paid to every individual. There have been calls during the coronavirus crisis for both an Emergency Basic Income (an immediate Basic Income to protect individuals' incomes) and for a Recovery Basic Income (a Basic Income to be implemented with a view to preventing a recession once the virus outbreak begins to subside), and also for a permanent Citizen's Basic Income scheme. This working paper summarises the results of microsimulation research on a Recovery Basic Income and on a subsequent sustainable revenue neutral Citizen's Basic Income. An appendix studies the implementation of a Citizen's Basic Income scheme in the context of different Universal Credit roll-out assumptions.

JEL: C80, H53, H55, I38, R20

Keywords: Citizen's Basic Income, microsimulation, UKMOD

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[*] I am most grateful to Holly Sutherland, Matteo Richiardi, Alari Paulus, Cara McGenn, Iva Tasseva, Paola De Agostini, Daria Popova, and all those from the Institute for Social and Economic Research who have given me considerable assistance with research and working papers during the past fifteen years. The results presented here are based on UKMOD version A1.0+. UKMOD is maintained, developed and managed by the Institute for Social and Economic Research (ISER) at the University of Essex. The process of extending and updating UKMOD is financially supported by the Nuffield Foundation, based on the annual update of the UK component of UKMOD funded by the European Union Programme for Employment and Social Innovation "EaSI" (2014–2020). The UK Family Resources Survey data was made available by the Department for Work and Pensions via the UK Data Archive.
The data used for this exercise does not take account of changes in employment and the receipt of means-tested benefits that occurred in March and April 2020. UKMOD delivers static microsimulation results, and does not account for behavioural responses, nor for general equilibrium effects. The results obtained during this research project and their interpretation are the author's responsibility. Opinions expressed in this paper are not necessarily those of the Citizen's Basic Income Trust.

1. Introduction

The research reported here was carried out in response to questions put to the author:

1. Would it be possible to implement an Emergency Basic Income to provide income security for individuals and demand in the economy during the coronavirus crisis?
2. Could a Recovery Basic Income be implemented to assist with economic recovery once the crisis is abating?
3. Could a sustainable Citizen's Basic Income scheme be implemented once the crisis is over?
4. Would it be easier to implement a Citizen's Basic Income scheme once the Universal Credit roll-out is complete?

A Citizen's Basic Income, sometimes called a Basic Income, a Universal Basic Income, or a Citizen's Income, is an unconditional and nonwithdrawable income paid to every individual. The payments would be regular, that is, no less frequently than monthly; they would be of equal amounts, except that annual uprating would be expected; and the amount would not depend on employment status, household status, other income, wealth, or anything else. The only conditionality permitted would be the recipient's age. A standard amount might be paid to working age adults; less to younger adults; less again to children; and more to people over retirement age.

The debate about Citizen's Basic Income is now global and has increased significantly in extent and depth during the past seven or eight years. The coronavirus outbreak has highlighted and exacerbated those aspects of our society and economy to which a Citizen's Basic Income would be a useful response: hence the recent substantial additional interest in the proposal. This paper is designed to inform the ongoing debate, and in particular to respond to increasing calls for an Emergency Basic Income and a Recovery Basic Income.

This working paper shows that

- an Emergency Basic Income would not be administratively feasible;
- a Recovery Basic Income scheme, with a working age adult Basic Income level of a significant amount, would be able to be implemented once the required administrative infrastructure was in place;
- because of the scheme's considerable net cost, the Recovery Basic Income would have to be regarded as a short term economic stimulus measure rather than as a permanent fixture;
- a permanent revenue neutral Citizen's Basic Income would be both feasible and useful once the coronavirus crisis had abated;
- whether or not a Citizen's Basic Income scheme would be easier to implement once the Universal Credit roll-out is complete looks as if it might depend on the characteristics of the individual scheme.

2. An Emergency Basic Income?

Since it became clear that the coronavirus outbreak would wreak havoc with national economies and individuals' living standards, there have been calls around the world for Emergency Basic Incomes: that is, for national governments to pay unconditional incomes to all of their countries' legal residents (BIEN, 2020). In any situation, a Citizen's Basic Income would

- provide a secure layer of income on which people could build;
- increase employment incentives for anyone taken off means-tested benefits, because it would reduce marginal deduction rates;
- improve social cohesion, because everyone would receive it; and
- be simple to administer, and entirely without stigma, unlike means-tested systems (Torry, 2013; 2015b; 2018a).

The reason for the significantly increased interest in Citizen's Basic Income, and the call for an Emergency Basic Income now, is that these advantages would be particularly relevant in the midst of the coronavirus crisis.

A particular strength of the UK's Citizen's Basic Income debate has been research into the feasibility of illustrative Basic Income schemes (Torry, 2016c: 39-86), and particularly into their financial feasibility: research made possible by the availability of microsimulation. This is a computer programme into which are coded tax and benefits regulations, and through which is passed real world data on a large sample of the population in order to generate a wide range of statistics. The researcher can write new benefits into the programme, and can alter existing tax and benefits, and then run the programme again to generate a new set of statistics. The two sets of statistics can then be compared in order to discover what the real world effects of the proposed policy change would be (Lansley and Reed, 2019; Martinelli, 2017a; 2017b; 2017c; Morgan, Reed and Torry, 2019; OECD, 2017; Reed and Lansley, 2016; Torry, 2014; 2015a; 2016a; 2016b; 2018b; 2019). Equally important has been a longstanding interest in administrative feasibility (Torry, 2017d: 119-42). An Emergency Basic Income would be financially feasible because in the current circumstances the normal requirement that a Basic Income scheme should be revenue neutral (that is, that it should have zero net cost) could be dispensed with. In this instance, it is administrative feasibility that is the problem.

Unfortunately, in the UK, an Emergency Basic Income would not be feasible to implement simply because we do not possess the required administrative infrastructure: that is, there is no existing database that contains every legal resident's name, contact details, date of birth, and bank account details (Citizen's Basic Income Trust, 2020a). Given the political will, it would be possible to create such a database in a fairly short period of time (Citizen's Basic Income Trust, 2020b): but in the absence of the required political will, and in the presence of the clear requirement to protect incomes in the short term, the correct approach has been to seek schemes that would be immediately administratively feasible: which is why companies have been asked to retain their employees so that the existing Pay as you Earn Income Tax system can be used to maintain the incomes of employees who can no longer be paid by their employers. In the absence of both political will and the required database, the probability of an Emergency Basic Income being implemented in the UK today must be zero.

This does not mean that it is a waste of time to discuss the idea, because what the current crisis has revealed is the need for a government to be able to provide every member of the population with an income in a time of crisis. There will be further crises: so the more the advantages of unconditional incomes are discussed, the more likely we are to see the creation

of the administrative infrastructure that we shall need when during the next crisis the Government needs to provide an income for every individual.

Here it would be appropriate to deal with two obvious objections that would be made if a government were to propose a genuine Emergency Basic Income. [1] An objection frequently heard is that 'the rich don't need it', or, in the context of an economic crisis, 'those still with secure jobs don't need it'. No, they don't need it: but it would be highly efficient to pay money to everyone, and at the same time to raise Income Tax rates so that those who still have sufficient income derived from secure jobs don't find themselves with additional disposable income.

It might also be true that a high Emergency Basic Income would reduce employment incentives. In the midst of an economic crisis, during which jobs had disappeared, this would hardly be an important consideration, particularly as everyone would know that the mechanism would be temporary, and that the period during which the high Emergency Basic Income would be paid would soon be followed by a return to the previous tax and benefits system or to a Citizen's Basic Income at a much lower level.

During the payment of the Emergency Basic Income, any household taken off means-tested benefits by their Citizen's Basic Incomes would find their employment incentives enhanced, not reduced, because their Citizen's Basic Incomes would never be reduced by additional earned incomes, whereas their means-tested benefits always would have been. Individuals who had managed to find new income-generating activity during the crisis would already have discovered some of the advantages of a Citizen's Basic Income: and those advantages would continue to some extent if a Citizen's Basic Income of any size were to follow the crisis period. A high Emergency Basic Income during an economic crisis, followed by a Citizen's Basic Income at a lower level, would be found to be a highly efficient combination for both the employment market and the economy (Torry, 2018a: 151-9).

3. A Recovery Basic Income

The need for greater financial security for households, for demand in the economy, and for social cohesion, will not disappear once the coronavirus crisis subsides. There might be greater need than ever to protect household incomes and stimulate demand as the UK's economy gets back on its feet: and if planning were to begin now, then the required database could be in place quite quickly once Parliament had passed the required legislation.

Normally, the illustrative Citizen's Basic Income schemes researched by this author fulfil the following conditions:

- as few changes as possible are to be made to the current tax and benefits system, consistent with the other aims in view;
- revenue neutrality (Hirsch, 2015), which is normally taken to be a net cost or saving of no more than £2bn per annum;
- the avoidance of significant household net disposable income losses, particularly for low income households (with at least an aim of ensuring that no more 2% of low income households should experience household net disposable income losses of more than 5%);
- Income Tax rates to rise by no more than 3 percentage points (Hirsch, 2015).

[1] It is unfortunate that some governments have been using the term 'Basic Income' to refer to policy measures that are not Basic Incomes: that is, they are not unconditional, but instead are income-tested and often household-based (Basic Income Earth Network, 2020).

The trial and error method required to find Citizen's Basic Income schemes that might fit these conditions (values for the scheme's parameters are chosen, the scheme is subjected to microsimulation evaluation, the scheme is found not to fit at least one of the criteria, new values are chosen for one or more parameters of the illustrative scheme, and so on), can be very time-consuming, so it can be challenging to find a Citizen's Basic Income that fits the criteria: and once a single scheme is found, the process normally stops, and no attempt is made to discover an optimal scheme: the one scheme that would fit the criteria more closely than any other scheme.

However, with the Recovery Basic Income proposed here, things are somewhat different. Given the need to stimulate the economy, and the Government's need to sustain the population's livelihoods, the normal requirement for revenue neutrality can be abandoned, albeit briefly. What is required is a Citizen's Basic Income sufficiently large to make a significant difference to the level of demand in the economy – which *requires* that the scheme should *not* be revenue neutral - and also sufficiently large to provide every household in the country with a regular income large enough to see it through to the recovery of the economy, and out the other side into new enterprises, both paid and unpaid.

The normal evaluation method is to alter the values of the parameters of a Citizen's Basic Income scheme until a single scheme is found that fits all of the criteria. In this instance, we shall begin by choosing the values of the parameters of the scheme, and, in particular, we shall argue for a particular level of Recovery Basic Income, and only then shall we attempt to satisfy as many of the normal evaluation criteria as possible.

The level of the Recovery Basic Income

Normally the level of the Citizen's Basic Income is chosen for us by the financial feasibility criteria, but the abandonment of the revenue neutrality criterion means that any one of a wide range of values could be chosen for the level of the Recovery Basic Income. The choice of level will therefore be largely arbitrary: but it will still be important to choose a level for which a coherent justification could be offered.

The level that I shall choose is this: 'for each individual, 50% of the couple Minimum Income Standard rate'. The justification for this is as follows. The Minimum Income Standards are research-based income levels designed to provide a decent standard of living in today's society. The rate for couples is lower than twice the individual rate because living together generates economies of scale. Employing the individual rate would provide couples with more than they would need in the current circumstances. As administrative efficiency requires that every individual should receive their own Recovery Basic Income, and that every individual should receive the same amount, only one level can be chosen; and given that most people will still have other sources of income available to them, and not least a continuing means-tested benefits system, half of the couple rate would seem to be a sensible and possibly political feasible choice. The important criterion is that net disposable income losses should be avoided for low income households, and this proves to be possible with the level of Recovery Basic Income described. The current couple rate is £393.17 per week, so the Recovery Basic Income will be set at £196.59 per week for each individual (Hirsch, 2019).

Paying for the scheme

In order to help to pay for the scheme, Income Tax rates are raised on all income (employee earned income, self-employed income, and savings income): from 20% to 25%, from 40% to 45%, and from 45% to 55%. [2] At the same time, National Insurance Contributions are charged at 12% on all earned income above the Primary Earnings Threshold, rather than falling to 2% for high earners (except for self-employed workers, whose National Insurance Contribution rates are left as they are for the purposes of this exercise, on the basis that self-employed individuals are likely to be particularly hard hit by the current crisis, and because encouraging self-employment during the recovery will be important). This combination of changes means that those who still have secure high incomes would be asked to help to pay to inject demand into the economy, and to reduce the net cost of the scheme to something that might be manageable in the short term: a requirement that all would surely understand.

A normal and obvious method to fund illustrative Citizen's Basic Income schemes in the UK is to reduce or abolish the Income Tax Personal Allowance. It is more difficult to do that without sufficient time to plan for it, and, if it were to be done, then it would have to be done at the beginning of a fiscal year to ensure that a high tax burden would not be imposed on low income households later in the fiscal year. As a Recovery Basic Income would be likely to be required six months or so from now, and so in the middle of a fiscal year, altering the Income Tax Personal Allowance is not a funding option.

As the Recovery Basic Income will be needed sooner rather than later, the only viable method for filling the funding gap is for the Government to create new money (quantitative easing) or to borrow. Both methods would require the scheme to be in existence for as short a time as possible, and therefore only long enough to revive the economy and to enable plans to be made for a sustainable economy in the future.

The Recovery Basic Income scheme

The Recovery Basic Income scheme that emerges from the choices made has the following characteristics:

[2] A recent complexity is the fact that Scotland can now vary its Income Tax rates slightly, and it can also vary and add Income Tax thresholds – and it does. For the purposes of this exercise, and for the sake of simplicity, Income Tax rates have been harmonised across the UK at 25%, 45%, and 55%, and the thresholds have been harmonised, even though for narrow bands of earnings this requires a change of 6% rather than 5%. It should not be assumed that this is what would happen if a Recovery Basic Income or a Citizen's Basic Income scheme were to be implemented.

Table 1: The Recovery Basic Income scheme

Recovery Basic Income level, tax rates, numbers of losses for all households and for the lowest quintile, and total net cost of scheme	
Working age adult Citizen's Basic Income per week for every adult between the ages of 25 and 64	£196.59
Income Tax, basic rate (on £0 – 50,000)	25%
Income Tax, higher rate (on £50,000 – 150,000)	45%
Income Tax, top rate (on £150,000 –)	55%
Proportion of all households experiencing losses of over 5% at the point of implementation	2.90%
Proportion of households in the lowest original income quintile experiencing losses of over 5% at the point of implementation [3]	0.71%
Net cost of scheme	£236.63 bn p.a.

Source: author's own calculations with UKMOD version A1.0+.

Table 2: Reductions in the number of households claiming means-tested benefits or within striking distance of coming off them, and the reductions in the totals cost of the benefits and in the average value of claims

Reductions in the number claiming means-tested benefits or within striking distance of coming off them	**The existing benefits scheme in 2020**	**The Recovery Basic Income scheme**
Percentage of households claiming any means-tested benefits	29.30%	18.87%
Percentage of households claiming more than £100 per month in means-tested benefits	25.40%	14.76%
Percentage of households claiming more than £200 per month in means-tested benefits	22.62%	11.92%
Reductions in total cost and average value of claims for means-tested benefits	**Reduction in total cost**	**Reduction in average value of claim**
All means-tested benefits	62.37%	41.62%

Source: author's own calculations with UKMOD version A1.0+.

[3] The complexity of the current tax and benefits system means that, however generous the new scheme might be, it is simply not possible to make a policy change that does not impose losses on some low income households.

Table 3: Inequality and poverty indices for the Recovery Basic Income scheme

Inequality and poverty indices	**The current tax and benefits**	**The Recovery Basic Income scheme**	**Percentage reduction in the indices**
Inequality			
Disposable income Gini coefficient	0.3082	0.2693	12.62%
Poverty headcount rates			
Total population in poverty	17.49%	8.10%	53.69%
Children in poverty	23.84%	9.69%	59.35%
Working age adults in poverty	14.85%	4.98%	66.46%
Economically active working age adults in poverty	7.08%	0.95%	86.58%
Elderly people in poverty	19.02%	16.86%	11.36%

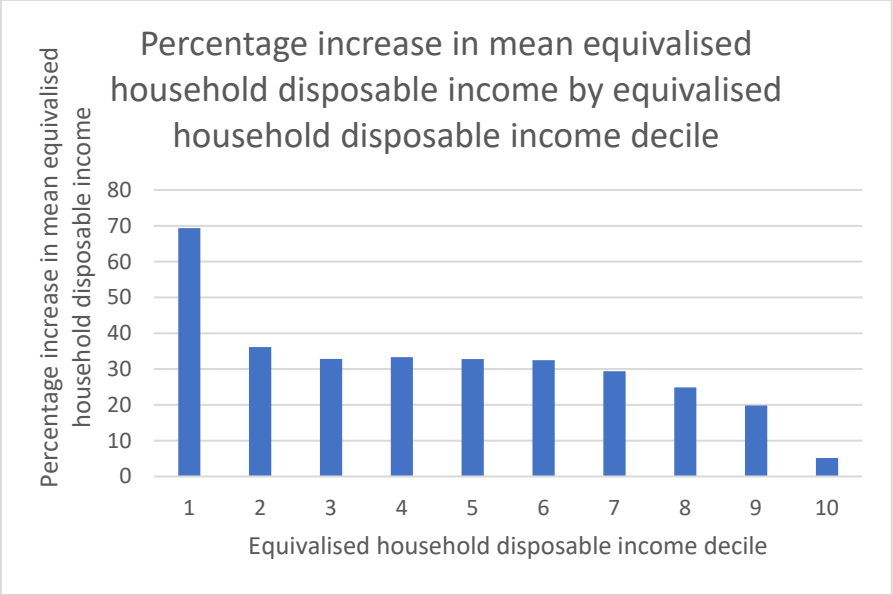
Source: UKMOD A1.0+ statistics function and author's own calculations.

Table 4: Percentage increase in mean equivalised household disposable income by equivalised household disposable income decile

	Current tax and benefits system, £ per week	**Recovery Basic Income scheme, £ per week**	**Difference, £ per week**	**Percentage increase**
Decile 1	206.27	349.29	143.02	69.34%
Decile 2	321.15	437.15	116	36.12%
Decile 3	387.87	515.25	127.38	32.84%
Decile 4	454.47	606	151.54	33.34%
Decile 5	525.42	697.76	172.33	32.80%
Decile 6	603.07	799	195.93	32.49%
Decile 7	695.08	899.34	204.27	29.39%
Decile 8	810.28	1,011.68	201.39	24.85%
Decile 9	981.88	1,176.65	194.78	19.84%
Decile 10	1,563.98	1,644.64	80.66	5.16%

Source: UKMOD A1.0+ statistics function and author's own calculations.

Figure 1



Source: Figure derived from table 4.

The redistributive pattern delivered by the Recovery Basic Income scheme would seem to be appropriate to the circumstances: that is, substantial temporary disposable income increases for households across the lower and middle income ranges, with particular emphasis on the lowest income decile, and a minor average increase for the highest disposable income decile.

4. A permanent Citizen's Basic Income

The experience of a Recovery Basic Income would reveal the advantages that would follow from implementing a permanent Citizen's Basic Income: that is, a permanent unconditional income for every legal resident of the country. The combination of the continuing economic effects of the coronavirus crisis, the economic turbulence that will be generated by leaving the European Union, continuing turbulence in world markets (and therefore in the global and UK employment markets), and the unpredictable longer term consequences of increasing automation and computerisation, mean that providing a secure layer of income will remain a priority.

To take just one occupational field as an example: Already university research and teaching staff were experiencing fewer permanent employment contracts and more short-term, part-time, and per-course and per-project contracts (University and College Union, 2016). During the coronavirus crisis all university teaching and assessment has gone online. It is unlikely that this process will be totally reversed after the crisis has abated. Universities will be increasingly virtual, with inevitable further consequences for academics' income security.

Criteria for a permanent Citizen's Basic Income scheme

While for a brief Recovery Basic Income we might be able to dispense with a revenue neutral feasibility criterion, this clearly cannot be done for a permanent scheme. We shall therefore have to specify from where in the current tax and benefits system the funds for the permanent Citizen's Basic Income scheme will be obtained.

Previous schemes tested by this author have assumed the following rigorous financial feasibility criteria:

- as few changes as possible are to be made to the current tax and benefits system, consistent with the other aims in view;
- revenue neutrality (Hirsch, 2015), which is taken to be a net cost or saving of no more than £2bn per annum;
- the avoidance of significant household net disposable income losses, particularly for low income households (with at least an aim of ensuring that no more 2% of low income households should experience household net disposable income losses of more than 5%);
- Income Tax rates to rise by no more than 3 percentage points (Hirsch, 2015);
- reductions in inequality (measured by the Gini coefficient) and in all poverty indices;
- substantial numbers of households taken off means-tested benefits, or brought within striking distance of coming off them.

If a Recovery Basic Income scheme had raised Income Tax rates for all income by 5%, and by 10% for income about £150,000 per annum, and if it had raised the National Insurance Contribution rate above the Upper Earnings Limit to 12% for employed individuals, to match the rate below the limit, then these funding methods could be retained for the permanent scheme, on the basis that no additional increases were being implemented. (As explained below, it might be sensible to reduce the top rate from 55% to 50%.) If these increases had not been implemented to pay for a Recovery Basic Income scheme, then the continuing need to ensure security of household incomes, and to inject demand into the economy, would be justification enough to implement these funding methods for the permanent scheme.

Most previous illustrative Citizen's Basic Income schemes have assumed that the Income Tax Personal Allowance and the National Insurance Contribution Primary Earnings Threshold could be reduced to zero to help to pay for the Citizen's Basic Incomes. This is no longer assumed here. In the new economic circumstances that will follow the coronavirus crisis we shall need to encourage occasional and part-time employment, and the founding of new enterprises. This process would be assisted by retaining a small Income Tax Personal Allowance, and also a small National Insurance Contribution Primary Earnings Threshold. (For the purposes of this exercise, the Income Tax Personal Allowance and the Primary Earnings Threshold will be aligned so that Income Tax and National Insurance Contributions would begin to be paid at the same earnings level.)

The Citizen's Basic Income scheme

Having set the criteria, the usual method for discovering a feasible Citizen's Basic Income scheme has been employed: that is, varying in turn the values of a wide variety of parameters of an illustrative scheme, testing each iteration by microsimulation to see whether it fitted the criteria, and continuing to test new iterations until a scheme that fits the criteria is found. In relation to previous projects, no attempt has been made to find an optimal scheme once a scheme that fits the criteria has been discovered. A slightly different approach has been employed for this project. In addition to the criteria already discussed, an attempt has also been made to obtain the highest possible level of working age adult Citizen's Basic Income. This has required additional exploration of several feasible schemes.

The illustrative scheme that has emerged from this process is as follows:

The scheme is funded by reducing the Income Tax Personal Allowance from £12,500 per annum to £4,000 per annum; by reducing the National Insurance Primary Earnings Threshold from £170 per week to £77 per week; by charging National Insurance Contributions at 12%

on all earned income above the Primary Earnings Threshold; and by setting Income Tax rates as shown in table 5. (The highest rate has been set at 50%, rather than 55%, as was assumed for the Recovery Basic Income scheme, on the basis that the very high rate, in company with the increase in National Insurance Contributions, could be justified in order to aid recovery from a crisis, but not permanently.)

Table 5: The illustrative Citizen's Basic Income scheme and losses generated

Citizen's Basic Income levels, tax rates, losses over various limits for all households and for the lowest quintile, and total net cost of scheme	
Citizen's Pension per week (existing state pensions remain in payment)	£30
Working age adult Citizen's Basic Income per week [4] (25 to 65 years old)	£60
Young adult Citizen's Basic Income per week (20 to 24 years old)	£40
Education age Citizen's Basic Income per week (16 to 19 years old, but not young people still in full-time education)	£30
(Child Benefit is increased by £10 per week)	[£10]
Income Tax, basic rate (on £0 – 50,000)	25%
Income Tax, higher rate (on £50,000 – 150,000)	45%
Income Tax, top rate (on £150,000 –)	50%
Proportion of all households experiencing losses of over 5% at the point of implementation	9.47%
Proportion of all households experiencing losses of over 10% at the point of implementation	2.54%
Proportion of all households experiencing losses of over 15% at the point of implementation	0.44%
Proportion of households in the lowest original income quintile experiencing losses of over 5% at the point of implementation	1.34%
Proportion of households in the lowest original income quintile experiencing losses of over 10% at the point of implementation	0.94%
Proportion of households in the lowest original income quintile experiencing losses of over 15% at the point of implementation [5]	0.59%
Net cost of scheme	£26m p.a.

Source: author's own calculations with UKMOD version A1.0+.

[4] The calculation of the minimum required Citizen's Basic Income working age adult rate for a scheme with a retained £4000 per annum Income Tax Personal Allowance, a National Insurance Contributions Primary Earnings Threshold of £77 per week, and Income Tax basic rate of 25%, is as follows: Income Tax Personal Tax Allowance in 2019-2020 is £12,500. Reduction of the allowance would mean additional Income Tax of 8,500 x 0.25 = £2125. The Primary Earnings Threshold for National Insurance Contributions is reduced by £93 per week. Reducing the threshold would mean additional National Insurance Contributions of 93 x 52 x 0.12 = £580.32. The total additional payment would be 2125 + 580.32 = 2705.32, which translates as £52.03 per week: so a Citizen's Basic Income of £52.03 per week would compensate for the reduction in the Income Tax Personal Allowance and the reduction of the Primary Earnings Threshold. The scheme as a whole enables a Citizen's Basic Income of £60 per week to be paid for working age adults, which is above the required £52.03 per week.

[5] The complexity of the UK's tax and benefits system means that any change made to the system will generate net disposable income losses for some low income households. It has not been possible to reduce the losses below the figures given in the table.

Table 6 shows the changes in the numbers of households receiving means-tested benefits, and also the numbers of households brought within striking distance of coming off them.

Table 6: Reductions in numbers claiming means-tested benefits or within striking distance of coming off them, and the reductions in the total costs of the benefits and the average value of claims

Numbers claiming means-tested benefits or within striking distance of coming off them	**The existing scheme in 2020**	**The Citizens Basic Income scheme**
Percentage of households claiming any means-tested benefits	29.27%	26.39%
Percentage of households claiming more than £100 per month in means-tested benefits	25.44%	21.13%
Reductions in total cost and average value of claims for means-tested benefits	**Reduction in total cost**	**Reduction in average value of claim**
All means-tested benefits	30.11%	22.48%

Source: the author's own calculations with UKMOD version A1.0+.

Table 7 shows reductions in inequality and in poverty rates.

Table 7: Inequality and poverty indices

Inequality and poverty indices	**The current tax and benefits**	**The Citizen's Basic Income scheme**	**Percentage change in the indices**
Inequality			
Disposable income Gini coefficient	0.3082	0.2782	9.73%
Poverty headcount rates			
Total population in poverty	17.49%	13.61%	22.18%
Children in poverty	23.84%	17.96%	24.66%
Working age adults in poverty	14.85%	11.44%	22.96%
Economically active working age adults in poverty	7.08%	4.85%	31.50%
Elderly people in poverty	19.02%	15.87%	16.56%

Source: statistics function of UKMOD version A1.0+ with author's own calculations.

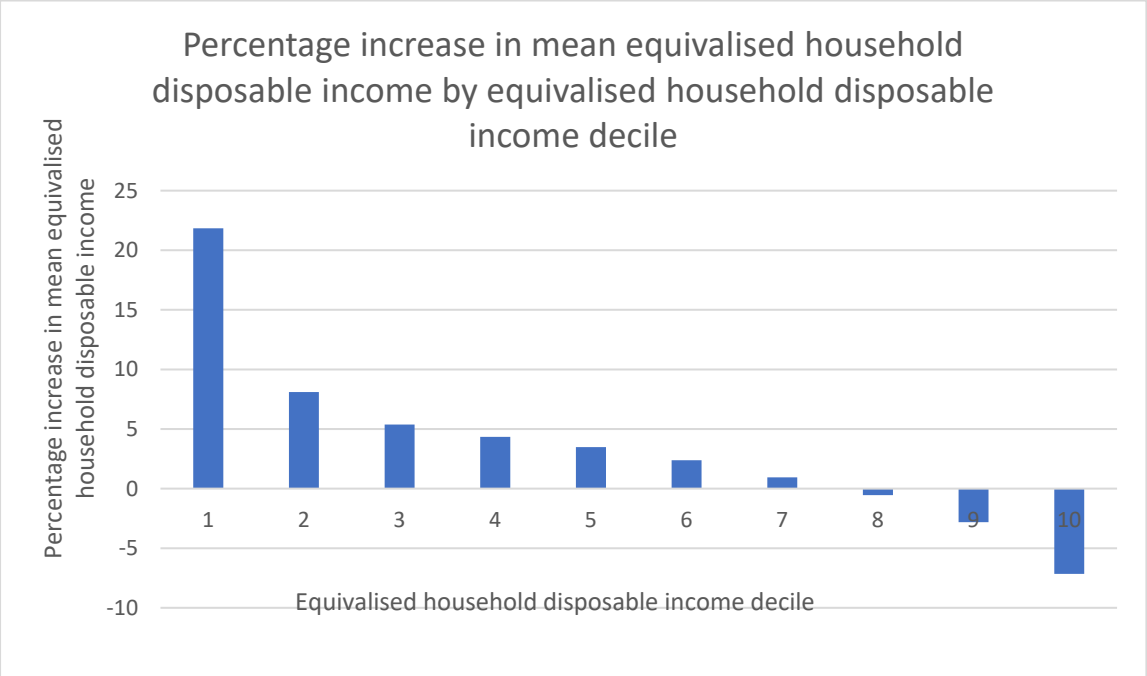
Table 8 shows the changes in mean household disposable income by decile groups, and also mean equivalised household disposable income by decile group, the latter taking account of the composition of the household.

Table 8: Percentage increase in mean equivalised household disposable income by equivalised household disposable income decile

	Current tax and benefits system, £ per week	Recovery Basic Income scheme, £ per week	Difference, £ per week	Percentage increase
Decile 1	206.27	251.33	45.06	21.85%
Decile 2	321.15	347.17	26.02	8.10%
Decile 3	387.87	408.74	20.87	5.38%
Decile 4	454.47	474.18	19.71	4.34%
Decile 5	525.42	543.74	18.32	3.49%
Decile 6	603.07	617.43	14.36	2.38%
Decile 7	695.08	701.67	6.6	0.95%
Decile 8	810.28	805.84	-4.44	-0.55%
Decile 9	981.88	954.25	-27.62	-2.81%
Decile 10	1,563.98	1,452.06	-111.92	-7.16%

Source: statistics function of UKMOD version A1.0+ with author's own calculations.

Figure 2



Source: Figure derived from table 8.

Again, this is the kind of redistributive pattern that we might wish to see generated by a Citizen's Basic Income scheme. Given that low income households have a higher propensity to consume than higher income households, the additional income that lower income households would receive would increase demand in the economy. The scheme would also

benefit the disposable incomes of mid-range income households. Only those with the highest incomes would experience average disposable income losses; and it is these losses that would require the scheme to be approached in a series of steps rather than being implemented all in one go.

5. Limitations of this research

Microsimulation research of this nature always has its limitations. UKMOD and similar models deliver entirely static microsimulation results: that is, they simply tell us how individuals' and households' financial circumstance would change in various ways, and how a variety of poverty, inequality, and other statistics would change, the day after the policy changes written into the programme have taken effect. It tells us nothing about how individuals' and households' employment market and other behaviours might change, nor about how the benefit changes and net earned income changes that those behaviour changes would bring about would affect financial circumstances, poverty and inequality levels, and so on.

In the current circumstances, and in relation to the current microsimulation exercise, additional caveats have to be offered. The financial circumstances represented in the Family Resources Survey data are those of more normal times, yet we are employing the data in a highly abnormal situation in which it would be difficult to tell to what extent individuals' and households' financial circumstances might differ from those in the data. In particular, we cannot know which individuals among that sample have now lost their jobs, or found their earned incomes reduced; and if their incomes have been reduced, we cannot know by how much. As already explained, on the basis that something like 5% of jobs might have been lost, all earned incomes in the sample have been reduced by 5%, simply because that is something that we can achieve in the programme. The results obtained will therefore be inaccurate to the extent that reducing all earned incomes in that way produces outcomes different from those that have been brought about by changes in employment status and earned incomes in the real world. New data is already becoming available, and future research projects will be able to make use of it.

It must always of course be emphasised that what is being tested in research exercises like the one reported here will always be purely illustrative. For the Recovery Basic Income, an illustrative Citizen's Basic Income scheme has been constructed and then evaluated. The parameters of the scheme (amount of payment, age range, changes to the tax and benefits systems, and so on) could all have been different; and any assumptions made could also have been different (in this case, the assumption that the effect of reducing all earned incomes by 5% would not be too far different from the effects of real world employment and income changes during the past few weeks). In the case of the sustainable Citizen's Basic Income scheme also researched here, all of the feasibility criteria could have been different; and in the current circumstances, they might in fact be very different from feasibility criteria that might look sensible in more normal times.

6. Conclusions

The limitations listed above are an invitation to further research, employing new data sources, different assumptions, different feasibility criteria, and different illustrative Citizen's Basic Income schemes. Current political and public interest in Citizen's Basic Income as a contribution to protecting both our society and the economy during and after this crisis make such research essential.

We need further research on feasible Recovery Basic Incomes, further research on sustainable Citizen's Basic Income schemes, and further research on the series of steps required during the phasing out of a Recovery Basic Income and the implementation of a sustainable Citizen's Basic Income scheme. In relation to research about that transition, it would be important to ensure that each step could cohere with a reasonable set of feasibility criteria. As to whether the revenue neutrality criterion should be reintroduced as quickly as possible is clearly a matter for political debate. The annual cost of the Recovery Basic Income researched here would only be feasible for a very short period of time, and during that time consideration would have to be given to the options available for transition to a permanent Citizen's Basic Income. Clearly one possibility would be a carbon tax, which would help the UK to fulfil its carbon reduction obligations; and the existence of the Citizen's Basic Income would enable the Government to introduce a carbon tax and at the same time to protect the incomes of low income households from the price rises that would result from it. Research would be required to ensure that the combination of the carbon tax and the Citizen's Basic Income scheme would not impose unsustainable losses on any household, and that it would not impose any significant losses on low income households. Similar consideration might also be given to a Financial Transactions Tax, with the same proviso. But if neither those or any other funding method proved to be viable, then the revenue neutrality requirement would have to be reintroduced, as the illustrative Citizen's Basic Income scheme researched here assumes.

This working paper has shown that an Emergency Basic Income would not be administratively feasible; that a Recovery Basic Income scheme, with a working age adult Basic Income level of a significant amount, would be able to be implemented once the required administrative infrastructure was in place; that because of the scheme's considerable net cost, the Recovery Basic Income would have to be regarded as a short term economic stimulus measure rather than a permanent fixture; and that a permanent and useful Citizen's Basic Income would be feasible once the coronavirus crisis had abated.

To reiterate the conclusions that we can draw: it would be possible to implement a Citizen's Basic Income scheme, with Citizen's Basic Income levels of useful amounts, that would be revenue neutral (that is, it could be funded from within the current income tax and benefits system). The increase in Income Tax rates required would be feasible; and the scheme could largely avoid significant disposable income losses for low income households, and it could also avoid unsustainable losses for any household. Both poverty and inequality could be substantially reduced; large numbers of households could be removed from means-testing; and means-tested benefit claim values, and the total cost of means-tested benefits, could be reduced considerably. The scheme could provide additional employment market and business-creating incentives for the large number of households no longer on means-tested benefits (Collado, 2018): an important factor in relation to the rebuilding of the economy following the coronavirus outbreak.

Because the only changes required in order to implement this illustrative Citizen's Basic Income scheme would be

- payment of the Citizen's Basic Incomes for every individual above the age of 16 (apart from those between 16 and 19 still in full-time education), calculated purely in relation to the age of each individual,
- increases in the rates of Child Benefit,
- changes to Income Tax and National Insurance Contribution rates and thresholds, and
- easy to achieve recalculations in existing means-tested benefits claims,

the entire scheme could be implemented very quickly, whether or not it had been preceded by a Recovery Basic Income scheme.

Both the Recovery Basic Income scheme and the Citizen's Basic Income scheme would be entirely feasible, so both would merit further study and discussion, as would the stages that would be required for a transition between the Recovery Basic Income and the permanent Citizen's Basic Income.

Appendix

Would it be easier to implement a Citizen's Basic Income scheme once the Universal Credit roll-out was complete?

An important advantage of Universal Credit over the legacy benefits is that the combined means-tested benefit exhibits a single taper rate, whereas the legacy system, composed of several different means-tested benefits, could result in more than one taper being imposed at the same time, resulting in a substantial total benefit withdrawal when earned income rose. This policy advantage was bizarrely squandered when the Government permitted Council Tax Benefit to be localised, enabling local authorities to impose their own taper rates, which could not only be different from place to place, but could also operate at the same time as the taper related to Universal Credit, thus again risking more than one taper operating at the same time. However, for anyone not on Council Tax Benefit, Universal Credit imposes a single taper, and the advantage over the legacy system is retained. (This is not of course to say that all of the advantages lie with Universal Credit as opposed to legacy benefits. They do not (Citizen's Basic Income Trust, 2020c).)

One of the problems encountered when designing any revenue neutral illustrative Citizen's Basic Income scheme is that the Citizen's Basic Income normally has to substitute for a reduced Income Tax Personal Allowance, and it also has to be counted among the means taken into account when means-tested benefits are calculated, because if it were not, then anyone not earning an income would not have their means-tested benefits reduced, and the scheme would be unaffordable. If more than one means-tested benefit taper is operating, then the implementation of the Citizen's Basic Income scheme could result in a significant loss of net household disposable income. This means that we would expect that for any illustrative Citizen's Basic Income scheme, implementation in the context of full Universal Credit roll-out would result in lower levels of net disposable income losses than for implementation in the context of the legacy benefits.

With UKMOD A1.0+, we are in the fortunate position of being able to model the two scenarios because the programme contains a function that allows the researcher to vary the roll-out assumption. A default figure is set in relation to the Department for Work and Pensions estimate of the current proportion of claimants on Universal Credit, but the figure can be varied between 0 (which puts all means-tested benefits claimants on legacy benefits) and 1 (which puts all of them on Universal Credit).

Table 9 contains results for the single illustrative Citizen's Basic Income scheme for which research is reported above. In the following tables, the first column records results when the figure is set at 0 (no Universal Credit roll-out, so all claimants are on legacy benefits); the second column repeats the results already obtained (for which the Universal Credit roll-out proportion was set at the DWP's assumption figure of 0.58); and the third column records the results when the figure is set at 1 (full Universal Credit roll-out).

Table 9: The illustrative Citizen's Basic Income scheme implemented in three different Universal Credit roll-out scenarios

Citizen's Basic Income levels, tax rates, losses over various limits for all households and for the lowest quintile, and total net cost of scheme	**No UC roll-out: legacy benefits only**	**Partial roll-out: DWP estimate**	**Full UC roll-out**
Citizen's Pension per week (existing state pensions remain in payment)	£30	£30	£30
Working age adult Citizen's Basic Income per week (25 to 65 years old)	£60	£60	£60
Young adult Citizen's Basic Income per week (20 to 24 years old)	£40	£40	£40
Education age Citizen's Basic Income per week (16 to 19 years old, but not young people still in full-time education)	£30	£30	£30
(Child Benefit is increased by £10 per week)	[£10]	[£10]	[£10]
Income Tax, basic rate (on £0 – 50,000)	25%	25%	25%
Income Tax, higher rate (on £50,000 – 150,000)	45%	45%	45%
Income Tax, top rate (on £150,000 –)	50%	50%	50%
Proportion of all households experiencing losses of over 5% at the point of implementation	12.24%	9.47%	9.98%
Proportion of all households experiencing losses of over 10% at the point of implementation	4.02%	2.54%	2.76%
Proportion of all households experiencing losses of over 15% at the point of implementation	1.22%	0.44%	0.55%
Proportion of households in the lowest original income quintile experiencing losses of over 5% at the point of implementation	9.32%	1.34%	2.55%
Proportion of households in the lowest original income quintile experiencing losses of over 10% at the point of implementation	6.64%	0.94%	1.52%
Proportion of households in the lowest original income quintile experiencing losses of over 15% at the point of implementation [6]	3.98%	0.59%	0.85%
Net cost of scheme per annum	£600m	£26m	£1.55bn

Source: the author's own calculations with UKMOD version A1.0+.

When we evaluate this table we have to recognise that the Citizen's Basic Income scheme being tested was chosen by a trial and error method designed to find a scheme that would fulfil the prechosen feasibility criteria, and that the search was conducted on the basis of the assumption of a partial roll-out of Universal Credit. We can see from the table that this particular scheme meets the feasibility criteria *only* when a partial roll-out of Universal Credit

[6] The complexity of the UK's tax and benefits system means that any change made to the system will generate net disposable income losses for some low income households. It has not been possible to reduce the losses below the figures given in the table.

is assumed, and not when either no roll-out or a full roll-out is assumed. If either a full roll-out or no roll-out were to be assumed, then there might of course be different schemes that would generate fewer net household disposable income losses than the scheme discovered during the original search for a sustainable Citizen's Basic Income scheme that would meet the criteria in the context of a partial roll-out of Universal Credit: but that would be a different scheme. We can therefore conclude that we cannot say that any particular scheme would generate fewer net household disposable income losses if implemented in the context of a full roll-out of Universal Credit; and we can therefore say that it is not necessarily true that it would be better to wait until Universal Credit was fully rolled out before we attempted to implement a Citizen's Basic Income scheme.

Table 10: Numbers claiming means-tested benefits, or within striking distance of coming off them, for the Citizen's Basic Income scheme implemented in three different Universal Credit roll-out scenarios

	The existing scheme in 2020	**No Universal Credit roll-out: legacy benefits only**	**Partial Universal Credit roll-out: DWP estimate**	**Full Universal Credit roll-out**
Percentage of households claiming any means-tested benefits	29.27%	26.81%	26.39%	26.24%
Percentage of households claiming more than £100 per month in means-tested benefits	25.44%	21.77%	21.13%	21.01%

Source: the author's own calculations with UKMOD version A1.0+.

Table 11: Reductions in the total costs of means-tested benefits and the average value of means-tested benefits claims for the Citizen's Basic Income scheme implemented in three different Universal Credit roll-out scenarios

	Reduction in total cost of means-tested benefits	**Reduction in average value of claim**
No Universal Credit roll-out: legacy benefits only	29.05%	22.46%
Partial Universal Credit roll-out: DWP estimate	30.11%	22.48%
Full Universal Credit roll-out	27.48%	19.10%

Source: the author's own calculations with UKMOD version A1.0+

We can conclude from these tables that this particular Citizen's Basic Income scheme would take more households off means-tested benefits the closer we came to a full roll-out of Universal Credit, but that the greatest reductions in the total costs of means-tested benefits and in the average value of benefit claims occur in the context of a partial roll-out of Universal Credit. Again, generalisation appears to be prohibited.

Table 12: Inequality and poverty indices for the Citizen's Basic Income scheme implemented in three different Universal Credit roll-out scenarios

Inequality and poverty indices	**The current tax and benefits scheme in 2020**	**No Universal Credit roll-out: legacy benefits only**	**Percentage change in the indices**	**Partial Universal Credit roll-out: DWP estimate**	**Percentage change in the indices**	**Full Universal Credit roll-out**	**Percentage change in the indices**
Inequality							
Disposable income Gini coefficient	0.3082	0.2774	9.99%	0.2782	9.73%	0.0312	11.12%
Poverty headcount rates							
Total population in poverty	17.49%	13.34%	23.73%	13.61%	22.18%	13.22%	24.41%
Children in poverty	23.84%	17.07%	28.40%	17.96%	24.66%	17.20%	27.85%
Working age adults in poverty	14.85%	11.36%	23.50%	11.44%	22.96%	11.04%	25.66%
Economically active working age adults in poverty	7.08%	4.63%	34.60%	4.85%	31.50%	4.68%	33.90%
Elderly people in poverty	19.02%	15.65%	17.72%	15.87%	16.56%	15.95%	16.14%

Source: statistics function of UKMOD version A1.0+ with author's own calculations.

A somewhat confusing picture emerges here. Implementing the scheme in the context of a full Universal Credit roll-out would generate the largest fall in inequality, but that context provides the largest falls in poverty only for some of the demographic groups, whereas for others it is the 'no Universal Credit roll-out' option that generates the largest reductions in poverty.

Table 13: Percentage increase in mean equivalised household disposable income by equivalised household disposable income decile

	No Universal Credit roll-out: Legacy benefits only	Partial Universal Credit roll-out: DWP estimage	Full Universal Credit roll-out
Decile 1	24.19%	21.85%	24.34%
Decile 2	8.96%	8.10%	9.00%
Decile 3	5.71%	5.38%	5.90%
Decile 4	4.04%	4.34%	4.38%
Decile 5	3.52%	3.49%	3.46%
Decile 6	2.35%	2.38%	2.40%
Decile 7	0.84%	0.95%	0.97%
Decile 8	-0.62%	-0.55%	-0.56%
Decile 9	-2.85%	-2.81%	-2.80%
Decile 10	-7.17%	-7.16%	-7.14%

Source: statistics function of UKMOD version A1.0+ with author's own calculations.

There is very little difference here between the distributional patterns generated by implementing the Citizen's Basic Income scheme in the different Universal Credit roll-out contexts: but if there is any difference, then implementation in the context of a partial Universal Credit roll-out would appear to deliver less redistribution from richer to poorer than implementation in the context of no transition to Universal Credit or in the context of a full Universal Credit roll-out.

Conclusion

On the basis of the results obtained we cannot claim that implementation of any particular Citizen's Basic Income scheme in the context of a full Universal Credit roll-out would necessarily be more feasible in relation to the feasibility criterion of net household disposable income losses than it would be in contexts of no or partial roll-out of Universal Credit: but that is not to say that a different Citizen's Basic Income scheme might not be found that would prove to be financially feasible in the context of a full roll-out of Universal Credit. It is simply to say that the particular scheme tested satisfies the feasibility criterion in the context of a partial roll-out of Universal Credit and not otherwise.

In relation to other effects of any particular Citizen's Basic Income, it is difficult to identify a consistent pattern of results in relation to the different Universal Credit roll-out scenarios.

The overall conclusions must therefore be that generalisation would appear to be impossible, and that there is no reason to wait for full Universal Credit roll-out before implementing a Citizen's Basic Income scheme.

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