POTENTIAL DESTITUTION AND FOOD BANK DEMAND RESULTING FROM THE COVID-19 CRISIS IN UK

Rapid Research for Trussell Trust

MODELLING INDIVIDUAL/HOUSEHOLD-LEVEL IMPACTS AND ELIGIBILITY FOR MAINSTREAM WELFARE SUPPORT

FINAL REPORT

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1. Introduction

The main aim of this research is to provide early intelligence about and projections of the potential need and demand for food aid provided through food banks as a consequence of the COVID-19 pandemic and the associated economic crisis for the Trussell Trust (TT), whose network represents the larger part of the UK's domestic food assistance supply. A second aim is to shed light on the factors which are leading to significant additional numbers of people experiencing severe poverty or destitution, which leads to this need/demand, and to point to potential policy or system changes which might alleviate this aspect of the crisis and its after-effects.

The research fell into two main parts. The first was concerned with the scale and anatomy of the COVID-19-induced economic crisis and its impacts through the labour market on people's jobs and livelihoods, including the effectiveness and limitations of government measures to support firms and workers. This work was in substantial part conducted by I-SPHERE's four research partners with expertise in macro, regional and labour market economics and associated policies. One partner (IPPR) provided an early interim report on likely impacts on overall employment by industry sector under three broad scenarios and an initial picture of the range of variation in reactions by employers. Another key partner, David Simmonds Consultancy, have modelled inter-industry and regional multiplier effects down to the level of local authorities and further work from ProBono Economics on policy measures and business finance/viability issues informed this process. Prof Arnab Bhattacharjee working with the National Institute for Economic and Social Research (NIESR) has produced macro-economic forecasts, with a separate report on the this work also being available.

The second part, the main focus of this report, has concerned with how these dramatic economic and labour market changes were likely to impact on different individuals in the working-age population and on their households. This considered their relative vulnerability or resilience, having regard to their existing or potential poverty status, benefit eligibility, financial status (savings and debt), and the amount of support which may be expected from family and social networks, while also considering social and economic vulnerability being compounded by health conditions and/or caring responsibilities. The extent to which some households may be affected by changes in the work and earnings of more than one household member is modelled. This analysis also includes assessing the eligibility of affected households for mainstream welfare benefits (Universal Credit, UC), while also recognising that, given its current characteristics (in terms of access, delays, benefit levels) this system is not a panacea.

Our work on this has been strongly informed by ongoing research for TRUSSELL TRUST on 'The State of Hunger' (Sosenko et al 2019) as well as for Joseph Rowntree Foundation on 'Destitution in the UK' (Fitzpatrick et al 2018). The concept and definition of destitution used follows that developed in the latter research and is defined in section 9 and Annex B. This analysis will interface with and make reference to existing work modelling food bank take-up, while also acknowledging that the COVID-19 crisis represents a major 'regime change'. Some early results from updating of the existing food voucher statistical model are referred to in s.11 of this report.

2. Modelling platform and approach

This part of the research is essentially a *static micro-simulation* of the impact of the economic crisis on working age adults and households across the UK. It tries to model the way Covid-induced job losses and reductions in hours/earnings affect different individuals and households, and the extent to which this leads them into more extreme forms of poverty and destitution, and thence to needing support from food banks. The 'static' qualifier in the title underlines that this approach involves making specified changes in the situation of selected members of a model population, but not attempting to represent the whole continuous process of change and adjustment in people's behaviour, choices and interactions in various markets. The approach has similarities with work carried out as part of Joseph Rowntree Foundation's *Solve UK Poverty* exercise in 2016, looking at the impacts of different policies or scenarios on poverty outcomes[1].

For this purpose we use as a large, representative sample of that population the UK Household Longitudinal Survey (UKHLS, also known as 'Understanding Society') Wave 9 (2017-18). Although this appears to be a couple of years out of date, it was the most recent available at the time, conditions were fairly stable over that period (prior to COVID) and it may be taken as pretty well representative of pre-COVID conditions. The sample size is relatively large (N=36,055 individual adults in c.20,000 households). Some additional information[2] is attached to these micro data at Local Authority District (LAD) level (N=380), and analysis results may be disaggregated by region and/or LAD types (using ONS classification). The dataset is a panel which essentially revisits and interviews the same individuals and households each year. Some additional variables, from topics which are not asked in every wave, have been added to the dataset from wave 8, along with some additional variables of special interest from wave 9 which were not included in the original general purpose dataset. Financial variables are essentially at 2017-18 values, except that the UC standard allowances have been adjusted to reflect the changes announced in late March 2019 in response to COVID-19 (currently applicable for one year)[3].

A schematic outline of the micro-simulation model is presented in Annex C. Arrows show the sequential logic of the model leading from job impacts through to emergency food parcel demand. External inputs and points of reference are shown around the outside.

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[1] See Bramley, G., Leishman, C. M., Cosgrove, P. J., & Watkins, D. (2016). *What would make a difference? Modelling policy scenarios for tackling poverty in the UK*. Heriot-Watt University
https://researchportal.hw.ac.uk/en/publications/what-would-make-a-difference-modelling-policy-scenarios-for-tackl

[2] Housing market variables including house prices, rents, Local Housing Allowance rates, new build, social lettings, vacancies; unemployment and employment rates, earnings levels, migration rates, households and dwelling, homelessness rates, crowding and sharing, IMD/ID deprivation indicators; density/sparsity; ONS local authority classification;

[3] Increases in the Local Housing Allowance to the 'thirtieth percentile' of market rents announced in April 2020 are also included in the baseline calculations.

The initial version of this simulation looked only at the initial impact of Covid in the period April-June of 2020 (2020 Q2). Subsequently the simulation was developed further, incorporating certain refinements noted below, both for that initial period (which is now, as it were, 'history') plus three variant simulations for each of two forward periods: the initial recovery phase (2020 Q4) and the medium term phase (2021 Q2/3); a 'Central' scenario plus a 'Better' and 'Worse' variant for each time period. There are thus 7 scenarios reported for the standard outputs. In addition, we have used to the model to explore some particular policy issues, especially around the Universal Credit (UC) personal allowance rates, and the Local Housing Allowance (LHA) cap level.

3. Establishing employment scenarios

The risk of loss of job, or of work hours/earnings, depends first and foremost on the scale, duration and time profile of the economic shock induced by COVID, and secondly on how that plays out in different industry sectors. Other parts of the research have addressed both of these aspects, but we have generally aimed to pick up a wide range of published estimates and assessments, including early survey or statistical indicators. While our initial approach drew heavily on an initial report from IPPR, plus some insights from NIESR's April/May forecasts (Lenoel & Young 2020), we now have the benefit of more general survey and administrative data describing what actually happened in Q2 2020. This is summarised at the level of 20 industry orders in Table 1.

A key input which enabled us to refine these numbers was the output from the ONS 'Business Impacts of Coronavirus' Survey (BICS) from the end of May 2020 (ONS 2020), which gave a reasonable picture of the impacts in the depths of the first phase of impact by sector (covering most relevant sectors). Seven indicators were combined to give an overall indicative score, these being:

- Business not currently trading
- Net change in turnover
- Net 'less' minus 'more' exporting
- Applied for government loans/grants
- Using tax concessions
- Cash reserves less than 3 months
- Proportion of workforce furloughed
- Proportion of workforce sick/isolating, redundant, other

These were given equal weighting, other than a double weight on the first item and a half weight on the fifth item. This score was the main source for the sectoral level of gross job reduction shown in Table 1. Another key source was the actual HMRC data release on outturn take-up of the furlough scheme, which again has full sectoral breakdown of both numbers and financial values claimed. From the combination of these and assumptions about typical earnings of affected workers, we can infer that the average duration of furlough was about 1.6 months, which implies that the total loss of labour input/output over the full three months

will have been only a proportion of that implied by the total number[4]. However, the total number is reasonably indicative of furlough numbers at their peak, around early June.

The number of workers suffering complete job loss or significant reduction in hours (including those on sick leave, shielding, doing childcare or other care) represented a division of the remaining total numbers after allowing for furlough, with judgemental variations across sectors informed by a wide range of inputs including the work of IPPR and PBE and surveys by the Resolution Foundation. The job loss total is consistent with DWP data on additional UC and JSA claims.

It can be seen from Table 1 that the estimated gross reduction in employment activity ranges from 5% in primary and utilities, through 10-20% in financial & insurance, information & communication, education and health; 30-40% in mining, water/waste, transport, real estate, admin support and professional & technical services; , c. 50% in manufacturing; 60-70% in construction, wholesale & retail, and arts/entertainment/recreation; and over 90% in accommodation and food.

Looking to the next phases ('recovery' as at 2020Q4 and 'medium term' as at 2021Q2/3), we have again set out sectoral assumptions in terms of overall job reduction at target dates, and the division between the three categories of job loss, reduced hours and furlough (assuming some residual element of this scheme for some sectors in some scenarios[5]). These are set out for three broad economic recovery assumptions, a 'middle', 'better' and 'worse'. The middle scenario takes a middle view of the various published economic forecasts (e.g. Lenoel & Young 2020, OECD 2020), and assumes that there is not a second major Covid-19 wave and associated lockdown, while also assuming that the government takes significant measures to cushion some sectors and support recovery at least through into early 2021. The favourable scenario implies a fairly rapid bounceback reaching closer to 'business as usual' by mid 2021 while the government is still being supportive. The worse scenario follows more pessimistic economic forecasts, which may factor in recurrent flare-ups of COVID-19, worse prospects for world trade and travel, and perhaps a government less ready to continue providing a lot of support to the economy.

Table 2 sets out the assumed overall job reduction (relative to pre-Covid base) by sector for each scenario. In general we apply top-down assumptions about the withdrawal of furlough: complete cessation by Q4 2020 in the 'worse' case, partial retention in selected sectors (arts, entertainment & recreation; accommodation & food; transport (especially air); manufacturing (selected 'key' sectors) through the recovery but phased out by mid 2021; For the balance of the job adjustment (other than furlough) we generally apply pro rata shares (to the initial shares) in the later phases to the two elements of job loss and reduced hours, but recognising the greater role of reduced hours in more female-intensive sectors.

While the numbers in Tables 1 and 2 are the main basis for forecast job changes, an additional element in the modelling has involved the use of a detailed input-output regional

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[4] This was based on HMRC reported furlough data to 11 June, which is slightly less than three months from the onset of lockdown.
[5] This is essentially a political judgement that the government is likely to concede some partial continuance of furlough or other support to certain sectors for a longer period.

and local forecasting system (David Simmonds 'DELTA' model[6],widely used in transport and land use planning), both to recognise that there are secondary indirect effects from changes in one sector rippling through other sectors, and also particularly to generate local level predictions of employment change. The final microsimulation uses an equally-weighted combination of direct estimates from Tables 1-2 and those derived via the DELTA model, linked at local authority level. This DELTA application is described in a separate *Project Note*.

It should be emphasised that these forward scenarios are still largely driven by assumptions, informed by a range of inputs, and the exercise of judgement. Although they have been influenced by a number of published forecasts, including OBR, BofE, OECD and NIESR they are not tied to any specific macroeconomic forecasts, such as those of NIESR; it may well be that other estimates derived from such forecasts may yield somewhat differing predictions in terms of incomes, destitution or food bank demand. Readers are reminded that we have already characterised the Covid-19 economic crisis as unprecedented and a regime shift, and as such normal econometric forecasts may not function effectively and will be accompanied by very wide margins of uncertainty. The outcomes over the next year or so will be influenced by the uncertain course of a new strain of infection, diverse reactions and precautionary behaviour across the population, and political decisions within and beyond the UK, none of which are amenable to prediction using routine econometric tools. Judgement is bound to play a big role and it is appropriate to recognise that the range of uncertainty is wide.

4. Identifying workers at risk

The first part of the process involves identifying workers whose jobs were/are at risk and quantifying the extent of that risk. This involves taking account of three types of attribute

- Industry sector (and to some extent location[7])
- Occupation
- Individual job circumstances and attributes (including self-employment factors)

We have already explained that there is very wide variation in the risk depending on industry sector. Some of the occupational mix follows from that, but we assume that occupation itself has an effect on the risk level at individual level. We define a set of higher risk occupations, based on the detailed 3 digit occupational classification (jbsoc10, N=90)[8], this time simply flagging higher risk occupations (examples: 'Design occupations', 'Sport and Fitness Occupations', 'Sales, Marketing and Related Associate Professionals', 'Construction and Building Trades', 'Textile and Garment Trades', 'Leisure and Travel Services', 'Hairdressers and Related Services', etc. 19 out of 90 occupations are flagged as higher risk accounting for 8% of all employed survey respondents in UKHLS. When coding a combined risk within

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[6] See Simmonds and Feldman (2013) or Halls and Simmonds (2020) for more background on this model, and the Project Note on *Potential Employment Impact of Coronavirus.* https://www.davidsimmonds.com/publications
[7] Via the Simmonds/DELTA modelling
[8] Unfortunately about one third of working respondents do not have occupation recorded in UKHLS, although we boosted coverage somewhat by referring to both current and last SEG variables. While this may lead to some under-prediction of risk of job or hours loss, the inclusion of other more specific indicators of job insecurity described below, plus the industry sector, compensates for that in the combined assessment.

industry groups we apply a double risk weighting to this sub-group in respect of all forms of impact (furlough, reduced hours, full job loss).

Based on the emerging evidence, our revised estimate of the immediate 'problem job loss' is about 16% of the total employment affected in Q2 2020, 2.1 million people. This includes some self-employed people whose work has completely vanished. This is consistent with the numbers reported on the takeup of the furlough scheme and the initial numbers of claims of UC and JSA registered.

Table 1: Top-down estimates of short term job impacts (million)

Order	Main Industry Sector	Base total employ'd	Act Peak Furlough	Est Lost Hours	Est Lost Job	Gross number jobs affected	Revised est % max emp loss
A	Agriculture, for & fish	0.489	0.036	0.004	0.003	0.042	9%
B	Mining & utilities	0.049	0.015	0.000	0.000	0.015	31%
C	Manufacturing	2.433	0.950	0.227	0.199	1.377	57%
D	Energy Production	0.141	0.019	0.001	0.001	0.020	14%
E	Waste and Recycling	0.214	0.042	0.005	0.004	0.050	23%
F	Construction	1.494	0.777	0.144	0.119	1.040	70%
G	Wholesale and retail	4.661	1.840	0.750	0.680	3.271	70%
H	Transport & storage	1.456	0.347	0.078	0.074	0.499	34%
I	Accommodation & food serv	2.319	1.604	0.434	0.230	2.269	98%
J	Information & communic	1.273	0.192	0.038	0.030	0.260	20%
K	Finance & insurance	1.029	0.072	0.016	0.020	0.107	10%
L	Property	0.579	0.147	0.023	0.016	0.186	32%
M	Professional, scientific & tech	2.685	0.567	0.166	0.142	0.874	33%
N	Business admin & support	2.724	0.737	0.239	0.200	1.177	43%
O	Public admin & defence	1.276	0.005	0.007	0.050	0.062	5%
P	Education	2.626	0.244	0.092	0.100	0.436	17%
Q	Health	3.960	0.380	0.173	0.142	0.694	18%
R	Arts, entertainment, recreation	0.761	0.408	0.072	0.060	0.540	71%
S	Other services	0.636	0.307	0.040	0.030	0.377	59%
	Total	30.805	8.688	2.508	2.100	13.296	43%
	Percent of total base emp.	100%	28.2%	8.1%	6.8%	43.2%	

]

Table 2: Scenarios for job reductions in recovery and medium term by sector

Scenario No.	2	3	4	5	6	7
Impact level	Middle	Middle mid	Better	Better mid	Worse	Worse mid
Date	2020 Q4	2021-	2020 Q4	2021-	2020 Q4	2021-
Phase	Recovery phase %	Medium Term %	Recovery phase %	Medium Term %	Recovery phase %	Medium Term %
Agriculture, for & fish	2	0	1	0	3	2
Mining & utilities	5	0	3	0	7	2
Manufacturing	15	5	10	2	22	8
Energy Production	3	0	2	0	5	1
Waste and Recycling	5	0	3	0	7	2
Construction	20	10	13	5	30	15
Wholesale and retail	15	10	10	7	24	15
Transport & storage	20	15	15	10	25	18
Accommodation & food serv	30	15	22	12	40	20
Information & communic	5	0	3	0	7	1
Finance & insurance	3	3	2	0	5	4
Property	15	10	10	7	25	15
Professional, scientific & tech	8	3	5	0	10	4
Business admin & support	15	10	10	6	25	17
Public admin & defence	0	0	0	0	5	3
Education	5	5	3	0	7	5
Health	5	0	3	0	5	0
Arts, entertainment, recreation	25	15	20	12	35	20
Other services	15	10	10	5	20	15
Total jobs m	3.797	2.054	2.585	1.201	5.508	2.989
Share of jobs	12.3%	6.7%	8.4%	3.9%	17.9%	9.7%

The third element is an assessment of individual job-related factors indicative of relatively greater insecurity. This is built from eight indicators, two of which are double-weighted, to give a score out of 10. These factors are:

- Recent job changes or gaps in employment
- Started current job relatively recently
- Job is 'non-permanent' (double weight)
- Marginal self-employment (has not submitted accounts)
- Term-time job
- Works in private sector but cannot work from home
- Flexible (including zero) hours job contract
- Pessimistic about security or prospects in present job (double weighted)[9]

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[9] Very likely or likely to lose job in next 12 months by being sacked, laid off, made redundant, contract not renewed; or feels worried or gloomy about job in last few weeks.

A score of 0-1 would indicate a below average or average individual job risk, 2 indicates some heightened risk while a score of 3 or above would indicate a significantly higher level of individual job risk. This gives rise to a risk scale in the range 0.5 to 2.2. Early inputs from other parts of the project team, particularly ProBono Economics, suggested that we may not have taken sufficient account of some of the categories of self-employment situation which create a higher risk of being left with no income, (particularly those 2 million who pay themselves predominantly via dividends, who would not be eligible for the main self employment support scheme), but we were not able to identify this group within the UKHLS data. Thus, this may still be a conservative assessment, although we are identifying a lot of the other factors that would increase their risk of losing employment/earnings.

There remains an uncertain area of people who have stopped working voluntarily, or reduced hours drastically, to facilitate self-isolation/shielding and/or to provide childcare and home education, or to provide care to others. We make significant allowance for these groups in the analyses, informed by input from partners IPPR and PBE and other published work (Andrew et al 2020). For working adults in family households with children under 11, we increase their probability of having reduced hours to three times that of others. For those with a limiting disability or providing care we give them a double probability. We further interact these weights with a double weight for females, given the extensive media commentary on how this type of impact of Covid has fallen disproportionately on women (see also Andrew et al 2020). This group are assumed to reduce their hours of work by 50%.

Broadly speaking, the relative risks of sub-groups of employees resulting from these assumptions appear to be consistent with the findings from the Resolution Foundation's survey of working age adults carried out in May 2020 (Gardiner & Slaughter 2020).

These three basic dimensions of risk (industry, occupation, individual job situation) are then combined multiplicatively to give a percentage job loss risk score, constrained to lie between 0% and 90%. While some respondents may be missing some relevant information (for example on industry) the general default is to low risk (5%) if not no risk.

For the microsimulation, individuals are randomly assigned to status of 'probable job loss' based on their combined risk score in the range 1-90%.

The second group at risk of actually seeing their pay reduced to 80% of normal are generated from within the predicted furlough group (using the industry and occupational risk factors, but not the individual job insecurity factors). Indicative evidence from IPPR/PBE suggested a substantial majority of furloughing has been at 80% not 100% of full pay; taken in conjunction with other recent evidence we assume that 65% of furlough cases are on 80% of salary. The overall size of the furlough group is very large, touching 8.7m at its peak, but by no means all of these will have been furloughed for the whole of Q2 2020, and some stayed on full pay.

The third group, where the risk is of the loss of 50% of hours and earnings, are generated using an interactive function for the overall level, the industry, occupational and specific job factors index, and the child, disability/care and gender factors. The importance of accounting for this type of impact was underlined by findings from the review conducted by IPPR and PBE and in some other contributions including Andrew et al (2020).

The results of the revised version of this simulation for the base period (2020 Q2, 'Scenario 1') are that c.2.1m of working working age adults (7%) lose their jobs at this stage, 2.5m (8%) see a major reduction in hours, and at least 3.19m (10%) are furloughed with a 20% reduction in pay.

5. The household context

Having generated a predicted loss of job status or earnings, in the base period, we can review the socio-demographic and geographic profile of this job loss. In fact, the job losses appear to be quite widely distributed across society, without very strong skewing towards particular groups or areas. They are somewhat more likely to affect multi-adult households, younger adults (in their twenties or early 30s) (see also Table 9 and Tables in Annex A).

Table 3a shows the distribution of working age adults across three broad household types, distinguishing single adult (and necessarily single earner) households from couples and multi-adult households. This suggests that around a third of a million single adult households would be hit, while another 250,000 adult job losses would be obviously problematic as they would involve loss of two or more jobs in the same household.

Table 3a: Working age adults by number of jobs lost in household by broad household types in baseline scenario 1 (number and percentage of all working age adults, 2020 Q2)

Number of Jobs Lost		Household Lone adult	Context Couple	Multiadult	Total
0	Count	6062749	18830117	10080780	34973646
	% of Total	15.3%	47.4%	25.4%	88.0%
1	Count	338386	2010231	2160026	4508643
	% of Total	0.9%	5.1%	5.4%	11.3%
2	Count	0	93266	146647	239913
	% of Total	0.0%	0.2%	0.4%	0.6%
3	Count	0	0	10790	10790
	% of Total	0.0%	0.0%	0.0%	0.0%
	Count	6401135	20933614	12398243	39732992
	% of Total	16.1%	52.7%	31.2%	100.0%
Number adults in job-losing households		338,386	2,103,497	2,317,463	4,759,346
Number in most problematic cases		338,386	93,266	157,437	589,089
	% of total	0.9%	0.2%	0.4%	1.5%
Number of adults losing job		338,386	1,098,382	991,039	2,427,807

Table 3b: Working age adults by number affected by job or hours loss in household by broad household types in baseline scenario 1 (2020 Q2)

Number affected		livewith3 Lone adult	Couple	Multiadult	Total
.00	Count	5,099,379	12,939,675	6,292,861	24,331,915
	% of Total	12.8%	32.6%	15.8%	61.2%
1.00	Count	1,301,756	6,783,696	4,540,072	12,625,524
	% of Total	3.3%	17.1%	11.4%	31.8%
2.00	Count	0	1,210,242	1,276,688	2,486,930
	% of Total	0.0%	3.0%	3.2%	6.3%
3.00	Count	0	0	288,623	288,623
	% of Total	0.0%	0.0%	0.7%	0.7%
	Count	6,401,135	20,933,613	12,398,244	39,732,992
	% of Total	16.1%	52.7%	31.2%	100.0%
Problem groups		1,301,756	1,210,242	1,276,688	3,788,686
percent of all		3.3%	3.0%	3.2%	9.5%

Table 3b extends the analysis to take account of the number of adults affected by any of the three ways of losing employment income and status (job loss, forced reduction of hours, or furlough at

80% of full pay). It suggests more problematic situations of lone adult households or multiple affected adults within the same household would affect 3.8 million working age adults.

There is no very strong regional effect in the job loss profile (but see Table 9 later), although losses appear slightly above average in Wales, the Midlands and South of England. There are some similarities in terms of cases where anyone in the household is affected by reduced employment income.

It is clear and unsurprising that households affected by job losses are much more likely to be in poverty post job-loss, and quite likely in severe poverty, at least pending receipt of any additional welfare benefits (UC or other). Table 4 illustrates this, showing that of households that lose one job, 8% were poor before Covid-19 while 51% would be poor afterwards (before housing costs, BHC); these proportions would be 10% and 51% in poverty (after housing costs, AHC). Furthermore, 35% of this group would be in severe poverty (below 40% of the median, AHC). Households losing two jobs would jump from 8% to 87% poor AHC with 81% in severe poverty.

Table 4: Poverty indicators before and after job, hours or earnings loss by number of jobs lost and number of adults affected in household in Scenario 1, 2020 Q2 (before including potential additional welfare benefit) (percent of working age households)

Number lost job	Previously poor BHCc	Poor BHC post Covid	Previously poor AHC	Poor AHC post-Covid	Severely poor AHC post-Covid	Difference in AHC poverty post Covid, % point
None	12%	19%	15%	19%	9%	4%
One pers	8%	51%	10%	51%	35%	41%
Two pers	8%	87%	8%	87%	81%	79%
	0%	100%	0%	100%	100%	100%
Total	12%	23%	14%	23%	12%	8%
Number affected						
.None	14%	18%	16%	17%	8%	1%
One pers	9%	30%	12%	30%	17%	18%
Two pers	4%	43%	7%	43%	28%	36%
Three pers	0%	33%	0%	28%	15%	28%
Total	12%	23%	14%	23%	12%	8%

Notes: 'Poor' means below 60% of median net equivalised income: 'Severely poor' means below 40% of median; 'BHC' means before housingcosts; 'AHC' means after housing costs; 'Number affected' means number of working age adults affectd by any job loss or hours or earning loss.

The effects are are slightly less dramatic for households where one adult is affected by loss of employment income in any of the three ways modelled, but where two or more are affected the impacts are quite serious e.g. AHC poverty up from 7% to 43% and severe poverty at 28% for 2 adults affected. In a later section we revisit these impacts to look at the effect of allowing for Universal Credit entitlements.

These adverse impacts would be particularly marked for single adults and families with children, for adults in their middle 30s and 40s and for renters (see also Table 9 and Annex A).

Savings and debt

Another key issue for households facing the shock of a job loss is whether their financial position can sustain them, in terms of savings, or whether they are already in financial difficulty (e.g. debt, arrears). Saving data are rather limited within UKHLS but it would appear that around a 26% of those losing a job would have no savings, with 44% having zero or less than £500 (enough to live on for a month or so, for example while waiting to receive UC). Only about 28% would have more than £6000 of savings. Looking at the wider picture by number of adults affected, of households with one adult affected 45% have none or less than £500, while for two affected it would be 43%, and for 3 affected it would be 45%.

On the debt and financial difficulties side, 15% of potential job losers would already be in arrears on housing or other bills, 18% have problems with credit card payments, and 30% have relatively high credit card debt. On a broad composite measure of debt stress, 47% of job-losers would fall into this category, compared with only a third of those not losing a job. This measure rises from 31% of households with no adults affected to 36% of those with one affected and 40% of those with two affected. A narrower measure of severe debt stress highlights 5.4% of potential job-losers.

6. Eligibility for Universal Credit

The Government emphasises that people losing a job and not eligible for the special government schemes should be able to apply for Universal Credit, and indeed UC rates have been raised and some conditionality requirements were temporarily relaxed. The government appears to intend that these measures will be temporary, and indeed conditionality has been re-instituted[10], while the main UC change was for one year. However, UC does not necessarily resolve potential destitution in the short term, even with these 'easements', because of the 5-week wait for new claims, because some applicants may have difficulty in dealing with the online system or making contact with DWP, because 'advances' are only loans which must be repaid from benefit income, and because some people will not be eligible for UC anyway.

Table 5a presents an estimate of the likely eligibility of adults affected by job loss for UC support, once the transitional issues alluded to above are overcome. The numbers refer to numbers of working age adults affected. However, the average financial amounts are effectively per Benefit Unit (BU)[11]. The calculation of UC is potentially complex insofar as it draws on a good deal of detailed feeder information on income, savings, housing costs, disability, childcare costs (ignored here[12]) and so forth, much of which may contain missing values. These estimates are the best that we can make in the time available so far and appear to be reasonable. In each block of the table, the first two rows refer to cases where there has been no job lost, while the next two rows refer to cases where one or more jobs have been lost, with the third block referring to the totality of working age adults who were working prior to COVID-19. These estimates do not include prior entitlements for tax credits/UC for those not affected by job loss. Table 5b presents a similar analysis for adults in households affected by any of the three forms of earned income loss, broken down by number of adults affected.

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[10] However, judging by recent DWP evidence on sanctions numbers, these had already dropped dramatically pre-Covid.

[11] A 'Benefit Unit' is the unit used to assess eligibility for and entitlement to UK state income-related benefits like UC. It comprises single adults together with any partner plus dependent children. About 20% of households are 'complex' in that they comprise more than one Benefit Unit, including non-dependent children, lodgers, flatsharers, etc.

[12] Childcare costs are not modelled to avoid complications and because it is assumed that in COVID-19 lockdown virtually no formal childcare would be operational.

Table 5a: Estimated Entitlements to Universal Credit for Households and Adults experiencing Job Loss – Base Scenario 1, 2020 Q2

Whether Job Loss		No Job loss	Full UC	Capped UC	No UC	Total
No	Count	20,696,598	824,757	168,624	1,530,504	23,220,483
	%	89.1%	3.6%	0.7%	6.6%	100.0%
Yes	Count	0	1,172,459	205,876	668,343	2,046,678
	%	0.0%	57.3%	10.1%	32.7%	100.0%
Total	Count	20,696,598	1,997,216	374,500	2,198,847	25,267,161
	%	81.9%	7.9%	1.5%	8.7%	100.0%

Table 5b: Estimated Entitlements to Universal Credit for Households with Adults experiencing Job Loss or Loss of Hours/Earnings, by Number of Adults Affected– Base Scenario 1, 2020 Q2

Number of Adults Affected		Working Age	Full UC	Capped UC	No UC	Total
.00	Count	13,913,846	0	0	0	13,913,846
	%	100.0%	0.0%	0.0%	0.0%	100.0%
1.00	Count	6,782,752	1,076,773	253,029	904,452	9,017,006
	%	75.2%	11.9%	2.8%	10.0%	100.0%
2.00	Count	0	834,398	105,941	1,150,715	2,091,054
	%	0.0%	39.9%	5.1%	55.0%	100.0%
3.00	Count	0	82,070	15,530	140,589	238,189
	%	0.0%	34.5%	6.5%	59.0%	100.0%
4.00	Count	0	3,976	0	3,090	7,066
	%	0.0%	56.3%	0.0%	43.7%	100.0%
Total	Count	20,696,598	1,997,217	374,500	2,198,846	25,267,161
	%	81.9%	7.9%	1.5%	8.7%	100.0%

The analysis suggests that around 67% of job-loss cases would be eligible for UC and would be entitled to receive a positive amount of UC post-job loss. For some of these affected cases, particularly those previously receiving tax credits, it would not be a completely new UC application but a change of circumstances to be notified. This may be more straightforward. A smaller proportion (10% of all) would appear to be liable to be affected by one or more of the benefit cap, bedroom tax or LHA limit. Table 5b extends the analysis to all those in affected households, broken down by the number of adults affected by loss of job, hours or earnings. Where one person is affected, 15% would be eligible for UC (3% capped in some way); where two are affected, 45% would be eligible (5% capped); for the quarter of a million adults in households where three adults are affected, 41% would be eligible (6.5% capped).

So 1.38m adults losing a job in 2020 Q2 would appear to be eligible for UC, with a total of 2.37m in that position including those suffering other forms of loss of earnings. A benchmark for comparison is that 2.15m 'excess' applications were made for UC in the period 16 March -16 June[13] (plus 250,000 for 'new style JSA'. These are broadly consistent.

That leaves a third of job-loss cases (668,000) not eligible for or not likely to receive a positive amount of UC, while 79% of adults (2.2 million) in households affected in any way by losses of earned income would not be eligible for positive UC. There could be a range of reasons for this, including still having enough own income, having enough other income in the Benefit Unit (most obviously with a still-working partner), having significant savings, being aged under 18, and not being a UK resident (i.e. recent, undocumented or NRPF migrant). Within the remainder of job loss cases in our micro-simulation, 7% would be ineligible due to savings/capital limits and less than 2% due to age or other criteria, with the balance (23%) not entitled to positive benefit due to other

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[13] Department of Work and Pensions *Universal Credit Declarations and Advances: Management Information related to Universal Credit Declarations and Advances from 1 March 2020 to 16 June 2020.*

incomes coming to themselves or their partner. Given that many affected adults live in couple households (as shown in Table 3) that would not be surprising.

Hardly any cases in our UKHLS analysis registered as ineligible due to their citizenship/residency status as migrants. This is probably mainly a comment on the the limitation of this household survey, particularly as a longitudinal panel survey involving significant commitment of time to being interviewed on repeated occasions, in capturing data on vulnerable marginal groups, such as migrants with No Recourse to Public Funds (NRPF), including those not permanently resident in a particular household or staying in communal accommodation (Bramley et al 2018).

The average amount of UC per job loss case appears to be £96 pw, which is £143 per eligible case. The total cost thus is around £158m per week, which would add up to £4.1bn if the average duration of unemployment for this group was 6 months. The figure including all of the affected adults/households would be £10.8bn[14]. These estimates still assume a relatively rapid exit from lockdown without further second order waves of economic damage, which on the basis of NIESR and other forecasts and emerging media discussion seems unlikely. Scenarios for subsequent stages of recovery are discussed below.

In view of experience and evidence from our previous research on the State of Hunger and Destitution in the UK, it cannot be taken as given that the existence of UC is a panacea which will prevent destitution or serious hardship for all of those impacted by job loss (Fitzpatrick et al 2018, Sosenko et al 2019). There may be considerable barriers and delays for some in actually registering their claim and getting a correct calculation of entitlement, particularly given the reliance on 'digital by default' and the long delays likely in making contact by telephone. Most of those affected will be new to and unfamiliar with the system. Many from the low skilled and self-employed sectors may be migrants for whom issues of documentation and verification may be significant.

There is then the '5 week wait'. While advances are available, of up to a month's entitlement, not all will necessarily ask for these[15] and they still then have to repay it over a period of (now) up to one year – this is likely to be problematic for households already struggling with other debt and arrears. Our research also shows that people who have other complicating needs factors, such as mental health or other health conditions, often find it more difficult to navigate the benefit claiming process. In addition, it should be remembered that this part of this impact assessment is based on a household-based survey and does not cover the significant populations, including people experiencing homelessness, who are not staying in private households, or whose connections with such households are so tenuous that they would not be included in surveys like Understanding Society.

In assessing the risks following job loss we make allowance for these different circumstances in relation to UC entitlement. We also implicitly make some allowance for the potential impact of social disadvantages, including mental health problems and social isolation, on people's ability to navigate the UC application process successfully.

7. Income changes

Table 4 showed the modelled impacts on poverty resulting from the loss of earned income in our baseline scenario for 2020 Q2. Table 6 below extends the analysis to take account of the estimated

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[14] A fuller fiscal assessment would need to take account of changes in other income-related benefits as well as in tax and NI receipts. Also, it is unlikely all of these loss of earnings would apply over the full 6 months, judging by furlough outturn statistics.

[15] According to DWP Management Information up to 16 June, approximately half of new claimants sought an advance.

eligibility for and amount of UC receivable (after successfully making a claim and receiving payment), along with other consequential changes to income-related benefits. The upper part of the table is household-based and focuses particularly on the outcome of job loss, while the lower part is based on working age adults and looks at the progressive impact of more adults within a household being affected.

The existence and operation of UC does not change the basic finding that job loss and the other COVID-19 economic effects do substantially reduce income and increase the incidence of poverty, particularly severe poverty. Job losses inflict losses of earned income in excess of £400 pw on average, raising poverty from a pre-Covid baseline of around 20% to nearly 60%, and severe poverty from around 10% to 43%. UC makes some difference, but the households who get it are relatively poorer and remain very vulnerable (46% in severe poverty) even after receiving the extra £200 on average from UC.

Table 6: Poverty rates and income changes by job loss and Universal Credit status and by number of adults affected in household – Scenario 1 baseline 2020 Q2

Job Loss	UC elig & receive	Poverty AHC	Severe Poverty AHC	Original Income net	Income post change	U C Amount	Total earned income loss
		% of each group	% of each group	£ pw per hhd	£ pw per hhd	£ pw per hhd	£ pw per hhd
No	No	8.9%	3.7%	743	696	0	47
	Yes	34.5%	17.0%	493	477	210	53
	All	20.0%	9.5%	636	602	95	49
Yes	No	50.4%	36.3%	776	389	0	387
	Yes	62.3%	46.1%	597	342	204	412
	All	58.9%	43.4%	648	355	155	405
Total	No	10.0%	4.7%	744	687	0	56
	Yes	37.0%	19.6%	502	465	209	85
	All	22.1%	11.4%	637	589	98	69
	Number adults affected			per adult	per adult	per adult	per adult
	.00	19.4%	9.9%	594	594	92	0
	1.00	27.0%	14.2%	709	580	105	189
	2.00	31.9%	15.6%	802	556	150	349
	3.00	39.3%	22.7%	1044	604	140	506
	Total	22.1%	11.4%	637	589	98	69

Note; the total earned income loss (col 6) is different from the change in overall income (col 4 minus col 3) because of changes in benefit income, including other income related benefits as well as additional UC

The lower part of the table shows that taking all households affected by furlough and reduced hours as well as job lost, the impact is less sharp but still substantial; poverty rises from under 20% where no-one is affected to just under 40% where three adults are affected, with severe poverty rising from 10% to 23%. Income losses escalate from £190 to £506 pw but UC compensation rises only from around £100 to around £150.

Poverty and severe poverty, even after allowing for UC, are key drivers in our risk matrix for destitution, so these findings help to account for the additional destitution resulting from COVID-19.

8. Social and family circumstances

It is widely recognised that people's ability to withstand and overcome adversity, including economic shocks, their 'resilience', depends a good deal on their family and social relationships. Evidence from our 'Destitution' studies (Fitzpatrick et al 2016, 2018) shows that reliance on both financial and in-kind help from parents is the most important bulwark, with help from other relatives and friends/neighbours also playing a significant role. Evidence from the 'State of Hunger' report (Sosenko et al 2019) showed that the key factors leading people to using food banks were deficiencies of the benefit system affecting people with a background in poverty who had experienced a major change of circumstances (job, health, relationship) and at the same time lacked strong family or other social support.

We have already looked at the household type incidence of job losses in Table 3, highlighting the vulnerability of over half-a-million cases of single earner or multiple earner job losses. It is however possible to use further evidence from the UKHLS survey, including additional questions from Wave 8 as well as Wave 9, to generate composite indicators of family support (positive factor) and social isolation (a negative factor). The former is based on indicators including being in a couple, having moved to be close to family, having other relatives alive, having parents alive (double weight) and having received material help (shopping, meals, financial) from parents in the last year (triple weight). 'High family support' is flagged for cases scoring 3 or more out of 8 on this scale. For social isolation our preferred indicator ('socisol3') takes a combination of not being in a couple and reporting one out of four subjective indicators often, or two of them sometimes ('How often feels lack of companionship/isolated from others/left out/lonely'). These indicators are summarised in Table 7.

Table 7: Negative indicators of social isolation by potential job loss

Probable Job Loss	any of 4 subjective ind's 'often'	>1/4 often or 2/2 'some'	Socially isolated and not couple	No family	Not a couple
No	14.6%	31.5%	17.1%	8.7%	39.4%
Yes	13.3%	30.5%	14.1%	7.2%	37.1%
Total	14.5%	31.4%	16.9%	8.6%	39.3%

Note: column 2 refers to people who report one of the four subjective indicators of social isolation 'often' or two or more of these indicators 'sometimes'.

It can be seen that those experiencing a job loss (second row) are almost as likely to be socially isolated on these measures as those not at risk of job loss. When we look at the wider group of people potentially affected by loss of employment income, their probability of social isolation is rather less, at least for those in households where 1 or 2 adults are affected.

Issues of health status, both physical and mental health, may affect the resilience of individuals and households in the face of shock job loss. The experience of job loss, and the problems of coping with income loss and benefit applications, may exacerbate the physical health condition or, through extra stress, anxiety and depression, the mental condition of affected adults. These health impacts may themselves then hamper efforts at getting back into work post COVID as well as the process of coping with the temporary or ongoing loss of income. Table 8 shows the incidence of poor self-reported physical health and also of mental ill-health, based on well-established scales (SF-12[16]),

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[16] SF-12 is a widely-used 12-Item short-form health survey with both physical and mental health versions; see Ware et al (1996).

with the addition of low reported happiness and life satisfaction taken together with the score for common mental health conditions.

Another important dimension is that of disability (limiting long term conditions) and also of caring responsibilities within the household for others with such conditions. These affect more than a third of working age adults in Britain. Again, risk the of having such complications for those adults facing job loss is somewhat below the average (30% vs 36%) but it is still extremely common. A similar rate applies to adults living in households where one or more would be affected by the various sources of income loss. Such households may face additional risks of destitution, arising out of the higher cost of living for many people with disabilities and long term health conditions, as well as the constraints on job search or on activities of daily living (e.g. shopping) affecting such households, who may be required to maintain a higher level of self-isolation.

Table 8: Health, Disability and Caring Factors by Potential Job Loss for Working Age adults.

Job Loss	Poor physical health	Mental ill-health / unhappiness	L T Limiting disability or caring	Any of these health Issues
No	12.0%	20.3%	35.9%	46.8%
Yes	7.3%	17.9%	29.7%	42.2%
Total	11.7%	20.1%	35.5%	46.5%

It can be seen that those threatened with job loss are rather less likely to be in poor physical health (7% vs 12%) or receiving or giving care (30% vs 36%) but nearly as likely to have common mental health conditions and/or be unhappy/dissatisfied with life (18% vs 20%). Any of these health issues would affect 42% of all job loss predicted, with a benchmark of 47%. For the wider group of adults affected by income/work loss, the benchmark for thoseunaffected would be 50%, the rate for those where 1 or two people were affected would be 41%, while for those where 3 or more were affected would have a higher score.

Overall, taking all health and disability/caring related factors, around two-fifths of all those facing job or income loss may be affected by one or more of these.

9. Assessing the risk of destitution

The key aim of this part of the research is to assess and map out the risks, first of problematic job or earnings loss loss, and secondly then of destitution, or severe poverty, resulting, particularly in the short term. While we have referred at different points to 'destitution' it is important before proceeding further to define what we mean by this term. A formal definition of destitution was developed in the first of a series of studies for the Joseph Rowntree Foundation (Fitzpatrick et al 2015), based on expert consultation, and analysis of data (e.g. on spending) and confirmed by responses to a general population omnibus survey. This formal definition is set out in Annex B.

The definition essentially has two parts. People are destitute if

    a) *Either* They have lacked two or more of six essentials over the past month because they cannot afford them: shelter (not sleeping rough); food (less than two meals a day for two

or more days); heating or lighting their home (for 5+ days); clothing and footwear appropriate for the weather; basic toiletries

  b) *Or* Their income is so extremely low that they are unable to purchase these essentials for themselves, less than £70 pw for single adult, £105 for couple, £95 for lone parent with one child, etc. after housing costs, and they have no savings.

This definition is an exemplar of the broader tradition of consensual poverty definitions which rest on enforced lack of socially perceived necessities as well as income thresholds (Mack 2018). However, implementation of this definition tends to require a survey with specific questions, such as that reported in Fitzpatrick et al (2018), and it cannot be precisely applied within mainstream household surveys such as UKHLS. A further reason for such a special survey is that many people experiencing destitution are either not present in private households, or have only a tenuous connection with such a household, or are less likely to be responders in such a survey (Bramley et al 2018). In the present context, we are essentially looking for households who were not destitute at the time of the UKHLS wave 9 survey (2017-18) but who would be at high or very high risk of becoming destitute if they lost their job or lost significant amounts of earned income. Therefore we needed to develop a framework to predict the risk of this situation of destitution arising, given a predicted pattern of job and earnings loss. Also, to reiterate a point made elsewhere in this report, there is clear evidence from both destitution and foodbank surveys that there is a very high overlap between using a food bank and being destitute – nearly all food bank users are destitute, although only a proportion of destitute people use food banks.

The framework we have developed to predict destitution risk entails four key factors, summarising the severity of impact and the resilience of households: poverty, UC credit entitlement, savings/debt, and social/family/health factors. In each case we feel it is appropriate to distinguish at least three levels of risk, rather than reduce everything to binaries. Risk is layered, within these domains as well as across them. The framework is best summarised in traffic light form (Red-Amber-Green) in each of the four key factor domains, as set out below.

**Basic framework of Red-Amber-Green on four dimensions..:*

**A. Poverty (post job/earning loss, also taking account of prior material deprivation[17]).
  Red   <40% median AHC or (3+ Mater Depriv and <60% AHC)
  Amber <60% AHC but not 3+ M D
  Green. >60% AHC and not 3+ M D

**B. Universal Credit
  Red   Not Eligible for positive UC
  Amber Elig for positive UC but affected by cap/gap/bedroom tax
  Green   Elig for positive UC, not affected by caps/gaps.

**C Savings & Debt
  Red   Debt stress highest or Savings:=0.
  Amber Debt stress moderate or Savings < £500
  Green   Not in debt stress and savings > £500

**D Social Family & Health;.
   Red   Lower family support and Socially isolated and Disability /caring

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[17] 'Material deprivation' refers to households who reported (in Wave 8) three or more out of nine household/adult items lacked because they could not afford them, the nine items being: a holiday of 1 week away from home not with relatives, small amount money to spend on self each week, able to keep up with bills and debt repayment, keep house in a decent state of repair, household contents insurance, regular savings of £10 per month, replace worn our furniture, replace or repair major electrical goods (e.g. fridge, washing machine), able to keep accommodation warm enough.

Amber Lower family support and/or socially isolated, or any disability/caring
Green Higher family support, not socially isolated and no disability/caring issue.

To implement this, we assign a risk of destitution number between (0% and 100*) to each combination on this four-dimensional scheme (with each dimension taking at least three values, and sometimes four allowing for 'not known'/'missing data'. These risk weights are assigned judgementally, but follow logically from the principles, with red having the greatest weight, more reds scoring higher, then more ambers, and also a greater emphasis on A Poverty and C Savings/Debt than on B and D. The weights used can be varied , whether by a common scaling factor or by more differential adjustment. The final set used followed adjustments to reflect comments on the relative importance of different factors, exploration of the prediction of existing destitution among the private household population (comparing with other independent evidence), and to bring predictions into line with observed actual food parcel numbers in Q2 2020.

Between the original and current version of this analysis some refinements were made. Firstly, calculations of net income and associated poverty thresholds were fully adjusted to allow for the calculated level of UC where eligible. Secondly, positive probabilities on the matrix were filtered to those who had experienced job loss, or where two or more persons in the household were affected, or where the household involved only a single adult and that one person had been affected[18]. Thirdly, the destitution risks were adjusted, to lower these somewhat in general but maintaining higher risks for those with higher ratings on the poverty (especially) and debt/savings (to a lesser extent) scales.

10. Predicted initial destitution impacts

Table 9 shows a summary of the predicted initial incidence of job loss and resulting destitution across a broad geography of the UK[19] and key demographic categories in the second quarter of 2020. The overall proportion of working age households affected by job loss is around 9% with nearly one-third (32.4%) affected by some form of loss of employment hours/income. This leads to 1.7%% of these households being at serious risk of destitution, after allowing for all of the risk and mitigation factors in our framework. The corresponding numbers are shown as 1.7m households facing job loss and 6.0 million households experiencing some loss of employment income, with 317,000 households containing 721,000 people facing destitution.

This would be a substantial increase (more than doubling) on the level of destitution reported in Fitzpatrick et al (2018) for the year 2017, on a comparable quarterly basis, although indications are that underlying destitution has been increasing since then.

The overriding comment on the geography and socio-demographic profile is that these impacts are very widely spread, and not very strongly concentrated. In terms of regions and countries, Wales appears to do worst and London best on job losses; while the South and Midlands appear to be somewhat worse affected in terms of number of adults per household affected by loss of earnings. However, in terms of destitution Scotland, London and the North appear to do worst,. This is partially consistent with an analysis of severe poverty risk undertaken using UKHLS as part of the destitution research, which also showed a higher incidence in London and the North. A finer-grained analysis by Local Authority typology IS reported below.

The household types which stand out as having a higher impact in terms of job and hours loss tend to be larger multi-adult households and families, but for destitution it is clear that the highest risks

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[18] Previously the criteria had been simply job loss or 2 or more persons affected.
[19] Northern Ireland is excluded from the reported tables by broad region and country owing to missing associated data on housing costs etc.

face lone parent families and younger single adults. This is consistent with the general patterns for destitution and severe poverty reported in Fitzpatrick et al (2018), and partly reflects the refined assessment of low income poverty impact and destitution risk discussed above. While job losses are seen across the age range up to the 50s, impacts on multiple adults per household are more focused on 'thirty-somethings', while destitution tends to impact most on the younger households (20s-30s). The thirty-somethings tend to have have limited savings and/or more debt which may add to their vulnerability.

Job loss risk, and multiple adults being affected, are both more prevalent in owner occupation, and least in social renting (partly due to lower employment rates in that tenure). Destitution risk, however, is clearly highest for private renters, and relatively lower for owner occupiers, with social renters in an intermediate position. Nonetheless, a large number of owner occupier households appear to be threatened with job loss (1.17m) and having any member affected (3.95m), with even quite a large number facing destitution (372,000 persons). Taken in conjunction with the fact that owners are not normally eligible for UC support for the first nine months, this suggests that issues with mortgage debt and even hunger may arise on a significant scale in this sector. At the same time it must be acknowledged that several hundred thousand private renters remain vulnerable, particularly if the eviction ban is ended[20].

The pattern of impacts in terms of socio-economic level based on occupation is generally in the expected direction, with the lower occupational groups facing a higher rate of impact. For job loss, however, the highest impact is in the semi-routine group 3, which has a high concentration in badly-affected sectors. Overall destitution risk in the lower skill groups is more than double that in the professional-managerial group. These findings are consistent with reporting from the Resolution Foundation and other organisations.

Last but not least, we can present a picture of impacts across the main ethnic groupings recognised in UK, as self-reported in surveys[21] .

Four groups appear to be more affected by job loss than 'White UK': 'White Other' (including most EEA migrants); 'Black/Black British; Indian; and Pakistani/Bangladeshi. The latter two groups are only marginally higher on this indicator. There is a similar picture on 'any adult affected', except this time the Black/Black British group does not stand out while the South Asian groups stand out more. On destitution, it is the White Other and Black/British which stand out. It may be that the characteristic household/family structure of Asian households may account for both the higher prevalence of 'any affected' but the lower prevalence of destitution (more social support). More generally, these differences do partially reflect known patterns of social disadvantage, but do not appear to be as striking as those from the Covid mortality data. The patterns could reflect a number of influences including the geography of the economic impact, the sectoral and occupational mix

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[20] Shelter and other organisations have suggested that 200,000 private tenants are at risk from an early end to the eviction ban; our estimate of those at risk of destitution as a result of COVID-19 losses of jobs/earnings is around 85,000, but our UKHLS data also show approaching 190,000 private renters with rent arrears in 2017

[21] Official statistical and survey sources typically report the ethnic breakdown of UK in terms of five main groups: White; Mixed/multiple; Asian/Asian British; Black/African/Caribbean/Black British; and 'Other'. See for example https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/articles/ethnicityandnationalidentityin englandandwales/2012-12-11#ethnicity-in-england-and-wales ; however, sub-groups within these are often identified, including White British vs White 'Other', South Asian (and within that, Indian, Pakistani, Bangladeshi), Chinese and other Asian. The ability to distinguish any of these sub-groups depends on viable sample numbers in the relevant data source. The three South Asian sub-groups are all represented by substantial numbers across UK and much social research has shown a divergence on many socio-economic outcomes between the Indian and Pakistani/Bangladeshi groupings, which also display cultural and religious differences. The White Other group is also substantial and has grown significantly as a result of EEA migration, and given vulnerabilities in labour market and welfare entitlements post-Brexit this arguably merits separate identification.

and role of self-employment, the incidence of savings and debt, health status, and differential extent of family support networks.

Table 9: Incidence of job loss and predicted resulting destitution at household level by broad region and socio-demographic categories (percent of working age households, 2020 Q2, Great Britain)

Categories	Job Loss	Anyone Affected	Destitute
Broad Region & Country			
North	9.7%	32.3%	1.8%
Mids	9.8%	36.5%	1.6%
South	9.7%	35.0%	1.7%
GLA	8.8%	30.5%	1.8%
Wales	10.6%	32.1%	1.7%
Scotland	8.8%	27.8%	2.2%
N Ireland	1.3%	3.0%	0.1%
Total	9.3%	32.4%	1.7%

Household type	Job Loss	Anyone Affected	Destitute
Single Younger	5.5%	18.9%	2.9%
Lone Par Family	4.3%	23.7%	4.2%
Couple	10.9%	34.5%	1.0%
Cpl + 1 child	11.0%	44.3%	1.2%
Cpl + 2 chn	10.7%	40.4%	1.0%
Cpl + 3+ chn	8.8%	46.0%	1.1%
Multi Adult	16.0%	45.3%	1.4%
Total	9.3%	32.4%	1.7%

Age band	Job Loss	Anyone Affected	Destitute
20s	7.9%	27.4%	2.1%
30s	8.9%	38.0%	2.1%
40s	10.2%	34.0%	1.7%
50s	10.2%	33.1%	1.8%
60-64	7.6%	23.3%	0.7%
Total	9.3%	32.4%	1.7%

Tenure	Job Loss	Anyone Affected	Destitute
Own	10.4%	35.1%	1.4%
Social	6.7%	25.9%	2.0%
Priv Rent	8.7%	30.6%	2.5%
Total	9.3%	32.4%	1.7%

Occupational Level	Job Loss	Anyone Affected	Destitute
Professional , mgt	9.4%	34.4%	1.3%
Intermediate	11.3%	40.8%	2.4%

		Job Loss	Anyone Affected	Destitute
Semi-routine		12.3%	42.9%	3.3%
Routine		10.3%	46.4%	3.0%

Ethnic group	Job Loss	Anyone Affected	Destitute
White British	9.3%	32.2%	1.7%
White Other	10.1%	35.7%	2.2%
Mixed	6.9%	31.0%	1.8%
Black/B B	12.3%	31.6%	2.6%
Indian	10.9%	36.5%	1.0%
Pakistani /Bangladeshi	9.9%	38.9%	1.5%
Other	5.6%	26.8%	1.7%
Total	9.3%	32.4%	1.7%

These analyses can also all be presented in terms of numbers of households and proportions or numbers of working age adults. (see Tables in Annex A)

11. Implications for Food Banks

It was stated at the outset that what this part of the research offers is a static microsimulation. We posit an economic/employment shock of a certain magnitude, and trace its impact on a population snapshot from a major household survey (UKHLS). The impact considered so far is that concentrated primarily in the second quarter of 2020 (although the Covid lockdown was introduced in the second half of March).

To get from 'destitution' to 'Trussell Trust food parcels', we apply assumptions based on evidence from our survey of Destitution in the UK 2017, our *State of Hunger* report for the Trust in autumn 2019, and recent food voucher data from the Trust's monitoring system. From the 'Destitution' study we found that, of the (weekly weighted) destitute households falling into our broad 'Other UK' category (i.e. excluding migrants and complex needs cases), 56% used a food bank at the time of the survey or over the preceding year.food bank. The Trussell Trust network accounts for c.60% of UK food banks (Sosenko et al 2019) so we apply that proportion to the numbers predicted to result from COVID-19. Recent voucher data indicate that the number of parcels per person over a period such as one quarter is 1.78. These three pieces of information are used to get from 'persons destitute' in a quarter to 'TT food parcels in a quarter', which is then divided by 3 to get a monthly rate. So, in 2020 Q2 we estimate that 316,600 households containing 720,600 persons would generate an additional number of 431,000 Trussell Trust food parcels, or 143,700 per month. These figures are summarised in Table 10.

In order to assess what change this means for the Trussell Trust network, we need to have a base figure of what the expected level of food voucher demand would have been from the existing clients, pre-Covid. We think that the most appropriate starting point for this comparator would be the equivalent quarter of 2019 (Q2) when food voucher demand was running at 138,000 per month. However, we have made a number of specific adjustments to this base figure to reflect changes in 2020 other than the specific effects of Covid-induced loss of employment/earnings. These adjustments are as follows:

- The annual growth trend apparent in the quarterly Trussell Trust voucher data, which we estimate at 10% based on the most recent 2-3 quarters pre-Covid
- The effect of social security easements made, particularly the additional £20 pw added to UC personal allowances; our estimate of 20% reduction is the mid-point between an econometric

estimate based on our food voucher panel model and a lower estimate derived from our microsimulation test of reversing this change, reported later

- An allowance for the reduced demand from homeless people resulting from the special Covid provision (10k);
- An allowance for the proliferation of extra 'pop up' emergency food provision, conservatively estimated at 10k, based on discussions with the sector and following examination of the extreme local variation in voucher number changes over the last three quarters

It is necessary to make these adjustments before comparing our microsimulation estimates with the actual outturn food parcel numbers in 2020 Q2. As the table shows, with the adjusted base figure added to our predicted numbers we have a predicted total monthly number of parcels of 248,000. This may be compared with the actual outturn for 2020 Q2 of 243,000. It must be emphasized that this closeness is 'by design' – as already stated, we adjusted the destitution risk framework calibration to ensure that for this time period the predicted food voucher outturn would be close to the observed level. As a further second order check on the broad order of magnitude, our figure of 744,000 for food voucher demand in Q2 of 2020 is in a similar ballpark to the NIESR forecast reported in a separate technical paper, (762,000), although marginally lower.

Table 10: From Destitution to Food Parcel Demand, compared with base level – Scenario 1 2020 Q2.

Time frame	2020 Q2
Destitute % of hshlds	1.71%
Destitute households	316,613
Destitute persons	720,576
TT food parcels /qtr	430,962
TT food parcels /mth	143,654
Base comparator	138,000
Adjusted base	104,200
Difference %	138%
Total TT parcels /mth	247,854
Actual TT parcels /mth	242,800
Total TT parcels/qtr	743,562

144,000 extra food bank parcels per month is an increase of 104% on the unadjusted figure from Q2 of 2019, but a larger increase on the adjusted baseline of 138%. On this basis it is reasonable to talk in round terms of a roughly doubling of food bank demand, while acknowledging that various ameliorative factors including those in Universal Credit and alternative emergency provision have somewhat reduced the peak numbers relative to what they might have been

Existing food voucher model

As already noted, we can make some estimates of possible changes from our existing model of food voucher demand, developed in the State of Hunger project (Sosenko et al 2019), consequent on changes to the welfare benefit system and other variables in this model. This may be helpful for estimating the offsetting effects of reduced food parcel demand from the 'normal' clientele consequent on relaxations in benefit sanctions regime and the increased standard UC allowances

We have re-done the modelling using the additional 2019/20 data recently acquired. Having more data meant that a couple more predictors ended up being included in the model: (a) the proportion of the working age population with a disability or limiting health condition (effectively replacing the health-related benefits variable), and (b) percent of households in Temporary Accommodation[22]. Both are positively associated with demand and both with relatively large effects, which makes sense in the light of other evidence we have. There are some changes in the relative size of some other variable effects, for example an increase in the supply of distribution centres effect and a reduction in the 'real value of benefits' variable.

The improved model performed very well in 'predicting' the 2019/20 data (we can test the prediction, since we have got the actual, or at least provisional, data): it predicted a c.20.5% increase in England while the (provisional) actual increase was also 20.5%. Looking forward, our best baseline 'no-covid' forecast for 2020/21 would be for a 32% drop in demand, driven predominantly by the

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[22] This variable relates to statutory homelessness, but we have made use of TA instead of homeless acceptances; is justified both because it is a more sensitive indicator of pressure and because consistent data on the latter effectively ends in 2017/18, prior to the implementation of the Homelessness Reduction Act and the new H-CLIC data system.

£95/month increase in UC standard allowance (this is part of the basis for our 'adjustment' of base level demand figures referred to above).

If that forecast were realised it would create some capacity to respond to the increased numbers of people affected by the job losses and the associated UC applications kicking in. However, as noted above, we are cautious in expecting an immediate drop in demand from the 'traditional' clientele for various reasons, and this might be subject to a time lags. There are also statistical grounds for caution about the magnitude of the reduction attributed primarily to the real value of working age benefits variable, because this is the only national time series variable in the model and it may pick up other trended factors. Further grounds for caution arise from the much smaller impact generated within our micro-simulation test of reversing the Univesal Credit uplift, reported later in s.14.

Further qualifications

Some further notes of qualification should be made at this point. Our analysis of the risk incidence for job losses and associated destitution rests heavily on one data base, the UKHLS. In common with other household surveys, but perhaps to a greater extent because of its longitudinal character, this probably does not capture well certain more transient people staying within households (e.g. sofa-surfers, temporary visitors), while almost completely omitting people staying in 'non-household' settings, including communal accommodation. We believe, based on our JRF destitution surveys, that around 30% of destitute 'households' are not currently staying in private households, with another 10% or so not householders as such. If this split also applied to the 'new destitute' we are suggesting will be created by the CV-19 economic impacts, in the same way as it applies to 'normal' destitute, then our numerical estimates based on UKHLS could be substantial underestimates, conceivably by a margin in the range 30-40%. However, we do not think that the new (Covid-19) destitute are that similar to the 'normal' destitute; for example, they are a group who normally reside in private households where one or more members typically work. So, although we would argue that in principle allowance should be made for people in transient and non-household settings to be counted when estimating potential destitution, we would not expect this to make a massive difference to the numbers.

This issue is addressed in experimental work, being carried out as an adjunct to this project, to explore ways of predicting destitution more generally, including the effect of Covid-19 and other shocks. This work has to make an explicit distinction between the private and non-private household populations and use different sources as a basis for the estimates.

This report is not intended to provide a review or set of recommendations on policy. However, it is very clear that Universal Credit is in the forefront of attention as the main mechanism of financial support to households suffering major loss of employment income. The jury is out on the extent to which, with the benefit of recent temporary changes and operational priorities, this system can really act more effectively to prevent destitution than it has done in the last few years. The level of food bank demand turned out to be somewhat lower than we (and others) initially predicted. Some of these differences may reflect alternative and 'Pop Up' provision and operational changes, for which we have made only modest adjustments. It may also be that the UC system has begun to operate more effectively. There have been improvements in some indicators of how successfully new applicants have been able to establish a claim, and substantial limitations have been placed on what can be deducted from payments to repay advances or other debt. It is still very much an open question whether these recent easements will be maintained or reversed (the pause on sanctions has already ended). If they were reversed we would expect a significant increase in levels of destitution and food bank demand. Part of this is modelled as a policy sensitivity test below, but this does not cover the whole set of issues surrounding UC, particularly administration issues, waiting period and debt recovery.

There will then be strong arguments for making recent changes in the scale rates, suspension of sanctioning, spreading of repayment of advances over longer period and limiting other deductions ongoing, potentially permanent features. Other policy asks are likely to include scrapping the 2-child limit, bedroom tax, benefit caps; raising LHA levels further to local median; reducing the initial waiting period; not treating advances as additional loans/'debt'; and maintaining strict limits on deductions. Some of these are discussed further in the later section (14) on sensitivity tests in relation to specified policy changes.

12. Later phases of the crisis

In an earlier section of this report we summarised our approach to projecting potential impacts on jobs, working hours and furlough in two forward phases, the 'Recovery' phase (2020 Q4) and the 'Medium Term' (Mid 2021, Q2/Q3), for three trajectories: Central, Better and Worse. Table 2 summarised the overall job changes associated with these scenarios by industry sector. Some judgements were made about partial retention of furlough into the Recovery phase in some but not all of these scenarios.

To get a feel for the assumed trajectories, in the central scenario by this time next year (mid-2021) gross employment would be down by nearly 7%, although some of that would take the form of substantially reduced hours, while in the 'worse' scenario that reduction would be nearly 10%. These scenarios bear comparison with the OECD 'single hit' and 'double hit' economic forecasts, which envisaged uemployment at approaching 8% and 10% respectively in 2021.

The model used to generate these outcomes is essentially the same as that used in Scenario 1. The only difference is that we make an additional allowance for the 'residual destitution' still experienced by households who were predicted to be destitute in the previous phase. Two inputs feed into our assumptions about this residual destitution effect. One is an analysis of how far they are likely to be the same or different people, based on a crosstabulation of banded destitution risks in Q4 2020 against banded risks in Q2, within the UKHLS model population. This suggests that 60% or more of cases at risk of destitution in the first period would be likely missed if we only looked at risks in the second period, especially for those previously at high risk. We therefore think it is reasonable to take account of 60% of previously destitute as 'additional' to those directly identified in the second period.   The other factor is a conservative estimate, based on JRF 'Destitution in the UK' research qualitative fieldwork of the proportion of households who were destitute in spring 2017 who were still destitute 4-6 months later when interviewed, put at 50%. So the combined factor for residual destitution is to take (60% x 50% =) 30% of those previously identified as destitute in Q2 and flag them as also destitute in Q4, in addition to those directly identified from the Q4 data. We also repeat this procedure when rolling forward to mid 2021.

Table 11 summarises the key steps leading from destitution to the 'bottom line' in terms of food parcel demand facing Trussell Trust. Whereas the baseline Scenario 1 for 2020 Q2 shows 721,000 destitute persons and 144,000 resulting food parcels per month (138% up on the adjusted prior rate), in the 'recovery' phase (2020 Q4) the central scenario shows that dropping a bit to 134,000 (91%), while by the middle of 2021 this would be down to 84,000 (58%). These are all taken to be additional to some baseload of normal, non-Covid cases, subject to various adjustments as already described. These projected increases in food bank demand do assume that, insofar as alternative provision of emergency food was significant in Q2 2020, this will diminish in importance or disappear completely in the recovery and medium term, while also factoring in seasonal variations and an assumed growth trend.

Table 11: Destitution numbers and associated food bank use associated with Covid-19 economic impacts by time period and scenario, based on static microsimulation

Scenario	1	2	3	4	5	6	7
Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative Economic Outturn	Est Act	Central	Central	Better	Better	Worse	Worse
Destitute %	1.71%	1.62%	1.01%	1.36%	0.74%	1.96%	1.3%
Destitute households	316,613	301,205	187,588	251,999	138,243	363,451	239,442
Destitute persons	720,576	672,905	423,536	566,895	305,775	817,372	533,201
TT food parcels /qtr	430,962	402,451	253,309	339,049	182,878	488,854	318,897
TT food parcels /mth	143,654	134,150	84,436	113,016	60,959	162,951	106,299
Base comparator	138,000	175,292	141,103	175,292	141,103	175,292	141,103
Adjusted base	104,200	147,763	145,213	147,763	145,213	147,763	145,213
Difference %	138%	91%	58%	76%	42%	110%	73%
Total TT parcels /mth	247,854	281,913	229,649	260,779	206,172	310,714	251,512
Actual TT parcels /mth	242,800						
Total TT parcels/qtr	743,562	845,740	688,947	782,338	618,516	932,143	754,536
NIESR TT parcels /qtr	762,454	1,324,575	531,000	1,222,186	411,000	1,432,801	620,000

It is clear from this medium term forward scenario that the process of recovery and consequent relief from enhanced dangers of destitution and food insecurity will be gradual rather than rapid. Both our job scenario and our residual destitution process/assumptions feed into that conclusion.

Table 11 shows as expected that the favourable scenario would lead to a more rapid rundown in excess food parcel demand, but even then that could still be running at over 40% above unadjusted base level a year from now. The 'worse scenario suggests that the situation would actually get worse in late 2020, rising to 163,000 per month which is 110% above the adjusted base (which itself allows for a substantial seasonal effect), before falling back to a level still 73% above the relevant base comparator. As noted earlier, factors which could feed into such a worse outcome may include a double dip Covid lockdown, whether confined to some areas or more general, continuing logistical difficulties reconciling some activities with social distancing, a substantial drop in world trade, continuing dramatic reduction in international travel and tourism, and possible actions by government which trigger or fail to prevent closures of significant sections of the economy.

We have tabulated all the standard results for households and adults for all seven scenarios as included in Annex A. Here we just present a concise summary to bring out possible differential impacts on one key indicator (predicted extra Trussell Trust food parcels) across the socio-demographic categories, as shown in Table 12.

Broadly speaking, the relativities are often maintained even as the levels vary in different future scenarios. In the first regional block of the table, the general impression seems to be that Wales, Scotland and the South fall more than London in the central scenario, while the North and London have a persistently higher demand in the worse scenario. For household types, proportional relativities are generally maintained, or accentuated for lone parents in the worse scenario. With

age, the picture seems to be of an accentuated age gradient, adverse for the younger households, particularly in the worse scenarios. This somewhat echoes widely voiced concerns about the employment prospects for younger people.

With housing tenure, while all tenures improve in the central and better scenarios, in the worse case private renting seems to have a markedly higher risk, especially in the recovery phase but also in the medium term. Similarly, in the case of socio economic level (occupational groups), while all groups seem to benefit from the central and better scenario, the worse scenario would see a wider gap open up in favour of the higher occupations and against the lowest group.

For the ethnic groups, the middle and better scenarios tend to see reductions for most groups except the Pakistani/Bangladeshi, whereas under the Worse scenario there is absolute and relative worsening for 'White Other' and Pakistani/Bangladeshi..

Table 12: Predicted Covid-induced food parcel demand level by broad region and socio-demographic categories under seven scenarios.(number per quarter)

Scenario	1	2	3	4	5	6	7
Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
North	105,388	104,252	64,583	79,312	45,982	128,571	84,960
Mids	75,531	73,286	46,822	57,566	33,573	79,870	50,882
South	133,129	126,881	72,454	106,855	55,952	153,162	95,150
GLA	51,154	47,922	41,597	50,358	20,695	64,708	42,718
Wales	18,877	15,460	8,099	19,172	9,460	19,100	13,546
Scotland	45,577	33,573	19,102	25,363	16,388	42,349	30,676
Total	430,962	402,451	253,309	339,049	182,878	488,854	318,897

Scenario	1	2	3	4	5	6	7
Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
Single Younger	76,612	74,626	46,962	62,550	35,011	87,767	56,661
L P Fam	91,371	99,165	71,329	79,662	47,791	114,631	86,805
Couple	38,291	29,975	16,526	28,743	15,184	43,160	25,845
Cp & 1k	29,739	29,585	21,773	22,642	14,496	37,127	26,641
Cp & 2k	56,388	51,442	34,322	40,221	23,124	65,329	42,676
Cp & 3+k	26,851	22,544	18,466	28,755	13,802	29,814	17,079
Multi Adult	105,719	86,224	39,894	70,987	30,294	101,622	56,718
Sing Eld	2,524	3,426	1,318	1,483	940	3,144	1,881
Cp Eld	3,468	5,463	2,718	4,004	2,235	6,259	4,591
Total	430,962	402,451	253,309	339,049	182,878	488,854	318,897

Scenario	1	2	3	4	5	6	7
Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
20s	40,969	42,627	30,819	40,362	28,596	58,584	40,545
30s	112,370	108,733	73,058	103,187	50,775	127,606	82,646
40s	140,414	115,979	75,548	95,870	51,400	145,825	100,508
50s	118,769	114,415	61,508	84,459	42,110	132,704	79,262
60-64	18,441	20,698	12,377	15,170	9,997	24,135	15,936
Total	430,962	402,451	253,309	339,049	182,878	488,854	318,897

Scenario	1	2	3	4	5	6	7

| Time frame | 2020 Q2 | 2020 Q4 | 2021 Q2/3 | 2020 Q4 | 2021 Q2/3 | 2020 Q4 | 2021 Q2/3 |
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
Own	222,690	212,593	121,493	164,361	87,234	259,808	158,213
Social	120,118	104,672	67,197	99,762	51,258	122,283	80,510
Priv Rent	87,158	84,368	63,920	74,612	44,292	106,446	79,562
Total	429,966	401,634	252,610	338,735	182,784	488,537	318,285

| Scenario | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Time frame | 2020 Q2 | 2020 Q4 | 2021 Q2/3 | 2020 Q4 | 2021 Q2/3 | 2020 Q4 | 2021 Q2/3 |
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
SEL Occup 1	53,048	60,032	39,363	52,230	25,763	69,572	44,912
SEL Occup 2	73,179	65,158	39,956	52,206	22,704	90,552	58,746
SEL Occup 3	98,348	92,226	62,791	84,742	48,405	102,597	71,602
SEL Occup 4	45,336	58,050	39,123	46,255	28,111	61,509	55,568
Total	269,912	275,466	181,233	235,433	124,983	324,231	230,828

| Scenario | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Time frame | 2020 Q2 | 2020 Q4 | 2021 Q2/3 | 2020 Q4 | 2021 Q2/3 | 2020 Q4 | 2021 Q2/3 |
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
White British	370,364	338,733	208,085	281,379	154,872	401,297	259,264
White Other	28,386	26,506	20,765	27,879	12,065	45,236	30,532
Mixed	4,530	5,539	3,419	5,851	2,304	5,384	2,623
Black/B B	9,807	12,888	8,396	10,055	4,036	12,887	7,940
Indian	6,560	8,869	7,135	5,060	3,217	9,635	5,268
Pakistani /Bangladeshi	6,088	5,288	3,471	4,961	5,164	8,179	8,840
Other	5,227	4,627	2,038	3,864	1,219	6,235	4,430
Total	430,962	402,451	253,309	339,049	182,878	488,854	318,897

Note: In this and subsequent tables, 'predicted Covid-induced food parcel demand' refers to demand impacting the Trussell Trust network; 'SEL' is short for 'socio-economic level', a broad classification based on occupations.

13. Geographical Impact

The analysis of job/earnings changes and their impacts on poverty and predicted destitution can be reported both at a regional level and at the level of a typology of local authority 'groups'[23]. Table 13 below presents a combination of the groups within broad regions, which is perhaps the most informative approach, although care should be taken when interpreting groups which have rather small numbers in particular regions or countries (as the underlying UKHLS samples would be small). This particularly applies to areas where the figures are shaded in grey in Table 13. It should be

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[23] This uses the ONS-commissioned classification of local and small areas based on 2011 Census and other data, using the middle level 'group' classification of local authorities into effectively 15 groups. It should be noted that although a revised version of this classification was subsequently issued, for consistency with other studies we still utilise the original version 1 of the classification.

noted that the regional/local distribution is mainly driven by the sectoral composition of employment in different areas, but involves a blending of the sectoral composition within the UKHLS sample and the analysis by David Simmonds Consultancy using their DELTA model regional input-output approach working the overall employment estimates down to local authority level.

We believe these analyses are indicative of where impacts of the Covid-19 economic crisis may be greater or less than average, and of the possible range of variation, without being able to claim high precision.

With those caveats in mind, it appears that the following types of area seem to be likely to experience relatively higher risks of destitution resulting from the economic shock.

- Manufacturing Traits in the North, Midlands and Wales
- Rural England/Hinterland in the Midlands (and North)
- Coastal Resorts and Services (in South)
- Growth Areas and Cities (incl New Towns) in the South
- Cosmopolitan Central and Suburbia in London
- Multicultural Suburbs in London and the South (categories with the highest scores)
- Rural Coastal and Hinterland in Wales, and Rural Scotland

This table also shows the absolute number of extra Trussell Trust food parcels predicted over the recent quarter (Q2 2002) for each category of locality. This underlines that in terms of absolute numbers, Business and Education Centres ('core cities'), Mining Heritage, and Prosperous England will all loom large.

While formal comparisons would await further developments in the JRF Destitution in the UK 2019 study, the initial impression here is a of a somewhat less skewed or concentrated pattern than in pre-existing destitution in the UK. Some of the area types highlighted (manufacturing traits, coastal resorts, cosmopolitan London) do feature highly in the league tables for destitution and wider poverty, but this is not so true of the rural or growth areas highlighted here. This is where the sectoral focus on tourism and leisure industries is clearly a big factor.

Other publications examining the geography of COVID-19 impacts include McCurdy (2020) and Davenport et al (2020), who look at the impacts on health, jobs and families, and highlight areas with relatively high impacts on two or more of these domains. Coastal areas certainly come out high on this basis, because of the combinations of tourism and health issues. McCurdy shows that unemployment claims have risen most in areas with previous quite high rates, but also in coastal and rural tourism areas.

Table 13: Predicted Covid-induced Risk of Destitution and Food Parcel Demand by Geographical Area types in baseline Scenario 1, 2020 Q2 (percent of all households; number over quarter))

Broad Reg	Local Authority Group	% of hshlds	House-holds	Food Parcels
North	Business and Education Centres	1.4%	19,354	21,840
	Coastal Resorts and Services	0.7%	730	1,227
	Growth Areas and Cities	1.0%	2,989	4,670
	Heritage Centres	1.7%	2,876	4,421
	Manufacturing Traits	1.6%	16,161	22,361
	Mining Heritage	1.1%	27,618	33,028
	Prosperous England	1.2%	1,053	1,253
	Rural Coastal and Amenity	0.7%	2,023	2,468
	Rural England	1.2%	7,178	10,185
	Rural Hinterland	0.9%	3,599	4,591
	Total	1.2%	83,581	106,044
Mids	Business and Education Centres	0.7%	5,036	7,917
	Growth Areas and Cities	0.9%	3,673	5,375
	Heritage Centres	0.1%	76	182
	Manufacturing Traits	1.4%	9,082	12,353
	Mining Heritage	1.1%	7,016	12,270
	Prosperous England	0.6%	2,117	3,340
	Rural Coastal and Amenity	0.7%	592	1,220
	Rural England	1.3%	10,904	16,610
	Rural Hinterland	1.4%	10,466	19,814
	Total	1.1%	48,961	79,080
South	Business and Education Centres	1.2%	10,064	13,202
	Coastal Resorts and Services	1.3%	11,790	17,450
	Growth Areas and Cities	1.4%	16,930	19,941
	Heritage Centres	0.3%	738	586
	Manufacturing Traits	0.8%	1,079	1,846
	Mining Heritage	1.0%	1,137	2,046
	Multicultural Suburbs	3.0%	2,371	2,402
	Prosperous England	1.1%	34,256	46,776
	Rural Coastal and Amenity	1.1%	11,283	15,760
	Rural England	0.8%	2,081	2,922
	Rural Hinterland	0.9%	9,180	13,125
	Total	1.1%	100,910	136,055
London	Business and Education Centres	0.0%	0	0
	Growth Areas and Cities	0.7%	3,234	5,084
	London Cosmopolitan Central	1.3%	11,039	9,977
	London Cosmopolitan Suburbia	1.5%	10,137	18,433
	Multicultural Suburbs	1.9%	13,016	18,537
	Total	1.4%	37,426	52,031
Wales	Business and Education Centres	1.5%	1,454	2,401

	Heritage Centres	0.3%	713	1,139
	Manufacturing Traits	2.5%	1,238	1,216
	Mining Heritage	1.0%	5,512	8,970
	Rural Coastal and Amenity	1.5%	2,446	2,469
	Rural Hinterland	1.5%	3,500	3,425
	Total	1.1%	14,863	19,620
Scotland	Business and Education Centres	1.2%	7,386	8,723
	Rural Remoter Scotland etc	0.4%	1,278	2,036
	Rural Scotland	2.2%	29,185	35,602
	Total	1.5%	37,888	46,454
Gt Britain	Business and Education Centres	1.1%	43,294	54,084
	Coastal Resorts and Services	1.2%	12,521	18,677
	Growth Areas and Cities	1.1%	26,825	35,069
	Heritage Centres	0.6%	4,404	6,328
	London Cosmopolitan Central	1.3%	11,039	9,977
	London Cosmopolitan Suburbia	1.5%	10,137	18,433
	Manufacturing Traits	1.5%	27,560	37,776
	Mining Heritage	1.0%	41,283	56,313
	Multicultural Suburbs	2.0%	15,387	20,938
	Prosperous England	1.1%	37,425	51,370
	Rural Coastal and Amenity	1.1%	16,344	21,917
	Rural England	1.2%	20,163	29,717
	Rural Hinterland	1.1%	26,745	40,955
	RuralRemoter Scotland etc	0.2%	2,021	3,343
	Rural Scotland	2.2%	29,185	35,602
	Total	1.2%	324,373	440,591

Note: area types with grey shaded numbers have small samples and these estimates would not be robust; care should generally be taken in interpreting results for regional area types where numbers are relatively small.

Tables A3 and A4 in Annex A also show how destitution and food parcel demand may be expected to develop over the different scenarios for the next year, across these area types.

14. Selected policy impacts

The static micro-simulation is a tool which can be used to explore quite a wide range of specific policy changes and their potential impact. It is particularly suitable for analysing the initial or 'first round' impact of policies or programmes which are targeted on particular groups which can be identified in the platform dataset (in our case, UKHLS) and where there is a logical way of calculating the impact on reasonable assumptions. It is less good for policy measures which cannot be directly mapped in this way, as well as not really attempting to take account of behavioural reactions and second order market adjustments, whether at micro or macro level.

Time available to this project has not permitted us to explore and report a wide range of policy options. We have looked specifically at two of these here. The first option is one of a several relating to the Local Housing Allowance (LHA), which acts as a cap on the level of private market rent which

can be covered by UC housing cost element or legacy LHA. In this case we look at reversing the spring 2020 decision to raise the LHA level to the '30th percentile of market rents in the relevant 'broad regional market area', and reverting to the 'frozen' level of 2018, which really originated with the 2011 30th percentile plus some limited subsequent uprating. The second option is to reverse the increases in the UC personal allowances instituted in March 2020 – a change which this government might contemplate, given its past stance and its presentation of the change as a temporary one-year measure, but which has been strongly argued against by many organisations.

It should be emphasized that this test relates solely to households affected adversely by loss of jobs or earnings as a result of the Covid economic impact, not the generality of poor /near-destitute households who were in that position prior to March 2020. It may be that these groups would be more affected than the Covid cohort, but that requires adaptation and extension of the microsimulation model (still under development).

Table 14 presents a summary of the magnitude and geographic/socio-demographic profile of the impacts of the two options exemplified, in similar format to Table 9 and 13.

Reduce LHA cap to 2018 level

Before conducting this test we loaded more accurate data on the 2020 LHA rates than had previously been included in the model, and re-ran a modified version of the baseline forecast for the middle of next year (2021 Q2/3). We then changed the LHA back to the its 2018 value.

This option generally has effects in the expected direction, i.e. less destitution and lower food bank demand, but the overall order of magnitude is rather low, at 2.5% reduction in food parcel demand from the Covid cohort in mid 2021. This underwhelming picture is perhaps modified, as well as explained, when we look at some of the breakdowns, particularly (and obviously) tenure. This change would only affect private renters (directly), and they are a minority of the overall Covid cohort. For them, food parcel demand would be reduced by 12.4%, which is worthwhile but again not very dramatic. A further clue lies in the regional analysis, which reveals a 14.5% impact on all households in Greater London, compared with small or negligible in all other regions – in other words it is very much a London private renting issue. Other interesting sidelights include the higher impact for larger families as well as younger singles, for people in their 20s, and for two BAME groups (Black /Black British and Pakistani/ Bangladeshi). These findings underline that this measure may cause particular and acute difficulties and inequities for some particular groups as well as places.

It is possible that the current setup of the microsimulation model does not capture all of the pathways by which this measure might impact, for example through the progressive buildup of debt/arrears and/or through stress and mental/physical ill-health. There is also a relationship with another currently 'hot' issue, namely the possible early resumption of evictions in the private rented sector. It may be possible to do some further analysis of the potential impacts allowing for the interaction of these factors, although this is perhaps more directly related to homelessness.

Reversing increase in Universal Credit

With regard to the second option, the reversal of the increase in the UC personal allowances, this is fairly easy to implement in the model although again not all of the second-order effects might be captured. The socio-demographic profiles look generally reasonable and in line with expectations, but the overall magnitude of the reduction in predicted destitution and food parcel demand (within the cohort adversely affected by the Covid-19 economic crisis) is lower at 9.2% than we might have expected.

To discuss the overall impact first, it is important to note that the econometric food voucher prediction model developed as part of the State of Hunger (SoH) project (and still evolving) tends to show a

significantly larger impact of that policy change, of the order of 30%. Some notes of caution are in order about that finding, however: the key variable in question is a national time series indicator of the real value of all income-related benefits, and its coefficient varies in size and significance between different versions of the model, depending what other variables are included and the particular estimation method. Any such variable may pick up the effect of other time varying factors with a similar time profile[24]. On the other side, a limitation of the static microsimulation is that it does not include (and model changes in) all of the other benefits which households may receive, some of which may be 'passported' by UC eligibility. That would tend to imply that the micro-sim estimate reported here is an underestimate. Certainly the outcome may depend on parallel decisions on other benefits including passported ones. Another consideration is that the SoH model focuses on food bank demand generated in normal /non-COVID conditions, which derives from a differing population, who tend to have been not in work in the preceding period, with a particularly poor health profile, and so forth. That population may be more sensitive to the level of the main income-related benefits than the population impacted by COVID. We have already shown that a lot of households we are predicting to experience destitution (over half) are not eligible for or likely to receive UC, even with the post-March rise (see bottom row of Table 5b).

The overall micro-sim results across the socio-demographic profile are mainly in line with expectations. The regional patterns suggest bigger unfavourable impacts in Wales, Scotland, and London, with the South showing least impact. In proportional terms, the impacts are much greater on couple families with children and multi-adults, but this is partly because the general rate of destitution for this group was lower as well as because they get a lot more cash from personal allowances. Younger households particularly those with heads in their 20s, as well as those in their 40s, see a greater proportionate rise in food parcel demand, and this time it is more in the social and owner occupier sectors. On ethnicity this time it is the South Asian ethnic groups who take the larger proportionate hit, with the lowest impact on White Other.

The third column of Table 14 shows the combined impact of these two measures on food bank demand next year. The overall impact would be a 12% rise, but with double that in London (and Wales), for larger families, younger people, and 2-4 times higher for BAME households affected by the Covid economic crisis.

These tests of specific policy options do illustrate some of the potential of the static microsimulation approach, which could be exploited further, although care is needed in specifying and programming options and understanding indirect effects, as well as the inherent limitations of a static model.

Table 14: Predicted change in Covid-induced food parcel demand by region and socio-demographic categories under two variant policy scenarios – 2020 Q4.

Broad Region & Country	Reverse LHA 30th pctl	Reverse UC pers allow	Reverse both
North	2.6%	8.7%	11.3%
Mids	0.1%	10.0%	10.1%
South	0.8%	5.1%	5.9%
GLA	14.5%	11.4%	25.9%
Wales	0.0%	29.9%	29.9%
Scotland	0.0%	12.3%	12.3%

[24] Another point to note is that the econometric model assumes that all income-related benefits would be flexed by the same amount; in fact, in March 2020, important benefits including ESA and JSA were NOT increased by £20 per week, and quite a lot of destitute and/or food-bank using households (pre-COVID) were on such benefits.

Total	2.5%	9.2%	11.7%
Hshld Type	LHA	UC	Both
Single Younger	4.6%	2.5%	7.0%
L P Fam	0.0%	3.1%	3.1%
Couple	3.3%	12.2%	15.5%
Cp & 1k	-0.2%	14.5%	14.3%
Cp & 2k	5.1%	20.5%	25.6%
Cp & 3+k	13.0%	7.7%	20.7%
Multi Adult	0.2%	15.1%	15.4%
Sing Eld	0.0%	0.0%	0.0%
Cp Eld	0.0%	11.5%	11.5%
Total	2.5%	9.2%	11.7%
Age	LHA	UC	Both
20s	6.1%	16.5%	22.6%
30s	3.4%	7.0%	10.4%
40s	2.2%	14.7%	16.9%
50s	1.1%	4.6%	5.7%
60-64	0.0%	0.0%	0.0%
Total	2.5%	9.2%	11.7%
Tenure	LHA	UC	Both
Own	0.0%	10.4%	10.4%
Social	0.0%	9.5%	9.5%
Priv Rent	12.4%	5.8%	18.1%
Total	2.5%	9.2%	11.7%
Ethnic Group	LHA	UC	Both
White British	1.1%	9.3%	10.4%
White Other	3.2%	0.1%	3.3%
Mixed	5.4%	1.5%	6.9%
Black/B B	25.0%	2.9%	27.9%
Indian	0.1%	36.5%	36.6%
Pakistani /Bangladeshi	22.4%	27.1%	49.4%
Other	-0.9%	20.0%	19.0%
Total	2.5%	9.2%	11.7%

15. Conclusions and Implications

We can by this stage (late summer of 2020) be more confident in painting a picture of the initial impact of the Covid economic crisis on industry sectors, occupations and job types, and the way that this maps out across geography and society.

Clearly the pace and quality of the recovery trajectory from COVID-19 remains subject to uncertainty, not least over how government responds to the emerging picture month-by-month, but there are strong indications that the kind of scenarios presented in this report are a reasonable attempt at painting that picture

The initial impact of the lockdown on absolute job loss appears to be slightly less than initially predicted, partly because of the notably high take-up of the government's furlough scheme, but there

are considerable grounds for concern about the large-self-employment sector and about people who are forced for one reason or another to work much less hours than normal.

We can make reasonable predictions about destitution levels arising from COVID-19, given the job scenarios established, which take account of industry, occupation and job/contract risk factors, low income poverty levels, eligibility for and likely receipt of UC, existing savings/debt position, and the likely extent of family/social support and health/caring complications.

On the basis of our past research on destitution and food banks we can make estimates of the likely food voucher demand arising from this new wave of Covid-related destitution. In our central scenario this indicates an extra 144,000 parcels per month for Trussell Trust in 2020 Q2, dropping slightly to 134,000 in Q4 and dropping more significantly but still substantial (84,000) one year from now. These numbers are well in excess of the previous average monthly rate pre-COVID-19 and reasonable estimates of a comparable base position(by 138%, 91% and 58% respectively).

Our microsimulation model has been calibrated in part to produce forecasts for Q2 of 2020 which are in line with actual food parcel numbers recorded, after due allowance for various factors. These initial impact numbers are also roughly consistent with the outputs from the parallel NIESR macro forecasting exercise.

This picture of actual reported vs predicted food parcel demand is also material in interpreting the evidence on how well UC has performed, or not. There are some grounds for giving positive marks for registering more claims with rather less delays and failures to get through than were previously typical, and the treatment of advances is better although still not ideal (half not taking, often for fear of debt). So, the better UC performs, then the less destitution and food bank demand. The static microsimulation assumes UC does kick in when eligibility is positive, but does not in any way exclude people on UC remaining destitute and thereby seeking food bank or other support.

A number of analysts and commentators have suggested that this is a crucial testing period for the UC system, which could be the basis for moving forward to a more robust and effective system, or which could yet lead back to retrenchment and safety net with many holes (Brewer & Handscomb 2020b, House of Commons Treasury Committee 2020).

The potential value of this microsimulation model is that it can illuminate the household context for potentially severe impacts of this or other economic shocks. For example, as we illustrate, this severity depends on the extent to which individuals affected by loss of job or earnings live alone or with others, whether others in the same household might be affected, whether they have dependent children, whether they have savings or existing problem debts/arrears, and whether they were already in poverty or with material deprivations. We also take account of evidence of the extent to which they may be able to draw on family or local social support, and/or whether there may be complicating issues of health conditions, disabilities or caring responsibilities. However, one significant limitation is that this model does not represent the population not living (or not settled) in private households – a group who are very significant in ongoing (pre-Covid) destitution, but arguable less important in terms of the impact of the COVID-19 economic crisis, and in some cases covered by special provision for the homeless. Other parallel research on destitution does however provide valuable evidence on this group.

This report does not provide a comprehensive review of policy issues and options. However, the model has been used to examine a small number of policy options relating to the UC system, particularly the personal allowances and the LHA rent cap. We find that reverting the UC allowance rates back to pre-March 2019 levels would increase destitution and food bank demand, by around 9% overall but with bigger impacts for families, younger households, social renters, and BAME groups. Reverting the LHA cap to the previous 2018 frozen level would increase destitution by 2.5%

overall but with bigger impacts (obviously) in private renting, London, and for lone parent and larger families, and ethnic minorities.

We believe there is scope to develop the model further to examine the impacts on wider populations, not directly impacted by the COVID-19 economic crisis, of various policies, including those relating to benefits and housing support and private renting (e.g. evictions), and such exploratory work is in progress.

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ANNEX A

ADDITIONAL TABLES

Table A.1: Additional working age household destitution rates by broad region and socio-demographics by Scenario and time period (percent of working age households)

Scenario	1	2	3	4	5	6	7
	2020	2020	2021	2020	2021		2021
Time frame	Q2	Q4	Q2/3	Q4	Q2/3	2020 Q4	Q2/3
Relative Econ	Est Act	Central	Central	Better	Better	Worse	Worse
North	1.8%	1.6%	1.0%	1.3%	0.8%	2.0%	1.3%
Mids	1.6%	1.8%	1.2%	1.5%	0.8%	1.9%	1.2%
South	1.7%	1.7%	0.9%	1.3%	0.7%	1.9%	1.3%
GLA	1.8%	1.7%	1.4%	1.8%	0.8%	2.5%	1.7%
Wales	1.7%	1.4%	0.9%	1.7%	1.0%	1.7%	1.0%
Scotland	2.2%	1.6%	0.9%	1.3%	0.8%	2.1%	1.5%
Total	1.7%	1.6%	1.0%	1.4%	0.7%	2.0%	1.3%

Scenario	1	2	3	4	5	6	7
	2020	2020	2021	2020	2021		2021
Time frame	Q2	Q4	Q2/3	Q4	Q2/3	2020 Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
Single Younger	2.9%	2.8%	1.8%	2.4%	1.3%	3.3%	2.1%
L P Fam	4.2%	4.4%	3.0%	3.6%	2.1%	5.1%	4.0%
Couple	1.0%	0.8%	0.4%	0.7%	0.4%	1.1%	0.7%
Cp & 1k	1.2%	1.2%	0.9%	0.9%	0.6%	1.5%	1.1%
Cp & 2k	1.0%	0.9%	0.6%	0.7%	0.4%	1.1%	0.7%
Cp & 3+k	1.1%	0.9%	0.7%	1.1%	0.5%	1.2%	0.7%
Multi Adult	1.4%	1.2%	0.5%	1.0%	0.4%	1.4%	0.8%
Sing Eld	0.8%	1.1%	0.4%	0.5%	0.3%	1.0%	0.6%
Cp Eld	0.3%	0.4%	0.2%	0.3%	0.2%	0.5%	0.3%
Total	1.7%	1.6%	1.0%	1.4%	0.7%	2.0%	1.3%

Scenario	1	2	3	4	5	6	7
	2020	2020	2021	2020	2021		2021
Time frame	Q2	Q4	Q2/3	Q4	Q2/3	2020 Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
20s	2.1%	2.1%	1.5%	1.9%	1.2%	2.9%	1.9%
30s	2.1%	1.9%	1.3%	2.0%	1.0%	2.2%	1.4%
40s	1.7%	1.5%	1.0%	1.2%	0.7%	2.0%	1.4%
50s	1.8%	1.7%	0.9%	1.3%	0.7%	2.0%	1.2%
60-64	0.7%	0.8%	0.5%	0.6%	0.4%	0.9%	0.6%
Total	1.7%	1.6%	1.0%	1.4%	0.7%	2.0%	1.3%

Scenario	1	2	3	4	5	6	7
	2020	2020	2021	2020	2021		2021
Time frame	Q2	Q4	Q2/3	Q4	Q2/3	2020 Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
Own	1.4%	1.3%	0.8%	1.1%	0.6%	1.6%	1.0%
Social	2.0%	1.9%	1.2%	1.6%	0.9%	2.2%	1.5%
Priv Rent	2.5%	2.3%	1.6%	2.0%	1.1%	2.7%	2.0%
Total	1.7%	1.6%	1.0%	1.4%	0.8%	2.0%	1.3%

Scenario	1	2	3	4	5	6	7
	2020	2020	2021	2020	2021		2021
Time frame	Q2	Q4	Q2/3	Q4	Q2/3	2020 Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
SEL Occup 1	1.1%	1.3%	0.9%	1.3%	0.6%	1.7%	1.1%
SEL Occup 2	0.0%	2.2%	1.4%	1.8%	0.7%	2.8%	1.7%
SEL Occup 3	1.3%	3.0%	2.0%	2.7%	1.6%	3.4%	2.4%
SEL Occup 4	2.4%	3.8%	2.5%	2.9%	1.9%	3.9%	3.5%
Total	3.3%	2.3%	1.5%	2.0%	1.1%	2.7%	1.9%

Scenario	1	2	3	4	5	6	7
	2020	2020	2021	2020	2021		2021
Time frame	Q2	Q4	Q2/3	Q4	Q2/3	2020 Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
White British	1.7%	1.6%	1.0%	1.3%	0.7%	1.9%	1.2%
White Other	2.2%	2.1%	1.5%	2.2%	1.0%	3.8%	2.4%
Mixed	1.8%	1.8%	1.0%	2.3%	0.9%	2.2%	1.1%
Black/B B	2.6%	2.5%	1.8%	1.8%	0.8%	2.5%	1.5%
Indian	1.0%	1.5%	1.3%	0.8%	0.8%	1.6%	0.9%
Pakistani /Bangladeshi	1.5%	1.2%	0.9%	1.1%	0.9%	1.8%	1.7%
Other	1.7%	1.2%	0.5%	1.1%	0.3%	1.4%	1.4%
Total	1.7%	1.6%	1.0%	1.4%	0.7%	2.0%	1.3%

Table A2: Predicted additional Covid-related Destitute Households rates by broad region and socio-demographics by Scenario and time period (working age households)

Scenario	1	2	3	4	5	6	7
		2020	2021	2020	2021	2020	2021
Time frame	2020 Q2	Q4	Q2/3	Q4	Q2/3	Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
North	176,211	174,311	107,984	132,611	76,882	214,973	142,054
Mids	126,289	122,535	78,288	96,251	56,135	133,544	85,076
South	222,594	212,148	121,144	178,664	93,553	256,089	159,092
GLA	85,530	80,126	69,550	84,200	34,602	108,192	71,425
Wales	31,563	25,850	13,542	32,055	15,817	31,935	22,648
Scotland	76,206	56,135	31,939	42,408	27,402	70,808	51,291
Total	720,576	672,905	423,536	566,895	305,775	817,372	533,201

Scenario	1	2	3	4	5	6	7
		2020	2021	2020	2021	2020	2021
Time frame	2020 Q2	Q4	Q2/3	Q4	Q2/3	Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
Single Younger	128,096	124,775	78,522	104,585	58,539	146,747	94,738
L P Fam	152,773	165,806	119,263	133,196	79,908	191,665	145,140
Couple	64,023	50,119	27,632	48,059	25,389	72,164	43,214
Cp & 1k	49,724	49,467	36,406	37,858	24,238	62,077	44,543
Cp & 2k	94,281	86,012	57,386	67,251	38,663	109,232	71,355
Cp & 3+k	44,895	37,694	30,875	48,079	23,077	49,850	28,557
Multi Adult	176,764	144,168	66,704	118,691	50,652	169,914	94,834
Sing Eld	4,221	5,728	2,205	2,480	1,572	5,258	3,144
Cp Eld	5,799	9,135	4,545	6,695	3,738	10,466	7,677
Total	720,576	672,905	423,536	566,895	305,775	817,372	533,201

Scenario	1	2	3	4	5	6	7
		2020	2021	2020	2021	2020	2021
Time frame	2020 Q2	Q4	Q2/3	Q4	Q2/3	Q4	Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
20s	68,501	71,272	51,529	67,486	47,813	97,953	67,791
30s	187,884	181,803	122,154	172,530	84,896	213,359	138,185
40s	234,774	193,918	126,317	160,297	85,941	243,822	168,052
50s	198,583	191,303	102,842	141,217	70,409	221,884	132,528
60-64	30,833	34,608	20,694	25,365	16,716	40,354	26,645
Total	720,576	672,905	423,536	566,895	305,775	817,372	533,201

Scenario	1	2	3	4	5	6	7

Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
Own	372,342	355,460	203,138	274,814	145,857	434,404	264,535
Social	200,840	175,014	112,355	166,804	85,704	204,459	134,614
Priv Rent	145,729	141,065	106,875	124,752	74,056	177,980	133,029
Total	718,911	671,538	422,368	566,370	305,617	816,842	532,178

Scenario	1	2	3	4	5	6	7
Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
SEL Occup 1	157,882	100,375	65,815	87,329	43,076	116,326	75,094
SEL Occup 2	217,795	108,946	66,807	87,290	37,962	151,405	98,224
SEL Occup 3	292,703	154,204	104,988	141,690	80,933	171,545	119,719
SEL Occup 4	134,929	97,060	65,415	77,339	47,002	102,844	92,911
Total	803,309	460,584	303,025	393,647	208,973	542,120	385,949

Scenario	1	2	3	4	5	6	7
Time frame	2020 Q2	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3	2020 Q4	2021 Q2/3
Relative	Est Act	Central	Central	Better	Better	Worse	Worse
White British	619,256	566,367	347,922	470,470	258,948	670,976	433,493
White Other	47,462	44,319	34,719	46,614	20,173	75,635	51,050
Mixed	7,574	9,261	5,716	9,783	3,853	9,003	4,385
Black/B B	16,398	21,549	14,038	16,812	6,748	21,548	13,276
Indian	10,968	14,830	11,930	8,461	5,379	16,110	8,809
Pakistani /Bangladeshi	10,179	8,842	5,803	8,294	8,634	13,676	14,781
Other	8,740	7,736	3,407	6,461	2,038	10,425	7,407
Total	720,576	672,905	423,536	566,895	305,775	817,372	533,201

Table A3: Predicted Covid-induced destitution rates by Local Authority Groups within Broad Regions by Scenario and time period. (percent of working age households)

Broad	Scenario	1 2020 Q2	2 2020 Q4	3 2021 Mid	4 2020 Q4	5 2021 Mid	6 2020 Q4	7 2021 Mid
	Time frame							
	Relative Economic Scenario	Est Act	Central	Central	Better	Better	Worse	Worse
Region								
North	Business and Education Centres	1.4%	1.3%	0.6%	1.1%	0.5%	1.9%	1.0%
	Coastal Resorts and Services*	0.7%	0.5%	0.5%	0.3%	0.5%	1.0%	0.4%
	Growth Areas and Cities	1.0%	1.2%	1.0%	0.5%	0.5%	1.2%	0.8%
	Heritage Centres	1.7%	0.9%	0.3%	1.0%	0.3%	1.5%	1.2%
	Manufacturing Traits	1.6%	2.0%	1.3%	1.3%	0.6%	1.7%	1.4%
	Mining Heritage	1.1%	0.9%	0.5%	0.8%	0.6%	1.3%	0.8%
	Prosperous England*	1.2%	0.4%	0.4%	0.5%	0.3%	1.3%	0.5%
	Rural Coastal and Amenity	0.7%	0.6%	0.8%	0.6%	0.5%	0.4%	1.0%
	Rural England	1.2%	1.1%	0.5%	0.9%	0.7%	1.3%	0.8%
	Rural Hinterland	0.9%	0.5%	0.3%	0.3%	0.1%	0.6%	0.3%
	Total	1.2%	1.1%	0.7%	0.9%	0.6%	1.4%	0.9%
Mids	Business and Education Centres	0.7%	1.1%	0.6%	0.8%	0.4%	1.3%	1.0%
	Growth Areas and Cities	0.9%	1.1%	1.1%	0.6%	0.4%	1.5%	1.0%
	Heritage Centres*	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
	Manufacturing Traits	1.4%	1.4%	1.3%	1.1%	0.4%	1.6%	0.9%
	Mining Heritage	1.1%	0.9%	0.3%	1.2%	0.7%	1.3%	0.8%
	Prosperous England	0.6%	1.1%	1.6%	1.4%	1.1%	1.6%	1.1%
	Rural Coastal and Amenity*	0.7%	0.7%	0.3%	2.2%	0.9%	0.7%	0.4%
	Rural England	1.3%	1.4%	0.7%	0.7%	0.4%	0.9%	0.5%
	Rural Hinterland	1.4%	1.5%	0.9%	1.5%	0.7%	1.5%	0.9%
	Total	1.1%	1.2%	0.8%	1.0%	0.5%	1.3%	0.8%
South	Business and Education Centres	1.2%	1.1%	0.6%	0.9%	0.4%	1.2%	0.9%
	Coastal Resorts and Services	1.3%	1.4%	1.0%	0.9%	0.6%	1.7%	1.4%
	Growth Areas and Cities	1.4%	1.5%	0.9%	0.8%	0.6%	1.4%	0.8%
	Heritage Centres	0.3%	0.2%	0.4%	0.5%	0.2%	0.5%	0.6%
	Manufacturing Traits*	0.8%	0.7%	0.3%	0.6%	0.2%	1.5%	0.8%
	Mining Heritage*	1.0%	0.6%	0.2%	0.5%	0.2%	2.3%	0.9%
	Multicultural Suburbs	3.0%	1.8%	1.0%	2.0%	0.6%	2.1%	0.8%
	Prosperous England	1.1%	1.0%	0.6%	0.9%	0.4%	1.3%	0.8%
	Rural Coastal and Amenity	1.1%	1.3%	0.6%	1.0%	0.6%	0.9%	0.7%
	Rural England	0.8%	1.0%	0.4%	0.5%	0.4%	1.0%	0.7%
	Rural Hinterland	0.9%	0.8%	0.4%	0.8%	0.5%	1.1%	0.6%
	Total	1.1%	1.1%	0.6%	0.9%	0.5%	1.2%	0.8%
GLA	Business and Education Centres*	0.0%	0.5%	0.3%	0.3%	0.1%	0.8%	0.2%
	Growth Areas and Cities	0.7%	0.8%	0.6%	0.7%	0.6%	1.0%	0.7%
	London Cosmopolitan Central	1.3%	1.3%	1.1%	1.6%	0.6%	2.2%	1.4%

	London Cosmopolitan Suburbia	1.5%	1.9%	1.4%	1.2%	0.7%	1.9%	1.3%
	Multicultural Suburbs	1.9%	1.2%	1.1%	1.8%	0.6%	2.3%	1.6%
	Total	1.4%	1.3%	1.1%	1.4%	0.6%	1.9%	1.3%
Wales	Business and Education Centres	1.5%	1.7%	0.9%	0.9%	1.2%	0.9%	0.5%
	Heritage Centres	0.3%	0.4%	0.2%	1.1%	0.7%	0.7%	0.3%
	Manufacturing Traits	2.5%	2.7%	1.8%	1.7%	0.5%	2.0%	1.4%
	Mining Heritage	1.0%	0.8%	0.7%	1.0%	0.6%	1.0%	0.7%
	Rural Coastal and Amenity	1.5%	1.3%	0.5%	1.1%	0.4%	1.0%	0.4%
	Rural Hinterland	1.5%	1.2%	0.4%	0.9%	0.8%	1.5%	0.9%
	Total	1.1%	1.0%	0.6%	1.1%	0.7%	1.1%	0.7%
Scotland								
	Business and Education Centres	1.2%	0.9%	0.8%	0.7%	0.7%	1.9%	1.4%
	Rural Remoter Scotland etc	0.4%	0.5%	0.4%	0.6%	0.2%	0.9%	0.4%
	Rural Scotland	2.2%	1.5%	0.8%	1.1%	0.7%	1.6%	1.2%
	Total	1.5%	1.1%	0.7%	0.9%	0.6%	1.5%	1.0%
GB	Business and Education Centres	1.1%	1.1%	0.6%	0.9%	0.5%	1.5%	1.0%
	Coastal Resorts and Services	1.2%	1.3%	1.0%	0.9%	0.5%	1.6%	1.3%
	Growth Areas and Cities	1.1%	1.2%	0.8%	0.7%	0.5%	1.3%	0.8%
	Heritage Centres	0.6%	0.4%	0.3%	0.8%	0.4%	0.8%	0.6%
	London Cosmopolitan Central	1.3%	1.3%	1.1%	1.6%	0.6%	2.2%	1.4%
	London Cosmopolitan Suburbia	1.5%	1.9%	1.4%	1.2%	0.7%	1.9%	1.3%
	Manufacturing Traits	1.5%	1.7%	1.2%	1.2%	0.5%	1.6%	1.1%
	Mining Heritage	1.0%	0.9%	0.5%	0.9%	0.6%	1.3%	0.8%
	Multicultural Suburbs	2.0%	1.3%	1.1%	1.8%	0.6%	2.3%	1.5%
	Prosperous England	1.1%	1.0%	0.7%	0.9%	0.5%	1.3%	0.8%
	Rural Coastal and Amenity	1.1%	1.1%	0.6%	1.0%	0.6%	0.8%	0.7%
	Rural England	1.2%	1.2%	0.6%	0.7%	0.5%	1.1%	0.6%
	Rural Hinterland	1.1%	1.0%	0.5%	1.0%	0.5%	1.2%	0.7%
	Rural Remoter Scotland etc	0.2%	0.2%	0.2%	0.2%	0.1%	0.3%	0.2%
	Rural Scotland	2.2%	1.5%	0.8%	1.1%	0.7%	1.6%	1.2%
	Total	1.2%	1.1%	0.7%	0.9%	0.5%	1.3%	0.9%

Note: Locality types which have small numbers of cases in particular regions, marked with asterisk, should be treated with particular caution

Table A4: Predicted Covid-induced food parcel demand by Local Authority Groups within Broad Regions by Scenario and time period. (percent of working age households)

Broad Region	Local Authority Group	Scenario 1	2	3 2021	4 2020	5 2021	6 2020	7 2021
	Time frame	2020 Q2	2020 Q4	Mid	Q4	Mid	Q4	Mid
	Relative Economic Scenario	Est Act	Central	Central	Better	Better	Worse	Worse
North	Business and Educ Cent	21,840	21,387	10,026	20,120	9,140	30,645	15,832
	Coastal Resorts and Serv's	1,227	640	1,251	675	469	1,965	832
	Growth Areas and Cities	4,670	5,242	3,507	2,291	2,925	6,918	5,180
	Heritage Centres	4,421	3,376	1,141	2,498	843	2,874	3,990
	Manufacturing Traits	22,361	28,546	20,392	19,971	8,429	27,693	23,353
	Mining Heritage	33,028	32,086	18,972	24,394	17,102	41,387	24,510
	Prosperous England	1,253	446	264	530	249	1,754	692
	Rural Coastal and Amenity	2,468	1,853	2,444	2,172	1,621	1,704	2,773
	Rural England	10,185	10,087	5,342	7,106	5,289	11,660	6,588
	Rural Hinterland	4,591	2,514	2,118	1,377	520	3,321	1,849
	Total	106,044	106,176	65,458	81,133	46,588	129,923	85,600
Mids	Business and Educ Cent	7,917	10,869	5,891	6,640	3,049	11,251	9,262
	Growth Areas and Cities	5,375	5,661	5,624	3,629	3,819	7,450	5,562
	Heritage Centres	182	55	16	55	16	125	120
	Manufacturing Traits	12,353	13,576	8,912	8,993	3,067	15,775	7,170
	Mining Heritage	12,270	8,394	3,077	8,732	5,735	11,842	6,038
	Prosperous England	3,340	3,823	5,075	4,100	3,019	5,051	4,444
	Rural Coastal and Amenity	1,220	610	270	2,044	1,089	610	619
	Rural England	16,610	14,558	8,285	8,771	4,710	11,334	5,740
	Rural Hinterland	19,814	18,411	10,757	17,824	10,135	18,322	13,534
	Total	79,080	75,958	47,908	60,788	34,640	81,761	52,490
South	Business and Educ Cent	13,202	13,142	6,797	11,361	4,666	14,309	9,575
	Coastal Resorts and Services	17,450	19,513	12,818	11,019	6,180	19,510	16,489
	Growth Areas and Cities	19,941	22,049	13,997	12,963	9,473	24,403	14,215
	Heritage Centres	586	608	1,980	2,586	1,266	2,416	2,954
	Manufacturing Traits*	1,846	1,216	502	1,722	520	4,096	2,154
	Mining Heritage*	2,046	1,371	598	1,227	368	3,470	1,197
	Multicultural Suburbs	2,402	1,877	2,015	3,055	924	2,493	982
	Prosperous England	46,776	39,182	20,723	36,770	16,290	55,412	30,423
	Rural Coastal and Amenity	15,760	14,057	7,837	16,104	10,091	9,942	7,350
	Rural England	2,922	5,315	2,085	2,420	1,652	5,795	2,523
	Rural Hinterland	13,125	10,556	5,063	10,957	6,447	13,366	8,847
	Total	136,055	128,887	74,415	110,185	57,878	155,213	96,711
London	Business and Educ Cent*	0	555	229	550	165	847	254
	Growth Areas and Cities	5,084	4,428	2,475	4,096	2,622	8,767	4,828

	London Cosmopolitan Cent	9,977	10,794	12,065	12,081	4,726	17,429	11,150
	London Cosmop Suburbia	18,433	22,170	17,438	15,201	6,977	20,345	15,343
	Multicultural Suburbs	18,537	11,493	10,338	19,067	6,903	18,371	13,782
	Total	52,031	49,440	42,546	50,995	21,392	65,759	45,358
Wales	Business and Educ Cent	2,401	2,688	1,110	1,053	836	1,280	667
	Heritage Centres*	1,139	1,448	671	2,442	1,707	1,946	734
	Manufacturing Traits*	1,216	2,194	1,457	1,673	529	1,947	1,791
	Mining Heritage	8,970	5,957	3,685	8,429	3,997	7,742	7,686
	Rural Coastal and Amenity	2,469	1,821	860	3,250	1,087	3,192	1,076
	Rural Hinterland	3,425	2,656	959	2,581	1,728	3,267	1,676
	Total	19,620	16,763	8,741	19,426	9,884	19,376	13,628
Scotland	Business and Educ Cent	8,723	6,988	4,362	4,686	3,677	11,583	8,635
	Rural Remoter Scotland etc	2,036	2,604	1,847	1,736	808	4,050	1,862
	Rural Scotland	35,602	24,312	13,414	19,306	12,013	27,754	20,543
	Total	46,454	34,074	19,674	25,757	16,506	43,415	31,048
GB	Business and Educ Cent	54,084	55,743	28,746	44,410	21,647	70,338	44,352
	Coastal Resorts and Serv's	18,677	20,153	14,069	11,693	6,650	21,475	17,321
	Growth Areas and Cities	35,069	37,380	25,603	22,980	18,839	47,539	29,786
	Heritage Centres	6,328	5,486	3,808	7,580	3,833	7,362	7,799
	London Cosmopolitan Cent	9,977	10,794	12,065	12,081	4,726	17,429	11,150
	London Cosmop Suburbia	18,433	22,170	17,438	15,201	6,977	20,345	15,343
	Manufacturing Traits	37,776	45,532	31,263	32,359	12,545	49,511	34,468
	Mining Heritage	56,313	47,808	26,333	42,782	27,203	64,441	39,430
	Multicultural Suburbs	20,938	13,370	12,352	22,122	7,827	20,864	14,764
	Prosperous England	51,370	43,452	26,063	41,400	19,558	62,217	35,560
	Rural Coastal and Amenity	21,917	18,340	11,412	23,570	13,888	15,448	11,818
	Rural England	29,717	29,959	15,712	18,297	11,651	28,790	14,852
	Rural Hinterland	40,955	34,138	18,897	32,739	18,829	38,277	25,907
	Rural Remoter Scotland etc	3,343	3,567	2,167	2,159	1,522	4,723	2,808
	Rural Scotland	35,602	24,312	13,414	19,306	12,013	27,754	20,543
	Total	440,591	412,374	259,392	348,706	187,715	496,542	325,908

Note: Locality types which have small numbers of cases in particular regions, marked with asterisk, should be treated with particular caution.

ANNEX B: JRF DEFINITION OF DESTITUTION

Box 1 below reproduces the formal definition of destitution used in the Joseph Rowntree Foundation 'Destitution in the UK' studies since 2015.

BOX 1: DEFINITION OF DESTITUTION

People are destitute if:

a) They have lacked two or more of these six essentials over the past month, because they cannot afford them:

- *Shelter* (have slept rough for one or more nights)
- *Food* (have had fewer than two meals a day for two or more days)
- *Heating* their home (have been unable to do this for five or more days)
- *Lighting* their home (have been unable to do this for five or more days)
- *Clothing and footwear* (appropriate for weather)
- *Basic toiletries* (soap, shampoo, toothpaste, toothbrush)

To check that the reason for going without these essential items was that they could not afford them we: asked respondents if this was the reason; checked that their income was below the standard relative poverty line (i.e. 60% of median income 'after housing costs' for the relevant household size); and checked that they had no or negligible savings.

OR

b. Their income is so extremely low that they are unable to purchase these essentials for themselves.

We set the relevant weekly 'extremely low' income thresholds by averaging: the actual spend on these essentials of the poorest 10% of the population; 80% of the JRF 'Minimum Income Standard' costs for equivalent items; and the amount that the general public thought was required for a relevant sized household to avoid destitution. The resulting (after housing costs) weekly amounts were £70 for a single adult living alone, £95 for a lone parent with one child, £105 for a couple, and £145 for a couple with two children. We also checked that households had insufficient savings to make up for the income shortfall.

Annex C: Schematic Outline of Micro-Simulation