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ARTICLE

Did increasing the UK's Universal Credit and working tax credits by £20 per week in 2020–2021 reduce food insecurity?

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Abstract
This paper evaluates the UK Government's decision to increase the main form of social security by £20 per week during the coronavirus disease 2019 (COVID-19) pandemic, exploring whether increasing the generosity of social security for some, but not all, claimants affected food insecurity. Using the Family Resources Survey, we found a decline of about 7 percentage points in food insecurity amongst benefit claimants affected by the uplift compared with claimants not affected (95% CI −13.9 to −0.9%). This association did not change substantively following adjustment for covariates, nor when the model was re-estimated using matching methods. Results were not driven by changes in the composition of claimants over time. These analyses suggest food insecurity could be reduced if the generosity of the social security system increased. In actuality, the UK government went in the opposite direction, removing the £20 uplift in October 2021, potentially exposing claimants to higher rates of food insecurity again.

Keywords: food insecurity; social security; Universal Credit; United Kingdom

Introduction

In the midst of the UK's 'cost-of-living crisis' (2021–2023), where inflation outpaced income, stories of households struggling to make ends meet were commonplace (Sinmaz, 2023; Age UK, 2023; Changing Realities, 2024). One critical manifestation of this inability to meet essential needs is household food insecurity, which captures a range of household circumstances related to insufficient and insecure food access arising from a lack of financial resources, from concerns about not having enough food, to cutting back on meals, to going whole days without eating (Coleman-Jensen, 2010). Food insecurity has risen in the UK, with the latest data (2022–2023) showing that on average each month, 7.2 million adults and children (or 11% of the

UK population) were living in food-insecure homes, 2.2 million more people than in 2019–2020 (Department for Work & Pensions, 2024).

As food purchases are a flexible part of household budgets, reducing food spending and consumption are common compromises households make when struggling to make ends meet. Having adequate food intake every day in an amount and quality to meet one's nutritional and cultural needs are a recognised human right (Office of the United Nations High Commissioner for Human Rights, 2010). Indications of adults skipping meals and/or going without eating are critical indications of poverty. Furthermore, food insecurity is associated with negative health outcomes. Linked health data from Canada and the USA have shown food insecurity to be associated with higher rates of emergency department visits (Berkowitz et al., 2018b; Men et al., 2022), acute care admission (Berkowitz et al., 2018b; Berkowitz et al., 2018a; Men et al., 2020b), postpartum depression (Tarasuk et al., 2020), premature mortality (Men et al., 2020a) and all-cause and cardiovascular disease mortality (Sun et al., 2020). Systematic reviews have shown consistent associations between food insecurity and mental health conditions, such as depression (Pourmotabbed et al., 2020). This evidence makes the recent rise in food insecurity in the UK especially troubling and suggests there is an urgent need for policies targeting food insecurity reduction to be enacted.

There is surprisingly little UK research quantitatively examining social policies and food insecurity, however (Loopstra, 2018; Lambie-Mumford et al., 2023). This is in contrast to other parts of the world. In Canada, child benefits and other elements of the social security system have been examined in relation to food insecurity (Ionescu-Ittu et al., 2015; Brown and Tarasuk, 2019; Men et al., 2021; Men et al., 2023; Sarker et al., 2024; Idzerda et al., 2024). In the USA, the impacts of the Supplemental Nutrition Assistance Program and other elements of the safety net have been examined (Ratcliffe et al., 2011; Keith-Jennings et al., 2019; McKernan et al., 2021), as well as the impacts of welfare reform (Corman et al., 2022). Globally, wage-setting policies and family polices have been explored in relation to food insecurity (Reeves et al., 2021a, 2021b).

In the UK, evidence shows that people who are in receipt of social security benefits are more likely to be food insecure than people not in receipt of benefits (Bramley et al., 2021; Department for Work & Pensions, 2021), as are conditions associated with benefit receipt, such as unemployment and not being able to work due to disability (Loopstra et al., 2019; Department for Work & Pensions, 2021; Hadfield-Spoor et al., 2022; Hadfield-Spoor et al., 2024). There have also been studies using area-level data that have linked social policy interventions such as benefit sanctioning, benefit caps and benefit reforms to rising food bank use (Loopstra et al., 2018; Sosenko et al., 2022; Reeves et al., 2021b). By using food bank data, however, these studies significantly underestimate food insecurity in the population (Loopstra and Lambie-Mumford, 2023). From a broader vantage point, we know that social security reduces income poverty in the UK, but it is less clear how this translates to measures of material hardship, such as food insecurity (Ray-Chaudhuri et al., 2023). To our knowledge, no policy evaluations have specifically focussed on household food insecurity (rather than food bank use) in the UK.

In this study, we focus on one particular UK policy, a £20 per week increase in selected benefits during the coronavirus disease 2019 (COVID-19) pandemic,

known as the '£20 uplift'. On 20 March 2020, in response to concerns about financial hardship, the then Chancellor Rishi Sunak announced economic interventions that were 'unprecedented in the history of the British state' (HM Treasury, 2020). However, whilst a range of measures targeting low-income households were introduced over this period (Lambie-Mumford et al., 2020), the £20 uplift uniquely segmented benefit claimants into two groups. Those in receipt of Universal Credit (UC) and or Working Tax Credit (WTC) received the uplift, but this income boost was not given to those who received 'legacy benefits', that is, the benefits being gradually replaced by UC. The majority of pre-existing claimants were still receiving these legacy benefits (namely, Employment and Support Allowance, Income Support, Housing Benefit, Child Tax Credit and Jobseeker's Allowance) and thus did not benefit from this additional support (HM Treasury, 2020).

There is suggestive evidence that the weekly £20 uplift reduced food insecurity. The Department for Work and Pensions (DWP)'s Family Resources Survey (FRS) from 2020 to 2021 suggested that there was a dramatically reduced prevalence of food insecurity for households in receipt of UC compared with the year prior (Department for Work & Pensions, 2022b). In 2019–2020, 43 per cent of UC claimants were food insecure, higher than any other claimant group (Department for Work & Pensions, 2021), but this fell to just 27 per cent in 2020–2021. Notably, there was no apparent change in food insecurity amongst legacy claimants that did not receive the uplift. For example, amongst those receiving Employment and Support Allowance (ESA), prevalence remained around 31 per cent. This has been presented as evidence that boosting benefit levels will improve households' ability to afford food (The Food Foundation, 2022). However, this is not the only plausible explanation, and there are reasons to be cautious about interpreting this drop in food insecurity as evidence of a causal effect of the policy.

First, pandemic restrictions resulted in a large influx of new UC claimants. Before the pandemic, the proportion of benefit units receiving UC doubled from 4 per cent in 2019–2020 to 8 per cent in 2020–2021 (Department for Work & Pensions, 2022b). As unemployment and earning losses caused by the pandemic reached a wider swathe of the population, the characteristics of households newly claiming UC in 2020–2021 were different: new claimants were more likely to be from higher socio-economic groups and to be owner-occupiers (Edmiston et al., 2020). It also became easier for self-employed people to claim UC during this period. The apparent reduction in food insecurity observed in 2020–2021 may therefore be overestimated if we do not take into account the composition of claimants. Secondly, changes to the survey methodology were implemented as a result of social distancing requirements and this may have altered the composition of the sample as well (Department for Work & Pensions, 2022c).

The aim of this paper is to investigate whether households who received the £20 weekly uplift to UC/WTC claimants experienced a reduction in food insecurity, relative to legacy benefit claimants who did not receive the uplift. We use microdata from the Family Resources Survey (FRS) and difference-in-difference models to estimate this effect, assuming that UC/WTC and legacy benefit claimants would have had similar trends in food insecurity in the absence of the £20 uplift. We do this whilst accounting for the potential confounding influence of changing claimant characteristics from 2019–2020 to 2020–2021.

Methods

Data sources and sampling methods

The FRS is an annual, representative cross-sectional survey of about 20,000 UK households. Anonymised FRS data are made available from the DWP in the UK Data Service and secondary analyses of these data do not require ethics approval.

As the UK went into lockdown in March 2020, the data collection for 2019–2020 had mostly been completed, but for the subsequent fieldwork period for the 2020–2021 survey, the method had to be changed. The sampling frame (the postcode address file) did not change, but instead of interviewers doing face-to-face interviews, letters were sent asking for the household to provide a phone number for a telephone interview (or from November 2020, there was some door-to-door contact asking non-respondents to provide a phone number (Department for Work & Pensions, 2022c). The FRS aims to interview all adults aged 16+ within eligible households. The Household Reference Person (HRP) completes data on the household, while other adults complete additional individual-level data; proxy interviews are used if other adult household members are not able to take part.

In 2019–2020, the response rate was 49 per cent; in 2020–2021, it was only 23 per cent. The much lower response rate, different mode of data collection and particular circumstances of COVID-19 influenced the 2020–2021 sample (Department for Work & Pensions, 2022c). The sample included more homeowners and fewer renters, more older respondents and fewer households with children compared with survey years prior. Other potential differences may be harder to observe and careful consideration needs to be taken when comparing between survey waves (Department for Work & Pensions, 2022c).

Outcome variables

The main outcome of interest was food insecurity. In the FRS, the United States Department of Agriculture's (USDA) Adult Food Security Survey Module (AFSSM) (Economic Research Service, 2023), a ten-item scale, is used with a 30-day reference period (Department for Work & Pensions, 2022c). This module asks respondents to indicate whether in the past 30 days they have had experiences of worry about running out of food, compromises in the quantity or quality of their diet and/or going without food, all with clauses related to a lack of finances for food. In the FRS, the AFSSM was part of the household questionnaire, but was answered by the person in the household deemed best placed to answer about food shopping and preparation, which may not have been the HRP.

In accordance with the USDA and DWP, we classified food insecurity as a binary variable: those who were food secure or marginally food secure (zero to two affirmative responses on the AFSSM) versus those with low food security (three to five affirmative responses) or very low food security (six or more affirmative responses) (Economic Research Service, 2023). We chose this threshold because we expected the uplift to have the greatest impact on those in more severe circumstances. We excluded respondents with missing data on any of the ten food insecurity questions.

Exposure variable

The exposure of interest was receipt of a £20 per week increase from April 2020 in the standard allowance of UC and the basic rate of WTC. Receipt of the £20 uplift was not directly measured in the FRS, but as this intervention was introduced at the start of the FRS fieldwork period in April 2020 and was in place for the whole fieldwork period, we considered all adults in the 2020–2021 FRS sample who reported being in receipt of UC and WTC in 2020–2021 as 'treated' by the uplift. We note that qualitative research amongst sixty-three UC claimants during the pandemic found that some had not received the uplift or not benefitted financially from it on account of being subject to the benefit cap, benefit deductions or fluctuating employment income (Griffiths, 2021). Some of those in our sample may be misclassified as receiving the uplift when they did not.

In contrast, benefit units in receipt of UC or WTC were not exposed to the £20 per week uplift in 2019–2020, nor were respondents on legacy benefits other than WTC. UC has gradually been replacing legacy benefits in the UK since 2014, but prior to 2022 (Department for Work & Pensions, 2022a), only a change in an individuals' circumstances or a voluntary decision to move to UC would trigger someone moving from legacy benefits to UC; thus, a significant proportion of benefit claimants remained on legacy benefits. With the exception of claimants on WTC, no legacy benefit claimants were given the £20 uplift in 2020–2021.

Covariates

To account for the varying composition of the FRS sample and of the claimant groups, we considered a number of covariates. These included socio-demographic characteristics of the HRP (i.e. age and ethnicity), characteristics of people in the benefit unit (i.e. number of adults and children, number of adults with disabilities), socio-economic profile of the benefit unit (i.e. number of unemployed adults, number of adults not working for other reasons, if any adult was self-employed, highest level of qualifications amongst adults and highest occupational class of adults in the benefit unit) and type of housing (i.e. social housing, private rented, or owned outright or through a mortgage). Since the financial circumstances of people newly made redundant due to the pandemic may have been different from people experiencing redundancies prior to the pandemic, we also included the level of savings for adults in the benefit unit, using a categorical variable to indicate savings less than £1,500, more than £1,500 or missing on this variable (~14 per cent of the pooled sample).

We also considered recent changes in circumstances which may have triggered a new application for UC to enable us to control for new claimants versus those who were on UC prior to the pandemic. Length of time in current residence was used to identify benefit units that had moved house in the last 12 months, potentially triggering a new UC claim. Following a question about their current employment situation and employment contract, all adults were asked whether their situation changed in the last 12 months, allowing us to capture changes in employment. Amongst adults who were not working at the time of the interview, information was provided on when the respondent last had a paid job; this allowed us to identify

adults in benefit units who lost paid work in the last 12 months. We also identified adults in benefit units who reported a change in their employer in the past 12 months. Lastly, from May 2020 forward, a question was added to the FRS questionnaire that specifically asked respondents, 'Has your work situation changed as a result of the coronavirus disease 2019 (COVID-19) restrictions?'; we used this as another way of identifying adults in benefit units where new claims to UC may have been made due to the pandemic.

Analytical sample

The food insecurity questions were only answered by one adult per household. We focussed our analysis on 'benefit units' – at its largest, a cohabiting partnership and their children. We did this partly because these are the units that benefits eligibility is based upon, but also because we expected all of these people would have benefited from the uplift if anyone in the benefit unit received it. This was less likely to be the case at the household-level, which could include multiple benefit units (i.e. other non-dependent adults) with other sources of income. However, our analysis of the benefit unit level was slightly complicated by a coding issue in FRS, which means that we do not know the benefit unit of the person that completed the food insecurity questions. To respond to this, we restricted the analysis to benefit units that contained the Household Reference Person (HRP), on the expectation that either the HRP or their partner (in the same benefit unit) would have answered the food insecurity questions. In support of this, amongst multi-benefit-unit households where benefit units did not contain the HRP, we found that the majority were non-dependent children, parents or other relatives of the HRP, who we did not think would have been selected to answer the food insecurity questions. We also restricted the sample to benefit units with 'conventional' rather than 'shared' household arrangements.

We further restricted the sample to benefit units with an HRP of working age because we were interested in households where working-age benefits were most likely to be the main source of income. We excluded benefit units that were not in receipt of either UC, WTC or other legacy benefits, keeping benefit units with similar characteristics in terms of qualifying for income-replacement benefits.

After these steps, we had a sample of 4,517 unique benefit units, of whom 2,210 received Universal Credit or Working Tax Credit (UC/WTC) and 2,307 received legacy benefits other than WTC (shorthanded to legacy benefits from here). Missing data on recent employment changes or house move further reduced the sample to 4,504 for our regression models.

Statistical analysis

To examine the effect of the £20 uplift on food insecurity, we used a difference-in-differences design, looking at differences 2019–20 versus 2020–21 in food insecurity, and comparing these between UC/WTC claimants and legacy benefit claimants. This model uses observational data but is similar to an experimental research design, where the effect of the intervention on an outcome is based on the average change in the intervention group compared with the average change in the non-intervention group. Observational data will produce an unbiased estimate of the

causal effect even if the characteristics of UC/WTC versus legacy benefit claimants are different, as long as these two groups would have had parallel trends in food insecurity over time in the absence of the uplift. This technique is widely applied to repeat cross-sectional data, as in our case, but can be biased if the composition of the UC/WTC and legacy benefit groups change over time (including due to the pandemic). We therefore first examined how characteristics of benefit units in receipt of UC or WTC changed over 2019–2020 and 2020–2021; we did the same for benefit units in receipt of other legacy benefits. We used chi-squared statistics to identify statistically significant shifts in sample proportions over this period. Those socio-economic variables that changed over time were then controlled for in the difference-in-differences models.

Our main analyses used a logistic regression model to estimate the probability of food insecurity amongst UC/WTC claimants before and after the intervention and compared the estimated probability over this period for the untreated group (legacy benefit claimants). The difference in these estimates is the estimated effect of the policy intervention. We first present unadjusted analyses, followed by a model adjusted for aforementioned socio-economic characteristics of the benefit unit, then a model adjusted for changes in the benefit unit that could trigger a new UC claim (using those variables mentioned above).

Sensitivity tests

In our main analysis, we account for the changing composition of our treatment (UC/WTC) and control (legacy benefit) groups by using control variables in a regression framework – but given the centrality of this to our analysis, we further restricted the analytical sample to groups with more similar composition in several statistical analyses. First, we ran a model that removed benefit units where an adult reported their circumstances changed as a result of COVID-19 from the 2020 to 2021 sample; due to this question not being asked in the first months of the 2020–2021 FRS, this also excludes respondents whose data were collected in April and May 2020. This reduced the combined sample to 4,025. Next, we restricted the sample to only include benefit units where no adults reported job changes or a house move in the past year; this restricted the analysis to claimants who were most likely to have been claiming benefits for a longer period of time in both 2019–2020 and 2020–2021, but reduced the sample size to 3,407.

Then, we created matched samples across years so that the groups were balanced on all covariates (within the treatment and control groups separately), and conducted the difference-in-differences regression models with controls on the matched samples (known as 'doubly-robust estimation', as it requires fewer assumptions about getting the correct functional form of the covariates). We did this in two ways, once using coarsened exact matching, which restricts the sample to groups that are identical on all covariates simultaneously, though at the cost of losing many observations (Iacus et al., 2012), and secondly, using entropy balancing, which creates balance across each variable separately using revised weights, keeping all observations (Hainmueller, 2012).

Lastly, because evidence suggests that households with savings are relatively protected from food insecurity compared with those without savings (Guo, 2011;

Chang et al., 2014), a higher proportion of UC claimants with savings in 2020–2021 could also potentially drive the change in food insecurity over 2019–2020 to 2020–2021. We therefore examined whether effects of the uplift in UC/WTC were observed after stratifying for level of savings. We tested this by adapting the models above to include a three-way interaction between receipt of UC/WTC or legacy benefits, receipt of the £20 uplift and level of savings.

Results

Changing benefit claimant composition over time

Our comparison of benefit units receiving UC/WTC and legacy benefits from 2019–2020 to 2020–2021 (within our analytical sample) shows clear evidence that the composition of both UC/WTC and legacy benefit claimants changed (Supplementary Materials, Table A1). For both treatment (UC/WTC) and control (legacy benefits) groups, in 2020–2021 the HRP tended to be older (although only significantly so amongst UC/WTC-claiming benefit units), more likely to be from a white ethnic background, less likely to be from an Asian/Asian British background and benefit units tended to have fewer children, compared with in benefit units in 2019–2020. There was, however, more mixed evidence as to whether UC/WTC claimants became more skewed to more advantaged socioeconomic groups (compared with other legacy benefits). There were more adults in UC/WTC-claiming benefit units from higher occupational groups in 2020–2021 compared with 2019–2020, unlike for legacy claimants. There were also some imprecise signs that more had savings ($p = 0.08$), but no clear changes in self-employment, qualifications or owner-occupiers; in contrast, amongst legacy benefit-claiming benefit units, there was a rise in owner-occupiers.

Unsurprisingly, the clearest evidence for change was in the proportion of claimants who had employment changes or left employment in the past year, along with a rise in the number of adults not working. Though of a lesser magnitude, these patterns were also observed amongst legacy benefit claimants.

However, we also noted that in 2020–2021, 23.0 per cent of benefit units receiving UC/WTC reported their work being affected by COVID-19 restrictions, compared with only 8.0% amongst legacy claimants, a statistically significant difference ($p < 0.0001$).

Impact of the £20 uplift

Amongst benefit units in receipt of UC or WTC, their pooled unadjusted prevalence of food insecurity in 2019–2020 was 32 per cent; this was significantly reduced to 24 per cent in 2020–2021. The results of our difference-in-difference analysis reflects this change in Table 1. Amongst benefit units affected by the uplift, food insecurity decreased by 8 percentage points (95% CI −12.7% to −3.4%); in contrast, there was no change amongst legacy benefit claimants, who were not affected by the uplift. The difference-in-difference estimate of the effect of the £20/week uplift is therefore −8.2 percentage points (−15.4% to −0.98%). After accounting for socio-economic characteristics, the difference between groups was slightly attenuated to −7.4 percentage

Table 1. Change in food insecurity from 2019–2020 to 2020–2021 for benefit units in receipt of £20/week uplift versus benefit units not in receipt of uplift and overall estimated impact of £20/week uplift

	n	Difference 1 (UC/WTC)	Difference 2 (other legacy)	DiD estimate (diff 1–diff 2)
Unadjusted	4,504	−0.0800 (−0.127 to −0.0334)	0.00192 (−0.0532 to 0.0570)	−0.0819 (−0.154 to −0.00975)
Model 1: adjusted for socio-economic variables.[1]	4,504	−0.0858 (−0.131 to −0.0411)	−0.0118 (−0.0600 to 0.0365)	−0.0741 (−0.139 to −0.00888)
Model 2: additionally adjusted for employment/housing changes in past 12 months.[2]	4,504	−0.08427 (−0.129 to −0.0393)	−0.00918 (−0.0578 to 0.0394)	−0.0751 (−0.140 to −0.00993)

Notes: Authors' analysis of Family Resources Survey, 2019–2020 and 2020–2021.
[1]Model 1: adjusted for HRP age band and ethnicity. For the benefit unit, number of adults with disability; number of unemployed adults; number of adults not working for other reasons; if any adults self-employed; number of children and number of adults; highest level of qualifications amongst adults; highest Standard Occupational Classification amongst adults; type of housing; and level of savings.
[2]Same covariates as model 1 but additionally adjusted for dummy variables indicating left job in last 12 months, new employer in last 12 months, change in employment status in past 12 months or moved house in past year.

points (−13.9% to −0.9%), but this was not further attenuated once changes in employment or housing circumstances were accounted for.

Sensitivity analyses

To test the robustness of our findings to the changing composition of the treatment and control groups, we further restricted the analytical sample to groups with more similar composition, as presented in Table 2.

In our first sensitivity tests, we aimed to estimate effects amongst claimants who were more likely to have been on UC for at least 1 year at the time of the survey and exclude those who were new to being on UC as a result of the COVID-19 pandemic. We first excluded those who specifically reported a change in their circumstance resulting from the COVID-19 pandemic and then any benefit units where there was report of a job loss, a new employer, a change in employment status or a house move in the past year. Both of these exclusions reduced the sample sizes, and therefore statistical power, increasing the size of confidence intervals. However, effect sizes were broadly consistent with our main models. We observed a consistent, though not significant at the 5 per cent level ($p = 0.06942$), estimate of about −7.1 percentage points (−14.7% to 0.6%) after removing people who reported changes in employment arising from the pandemic. In our next model, the estimated effect was similar in size to the main analysis above (−7.4% [−14.8 to 0.008%]), and while the effect is no longer significant at the 5 per cent level, it is close to significance ($p = 0.05249$).

Lastly, we conducted two types of doubly robust analyses in which we firstly match the samples on covariates, and then conduct the regression model on the matched sample. Using coarsened exact matching reduces the sample to only $n = 1{,}211$ respondents, which decreases statistical power and increases uncertainty substantially (the 95% CI around the effect becomes −20.1% to +0.58%). Using entropy balancing, we find a slightly smaller effect size of 5.6 per cent, but because this does not lose any observations, this has a narrower confidence interval, which was just significant at the 5 per cent level.

Lastly, we examined whether the results of our main model are observed for UC/WTC claimants with less than £1,500 in savings and higher levels of savings (Figure 1). As shown, the higher proportion of UC/WTC claimants with higher levels of savings was not driving the reduction in food insecurity observed for this claimant group: even when stratified by savings level, we observed a significant reduction in food insecurity amongst UC/WTC claimants amongst claimants with low levels of savings (<£1,500), with the predicted probability declining from 38.5 per cent to 29.7 per cent. No significant change was observed amongst legacy claimants with low levels of savings, and also no change amongst UC/WTC claimants with savings over £1,500 (though confidence intervals are wide because of the smaller number of claimants with savings). This also suggests the uplift was less impactful where UC and WTC claimants already had more financial buffer and low levels of food insecurity in 2019–2020.

Overall, the sensitivity analyses do not suggest that our main results are driven by the changing composition of the treatment and control groups over time. However, nearly all of the estimates are close to statistical significance, with some falling just

Table 2. Change in food insecurity over 2019–2020 for benefit units in receipt of £20/week uplift versus benefit units not in receipt of uplift and overall estimated impact of £20/week uplift in sub-samples

	N	Difference 1 (UC/WTC)	Difference 2 (other legacy)	DiD estimate (diff 1–diff 2)
Sample excluding those reporting COVID-19 related employment changes[1]	4,025	−0.0987 (−0.155 to −0.0419)	−0.0279 (−0.0800 to 0.0242)	−0.0708 (−0.147 to 0.00563)
Sample excluding those with employment/housing changes in past 12 months[2]	3,407	−0.0928 (−0.147 to −0.0383)	−0.0191 (−0.0713 to 0.0331)	−0.0737 (−0.148 to 0.00079)
CEM model: only includes respondents matched on socio-economic circumstances[3]	1,211	−0.0859 (−0.162 to −0.00939)	0.0116 (−0.0578 to 0.0811)	−0.0975 (−0.201 to 0.00584)
Sample matched using ebalance[4]	4504	−0.0859 (−0.124 to−0.0475)	−0.0295 (−0.0681 to 0.0091)	−0.0564 (−0.111 to −0.00173)

*Notes:*Authors' analysis of Family Resources Survey, 2019–2020 and 2020–2021.
[1]Same covariates as above Table 1, model 2. Any benefit unit with adults reporting a COVID-related change in employment excluded & respondents in April/May 2020.
[2]Any benefit unit with adults reporting leaving job in last 12 months, new employer in last 12 months, change in employment status or housing in past 12 months excluded.
[3]Same covariates as above Table 1, model 2 but only includes respondents matched on socio-economic characteristics using coarsened exact matching (CEM).
[4]Same covariates as above and weighted according to the weights produced by ebalance.

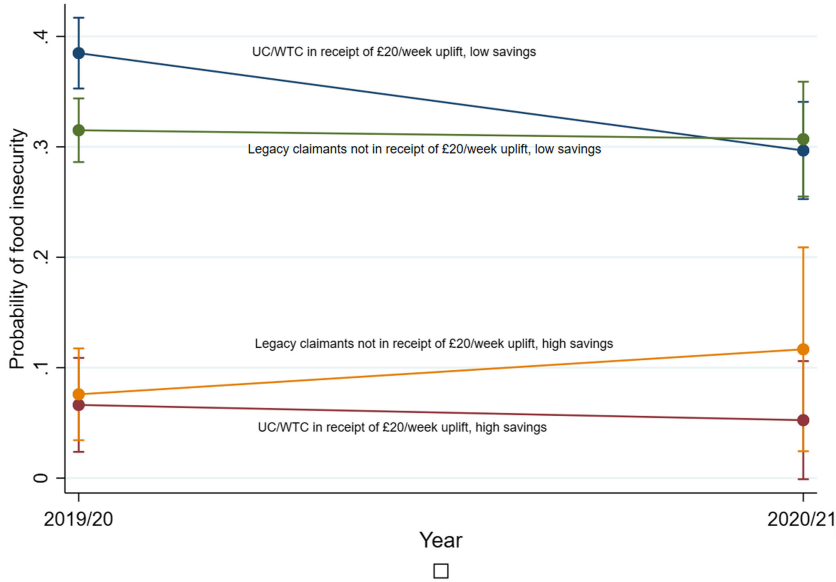

Figure 1. Change in food insecurity for UC/WTC claimant and legacy claimant benefit units from 2019–2020 to 2020–2021, split by level of savings. *Notes:* Authors' analysis of Family Resources Survey, 2019–2020 and 2020–2021.

below the conventional 5 per cent threshold and others just above it. Rather than adopting a binary decision criterion that over-emphasises the 5 per cent threshold, we interpret this as providing evidence of an effect, but with a moderate level of uncertainty around it.

Discussion

It has been suggested that the £20 per week uplift in UC/WTC introduced at the start of the COVID-19 pandemic resulted in a reduction in food insecurity. Modelling studies have shown how the uplift in UC shifted a significant proportion of households over the poverty threshold, causing a reduction in income-based poverty measures (Ray-Chaudhuri et al., 2023). Qualitatively, the Covid Realities project also revealed the impact that these additional payments made to the family budgets, with a number of participants saying that these payments made a difference as to what they could purchase or helped offset the cost of rising energy bills (Covid Realities, 2022). More specifically on food insecurity, there has been suggestive evidence of a positive impact of the £20 uplift, as food insecurity amongst UC claimants went down, but it did not amongst legacy benefit claimants, who did not receive the uplift. This is true both when comparing the 2019–2020 FRS data to the rapid Welfare at a (Social) Distance YouGov survey (Baumberg Geiger et al., 2021) and to the published FRS 2020–2021 data (described above). However, these studies do not account for the changing composition of claimants over time due to both

methodological changes and because of COVID-19-associated changes in the population of benefit claimants.

This paper extends these analyses by accounting for how the population of UC claimants could have changed over 2019–2020 to 2020–2021 and seeks to estimate the portion of the reduction in food insecurity that can be attributed to the uplift. To provide more robust estimates, we used a difference-in-differences approach that exploited variation in which social security claimants actually received the £20 uplift (the uplift was not received by other legacy benefit claimants), and accounted for compositional changes in groups of UC/WTC and legacy benefit claimants between 2019–2020 (before the uplift) and 2020–2021 (after the uplift). We observed a reduction of about 6–7 percentage points that could be attributed to £20/week uplift, which was subject to some uncertainty. In some analyses, this was significant at the 5 per cent level, and in other analyses it was just non-significant; 95 per cent confidence intervals for the effect were wide, ranging from lower bounds of −11 to −20 percentage points and an upper bound of about 0.

We believe these analyses are unique in that they evidence how increasing benefit levels in the UK made a difference in meeting the food needs of many benefit recipients. Our findings also align with similar policies implemented outside of the UK during the pandemic (Gundersen, 2023). For example, the US expansion of unemployment insurance was associated with reduced levels of food insecurity amongst people who were made unemployed during the pandemic, especially amongst those who received the CARES Act $600/week supplement in the first months of the pandemic (Raifman et al., 2021). Before the pandemic, increasing the generosity of social security payments had been associated with declines in food insecurity. For example, increases to the value of the US Supplemental Nutrition Assistance Program (SNAP) during economic recession in 2009 were associated with a decrease in food insecurity (Nord and Prell, 2011). Increases in social assistance programmes in Canada have also associated with reductions in food insecurity (Idzerda et al., 2024). Across low-, middle- and high-income contexts, both the existence and introduction of new, conditional and unconditional cash transfers has also been shown to improve nutrition and food insecurity outcomes (Tiwari et al., 2016; Palmeira et al., 2020; Reeves et al., 2021a; Saldivar-Frausto et al., 2022).

However, changes in the generosity of social security are only one of several ways in which social security policy design may impact on food insecurity. Reeves and Loopstra (2021) found that the roll-out of UC per se across postcode areas was associated with both short-term and long-term food parcel distribution from Trussell Trust food banks. While it is not straightforward to evaluate all of these policy elements, there is reason to believe that food insecurity is heightened by aspects of UC, including a 5-week wait for the first payment, benefit conditionality/sanctions, restrictions such as a cap on the total level of benefits and benefit deductions due to money owed to DWP (e.g. for advances while waiting for the initial payment) or other creditors, as well as wider debt repayments (Baumberg Geiger et al., 2021; Bull et al., 2023). These may also have reduced the impact of the £20 uplift, as one qualitative study amongst UC claimants suggested (Griffiths, 2021), and our analysis could not identify UC recipients who did not receive the uplift, potentially attenuating our results. Our evidence suggests that improving the overall generosity of UC can reduce food insecurity, but it may not have impacted

on all claimants equally or overcome other shortcomings in the design of UC. Prima facie it seems most likely that the elimination of food insecurity amongst claimants requires addressing both overall adequacy and delivery and design features of UC.

Strengths and limitations

It is important to point out potential limitations of our analyses. Firstly, the COVID-19 pandemic affected the FRS data collection in 2020–2021, partly in terms of survey mode and overall response rate, but also in terms of the types of people who were likely to respond (as discussed in the Methods section). Responses were probably more likely amongst those working from home, working reduced hours or not working at all, but less likely amongst those doing home-schooling or with other caring responsibilities arising from pandemic restrictions. The address file used for sampling may have been more inaccurate than usual due to the formation of household bubbles. Whilst the data can be weighted according to known population socio-demographic characteristics, within these, some groups may have been more or less likely to participate than others. However, there is no reason to expect these differences in survey methods and respondents to affect UC/WTC claimants differently to legacy benefit claimants, particularly given the extensive adjustments for compositional differences that we use above.

Secondly, the pandemic affected several aspects of the UK benefits system beyond the £20 uplift. Support for housing costs increased; UC was made easier for the self-employed to claim; and benefit conditionality was suspended, which in turn reduced benefit sanctions. However, it seems unlikely that these changes could have significantly affected our results. We were able to account for self-employment in our analyses. Support for housing costs was increased for both UC and legacy claimants alike, as this was done via changing the Local Housing Allowance rates, which underpin both UC and legacy Housing Benefit. The change in conditionality would have small effects at an aggregate level because benefit sanctions were already uncommon in 2019/2020.

Similarly, it is possible that levels of food insecurity may have been affected by other interventions that were implemented in response to concerns about food insecurity over this period. These included expansions of charitable food provisioning, provision of free school meal replacements (i.e. either cash, supermarket vouchers or in-kind provision) through school holidays and other income interventions, such as the Coronavirus Job Retention Scheme ('furlough') and Self-Employment Income Support Scheme (Lambie-Mumford et al., 2020). However, we again have no a priori reason to believe these would have affected UC/WTC and other legacy claimants differently. Thus, whilst these could have contributed to the overall reduction in food insecurity observed in the population over this period, they do not explain why food insecurity fell so much more steeply amongst UC/WTC claimants compared with other legacy claimants.

Our analysis depends critically on whether trends in food insecurity amongst UC/WTC claimants would have been the same as other legacy benefit claimants if it were not for the introduction of the £20 uplift. This is a plausible assumption, particularly given the adjustments for compositional differences above, although

longitudinal data would have been preferable if they had existed. Still, it is an assumption that is impossible to check. This introduces an unavoidable element of uncertainty in our conclusions, though it is reassuring that our results are broadly similar to the general picture in the wider literature from different evaluations of different cash transfer policies using different methodologies.

Conclusion

Millions of people in the UK are living in food-insecure homes. Our analyses suggest that the extent of food insecurity in the UK would probably fall if the generosity of the social security system increased. In actuality, the UK government went in the opposite direction, removing the £20 uplift in October 2021. This aggregate reduction in the generosity of Universal Credit at the same time that food and energy prices started to rise served to diminish even further the real value of the payments claimants were receiving, and the impacts of this reversal should be investigated in future analyses. Indeed, aggregate data from the 2022 to 2023 FRS showed 3 million more people were food insecure in the UK compared with data from the FRS in 2020–2021, with levels of food insecurity highest amongst households claiming UC (Department for Work & Pensions, 2024). As called for by many charities, guaranteed social security incomes are needed to ensure essential needs and basic human rights are met (Trussell Trust and Joseph Rowntree Foundation, 2024).

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