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Impact of the expiration of the expanded child tax credit on the material well-being of low income and single parent families

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Abstract

The temporary expansion of the Child Tax credit (CTC) monthly payments from July through December 2021, which included many low-income families previously left out by the program, led to significant reduction in food insufficiency and housing hardship. While monthly payments expired at the end of December 2021, nearly half of the payments were received as a lump-sum benefit between January and April 2022. With the expiration of the program, the CTC payments reverted to the lower pre-2021 levels and the benefits were no longer available to low-income families who did not owe taxes. This study expands on the previous research, using data from the Household Pulse Survey (Pulse) from July 2021 to December 2022 to assess the full impact of the expiration of the expanded CTC. We use a difference-in-differences framework to separately estimate the results for the period January through April 2022 (when lump-sum payments were received), and from July through December 2022 (when benefits fully lapsed). Food insufficiency in households with children rose by 3.9 percent between January and April 2022, but nearly doubled to 7.34 percent between May and December 2022, when expanded CTC benefits fully expired. Low income, single parent families, and households of color were the hardest hit. The results on housing hardship are not as conclusive. Consistent with previous research we find that households with children used the lump-sum payments to pay off rent/mortgage backlogs. The estimate for behind on rent/mortgage between January and April 2022 is negative but lacked significance in some cases. By contrast, the share of households behind in rent/mortgage increased between May through December 2022, once all expanded benefits had ended. The estimates were significant for all income groups, single parents, and Blacks.

Keywords: Child tax credit policy, food and housing insecurity

Jel codes: I31; I38

1. Introduction

The temporary expansion of the Child Tax Credit (CTC) during COVID-19 led to historic declines in childhood poverty and food insecurity in the U.S. Key to this was the American Rescue Plan’s (ARP) extension of full CTC eligibility to low-income families that had previously been excluded. Prior to the 2021 CTC expansion, approximately one in three children were left out of receiving credit because their household incomes were too low to qualify (Crandall-Hollick 2021). Those most affected included children in single parent, Black and Latino households (Curran and Collyer, 2020; Collyer, Harris and Wimer, 2019). These families lost access to the full CTC again in 2022, when the temporary CTC expansion expired, leading to 18 million children becoming ineligible, including more than 90% of children in poverty (Center on Poverty and Social Policy, Columbia University, 2023).



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The ARP Act temporarily restructured the Child Tax Credit (CTC) program, expanding the per-child credit from \$2000 for all children under age 17 to \$3,600 for children aged 0 to 5 years and \$3000 for children aged 6 to 17 years. It was made fully refundable, allowing the lowest-income families, who were previously ineligible, to receive the full credit even if they did not owe taxes. In addition to the increased benefit amount, families received half of the child allowance payments on a monthly basis from July to December 2021 and the remaining as a lump-sum payment of an additional \$1500 to \$1800 per child at the end of the tax filing period.

Congress failed to extend the policy, leading to the expiration of the monthly payments in December 2021. The remaining lump-sum payments were distributed by April 2022 at the end of the tax filing period. With the expiration of the program, the CTC payments reverted to pre-2021 levels of \$2000 per child under 17 with no monthly allowances, and the benefits were no longer available to low-income families who did not owe taxes.

While a number of studies have documented the significant benefits of the monthly CTC benefits (Parolin et al. 2021, 2023; Shafer et al. 2022; Karpman et al. 2022; Pilkauskus et al. 2022; Rook et al. 2023), the effects of discontinuance of the program are not fully accounted for. Bouchelle et al. (2022) and Parolin et al. (2023) consider the effect of the lump-sum payments received from January to April 2022, after the end of monthly CTC payments. Bouchelle et al. (2022) finds evidence of increases in food insufficiency, once monthly CTC payments ended. Parolin et al. (2023) conclude that lump-sum payments had no significant effect on food hardship, but did lead to reduction in housing hardship for families with children. These studies however do not capture the effect of the full expiration of the expanded CTC once the lump-sum payments ended in April 2022.

This study expands on the previous work, using data from the Household Pulse Survey (Pulse) from July 2021 to December 2022 to assess the full impact of the expiration of the expanded CTC. We use a research design to clearly isolate and measure the effect of the end of the policy, on food insufficiency and housing hardship, with a focus on families most affected by this loss of government assistance.

2. Background Literature

The expanded Child Tax Credit (CTC) introduced in 2021 has been the subject of several studies investigating its potential effects on food insufficiency and housing stability among U.S. households, particularly those with children. The literature on expansion of the CTC in 2021 consistently finds that CTC monthly payments led to reductions in food insufficiency among households with children, particularly for those in lower income brackets.

Among the early studies, Parolin et al. (2021) and Shafer et al. (2022) use Pulse data spanning January 6, 2021, to August 16, 2021, to analyze the effect of CTC expansions in a difference-in-differences framework. Their findings suggest that both the initial payments and the net value of the CTC were associated with substantial reductions in food insufficiency. Karpman et al. (2022) and Rook et al. (2023) use alternative data sets to assess the relationship between the CTC and food insecurity. Karpman et al. (2022) compare food insecurity rates from December 2020 to December 2021 using the Well-Being and Basic Needs Survey (WBNS) from the Urban Institute. Rook et al. (2023) compare food insecurity from July 2021 to December 2021, to the prior months back to January 2019, using the National Health Interview Survey (NHIS). Because the WBNS also contains information on whether households received the CTC, the authors could identify average treatment effects on the treated versus intent-to-treat estimates in the previous studies. Both studies find that food insecurity rates fell by 4 to 6 percentage points among households that received monthly CTC payments. The benefits were most pronounced for households below 200 percent of FPL. Pilkauskas et al. (2022), use a mobile app dataset on Supplemental Nutrition Assistance Program (SNAP) benefits to estimate the impact of monthly CTC receipt on multiple measures of food hardship among low-income families from June 2021 to January 2022. They find that an additional \$100 in monthly CTC benefits reduces their measure of food hardship by approximately 6 percent.

Bouchelle et al. (2022) and Parolin et al. (2023) consider the effect of lump-sum payments received from January through April 2022, when monthly CTC payments ended, using data from the Pulse survey. Bouchelle et al. (2022) finds evidence of an increase in food insufficiency, especially among households with incomes below \$35,000 and \$25,000, once monthly payments expired. Their study did not look at housing hardship. Parolin et al. (2023) compare this period to a similar period (January through April 2021) before the monthly payments began. The study finds that lump-sum payments had no significant effect on food insufficiency but conclude that lump-sum payments led to a reduction in housing hardship among families with children. As the study periods suggest, these studies do not capture the effect of the full expiration of the expanded CTC, when the lump-sum payments ended in April 2022.

3. Methods

We use data from the nationally representative Household Pulse Survey (Pulse) collected between July 21, 2021 and December 19, 2022 (Wave 34-52) to capture the period before and after the expiration of the CTC monthly payments in December 2021. We first assess the effects of lump-sum payments (January to April 2022) against monthly payments (July to December 2021). We then compare the period post-lump-sum payments (May 2022 to December 2022) against monthly payments (July to December 2021) to estimate the effect of the expiration of the expanded CTC on household food insufficiency and housing hardship.

We estimate a difference-in-differences specification to estimate the effects, as defined in Equation (1).

$$y_{it} = \beta_1 \text{PostCTC}_{it} + \beta_2 \text{Treated}_{it} + \beta_3 (\text{PostCTC} * \text{Treated})_{it} + \beta_4 X_{it} + \alpha_i + \alpha_t + \epsilon_{it} \quad (1)$$

The outcome variable is one of our hardship indicators.¹ *PostCTC* is a binary indicator of whether the time of survey occurred after December 2021 when the monthly CTC payments expired. *PostCTC* equals 1 for survey periods January through April 2022, to assess the effects of lump-sum payments and 0 for the period when households received monthly CTC payments. We estimate a separate model to measure the full effects of the expiration of expanded CTC (post lump-sum payments) where *PostCTC* is set to 1 for survey periods May through December 2022.

The treatment group in this analysis is households with children. *Treated* is set to 1 for families with children and 0 for those without children. All models control for age, sex, race/ethnicity, marital status, education, household income, number of kids in the household, number of adults in the household, insurance and employment status. Additionally, we control for participation in other benefits programs like SNAP, unemployment insurance, and receipt of food aid (e.g. food pantry). We control for state and survey week fixed effects.

4. Findings

Table 1 reports the descriptive statistics for the full sample, the treatment group families with children and the control group families without children. Figure 1 presents the unadjusted trends in household food insufficiency and housing hardship from April 2021 through December 2022, for households with and without children. The first shaded area marks the period of monthly CTC payments, while the second represents the post lump-sum payment period. Food insufficiency among households with children shows a clear decline after July 2021, coinciding with the start of monthly payments. Food insufficiency rates among the treated registered a marked increase from 7.9 percent in December 2021 (when monthly payment ended) to 9.7 percent in May 2022 (the first month post lump-sum payments). In contrast, food insufficiency rates remained relatively stable for households with children (5.4 to 5.7 percent) during the same period. The difference in the share of households falling behind on rent or mortgage payments appear less pronounced.

Table 2 presents the estimation results. The top half of Table 2 presents the difference-in-differences results for the period between January and April 2022, when lump-sum payments were issued, after CTC monthly payments ended in December 2021. The bottom half shows the results for the period May through December 2022, after all benefits from the expanded CTC expired. The results indicate a significant rise in food insufficiency among households with children, relative to those without. Between January and April 2022 food insufficiency in households with children rose by 3.9 percentage points. However, in the period May through December 2022, when all expanded CTC benefits lapsed, the increase in food insufficiency nearly doubled to 7.34 percent. Low-income households were hit the hardest. Among households making less than \$35,000 food insufficiency increased by 6.23 percentage points between January and April of 2022, and by 11.8 percent from May through December 2022.

The impact on housing hardship, measured as households behind in rent or mortgage payments, is less conclusive. The negative coefficient of the difference-in-differences estimates from January to April 2022 suggest that lump-sum payments contributed to a decline in housing hardship for households with children, though the estimate is significant only for low-income households. These findings align with Parolin et al. (2023) who found that while monthly CTC payments helped reduce food insufficiency, the lump-sum payments contributed to reducing housing hardship. However, after all expanded CTC benefits expired (May-December 2022), the share of households behind on rent and mortgage payments rose significantly. Among all households with children the share increased by 4.95 percentage points ($p < 0.001$). The estimate for low-income households although positive it is not statistically significant.

¹ Food insufficiency is a binary indicator that takes the value of 1 if respondents said yes to “sometimes or often did not have enough food to eat” in the prior week. Housing hardship takes the value of 1 if respondents said no to “caught up on rent (or mortgage) payments”

We further conduct a subgroup analysis to measure the impact on single parents, a vulnerable group most likely to be affected by the changes in CTC policy (Collyer, Harris, and Winer, 2019, Curran and Collyer 2020). “Single” refers to respondents who identified as widowed, divorced, separated, or were never married. The effect is estimated by interacting CTC Expiration x Presence of Children x Single adults. Food insufficiency in single parent households increased by 4.7 percent among all income groups and by 7.1 percent among low income single parent households from January to April 2022 (lump-sum payments period). Comparatively, in the period May through December 2022 (period post lump-sum payments) food insufficiency went up by 10 percent and by 12.6 percent respectively, for the same income groups. The estimates for both periods are higher than in the general population as seen in Table 2. This suggests that the discontinuation of the expanded CTC resulted in significant adverse effects on food hardship among single parent households who were more vulnerable to start with.

Similar to the story for in the general population, housing hardship appears to have declined among single parent households from January to April 2022 (lump-sum payments period) although the estimates are negative, it is significant only for low-income single parent households. However, in the period May through December 2022 (post lump-sum payments) the share of single parent households behind on rent or mortgage jumped to 4.7 percent among all income groups and by 5.39 percent among low-income households. Housing hardship estimates are highly significant for both income groups.

We also conducted analysis by race. We only report the estimates for period May through December (post lump-sum payments), when all expanded CTC benefits lapsed. Food insufficiency increased significantly for all races, among households with children relative to households without children, except for Asians. Low-income households registered the largest increases among all races. The positive estimates suggest that housing hardship increased among all races, but the estimates were not uniformly significant in all models.

5. Discussion

Although food insufficiency started increasing immediately after the end of the expanded CTC in December 2021, the effect of the expiration was not fully realized until the end of the tax filing season in April 2022. Most households with children received the second half of their expanded CTC in lump-sum payments when they filed their taxes, which provided an infusion of cash resources. Previous research (Goodman-Bacon and McGranahan, 2008; Rehkopf, Strully, and Dow, 2014; Halpern-Meekin et al. 2015) examining lump-sum tax credits showed increased expenditures on food and other large expenditures like debt payments during tax season, among low-income families. Moreover, the tax credits are spent immediately on receipt, and not saved for the future. This is reflected in our findings. Food insufficiency rose by much smaller amounts from January to April 2022, when households with children received lump-sum payment, and jumped significantly from May 2022 through December 2022 once all expanded CTC benefits lapsed. Our analysis finds that low-income households and among them single parent families and households of color, were disproportionately affected by the loss of these benefits. Note that many low-income families, who did not owe taxes, were no longer eligible for any CTC benefits once we reverted to the lower pre-2021 CTC policy. Studies (Gundersen and Zilak 2015; Cook and Poblacion 2016) have shown that even brief periods of disruption in food access are associated with long-term effects on children’s cognitive development, physical and mental health and educational achievement.

Consistent with previous research (Parolin et al. 2023; Halpern-Meekin et al. 2015; Goodman-Bacon and McGranahan 2008) we find that households with children used the lump-sum payments received between January and April 2022 to pay off rent/mortgage backlogs. By contrast, the share of households with children behind on rent/mortgage *increased* significantly between May through December 2022, post lump-sum payments. The outcomes on housing hardship however, were not uniformly significant, unlike our results on food insufficiency. Only the estimates for families with children of all incomes, single parents, and Blacks are statistically significant in this analysis.

This study shows that much of gains made in reducing food insufficiency and housing hardship under the expanded CTC of 2021, as has been well documented in previous research, appears to have been reversed once these benefits fully lapsed by May 2022. Low-income families, single parents, and Black and Hispanic households with children were hit the hardest by food insufficiency and housing hardship. By controlling for the effects of other social programs like unemployment insurance, SNAP and food aid, the observed effects are largely attributable to the expiration of the expanded CTC program.

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Figure 1: Trends in Food Insufficiency by Survey Wave for Households With and Without Children

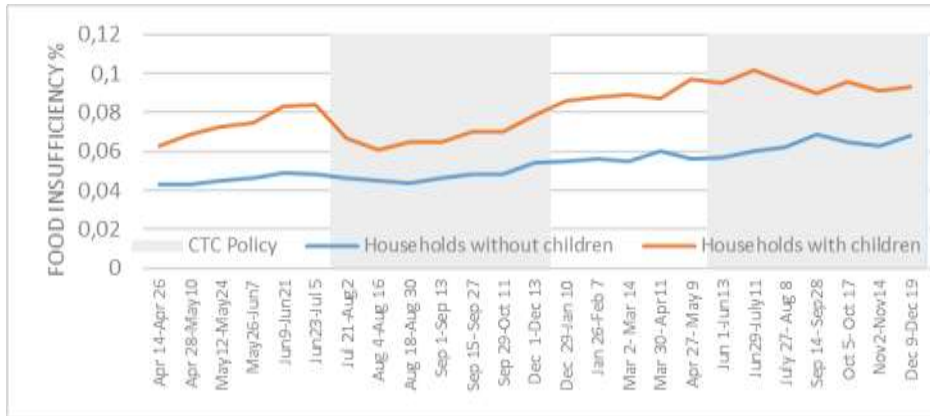


Figure 2: Trends in Household Missed Rent/Mortgage Payments by Survey Wave for Households With and Without Children

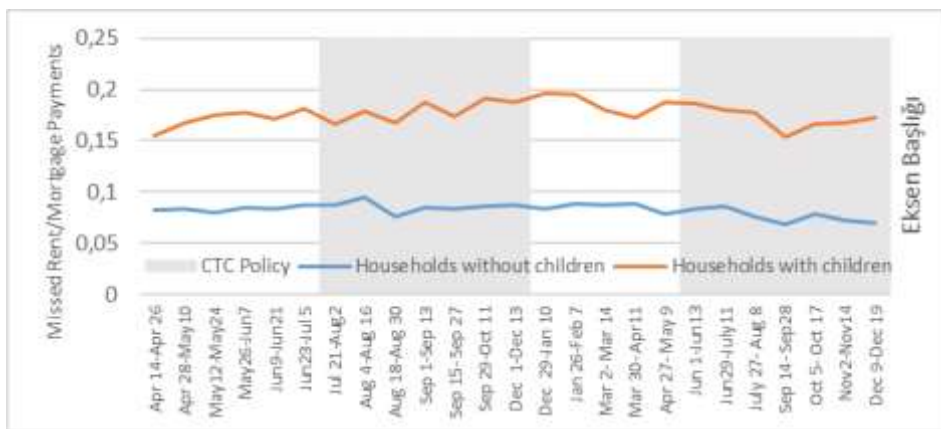


TABLE 1: EFFECT OF CTC-EXPIRATION ON FOOD INSUFFICIENCY AND HOUSING INSECURITY
(Difference-in-Differences Estimates of Intent-to-Treat Effects)

All incomes		Low income (<\$35,000)	
Food Insufficiency	Behind on rent or mortgage	Food Insufficiency	Behind on rent or mortgage
(1)	(2)	(3)	(4)
Lump-sum payment (Jan-Apr 2022 relative to Jul-Dec 2021)			
0.0390**	-0.00957	0.0623***	-0.0634**
(0.0169)	(0.0193)	(0.0203)	(0.0282)
CTC Expiration post lump-sum payment (May-Dec 2022 relative to Jul-Dec 2021)			
0.0734***	0.0495***	0.118***	0.0287
(0.0161)	(0.0179)	(0.0211)	(0.0237)
<i>N</i>	706261	162642	137497
			63182

Notes: All models adjust for age, sex, race/ethnicity, marital status, education, income, number of children in household, number of adults in household, employment and insurance status, and use of unemployment insurance, SNAP, receipt of food, aid and state and week fixed effects.

TABLE 2: EFFECT OF CTC-EXPIRATION ON SINGLE-PARENT HOUSEHOLDS
(Difference-in-Differences Estimates of Intent-to-Treat Effects)

All incomes		Low income (<\$35,000)	
Food Insufficiency	Behind on rent or mortgage	Food Insufficiency	Behind on rent or mortgage
(1)	(2)	(3)	(4)
Lump-sum payment (Jan-Apr 2022 relative to Jul-Dec 2021)			
0.0473**	-0.0310	0.0710***	-0.0542*
(0.0204)	(0.0229)	(0.0270)	(0.0302)
CTC Expiration post lump-sum payment (May-Dec 2022 relative to Jul-Dec 2021)			
0.100***	0.0478**	0.126***	0.0539*
(0.0163)	(0.0239)	(0.0239)	(0.0294)
<i>N</i>	296868	112588	103055
			51695

Notes: All models adjust for age, sex, race/ethnicity, marital status, education, income, number of children in household, number of adults in household, employment and insurance status, and use of unemployment insurance, SNAP, receipt of food, aid and state and week fixed effects.

TABLE 3: EFFECT OF CTC-EXPIRATION BY RACE/ETHNICITY

(Difference-in-Differences Estimates of Intent-to-Treat Effects)

All incomes			Low income (<\$35,000)	
	Food Insufficiency	Behind on rent or mortgage	Food Insufficiency	Behind on rent or mortgage
	(1)	(2)	(3)	(4)
CTC Expiration post lump-sum payment (May-Dec 2022 relative to Jul-Dec 2021)				
Black	0.0762*** (0.0261)	0.0896*** (0.0345)	0.115*** (0.0385)	0.0165 (0.0451)
Hispanic	0.0768** (0.0322)	0.00865 (0.0309)	0.0855** (0.0373)	0.0586* (0.0341)
White	0.0560*** (0.0160)	0.0232 (0.0184)	0.0807*** (0.0244)	0.0333 (0.0291)
Asian	0.0411 (0.0545)	0.0884 (0.0730)	0.0960 (0.109)	0.0158 (0.095)
Other races	0.0635** (0.0295)	0.0389 (0.0484)	0.154*** (0.0484)	0.0637 (0.0602)

Notes: All models adjust for age, sex, race/ethnicity, marital status, education, income, number of children in household, number of adults in household, employment and insurance status, and use of unemployment insurance, SNAP, receipt of food, aid and state and week fixed effects.