



Government Transfers and Consumer Spending among Households with Children during COVID-19

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Abstract:

Leveraging novel data on consumer credit and debit card spending by Zip code, this study examines how the impact of government transfers on economic well-being varied by household type during the COVID-19 pandemic. Our findings indicate that pandemic transfers disproportionately benefited households with children, buffering them from earnings losses at the pandemic's start and sustaining spending growth over time. Household essential spending increased proportionally with the delivery of cash transfers, while discretionary spending was influenced more by pandemic-specific factors beyond household income. Our results also offer preliminary evidence that households with children had a higher marginal propensity to consume during the early stages of the pandemic. These findings highlight the efficacy of government transfers in safeguarding household consumption during a period of large-scale job loss.

JEL Classifications: H31, I31

Keywords: consumer spending, children, government transfers, COVID-19

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This paper presents preliminary analysis and results intended to stimulate discussion and critical comment.

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This paper, which may be revised, is available on the website of the Federal Reserve Bank of Boston at <https://www.bostonfed.org/publications/research-department-working-paper.aspx>.

1 Introduction

Households with children are more vulnerable to labor market disruptions compared with other household types because of their higher dependence on earned income and lower savings. Yet while the COVID-19 pandemic brought unprecedented disruptions to the labor market, research finds that the federal policy response buffered families against sharp increases in poverty and material hardship (Karpman and Zuckerman 2021; Perez-Lopez 2021; Cooney and Shaefer 2021) and helped stabilize household savings, particularly among households with children (Greig, Deadman, and Sonthalia 2022). Leveraging novel data on consumer credit and debit card spending at the Zip code level, this study builds on this literature by directly examining how government transfers impacted consumer spending among households with children relative to other household types over time during the pandemic.

At the onset of the COVID-19 pandemic, 22 million jobs were lost and the unemployment rate spiked from 3.5 percent in February 2020 to 14.7 percent in April 2020 (U.S. Bureau of Labor Statistics 2022). In response, the federal government implemented several large-scale cash-transfer programs. These included three rounds of economic impact payments (EIPs) for eligible households: in spring 2020 (\$1,200 per adult and \$500 per child), in January 2021 (\$600 per adult and child), and spring 2021 (\$1,400 per adult and dependent). The expanded Child Tax Credit (CTC) targeted households with children, offering monthly payments of \$300 per young child and \$250 per child aged 6 to 17 from July to December 2021. Unemployment insurance (UI) was expanded both by supplementing state benefit levels, first by \$600 per week and later by \$300 per week, and by greatly expanding eligibility through Pandemic Unemployment Assistance (PUA). On aggregate, government transfers were an average of \$1.2 trillion greater each quarter from 2020Q2 through 2021Q4 relative to their pre-pandemic levels according to the U.S. Bureau of Economic Analysis.¹ These transfers disproportionately benefited households with children. CTC payments were directed only to these households, and EIPs were larger for these households. Together, transfers from CTC payments and EIPs represented roughly 4.3 percent and 13.1 percent of the pre-pandemic household income for households with children in 2020 and 2021, respectively, compared with 3.8 percent and 6.4 percent for households with no

¹ The calculation here excludes transfers from Social Security, Medicare, Medicaid, and veterans' benefits, which are not tied to the COVID-era transfer policies.

children.² Households with children also were more likely to have at least one adult worker in the family and therefore had a higher probability of receiving UI benefits in 2020 and 2021 compared with other household types, based on our estimates using the Current Population Survey (CPS).

Ostensibly these transfers should have both ensured that vulnerable households met their basic needs and served as a form of countercyclical stimulus by smoothing, and possibly increasing, consumption. Meyer, Murphy, and Sullivan (2022) use Consumer Expenditure Survey data and find minimal consumption changes for lower-income households throughout 2020. They also find that consumption fell for higher-income populations likely due to reduced consumer demand. Other research finds that individuals with lower income and lower liquidity had a higher marginal propensity to consume (MPC) following EIP payments (Parker et al. 2022; Karger and Rajan 2021; Baker et al. 2020). These results are consistent with the earlier finding by Fisher et al. (2020) that shows decreasing MPC along the wealth distribution. Using a panel of financial transactions from debit cards held by Americans who are low-income and under-banked, Li et al. (2021) link the first EIP payment to increased spending on home-office equipment, home improvement, home entertainment, and household essentials. Our study builds on this research by using novel consumer spending data to examine the differential impact of transfers on households with children relative to other household types due to differences in both their access to government transfers and marginal propensity to consume. This is important given the higher underlying vulnerability of households with children to labor market disruptions.

2 Data

Our sample consists of 5,305,552 Zip code-week observations from 32,257 Zip code areas, spanning 169 weeks from January 6, 2019, through April 2, 2022. These data are drawn from anonymized consumer credit and debit card transactions data from Verisk Analytics and cover 97.5 percent of Zip Code Tabulation Areas (ZCTAs) in the United States.³ The data were generated from transaction records from approximately 40 million U.S. households, weighted to

² The calculation here is based on the policy rules and the average number of adults and children in the two types of households. Average annual household income in 2019 is used as the reference for the pre-pandemic income level. Information on household composition and income is estimated using the March 2020 CPS.

³ The ZIP Code Tabulation Areas are created by the US Census Bureau as generalized areal representations of US Postal Service Zip code service areas.

represent total spending by Zip code as a function of the ratio between total cards issued in the area and the number of accounts in Verisk’s raw data. Transaction records are categorized by merchant category codes. Spending data were merged with ZCTA-level demographics from the 2015–2019 American Community Survey. We added publicly available information on county-level labor market conditions and weekly UI claims and state-level weekly COVID-19 new-case rates and death rates.

3 Method

We take an event-study, difference-in-differences approach, comparing spending patterns across Zip codes by different population shares of children (aged 0 to 17) for the 55 weeks before and 114 weeks after the pandemic’s onset. We expect that government cash transfers will have a greater impact on the consumer spending of households with children compared with other household types. We use the population share of children in each Zip code as an indicator of local “treatment strength.” Our event-study model takes the form of the following equation:

$$(1) \ln Spending_{zcs} = \alpha_{zcs} + \lambda_t + \beta_t \times \mu_{zcs}^{0-17} + \mathbf{X}_{cst} + \epsilon_{zcs},$$

where $\ln Spending_{zcs}$ is log inflation-adjusted weekly spending in Zip code area z , county c , and state s in week t ; α_{zcs} are Zip-code fixed effects controlling for time-invariant baseline spending levels in each Zip code area; λ_j are week fixed effects for the 54 weeks before and the 115 weeks after January 20, 2020, when the first US COVID-19 case was recorded; μ_{zcs}^{0-17} is the population share of children in area z ; and \mathbf{X}_{cst} is a vector of time-variant controls that includes the state-level UI continuous claim rate, COVID-19 new-case rate, and COVID-19 new death rate, and the county-level labor force participation rate, unemployment rate, and employment-to-population ratio. Our variable of interest is the interaction term between the week fixed effects and the Zip code area population share of children, $\beta_t \times \mu_{zcs}^{0-17}$, where the vector of coefficients β_t estimates how the spending level changes with the population share of children. We examine how the gap in relative spending co-varies with the delivery of government cash transfers during the pandemic.

4 Empirical Results

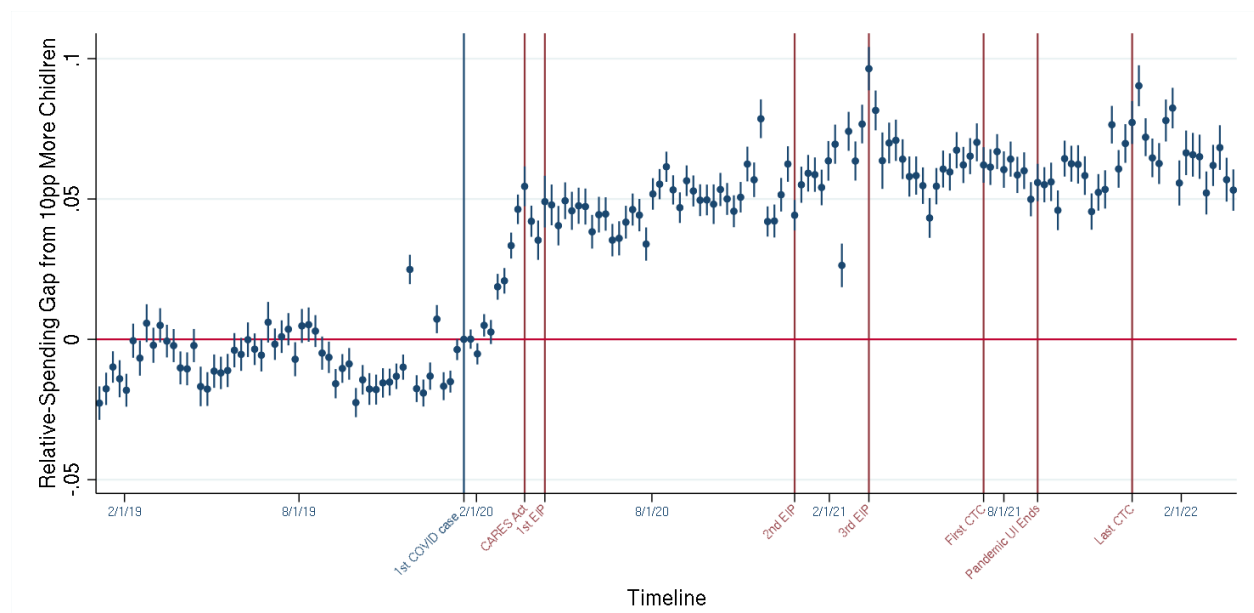


Figure 1 Children’s Population Share and Relative Spending: All Spending Categories

Note: Each data point represents the estimated spending gap (in log dollars) associated with a 10 percentage point larger population share of children. Results are weighted by Zip code population and clustered at the Zip code level.

Sources: Verisk Analytics anonymized credit and debit card transactions data 2019–2022, ZCTA-level demographic information retrieved from the American Community Survey 2015–2019.

Figure 1 plots the vector of interaction-term coefficients β_t from equation (1), showing the spending gap (in log dollars) associated with a 10 percentage point larger population share of children before and after the onset of the pandemic. These difference-in-differences estimates confirm that total consumer spending disproportionately grew in Zip code areas with higher population shares of children during the COVID-19 pandemic. Despite some seasonal variation, no pre-trend was detected before the pandemic. Compared with the pre-pandemic period, from January 26, 2020, through April 2, 2022, on average, a 10 percentage point larger population share of children was associated with a 6.2 percent relative increase in total spending. Because of the divergence, Zip code areas with below-average children’s population shares on average experienced a 1.6 percent net decrease in spending from their pre-pandemic level in 2020 and a more modest 11 percent net increase in the 2021–22 period, compared with net increases of 2.4 percent and 17.0 percent, respectively, in areas with above-average children’s population shares over the two periods.

Variation in the magnitude of the gap in relative spending corresponded to the delivery of cash transfers. Figure 1 shows that the first increase in the spending gap began at the end of February 2020 and peaked in the week of March 22, 2020, when the Coronavirus Aid, Relief, and Economic Security (CARES) Act authorized the first EIPs and expanded UI. The spending gap further widened starting in the week of December 27, 2020, with the disbursement of the second EIP and the authorization of a \$300 UI benefit supplement, and peaked in the week of March 14, 2020, following passage of the American Rescue Plan Act and disbursement of the third EIP. The size of the gap appears to have varied with the delivery of expanded child tax credit payments from July to December 2021 and narrowed henceforward. More broadly, the magnitude of the gap in relative spending was larger on average in 2021 (7.0 percent)—when transfers were even more targeted to households with children—compared with 2020 (5.0 percent).

While consumer spending in areas with a higher population share of children responded more strongly in tandem with the delivery of government cash transfers, we find that the magnitude of the spending gap was disproportionately large in 2020 compared to the value of excess transfers. Based on policy rules and CPS estimates, the excess government transfers targeting households with children grew, on average, more than threefold from 2020 to 2021. Meanwhile, the spending gap widened only 40 percent during that time span. This discrepancy suggests that the spending gap was partially driven by relative shifts in consumer taste in the pandemic's early stages. For example, when COVID-19 restrictions upended routine childcare, school, and work arrangements, households with children may have faced excess demand for toys, educational materials, and work-from-home necessities relative to other types of households, disproportionately raising their consumer demand. In contrast, families with no children may have had reduced spending needs when COVID-19 restrictions limited their usual outings and activities.

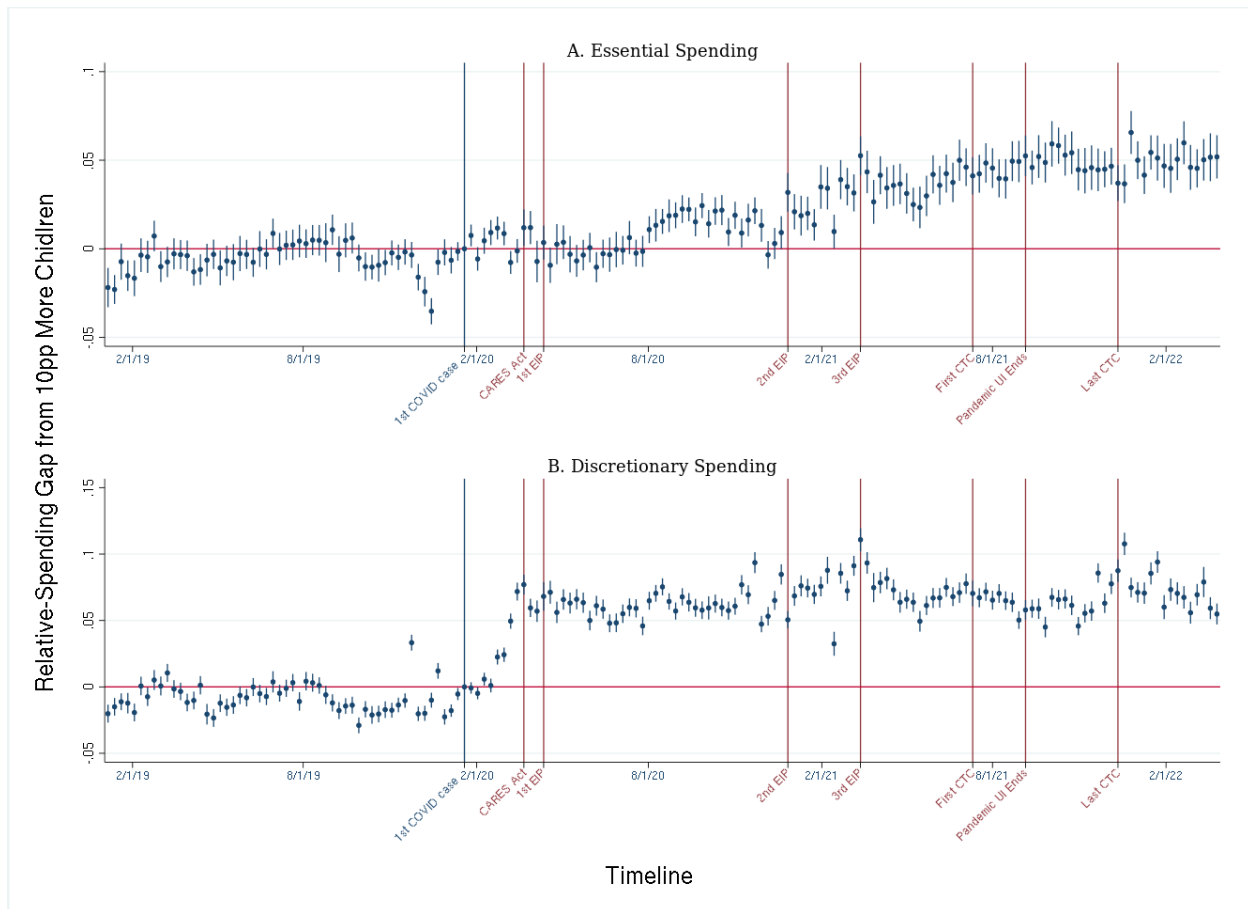


Figure 2 Children's Population Share and Relative Spending: Essential vs. Discretionary Spending

Note: Each data point represents the estimated spending gap (in log dollars) associated with a 10 percentage point larger population share of children. Results are weighted by Zip code population and clustered at the Zip code level.

Sources: Verisk Analytics anonymized credit and debit card transactions data 2019–2022, ZCTA-level demographic information retrieved from American Community Survey 2015–2019.

The potential shift in consumer taste is more pronounced when we divide total household spending into essential and discretionary spending categories. Our measure of essential spending includes groceries, utilities and gas, and health care; discretionary spending includes all other retail and services expenses. Figure 2 shows that the gap in household essential spending grew proportionally over time with the amount of excess government transfers targeting children (Panel A). A distinct jump in the essential-spending gap occurred in 2021, when eligible children received an adult-equivalent amount of stimulus funds from the second and third EIPs and the monthly CTC. In contrast, the gap in household discretionary spending widened sharply following the first COVID-19 case and grew only modestly in 2021 despite increased availability of government transfers for children. The weak association suggests that, other than income, pandemic-specific factors such as lockdown restrictions, school closures, and vaccine availability

heavily influenced families' discretionary spending decisions. Absent a large income gap, the widened spending gap suggests a relative shift in MPC in the early stages of the pandemic, such that during this period government transfers targeting households with children were more efficient at boosting total spending in the economy compared with transfers targeting adult-only households.

5 Conclusion

Households with children are more vulnerable to labor market disruptions relative to other household types. Our findings indicate that the COVID-19-era government cash transfers were particularly effective at buffering the spending of households with children, preventing spending losses earlier in the pandemic and facilitating faster spending growth over time. Government transfers had a direct association with spending on household essentials, while non-income factors played a larger role in discretionary spending. Despite only minor differences in transfer income, households with children spent disproportionately more on discretionary items in 2020, suggesting that transfers targeting these households were more efficient in sustaining the overall spending in the economy. These findings highlight the efficacy of government cash transfers in sustaining household consumption when economic shocks disrupt the labor market. They also support findings from previous studies examining the effects of government transfers on poverty, food insecurity, and the household savings of families with children during the COVID-19 pandemic.

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