THE HAMILTON PROJECT

An Update on the Effect of Pandemic EBT on Measures of Food Hardship

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Technical Appendix

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This technical appendix provides greater detail on the data sources and empirical design employed in Bauer et al. 2021.

Data Sources

Census Household Pulse Survey

We use weekly data from the Census Bureau's Household Pulse Survey (HPS) to estimate the impact of receiving Pandemic EBT payments on measures of food hardship. The HPS is ideal for this analysis because the survey is administered approximately every two weeks, allowing us to capture changes over time at a high frequency. All individual-level data are from this survey. Additional documentation from the Census Bureau on the HPS can be found here.

Pandemic EBT Disbursements

To identify the timing of Pandemic EBT, we created a database of the timing of Pandemic EBT disbursement to SNAP households for the 2020-21 school year and 2021 summer months from publicly available documentation, news sources, and correspondence with federal and state officials. Forty states issued at least one Pandemic EBT payment to households receiving SNAP during our analysis period (November 11 through July 5) and thirty made multiple Pandemic EBT disbursements to households receiving SNAP. Two independent teams developed a database of disbursement dates by state and population. These dates were cross-checked, reconciled, and factchecked.

SNAP Emergency Allotment Disbursements

As part of the Families First Coronavirus Response Act of 2020, states under an emergency declaration were permitted to provide supplemental SNAP payments to families up to the maximum monthly amount through Emergency Allotment (EA) disbursements. This change primarily affected families near 130 percent of the poverty line, as the lowest-income families already received the maximum benefit. We control for whether a state made SNAP Emergency Allotment payments in order to separately identify the effect of Pandemic EBT payments from other forms of nutrition assistance. We reconciled two independent efforts to identify EA disbursement dates and checked this against publicly available information.

Empirical Design

Sample

We restrict the analysis to families with school-aged children who were enrolled in school during the 2020-21 school year. We focus on two populations: first, respondents who report receiving SNAP benefits ("SNAP" sample), and second, households with income less than 130 percent of the poverty line in 2019 ("poverty" sample). The second group of families were income-eligible for SNAP before the pandemic and were therefore likely to receive Pandemic EBT payments with SNAP households. The poverty sample also facilitates comparisons with our previous analyses, as SNAP receipt was not asked in the initial wave of the HPS.

Although the two populations both have low household income, there is imperfect overlap between the groups for several reasons. First, 2019 household income is reported in $10,000 to $50,000 increments, ranging from less than $25,000 to $200,000 and above. We obtain a measure of the income-to-poverty ratio by taking the highest income in a respondent's reported income category, divided by the poverty threshold for its household size, and exclude households with a ratio that may be greater than 130 percent. Therefore, while all households in our sample had household income below 130 percent of poverty in 2019, we exclude some households with actual income below 130 percent of poverty.

Second, SNAP eligibility can fluctuate throughout the year, and increases and decreases in income can make a family eligible or ineligible. We consider SNAP eligibility using reported current SNAP receipt in the HPS, whereas the poverty sample relies on income information in 2019, before the onset of the COVID pandemic. Therefore, some families that incurred pandemic-related income losses are not captured in the poverty sample.

Among households that had a valid response for both food hardship questions, 50 percent of current SNAP households had income less than 130 percent of poverty in 2019, and 50 percent of households with income less than 130 percent of poverty in 2019 currently received SNAP in 2020–21. The overlap between the two samples is higher among the very lowest-income households (those earning less than $25,000 a year in 2019), 57 percent of whom were receiving SNAP in 2020–21.

The HPS does not ask each household member's age; therefore, we define families with school-aged children as those with any child in the household who attended a K-12 public or private school in 2020–21.

We merge the HPS and Pandemic EBT data using each respondent's state of residence to identify the timing of Pandemic EBT implementation. Our main analysis samples (families with children enrolled in school and household income less that 130 percent FPL in 2019, or who received SNAP in 2020–21) includes approximately 18,500 respondents (poverty sample) and 23,500 respondents (SNAP) sample who were interviewed between November 2020 and July 2021.

We additionally focus on respondents who live in states where learning was conducted virtually for a large share of the student population over the course of the 2020-21 school year. These data are from Parolin and Lee 2021, the US School Closure and Distance Learning Database. This database uses year-over-year changes in foot traffic to schools to identify school closures. Using the methodology employed in Bauer, Dube, Edelberg, and Sojourner 2021, we group states into population-weighted high and low closure states. These twenty-eight states include between 11,100 respondents (poverty sample) and 15,500 respondents (SNAP sample).

Treatment

The treatment variable is the share of the survey period that occurred after Pandemic-EBT payments had been paid. In our original analysis, the treatment variable equaled one if the state disbursed P-EBT so that families were able to spend the benefits in the reference week and the previous week because the first wave of the Pulse was conducted on a weekly basis and the more recent is conducted on an approximately biweekly schedule.

Dependent Variables

We examine the effect of Pandemic EBT on two measures of food hardship.

- **Sometimes or often not enough to eat:** The HPS asks respondents whether, in the past seven days, its household was able to consume the quantity and types of food it wanted; enough, but not of the type of food it wanted; sometimes was not able to eat enough; or often was not able to eat enough. We examine whether a household reports it was sometimes or often not able to get enough to eat in the previous seven days.

- **Very-low food security among children (VLFS-C):** The HPS asks: "Please indicate whether the next statement was often true, sometimes true, or never true in the last 7 days for the children living in your household who are under 18 years old: 'The children were not eating enough because we just couldn't afford enough food.'" We define VLFS-C as whether a respondent reports that the children in the household sometimes or often did not eat enough in the last seven days because the household could not afford food.

Control Variables

We control for a standard set of household demographic information using data from the HPS: respondent age, race/ethnicity, educational attainment, marital status, employment status, the number of children in a household, and the state unemployment rate during the reference period. In addition, we control for whether a state made SNAP Emergency Allotment payments during each survey week in order to account for other state-specific policy responses to the coronavirus pandemic. Other policies that roll out nationwide at the same time, such as Economic Impact Payments, are accounted for with week fixed effects.

Difference-in-Differences Model

We leverage the cross-state variation in Pandemic EBT timing by comparing changes in measures of food hardship within a state after Pandemic EBT implementation relative to states that did not disburse payment during the HPS reference week in a differences-in-differences framework. Specifically, for each food hardship outcome y for family i living in state s at time t, we estimate:

$$y_{ist} = \beta PEBT_{st} + X'_{ist}\theta + \eta_s + \delta_t + \varepsilon_{ist}$$

The treatment variable, $PEBT_{st}$, is the share of the survey week that occurred after Pandemic-EBT payments had been paid.

X'_{ist} is a vector of control variables, described above. η_s and δ_t are state and survey week fixed effects, respectively. State fixed effects account for all time-invariant state characteristics such as the policy environment, while week fixed effects account for time-varying factors affecting all states at the same time, such as recovery rebate payments and other COVID-related policy changes. All analyses use person weights for the respondent, and standard errors are clustered at the state level.

Additional Results

Our results are robust to a series of extensions and alternative specifications, such as omitting control variables, including state-by-week linear trends, or applying the group-time average treatment effect as in Callaway and Sant'Anna (2020). These results, along with separate estimates for low-closure states, are available from the authors upon request.

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