



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. 2020.

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 each week, 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 P-EBT, we created a database of the timing of P-EBT disbursement to SNAP households from publicly available documentation, news sources, and correspondence with federal and state officials. We then compared and reconciled our database with three additional and independent efforts from other researchers. Five states (Delaware, Michigan, New York, North Dakota, and Wisconsin) made multiple Pandemic EBT disbursements to households receiving SNAP. For these states, when we can identify a precise disbursement date, we consider payment date as a separate treatment window. New York state made a second payment to SNAP households for meals missed in May and June on a staggered basis, beginning in late June. As we are unable to precisely identify which date these payments began, we limit the New York treatment window to the first

payment date. For all other states, we define the disbursement date as the date the only payment to SNAP households began.

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.

FEDERAL RESERVE ECONOMIC RESEARCH

We include continued Unemployment Insurance (UI) claims—the insured unemployment rate—retrieved from the Federal Reserve Bank of St. Louis FRED, by state and week as a control variable in the model.

Empirical Design

SAMPLE

We restrict the analysis to families with school-aged children with household income less than 130 percent of the poverty line, as these families are likely to receive Pandemic EBT payments at the first disbursement. Because we are unable to

observe whether households actually received SNAP, some portion of the group that we identify as receiving P-EBT when states loaded benefits onto existing cards received P-EBT at a later date (with non-SNAP households). This data limitation means any effect we find is likely a lower-bound of the program effect for low-income households.

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 February 2020. The HPS does not ask about the age of each child in a household. We are therefore unable to explore whether changes in food security are particularly pronounced for households with older or younger children, or the effect of different P-EBT benefit amounts on measures of food hardship.

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 have household income below 130 percent of poverty, we exclude some households with actual income below 130 percent of poverty.

We merge the HPS and Pandemic EBT data using each respondent’s state of residence to identify the timing of P-EBT implementation. Our main analysis sample (families with school-age children and household income less than 130 percent FPL) includes nearly 25,000 respondents over the first ten weeks of the Pulse Survey. As children’s food hardship was added in the sixth HPS week, we have this information for approximately 14,000 respondents.

DEPENDENT VARIABLES

We examine three measures of food hardship.

- **Household food insecurity:** The HPS asks respondents whether, in the past seven days, its household was able to consume the quantity and types of food it wanted; was able to consume 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. This question is identical to that asked in the Current Population Food Security Supplement (CPS-FSS, December supplement). Since the HPS does not ask the full battery of food security questions, we create a mapping from CPS-FSS food insufficiency and food insecurity to the HPS food insufficiency question, following the approach in Bitler et al. (2020). Specifically, we take the 2015 through 2018 CPS-FSS, limit to families with school-aged children, calculate the share of food

insecure households in each food insufficiency category by state, then multiply these rates for the HPS responses in order to obtain a state-by-week level measure of food insecurity.

- **Sometimes or often 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, and the number of children in a household. In addition, we control for whether a state made SNAP Emergency Allotment payments during each survey week and for the state weekly insured unemployment rate from UI Weekly Claims data in order to account for other state-specific policy responses to the coronavirus pandemic.

DIFFERENCE-IN-DIFFERENCES MODEL

We leverage the cross-state variation in P-EBT timing by comparing changes in measures of food hardship within a state after P-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:

$$y_{ist} = \beta PEBT_{st} + X'_{ist}\theta + \gamma_s * t + \eta_s + \delta_t + \epsilon_{ist}$$

The treatment variable, $PEBT_{st}$ equals 1 if the state issued P-EBT payments the two weeks prior to the end of the reference week.¹ For food insecurity among children, we additionally consider a shorter-term treatment, defined as whether the state issued P-EBT payments the week before the reference week.

X'_{ist} is a vector of control variables, described above. $\gamma_s * t$ is a state-specific linear trend meant to account for recent state-

specific trends in hardship.² Finally, 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 main results are robust to a series of robustness checks and extensions. First, including a full set of treatment effects tracing out the benefit pattern over the first nine weeks of disbursement, we find hardship reductions are concentrated the first two weeks after disbursement, consistent with previous findings that most SNAP recipients spend the full benefit within two weeks (Bernstein and Spielberg 2016, Hoynes and Schanzenbach 2019). Second, we apply the approach in Deshpande and Li (2019) by constructing a stacked model where in each HPS week, the control states only include states that have not yet made any disbursement and find similar results. Likewise, expanding the sample to families with incomes up to 185 percent of poverty provides slightly attenuated, but generally similar, results. Finally, we verify the results are not driven by any single state's unique experiences by omitting one state at a time from the analysis.

Endnotes

1. The HPS asks whether households had experienced food hardship during the previous seven days. For example, the ninth HPS week was administered June 25-30, 2020, with a reference period spanning June 18 through June 29. Our

treatment variable equals one if the state disbursed P-EBT payments between June 9 and June 23 so that families were able to spend the benefits in the reference week and the previous week.

2. Findings are qualitatively similar when excluding state trends.

References

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