More than Shelter: The Effect of Rental Eviction Moratoria on Household Well-Being[†]

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In the wake of the 2020 COVID-19 pandemic, many state and local governments in the United States enacted rental eviction moratoria. Their objective was to assure shelter of households idled by the pandemic and to dampen the virus spread. In this paper, we provide new panel information on the enactment of eviction moratoria and evaluate the effects of those measures on household well-being, including consumer spending, food insecurity, and mental health.

Upon the onset of the pandemic, the share of affordability-constrained renters—defined as households paying more than one-half of their income on rent—jumped to one-half of all renter households.[1] Moratoria on eviction and related deferral of rent may have provided treated households with financial relief in the form of positive shocks to household liquidity. Renters benefiting from such interventions could have redirected scarce resources to other immediate consumption needs such as food purchases. Eviction moratoria similarly assured renters of continued shelter during a period of elevated COVID-19 virus transmission, likely easing their mental stress and anxiety.

The staggered implementation of state and county rental eviction moratoria enabled construction of data panels to identify policy effects. Our study focuses on the March–August 2020 period prior to enactment of a nationwide federal eviction moratorium.[2]

We used web scraping and text parsing protocols to conduct an automated search of COVID-19 rental policy interventions at state-level governor, court, and legislation websites over the period of analysis. Ultimately, 43 states enacted eviction moratoria. For county-level information, we used data from Eviction Lab at Princeton University. Dynamic maps of our newly constructed state and county eviction moratoria panels are available at: https://covid19evictionmoratoria.anderson.ucla.edu/map/.[3]

I. Data and Research Design

A. *Data Sources*

A primary source of data for this study is the Federal Reserve Y-14M regulatory report. The report contains detailed information on the asset portfolios of bank holding companies required to participate in Federal Reserve stress testing. The monthly report at the account-level contains detailed information on borrower characteristics, credit card purchases, and payments.[4] For the purposes of our study, we aggregate the account-level credit card data to the zip code-level and form a zip-code-by-month panel. We focus on two outcomes, including credit card spending

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[1] See Census Household Pulse Survey.

[2] In September 2020, the CDC broadened the federal eviction moratorium to effectively protect all of the nation's 43 million rental households.

[3] During our period of analysis, the federal eviction moratorium as specified by the CARES Act was limited only to renters who received federal housing assistance or lived in a property with a federally backed mortgage. The Federal Reserve Bank of Atlanta estimated that the CARES Act moratorium covered between 28 to 46 percent of occupied rental units nationally, leaving as many as 31 million renter households without federal eviction protection. See Stein and Sutaria (2020).

[4] The dataset contains about 500 million anonymized credit card accounts in the United States. We work with a 1 percent random sample of the data.

and payment. To compute credit card spending, we include purchases using credit cards, cash withdrawals, and convenience checks but exclude balance transfers so as to avoid double counting. To account for seasonality, we calculate year-over-year changes in the outcome terms.[5] Eviction moratoria and other macroeconomic controls such as unemployment rate and house price index (HPI) are merged to credit card data using geographic identifiers such as county FIPS and state name.

We also use data from the real-time Opportunity Insight Economic Tracker (hereafter, "Opportunity Insight") by Chetty et al. (2020) to assess consumer spending. The Opportunity Insight data are available only at the state or county level. However, a distinct advantage is that they contain measures of consumption by category of spending, including nondurable spending, spending on grocery and food store, and the like. The Opportunity Insight data also includes debit card purchases.

To assess the effect of eviction moratoria on food insecurity and mental health disorders, we compiled information from the Census COVID-19 Household Pulse Survey. That survey commenced on April 23, 2020 and included information on food sufficiency and insecurity. We also use search query data from Google Trends to develop broad-based real-time search indicators of food insecurity. The Household Pulse Survey partnered with the National Center for Health Statistics (NCHS) to include three questions about anxiety or depression. The mental health outcome terms include "feeling anxious," "can't stop worrying," and "feeling down."

B. *Empirical Strategy*

We employ a panel data model with fixed effects to identify the relation between eviction moratorium and household well-being. Our observations are at zip code-, county-, or state-level and our outcome terms vary by month or week. Given sample structure, we estimate the following model:

$$(1) \quad Y_{it} = \alpha + \beta V_{it} + X'_{it}\gamma + \tau_t + \zeta_i + \varepsilon_{it},$$

where Y_{it} represents the outcome in zip code/county/state i at time t, V_{it} is an indicator of the treatment, eviction moratorium, in place i and period t; and X_{it} is a matrix of time- and place-varying control terms such as unemployment rate and house price appreciation. τ_t and ζ_i are time- and geographic-fixed effects. Finally, ε_{it} represents the error terms, which are assumed to be clustered at the state- or county-level. The coefficient β is the treatment effect of eviction moratoria. Eviction moratoria target renter populations, especially those having rental payment difficulties. Hence, we use the contrast between renters and homeowners to aid in identification. In that regard, in addition to baseline models, we estimate the following treatment intensity difference-in-differences (DID) regression:

$$(2) \quad Y_{it} = \alpha + \beta_1 V_{it} + \beta_2 V_{it} R_i + \beta_3 R_i$$

$$+ X'_{it}\gamma + \tau_t + \zeta_i + \varepsilon_{it},$$

where R_i is a treatment intensity indicator based on the local renter share and unemployment rate as proxies for the share of local population in financial distress. More specifically, R_i is a dummy variable for zip codes in the top two quartiles of renter share and unemployment rate in April 2020, the first peak of the COVID-19 pandemic. Note that the impact of R_i is absorbed by the fixed effects in the regression. In this DID setting, eviction moratorium is the treatment, and areas with high renter share and high financial distress are more intensively "treated." β_2 is the lower-bound estimate of the treatment effect. This augmented specification aids our inference of causality as renters (especially those in financial distress) were the target beneficiaries of eviction moratoria.

II. Results

A. *Credit Card Spending and Payment*

We first present results based on the Federal Reserve Y-14M credit card data. Our focus variable in Table 1 is an indicator of presence of a state-level eviction moratoria in the zip code during a particular month. We lag the focus variable by two

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[5]Zip codes with fewer than 100 accounts in 2020 are excluded to ensure that change statistics are not affected by outliers.

Table 1—Effects of State-Level Eviction Moratoria on Credit Card Utilization and Consumption by Category

| | Fed Y14M zip code × month panel | | | | Opportunity Insights state × week panel | | | |
| | Spending change | | Payment change | | Food service spending | Grocery spending | Retail with grocery | Non durable spending |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State evic. mor.	1.867	1.550	−0.302	−0.699	0.991	0.917	0.992	1.373
	(0.988)	(1.024)	(1.373)	(1.419)	(0.530)	(0.526)	(0.590)	(0.712)
State evic. mor. ×target		1.361		1.720				
		(0.594)		(0.811)				
Constant	−10.259	−9.708	3.241	3.929	−9.570	11.887	−7.640	3.235
	(1.523)	(1.508)	(2.356)	(2.229)	(0.678)	(0.722)	(0.508)	(2.525)
Observations	20,996	20,996	20,650	20,650	1,122	1,122	1,122	1,122
R^2	0.5788	0.5790	0.4887	0.4888	0.849	0.873	0.966	0.606

Notes: Columns 1–4 present our estimates of the impact of state-level eviction moratoria on consumer credit card spending and payment based on zip-code-by-month panel data of year-over-year changes of the outcome variables. Columns 5–8 present our estimates of the impact of a one-week state-level eviction moratorium on state spending seasonally adjusted by category, relative to its level in January 2020. All specifications include zip code or county fixed effects and week or month fixed effects. We follow the Chetty et al. (2020) definition of durable and nondurable goods. Data sources include: The Federal Reserve Y14M, BLS, BEA, the Census Pulse Household Survey, Eviction Lab, and Opportunity Insight. Robust standard errors are in parentheses with error terms clustered at the state level.

weeks.[6] Given the above model specification, we show in column 1 the baseline model results for credit card spending. The positive coefficient of the "State evic. mor." term indicates that enactment of a state eviction moratorium is associated with elevated zip code credit card spending.

Column 2 estimates treatment effects among targeted renter zip codes. The focus term is the interaction of "State evic. mor." with the above defined "target" indicator. Results of this treatment intensity difference-in-differences (DID) analysis indicate a positive and significant effect of state eviction moratoria on credit card spending among targeted zip codes. The one-month target zip code treatment effect is 1.356 percent, meaning that a 12-month treatment effect amounts to a 16 percent ($1.356 \times 12 = 16$) increment in spending among targeted renter zip codes. To put this into perspective, the average year-over-year decline in credit card spending in April 2020 was 25 percent.

Turning to credit card payments, our specification also includes lagged spending as households typically increase debt paydown

in the wake of an increase in the prior month's spending. Column 3 shows results of the baseline model while column 4 shows results of the difference-in-differences (DID) analysis. The estimated coefficient for eviction moratoria in targeted areas is both statistically and economically significant. In that regard, a 12-month eviction moratorium is associated with a 14 percent increase in credit card debt paydown in targeted zones.[7]

Certain counties implemented eviction moratoria even in the presence of similar state-wide policy treatment. We thus seek to ascertain whether those county-level moratoria had an incremental benefit. We select places that enacted state-level eviction moratoria and then reestimate our models based on cross-county variations.[8]

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[6] To identify the effects of state eviction moratoria, we comprise a sample of only those states where no county-level eviction moratorium was in place.

[7] During the pandemic study period, government provided emergency income support to households including stimulus checks and added unemployment benefits, many of which are the credit card borrowers that we study in this paper. To account for that, we included real disposable income as an additional control and reestimated all models. Results (not shown) are robust are highly consistent with those in Table 1.

[8] Given that the treatment effect of interest is now at the county level, we use MSA by month fixed effects to account

The estimated treatment terms (not reported) are not statistically significant, suggesting little incremental advantage associated with additional county-level treatment.

B. *Consumer Spending by Category*

The Opportunity Insights data allows us to test for the effects of eviction moratoria on specific categories of household consumption, notably including basic food and nondurable retail consumption. Table 1 shows that a one-week state eviction moratorium is associated with an annual increase in food service spending (column 5) of 1 percent, an annual increase in grocery spending of 0.9 percent (column 6), an annual increase in retail with grocery of 1 percent (column 7), and an annual increase in nondurable spending (column 8) of 1.4 percent.

C. *Food Insecurity*

In Table 2, we use information from the Census Household Pulse Survey and report the results of regressions of state eviction moratoria on food insecurity. We follow the same specification as in the previous tables. We define "food insecurity" as the share of respondees who over the past seven days declared that they sometimes or often did not have enough food to eat. Column 1 of Table 2 reports the average treatment effect (lagged in two weeks) on food insecurity. The estimated coefficient is negative but not statistically significant. However, for Black households (column 2), the estimated effect is negative and statistically significant; an additional week of rental eviction moratorium treatment is associated with a 2 percent decline in the number of Black households that declared food insecurity. On average, over the 10 weeks of the Census Household Pulse Survey, 21 percent of Black households declared that in the prior seven days they "Sometimes do not have enough food to eat" or "Often do not have enough food to eat."

Using Google Trends data, we consider search keywords for food insecurity, such as "food" in combination with the word "help." This process leads to two key search terms, including "Food stamps" and "Food banks near me."[9]

In Table 2, we report findings of the Google Trends analysis. Columns 3 and 4 of Table 2 show that state eviction moratoria significantly reduce Google searches for "Food stamps" and "Food banks near me." An additional week of a state eviction moratoria reduces Google search queries for "Food stamps" by 3.4, relative to an average SVI for that term of 40.5 between March and August 2020. Similarly, an additional week of state eviction moratoria reduces Google search queries for "Food banks near me" by 5.1, relative to an average Google search for that term of 20.5 between March and August 2020.

D. *Mental Health*

The Census Household Pulse Survey indicated that some 30 percent of households felt depressed or down during the pandemic survey period. Brodeur et al. (2021) use Google Trends data to show adverse effects of the pandemic on measures of boredom, loneliness, worry, and sadness. We test if some of those symptoms have been relieved by a temporary stay in eviction.

Columns 5–6 of Table 2 estimate the average rental eviction moratorium treatment effect (lagged two weeks) on the share of households reported that they "can't stop worrying" over the prior seven days. Column 5 of Table 2 shows that eviction moratoria significantly reduced the number of households that reported they "can't stop worrying." As indicated in column 7 of Table 2, an additional week of rental eviction moratoria is associated with a significant decline of 1.9 percent in the share of Black households who reported "feeling anxious." The Census Household Pulse Survey indicated an increase by roughly one-third in the share of Black households who reported "feeling anxious" during the April–August 2020 pandemic period. Also, as shown in column 8, an additional week of eviction moratoria policy treatment is associated with a reduction by 1.6 percent in the share of Black households who reported "feeling down." As suggested by the survey, the pandemic study period witnessed a roughly one-quarter increase in share of Black who reported "feeling down."

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for variations in economic and other factors both across MSAs and over time.

[9] See Chauvet, Gabriel, and Lutz (2016) for a similar search algorithm.

Table 2—Effects of State-Level Rental Eviction Moratoria on Food Insecurity and Mental Health

	Insecurity all (1)	Insecurity Black (2)	Food stamps (3)	Food banks near me (4)	Can't stop worrying (5)	Can't stop worrying Black (6)	Feeling anxious Black (7)	Feeling down Black (8)
State evic. mor.	−1.906	−1.958	−3.401	−5.124	−0.983	−0.985	−1.866	−1.627
	(2.712)	(1.053)	(1.789)	(2.697)	(0.578)	(2.451)	(0.577)	(0.576)
Constant	1.160	1.277	68.904	36.413	23.899	26.197	34.329	23.865
	(0.245)	(0.233)	(4.256)	(3.724)	(1.167)	(5.183)	(5.508)	(5.119)
Observations	612	612	1,122	1,122	612	612	612	612
R^2	0.112	0.109	0.301	0.090	0.338	0.034	0.165	0.098

Notes: This table reports the results from regressions of state eviction moratoria on food insecurity and mental health. We define "food insecurity" as the percentage of people who declared that sometimes or often they do not have enough food to eat. In columns 3 and 4 we use Google data to collect information from individuals seeking assistance via internet search on food insecurity. In columns 5–8 we use three different mental health disorders, taken from the Census Household Pulse Survey, and include: "feeling anxious," "can't stop worrying," and "feeling down." For each of the three indicators, we define the percentage of people who replied that they experienced this feeling more than half the days or nearly every day over the last seven days. All specifications include county fixed effects and week fixed effects. Data sources include: Eviction Lab, Google Trends, and Census Household Pulse Survey. Robust standard errors are in parentheses with error terms clustered at the state level.

III. Conclusions and Discussion

This paper provides evidence of broad salutary impacts of COVID-19 rental eviction moratoria during a period of widespread virus and economic distress. Analysis of both Federal Reserve and Opportunity Insights data indicates that the imposition of rental eviction moratoria served to boost food and grocery spending, especially among policy-targeted neighborhoods. Eviction moratoria also reduced food insecurity and mental stress measured by the Census Household Pulse Survey, especially among Black households. Results are corroborated in analysis of search query data from Google.

Federal eviction moratoria expired on October 3, 2021 leaving upwards of 2 million US households at risk of eviction. Yet data from Princeton Eviction Lab show that evictions were lower than anticipated through year-end 2021, likely owing to substantial distribution of $47 billion in federal stimulus emergency rental assistance funds. While early outcomes were encouraging, large numbers of households remain at risk of eviction and related adverse housing stability, employment, and health outcomes.

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