

More Than Shelter: The Effects of Rental Eviction Moratoria on Household Well-Being

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ABSTRACT

We investigate the impact of 2020 COVID-19 rental eviction moratoria on household well-being. Analysis of new panel data indicates that eviction moratoria reduced evictions filings and resulted in redirection of scarce household financial resources to immediate consumption needs, notably including food and grocery spending. We also find that eviction moratoria reduced household food insecurity and mental stress, with larger effects evidenced among African American households. Findings suggest broad salutary effects of eviction moratoria during a period of widespread virus and economic distress.

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I. Introduction

In the wake of the onset of the 2020 COVID-19 pandemic, many state and local governments in the U.S. enacted rental eviction moratoria. Their objective was to assure shelter of households idled by the pandemic and to damp 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 pandemic onset, the share of affordability-constrained renters, defined as households paying more than one-half of their income for 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 re-directed 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 the 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 the 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

¹See, the Census COVID-19 Household Pulse Survey.

²In September 2020, the Centers for Disease Control and Prevention (CDC) broadened the federal eviction moratorium to effectively protect all of the nation's 43 million rental households.

³During 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 and 46 percent of occupied rental units nationally, leaving as many as 31 million renter households without federal eviction protection.

II. 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 and payment. To compute credit card spending, we include purchases using credit cards, cash withdrawals, and convenience checks but exclude balance transfers 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 Federal Information Processing Standards (FIPS) code and state name.

We also use data from the real-time Opportunity Insight Economic Tracker (hereinafter 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 non-durable spending, spending on grocery and food stores, and the like. The Opportunity Insight data also include 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 (hereinafter Census

See “Housing Policy Impact: Federal Eviction Protection Coverage and the Need for Better Data,” by Sarah Stein and Nisha Sutaria.

⁴The dataset contains about 500 million anonymized credit card accounts in the U.S. We work with a one percent random sample of the data.

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

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 Census 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:

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

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:

$$Y_{it} = \alpha + \beta_1 V_{it} + \beta_2 V_{it} R_i + \beta_3 R_i + X'_{it}\gamma + \tau_t + \zeta_i + \varepsilon_{it}, \quad (2)$$

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.

III. 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 I is an indicator of the presence of a state-level eviction moratoria in the zip code during a particular month. We lag the focus variable by two 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. To put this into perspective, the average year-over-year decline in credit card spending in April 2020 was 25 percent.

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

Table I: Effects of State-level Eviction Moratoria on Credit Card Utilization and Consumption by Category

	Fed Y14M zip code×month panel				Opportunity Insight 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*	1.458	0.249	-0.610	0.991*	0.917*	0.992*	1.373*
	(0.988)	(1.036)	(1.353)	(1.440)	(0.530)	(0.526)	(0.590)	(0.712)
State Evic. Mor.×Target		1.356**		1.199*				
		(0.583)		(0.707)				
Constant	-10.259***	-9.527***	3.183	3.828	-9.570***	11.887***	-7.640***	3.235
	(1.523)	(1.482)	(2.351)	(2.298)	(0.678)	(0.722)	(0.508)	(2.525)
Zip Code/County FE	X	X	X	X	X	X	X	X
Month/Week FE	X	X	X	X	X	X	X	X
N	20,996	20,996	20,650	20,650	1,122	1,122	1,122	1,122
R2	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 moratorium on consumer credit card spending and payment based on zip code by month panel data of YoY 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. We follow [Chetty et al. \(2020\)](#) definition of durable and non-durable goods. Data sources include the Federal Reserve Y-14M, the Bureau of Labor Statistics, the Bureau of Economic Analysis, the Census, the Eviction Lab, and the Opportunity Insight. Robust standard errors in parentheses with error terms clustered at the state-level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

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 The estimated treatment terms (not reported) are not statis-

⁷During the pandemic study period, governments provided emergency income support including stimulus checks and added unemployment benefits to households, many of whom 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 and highly consistent with those in Table I.

⁸Given that the treatment effect of interest is now at the county-level, we use MSA by month-fixed effects to account for variations in economic and other factors across MSAs and over time.

tically significant, suggesting little incremental advantage associated with additional county-level treatment.

B. Consumer Spending by Category

The Opportunity Insight data allow us to test for the effects of eviction moratoria on specific categories of household consumption, notably including basic food and nondurable retail consumption. Table I 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 non-durable spending (column 8) of 1.4 percent.

C. Food Insecurity

In Table II, we use information from the Census 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 7 days declared that they sometimes or often didn’t have enough food to eat. Column 1 of Table II reports the average treatment effect (lagged in two weeks) on food insecurity. The estimated coefficient is negative but not statistically significant. However, for African Americans (column 2), the estimated effect is negative and statistically significant; an additional week of rental eviction moratorium treatment is associated with a decline of 2 percent in the number of African American households that declared as food insecure. On average, over the 10 weeks of the Census Pulse Survey, 21 percent of African American 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

⁹See Chauvet et al. (2016) for a similar search algorithm.

In Table II, we report findings of the Google Trends analysis. Columns 3 and 4 of Table II show that state eviction moratoria significantly reduce Google search for “Food Stamps” and “Food Banks Near Me.” An additional week of a state eviction moratoria reduces the Google search query 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 reduce the Google search query 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.

Table II: Effects of State-level Rental Eviction Moratoria on Food Insecurity and Mental Health

	Insecurity All	Insecurity Black	Food Stamps	Food Banks Near Me	Can't Stop Worrying	Can't Stop Worrying Black	Feeling Anxious Black	Feeling Down Black
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
State Evic. Mor.	-1.906 (2.712)	-1.958* (1.053)	-3.401* (1.789)	-5.124* (2.697)	-0.983* (0.578)	-0.985 (2.451)	-1.866*** (0.577)	-1.627*** (0.576)
Constant	1.160*** (0.245)	1.277*** (0.233)	68.904*** (4.256)	36.413*** (3.724)	23.899*** (1.167)	26.197*** (5.183)	34.329*** (5.508)	23.865*** (5.119)
County FE	X	X	X	X	X	X	X	X
Week FE	X	X	X	X	X	X	X	X
N	612	612	1,122	1,122	612	612	612	612
R2	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 they sometimes or often don’t have enough food to eat. In columns 3 and 4, we use Google data to collect information from individuals seeking assistance via an internet search on food insecurity. In columns 5-8, we use three different mental health disorders, taken from the Census 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. Data sources include the Eviction Lab, Google Trends, and the Census Pulse Survey. Robust standard errors in parentheses with error terms clustered at the state-level; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

D. Mental Health

The Census 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 II 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 II shows that eviction moratoria significantly reduced the number of households that reported they “can’t stop worrying.” As indicated in column 7 of Table II, an additional week of rental eviction moratoria is associated with a significant decline of 1.9 percent in the share of African American households that reported “feeling anxious.” The Pulse Survey indicated an increase by roughly one-third in the share of African American households that reported “feeling anxious” during the April to 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 African American households that reported “feeling down.” As suggested by the survey, the pandemic study period witnessed a roughly one-quarter increase in share of African American households that reported “feeling down.”

IV. 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 Insight 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 Census Pulse Survey-measured food insecurity and mental stress, especially among African American households. Results are corroborated in analysis of search query data from Google.

Federal eviction moratoria expired on October 3, 2021, leaving upward of 2 million U.S. households at risk of eviction. Yet data from the 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 remained at risk of eviction and related adverse housing stability, employment, and health outcomes.

References

- Brodeur, A., A. E. Clark, S. Fleche, and N. Powdthavee (2021). Covid-19, lockdowns and well-being: Evidence from google trends. *Journal of public economics* 193, 104346.
- Chauvet, M., S. Gabriel, and C. Lutz (2016). Mortgage default risk: New evidence from internet search queries. *Journal of Urban Economics* 96, 91–111.
- Chetty, R., J. Friedman, N. Hendren, M. Stepner, et al. (2020). How did covid-19 and stabilization policies affect spending and employment? a new real-time economic tracker based on private sector data. *NBER Working Paper 27431*.