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SNAP and Crime
Evidence from SNAP Issuance Disruption

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Introduction

The Supplemental Nutrition Assistance Program (SNAP) is the largest federal food assistance program that serves over 35 million people every year during the last decade in the United States. The program provides monthly lump-sum benefits to stretch the food budget of low-income families. While the program generated beneficial effects on nutritional, health and economic outcomes, SNAP participants still experience high levels of food insecurity. This is in part because SNAP benefits are all too often entirely exhausted long before the end of the month. The within-month expenditure and consumption cycles will produce a variety of harmful effects.

This study aims at investigating the effect of the timing of SNAP on crime. Early empirical evidences show cities that pay welfare benefits at the first of the month experience a monthly cycle in property crimes and that staggering SNAP payments leads to large reductions in crime at grocery stores (Foley, 2011; Carr and Packham, 2019). However, these studies are either limited in scope or subject to measurement error. To overcome these limitations, the recent government shutdown provides a good context to study SNAP timing and crime, where we can identify the exact timing of issuance in each state and carry out the analysis on a national level.

Background

Regardless of various issuance policies across jurisdiction, SNAP benefits are loaded onto EBT cards only once in a month. The partial government shut down during 2018-2019 caused states to issue February SNAP benefits early, by Jan. 20, 2019. This led to a much-longer-than-usual gap between benefit receipt for February and March where most SNAP households would experience a gap of 40 days or longer. In response to the lengthy SNAP gap, states made their own plans to shorten the interval between February and March issuance. Some states (Florida, Georgia, Indiana, and Ohio) increased the frequency of issuance by disbursing half of the March benefits early while others did not. Figure 1 and 2 plots the policy change.
This paper exploits the variation in state policies to answer two questions: 1) Does the longer SNAP gap increase criminal behavior, especially financially motivated crime, towards the end of the benefit cycle; 2) Does higher SNAP issuance frequency reduce criminal behaviors.

Conceptual Framework

Canonical crime models following Becker (1968) assumes crime as a rational behavior. The theory posits that people will commit crime when the expected utility from criminal behaviors exceeds that of non-criminal activity. Following Doleac (2019), the decision can be characterized as

$$(1-p)\cdot U_{c1} + p\cdot U_{c2} > U_{nc}$$

where p is subjective probability of being punished, U_{c1} is the utility from criminal activity not being punished, U_{c2} is the utility derived from punished criminal activity, U_{nc} is the utility from non-criminal activities. SNAP increases the opportunity cost of crime by raising legal income and payoff to non-criminal activities. Hence, the hypothesized effects of SNAP disruption are:

Hypothesis 1: Longer SNAP gap increases property crime towards the end of benefit cycle.

Hypothesis 2: Increased issuance frequency helps reduce property crime.

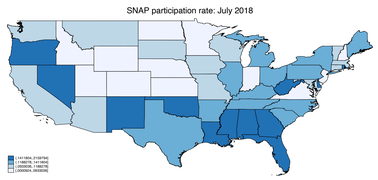

Figure 1. SNAP participation as of July 2018

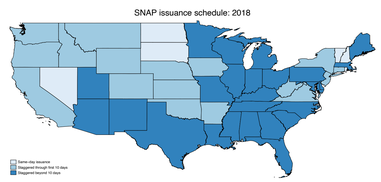

Figure 2. SNAP issuance schedule

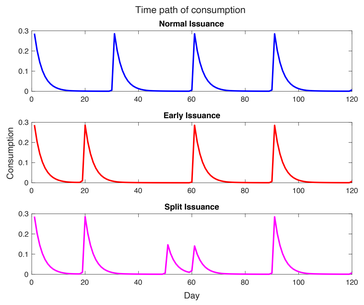

Figure 3. SNAP disruption during the shutdown

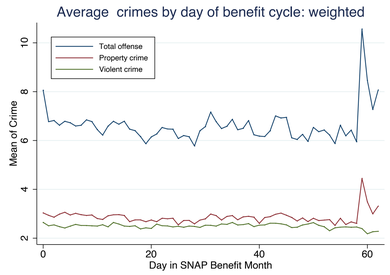

Figure 4. Effect on property crime upon receipt of SNAP

	(1) All crimes_count	(2) Property_count	(3) Violent_count	(4) Property_rate	(5) Violent_rate
Benefitweek=2	-0.00782	-0.0120	0.0146	-0.00321	0.00188*
	(0.00614)	(0.00824)	(0.0143)	(0.00228)	(0.000990)
Benefitweek=3	-0.00241	-0.0000314	0.0177	-0.00292	0.00156
	(0.00417)	(0.00611)	(0.0126)	(0.00267)	(0.00117)
Benefitweek=4	-0.00148	0.00700	0.00695	0.00193	0.000302
	(0.00530)	(0.00732)	(0.0141)	(0.00238)	(0.00109)
Benefitweek=5	-0.00254	0.00819	0.00380	0.00246	-0.000323
	(0.00640)	(0.00842)	(0.0144)	(0.00231)	(0.00101)
Weather FE	√	√	√	√	√
Day of week	√	√	√	√	√
Day in month	√	√	√	√	√
Month of year	√	√	√	√	√
Holiday	√	√	√	√	√
N	989901	986591	976469	989940	989940

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01

Table 1. Cyclicality of crime in SNAP benefit cycle

	(1) All crimes_count	(2) Property_count	(3) Violent_count	(4) Property_rate	(5) Violent_rate
Spr19	-0.116***	-0.218***	-0.150***	-0.0553***	0.00125
	(0.0149)	(0.0238)	(0.0294)	(0.00351)	(0.00137)
Split*Spr19	-0.0499**	-0.0773**	0.0104	-0.0113**	0.00146
	(0.0244)	(0.0308)	(0.0506)	(0.00448)	(0.00133)
Weather FE	√	√	√	√	√
Day of week	√	√	√	√	√
Day in month	√	√	√	√	√
Month of year	√	√	√	√	√
Holiday	√	√	√	√	√
N	2217129	2210828	2199295	2217184	2217184

Standard errors in parentheses
* p<0.1, ** p<0.05, *** p<0.01

Table 2. Effect of splitting SNAP payment on crime

Data and Methods

The analysis utilizes crime data from the National Incident-Based Reporting System (NIBRS) which captures details on each single crime incident including incident date, offense type, demographic of offenders, etc. In 2018, over 7,500 U.S. law enforcement agencies submitted data via NIBRS. Figure 4 plots average property crimes during the interruption.
The effect of extended SNAP gap is estimated from the following equation using data of states that did not split March benefit

$$Y_{it} = \alpha + Benefitweek_{it} + X_{it}\beta + \pi_w + \gamma_m + \varphi_y + \lambda_s + Holiday_t + \varepsilon_{it}$$

where $Benefitweek_{it}$ is an indicator of the week of benefit cycle agency i is in, X_{it} includes weather controls, $Holiday_t$ indicates federal holidays, and I also control for day-of-week, day-of-month, month-of-year and state fixed effects. Y_{it} is the outcome of interest, which includes daily count of crimes and crime rates calculated as the ratio of the count of a specific crime to overall crimes.
To explore whether splitting SNAP payment will reduce crime, the following equation is the model to be estimated:

$$Y_{it} = \alpha + \theta_1 Split_i + \theta_2 Spr19_t + \theta_3 Split_i \cdot Spr19_t + X_{it}\beta + \pi_w + \gamma_m + \varphi_y + \lambda_s + Holiday_t + \varepsilon_{it}$$

where θ_3 is the coefficient that identifies the effect of splitting benefit payment. For the outcome of daily crime counts, the models are estimated using Poisson regression. For the outcome of crime rates, results are obtained from Tobit regression.

Results

The results are reported in Table 1 and 2. In a SNAP benefit cycle, overall daily number of crimes is higher in the first week since receipt compared with the following weeks on average. From the fourth week, property crimes tends to be higher than the first week, measured by count of crimes and crime rate. Violent crimes are persistently higher than in the first week. But the trends are insignificant at 10% significance level.
The crime effects of splitting the benefits into two payments turn out to be more prominent. Splitting March SNAP benefits lowered overall crimes in Spring 2019. And the effect is mainly driven by a decrease in property crimes, either measured in counts or rates. There is no significant impact of splitting the payments on violent crimes.
This study analyzes the impact of the timing of SNAP payments on crime leveraging the variation in issuance schedules during the 2019 federal government shutdown. Although it is widely documented there is cyclicality in food consumption among SNAP households, the study does not find the same cyclicality in crime generated by SNAP payment. This may be due to the limitation in measurement of SNAP participation status among offenders. Splitting the benefits reduced average property crimes during the shutdown, suggesting public safety net programs play a role in contributing to public safety.

References

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