Is SNAP like cash? Evidence from consumers and retailers

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Using FoodAPS for Research in Diet, Health, Nutrition, and Food Security: Pre-Conference

Motivation

- SNAP program allows recipients to purchase any unprepared foods.

- Neoclassical model suggests for the inframarginal consumers, SNAP is like cash.

- Is this true for recipients? Is this true for retailers?

Motivation: Debate in the literature (I)

One view: MPC out of SNAP is higher than it is for cash

- Cash-out experiments (Fraker et al., 1995), ARRA (Beatty and Tuttle, 2015; Bruich, 2014)
- Why? Due to differences in preferences (Breunig and DasGupta, 2005; Hastings and Shapiro, 2017)
- Why? Due to timing of benefit dispursal (Wilde and Ramey, 2005)

Motivation: Debate in the literature (II)

Alternate view: MPC out of SNAP is similar to cash

- Hoynes and Schanzenbach (2009)
- Schanzenbach (2007)

Why would we expect food stamp roll-out to matter? (I)

- Emerging evidence that the roll-out of the food stamp program affected outcomes today (metabolic syndrome, economic self-sufficiency).
- Thus plausible that effects on the retail enviromnent could persist.

Why would we expect food stamp roll-out to matter? (II)

- SNAP is a non trivial source of revenue for food stores.
  - In 2013, SNAP benefits were accepted in 252,962 firms (USDA, retailer report for 2013)
  - $76 billion redeemed, with the majority being used at super stores or super markets (about $62 billion)
  - Progressive grocer magazine suggests 2015 supermarket sales for 2015 were $649 billion

Research Question

- Does the timing of food stamp program roll-out matter today (FoodAPS)?
- Did roll-out affect the retail environment at the time (County Business Patterns)?

Why would the roll-out of the food stamp program affect the retail landscape?

- Food Stamps was a pilot program in 1961–1963. The 1964 Food Stamp act allowed counties to set up a program if they chose. Then it was made mandatory.

- The original program had a purchase requirement (until 1979). This meant families needed to show they spent a particular amount on food before they could obtain food stamps. This might not affect total food consumed very much, but could have caused families to shift to buying food rather than home production.

- To start a food stamp program, counties had to end their involvement with the commodity distribution program (free commodities).

Exogeneity of roll-out established in earlier work

- Hoynes and Schanzenbach (and Almond) show that the timing is fairly unpredictable. Some correlation with some 1960 characteristics of counties.

SNAP adoption (from Hoynes and Schanzenbach, 2009): Share of counties adopting
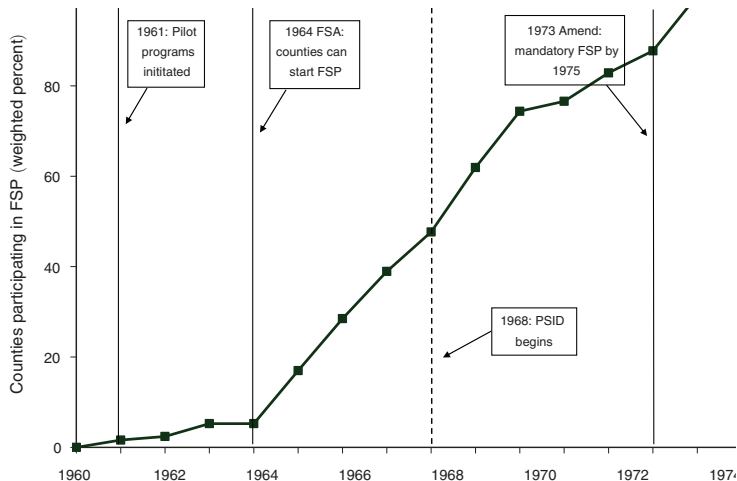

FIGURE 1. CUMULATIVE PERCENT OF COUNTIES WITH FOOD STAMP PROGRAM, 1960–1975

Source: Authors' tabulations of county FSP start dates. Counties are weighted by their 1960 population.

SNAP adoption (from Hoynes and Schanzenbach, 2009): Share of counties adopting
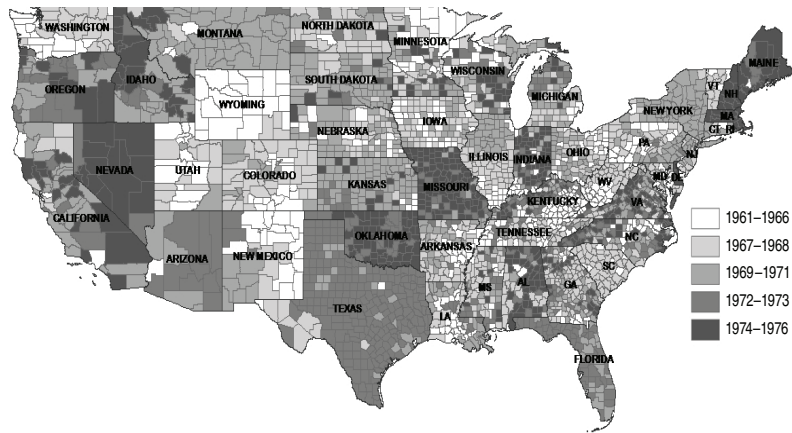

FIGURE 3. FOOD STAMP PROGRAM START DATE, BY COUNTY (1961–1975)

rce: Authors' tabulations of food stamp administrative data (US Department of Agriculture, various years).

Our analysis: FoodAPS

- Compare shopping for those living in early-adopting counties, middle-adopting counties, and late-adopting counties
- Outcomes: Number of stotes, types of stores, distances, expenditures

Comparisons: FoodAPS

- Means by group (early/mid/late)
- F-tests for whether means are different

FoodAPS: Sample

Timing of FS adoption	Early	Middle	Late	All
Food stamp roll-out	61–68	69–72	73–75	61–75
Counties in full sample	1244	1037	857	3166
Counties in FoodAPS	46	33	28	107
Households in FoodAPS	2494	1409	923	4826

Shopping Behavior (I)

Timing of FS adoption	Early	Middle	Late	F-test (p-val.)
Number of unique				
grocery stores visited	2.273	2.239	2.148	0.571
	(0.066)	(0.102)	(0.084)	
Number of grocery				
trips	2.967	3.04	2.946	0.889
	(0.078)	(0.150)	(0.118)	
Distance to grocery				
stores visited (miles)	5.36	5.273	6.672	0.228
	(0.627)	(0.621)	(0.898)	
# households	2494	1409	923	4826

Shopping Behavior (II)

Timing of FS adoption	Early	Middle	Late	F-test (p-val.)
Mean distance to primary				
grocery store (miles)	3.637	4.276	3.548	0.624
	(0.818)	(0.497)	(0.554)	
Share of households that visited primary grocery stores that are:				
Supermarkets	0.451	0.507	0.494	0.752
	(0.044)	(0.048)	(0.105)	
Super/club/big box stores	0.499	0.441	0.494	0.722
	(0.042)	(0.046)	(0.105)	
Convenience stores	0.044	0.032	0.012	0.095
	(0.014)	(0.015)	(0.004)	
Other stores	0.007	0.021	0	0.288
	(0.005)	(0.019)		
# households	2334	1319	856	4509

Shopping Behavior (III)

	Early	Middle	Late	F-test (p-val.)
Share of households that purchased any FAH during the survey week:				
	0.908	0.91	0.919	0.765
	(0.010)	(0.012)	(0.011)	
Share of households that visited stores that are:				
Supermarkets	0.519	0.588	0.517	0.556
	(0.036)	(0.045)	(0.108)	
Super/club/big box stores	0.62	0.567	0.621	0.311
	(0.030)	(0.024)	(0.075)	
Convenience stores	0.352	0.278	0.299	0.01
	(0.019)	(0.021)	(0.034)	
Other stores	0.121	0.117	0.076	0.05
	(0.016)	(0.031)	(0.013)	
# households	2494	1409	923	4826

Shopping Behavior (III)

	Early	Middle	Late	F-test (*p*-value)
Mean FAH Expenditure	113.87	123.658	112.83	0.386
	(3.678)	(6.680)	(5.830)	
Mean FAH Expenditure at:				
Supermarkets	35.09	44.846	36.762	0.437
	(3.790)	(4.792)	(8.737)	
Super/club/big box stores	55.244	53.479	57.005	0.903
	(4.200)	(3.171)	(10.649)	
Convenience stores	9.022	8.557	6.706	0.284
	(1.405)	(0.995)	(1.038)	
Other stores	3.069	3.631	1.691	0.107
	(0.565)	(1.198)	(0.427)	
# households	2494	1409	923	4826

Our analysis: CBP

- County Business Pattern data: Counts of employees and total payroll in specific SIC codes
- Categories: Food Stores (expect increase), grocery stores (expect increase), eating and drinking places (expect no increase or a decrease)
- 2 samples for today, 205 counties from 1969 to 1978, and 1848 counties from 1970 to 1978

Estimating Equation: CBP

- $y_{ct} = \alpha + \beta \cdot FS_{ct} + \gamma_c + \delta_t + \epsilon_{ct}$
- FS_{ct} is 1 if county c had adopted food stamps by period t
- County FE and year FE, cluster on county
- To add: Other REIS controls, time trends

Food Store Employment

Employment	69–78, N_c=205	70–78, N_c=1848
Food Stamp introduction	0.0371*	0.0479***
	(0.0215)	(0.0094)
N	2048	16,600
States	9	48

Grocery Store Employment

Employment	69–78, N_c=205	70–78, N_c=1823
Food Stamp introduction	0.0471**	0.0523***
	(0.0238)	(0.0107)
N	1940	13,321
States	9	48

Eating and drinking place employment

Employment	69–78, N_c=205	70–78, N_c=1848
Food Stamp introduction	0.0711***	0.00300
	(0.0272)	(0.0109)
N	2050	16,608
States	9	48

Food Store Payroll

Payroll	69–78, N_c=205	70–78, N_c=1848
Food Stamp introduction	0.273*	0.464***
	(0.283)	(0.089)
N	2048	16,600
States	9	48

Grocery store payroll

Payroll	69–78, N_c=205	70–78, N_c=1823
Food Stamp introduction	0.223	0.475***
	(0.266)	(0.103)
N	1940	13,321
States	9	48

Eating and drinking place payroll

Payroll	69–78, N_c=205	70–78, N_c=1848
Food Stamp introduction	0.560	0.360***
	(0.380)	(0.098)
N	2050	16,608
States	9	48

Event Studies

- Not a long pre-period so far (adding 1967)
- Look OK for Food Store employment maybe less so for grocery stores for larger panel
- Need longer pre-period

Conclusion

- Preliminary results suggest that food stamp roll-out increased the number of food and grocery stores in a county
- Suggests possible general equilibrium response in food enviroment if the program shrinks