Do SNAP Beneficiaries Pay Different Prices throughout the Benefit Month?

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Selected Poster prepared for presentation at the 2016 Agricultural & Applied Economics Association Annual Meeting, Boston, MA, July 31-Aug. 2

This project is supported by the USDA-ERS cooperative agreement 58- 5000-5-0009. The opinions and conclusions expressed herein are solely those of the authors and should not be construed as representing the opinions or policies of the sponsoring agencies.
The Supplemental Nutritional Assistance Program (SNAP), formerly known as Food Stamp program, is the nation’s largest food assistance program. Standard economic theory states that receipt of predictable income should not affect spending or consumption patterns. Moreover, the in-kind nature of the benefit transfer should not alter spending as long as the level of benefit is less than usual food budget. Empirical evidence indicates that SNAP households not only treat benefit income differently than cash income, they also have higher expenditures shortly after receiving benefits and lower food consumption toward the end of the benefit month. In contrast to previous research that has mostly focused on the quantity and quality of food purchases to explain the sensitivity of expenditure to receipt of SNAP benefits, we hypothesize that the decrease in food expenditures could also be induced by changes in prices paid by households.

### Objectives

- Examine whether SNAP households pay different prices throughout the benefit month.
- Investigate whether price changes are driven by households purchasing behaviors.
- Explore explanations for price-seeking behavior of SNAP households. In other words, why do SNAP households pay different prices over the benefit month?

### Data and Methods

The National Food Acquisition and Purchase Survey (FoodAPS) data for administratively confirmed SNAP participants.

- Our sample includes all food items purchased by SNAP households from SNAP-authorized stores over a seven-day survey period.
- In household expenditure surveys, prices are unobserved. Instead, we use unit prices, obtained by dividing expenditure on food items by their quantities (Dotson 1988).
- Households can pay lower unit prices through several purchasing strategies: using coupons, purchasing on sale, buying in bulk, buying store brands, and/or choosing store types.
- The hedonic price model capturing the unit price response to monthly SNAP benefit receipt is:

$$\ln(P_{itj}) = \beta_0 + \sum_{k=1}^{3} \beta_k WEEK_{kt} + \beta_1 Store_{itj} + \beta_2 DOM_{itj} + \epsilon_{itj}$$

where the dependent variable is the log unit price paid by household i for food item j in week t. WEEK is a set of indicators for weeks of the benefit month. X is a row vector of dummy for coupon usage, store sale, bulk size, store brand, and store types; DOM and DOM are vectors of dummy for the days of the calendar week and month in which household purchased food items. i, j and t are food-type and household fixed effects, respectively, and e is an idiosyncratic error.

### Results

- To investigate the impacts of different purchasing behaviors on unit prices, in our hedonic model we replace $O_{itj} = \sum_{k=1}^{3} \beta_k WEEK_{kt} + \beta_1 Store_{itj} + \beta_2 DOM_{itj} + \epsilon_{itj}$.

### Conclusions

- Our findings indicate that the SNAP benefit cycle is partially due to a decline in prices paid. We find that unit prices in the last week of the benefit month are about 12% lower relative to the first week.
- Changes in prices paid over the month varies by food classifications. The decrease in prices is largely driven by general and frozen (storable) foods; refrigerated (perishable) items and beverages do not reveal any significant decreasing trend.
- Our results suggest that while households use coupons, take advantage of in-store sales, and also lower unit prices for larger package sizes, decline in prices is almost unrelated to these purchasing strategies.
- Decline in prices could be moderately due to higher prices paid by SNAP households at smaller stores during the first half of the benefit month. It also might be induced by cheaper store brand items. This impact, however, is small.

### Forthcoming Research

Future work will combine generated prices by households into a demand framework in order to estimate changes in welfare over the benefit month.

### References


### Acknowledgements

This project is supported by the USDA-ERS cooperative agreement 58-1950-5-5009. The opinions and conclusions expressed herein are those of the authors and should not be construed as representing the opinions or policies of the sponsoring agencies.

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