

## ESTABLISHING SCIENTIFIC PLAUSIBILITY

Posted by Robert Kaestner

Posted on 3/31/2022 10:59 AM

In this interesting article, the order of the analysis is:

1. Show that SNAP benefit schedules increase food expenditures at a sample of grocery stores.
2. Assess whether the increase in spending (5% to 20%) in a week is associated with prices.
3. See if this pattern is consistent with a model of grocery store behavior developed by by DellaVigna and Gentzkow (2019).

In my opinion, the ordering of the analysis is inconsistent with the scientific method.

First, one develops a hypothesis from theory. In this setting, this implies establishing the scientific plausibility that shifts in demand due to SNAP plausibly affect prices. What is the evidence to support this question? Several studies have shown that food expenditures of SNAP households are greatest the day or two after receipt of benefits and then declines until the next receipt of benefits (e.g., [https://www.ers.usda.gov/webdocs/publications/84780/eib176\\_summary.pdf?v=0](https://www.ers.usda.gov/webdocs/publications/84780/eib176_summary.pdf?v=0), [https://www.econ.iastate.edu/files/events/files/snap\\_kh\\_september10\\_2021.pdf](https://www.econ.iastate.edu/files/events/files/snap_kh_september10_2021.pdf), Smith et al. as cited in article)). So, #1 above has long been known.

Second, based on this evidence, assess using an ex ante, theoretical model whether it is likely that grocery store prices would respond to the within-month pattern of food expenditures. Monthly patterns of food expenditures are unaffected. The model would need to make predictions about intra-month pricing decisions.

The second step was not done in this order. Instead, the article presents estimates of the effect of SNAP issuance on intra-month grocery prices (the model specification and theoretical motivation for that specification is not provided). The question is whether it is interesting to conduct this analysis? The answer to that question requires theory. Almost no theory or evidence was used to motivate the question.

The analysis indicated that there was no meaningful price response is found. Is this surprising? Who knows because no prediction was made and no evidence was provided to suggest that it should or should not be. As is common, the authors had a research design that would appeal to

applied economists and found a use for it. It has become the norm not to bother much with theory and evidence to support a hypothesis.

However, an interesting finding is that there seemed to be quite a bit of selection in the analysis of prices--SNAP issuance associated with unmeasured confounds--and adjusting for it eliminates any association between SNAP issuance and prices. There was no such selection on food expenditures. So, unobservables that affect grocery store prices have no effect on grocery store expenditures. This suggests that grocery store prices are not strongly linked to grocery store expenditures.

Then, the model comes. It is a highly stylized model developed ex post to assess findings. I find this problematic. There was no theory or evidence provided to justify an investigation of SNAP issuance on prices, but we are asked to use evidence from this investigation to assess the validity of a theory?

Not good science in my opinion.