

Item #36

Summary of study of Berkeley Soda Tax (Silver, et. al. 2017)

Draft summary of Silver et. al. (2017) study on sugar tax, prepared for internal use only, 19
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Summary of Published Study on Sugar Tax

Silver L.D., Ng S.W., Ryan-Ibarra S. et al. (2017). *Changes in prices, sales, consumer spending, and beverage consumption one year after a tax on sugar-sweetened beverages in Berkeley, California, US: A before-and-after study*. PLOS Medicine; 14(4): e1002283. Retrieved online on 19/04/2017 from <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002283>.

This study, co-authored by Barry Popkin of the University of North Carolina, is a comparison of pre-tax (pre 1 January 2015) and post-tax (March 2015 to February 2016) point-of-sale scanner data on prices, sales (in volume of SSB), and revenue for supermarkets in and outside of Berkeley California. Additional data was obtained from other retail outlets and by telephone survey of less than 1000 residents. Prices, sales and revenue data were inflation-adjusted.

The comparison of prices, sales, and revenue is against "estimates if the tax were not in place" but the authors provide no information as to how the counterfactual was estimated.

Results:

The tax was found to have been fully passed through in chain supermarkets and chain gas stations, but only partly passed through or even negatively passed through (price reductions) in other retail outlets.

Relative to the counterfactual:

- SSB sales in supermarkets (the only retail outlets that scanner data was obtained from) fell 9.6 percent in Berkeley and rose 6.9 percent outside of Berkeley.
- Sales of untaxed beverages rose 3.5 percent in Berkeley and fell 0.5 percent outside of Berkeley.
- Sales of water rose 15.6 percent in Berkeley. Sales of water outside of Berkeley are not mentioned.

Post tax self-reported consumption of SSBs was not significantly different.

Caloric intake from untaxed beverages increased, as measured by a telephone-based dietary intake survey.

Limitations:

The acknowledged limitations of the study are:

- An inability to establish causal links.
- An absence of health outcomes.
- The analysis of consumption was limited by small effect size in relation to high standard error and by Berkeley's low baseline consumption of SSBs.

Further limitations include:

- Lack of measurement of sales from non-supermarket outlets in and outside of Berkeley, especially as the pass through of the tax was lower for non-supermarket outlets.
- Lack of reporting on water sales outside of Berkeley to compare with water sales in Berkeley.
- No information as to how the counterfactual was constructed.