# The Pass-Through of Taxes on Sugar-Sweetened Beverages to Retail Prices: The Case of Berkeley, California 

## Online Appendix

Appendix Figures 1A through 1C illustrate the pass-through of a tax under different elasticities of demand. In Appendix Figure 1A, demand is perfectly inelastic - people demand the same quantity irrespective of price; this would be true for a necessity with no substitutes. In such a case, a tax is fully ( $100 \%$ ) shifted to consumers; because demand is insensitive to price, so producers can pass it fully on to consumers without experiencing any decline in demand or sales. Appendix Figure 1B depicts the opposite extreme: demand is perfectly elastic; the quantity demanded would fall to zero if the price rose even a cent above the price $\mathrm{P}_{\mathrm{t}}$. Demand would be perfectly elastic if, for example, there existed perfect substitutes available at price $\mathrm{P}_{\mathrm{t}}$. In this case, none of the tax would be shifted to consumers - producers would end up paying all of the tax because they would lose all of their sales if they raised their prices. Appendix Figure 1C shows an intermediate case, where demand is imperfectly elastic and thus downward sloping. This would be true when the good is not a necessity, and the available substitutes are either imperfect or only available at a nonzero time cost or higher monetary cost. In such a case, the tax is partially, but less than fully, shifted to consumers; price rises, but by less than the amount of the tax. In summary, for any given supply curve, the more inelastic the demand, the greater the extent to which taxes are passed through to prices.

## Appendix Figure 1A: $\mathbf{1 0 0}$ \% Pass-Through of a Tax When Demand is Perfectly Inelastic



## Appendix Figure 1B: Zero Pass-Through of a Tax When Demand is Perfectly Elastic



## Appendix Figure 1C: Partial Pass-Through of a Tax When Demand is Imperfectly Elastic



Appendix Figure 2A and 2B: Price Per Ounce of 20-Ounce Coke (2A) and Pepsi (2B), Berkeley and San Francisco, December 2014 and June 2015



Appendix Figure 2C and 2D: Price Per Ounce of 2-Liter Bottles of Coke (2C) and Pepsi (2D), Berkeley and San Francisco, December 2014 and June 2015



Appendix Figure 2E and 2F: Price Per Ounce of Cases of Coke (2E) and Pepsi (2F), Berkeley and San Francisco, December 2014 and June 2015



# Appendix Table 1: Difference-in-Differences: Berkeley Versus San Francisco Impact of Soda Excise Tax on Price (Cents/Oz), Product by Size 

|  |  | 4 Pack |  |
| :---: | :---: | :---: | :---: |
|  | 8.4 oz. | 8.4 oz. | 16 oz. |
| Red Bull | 0.592 | -0.106 |  |
|  | $(0.788)$ | $(0.755)$ |  |
|  | $[-0.989,2.173]$ | $[-1.662,1.449]$ |  |
| Snapple | $\mathrm{N}=114$ | $\mathrm{~N}=60$ | 0.875 |
| Iced Tea |  |  | $(1.092)$ |
|  |  |  | $[-1.395,3.145]$ |
|  |  |  | $\mathrm{N}=52$ |

Notes: ${ }^{*} \mathrm{p}<0.10,{ }^{* *} \mathrm{p}<0.05,{ }^{* * *} \mathrm{p}<0.01$
Standard errors are shown in parentheses and 95\% confidence intervals are shown in brackets. Each cell contains the results of separate regressions based on equation (1) and are difference-indifferences estimates of the change in prices per ounce from after to before the tax in Berkeley relative to San Francisco for each product.

## Appendix Figure 3:

Distance between Stores in Berkeley and the Nearest Store Outside of Berkeley


Notes: Distance calculated using ArcGIS using the addresses in ReferenceUSA. Shown is straight-line distance in feet, to the nearest store outside of Berkeley (where SSBs would be untaxed) for each store in Berkeley.

