Soda Tax Continues to Decrease Sales, But There's No Evidence of Health Benefit

By Chuck Dinerstein — April 12, 2018

About two months ago a tax was placed on soda, sugary and diet, in Philadelphia; and just as the sun always rises, another study has appeared to describe the impact of the tax. Unfortunately, it appeared in the American Journal of Preventative Medicine rather than an economic journal because it tells us nothing about preventative medicine or health, but a whole lot about economics.

The study has limitations, small numbers (899 respondents), to a digital phone survey with the before and after groups different and all changes expressed in relation to other cities that were not taxed, acting as controls. But let us leave these concerns aside to see the lessons about how we behave economically.

Classical economic theory teaches that as the price of a good, soda, rises, fewer purchases will be made. And sure enough soda consumption decreased by 40% and energy beverage purchases by 64%. Every study of sugary beverage consumption after raising the cost by taxation shows this effect.

Two intertwined economic concepts will impact how much of a decrease in consumption we see. First is elasticity which means how much more are you willing to pay for some good or service. For things we really, really need, we are willing to pay a lot more – in economic terms; the good is inelastic. For things we like or want, but do not need we are a bit less expansive in our spending, there is a cutoff which we will not cross – in economic terms, the good is elastic. Soda is an elastic good, no surprise there and again all the studies demonstrate this economic "law." Elasticity can be quantified and is used in determining the percentage of taxation on soda; simply put what is the taxation level that causes enough pain to stop the purchase? Fifteen percent seems to be the
taxation sweet spot, fewer soda purchases and not enough complaints to interfere with the taxation board’s quality of life.

The entwined concept is substitution, another economic term, that asks with what do you replace the higher cost good? Is soda replaced by juice, or diet soda, or water or milk? The selection of a substitute good is based on how similar it is to the good being replaced. Soda could be replaced by a diet soda, but in Philadelphia, this was taxed at the same rate, so it was no different economically than the soda you were replacing. Fruit juice and milk are substitutes, but the health police are concerned about fruit juice having as many calories and milk being “bad” when you are older or because it comes from a cow. Evidently, water is a better substitute, at least economically because we can get sales figures to measure changes. [1] And again as economic theory predicts there will be more use of an acceptable substitute, water consumption increased.

All the studies of taxation from Mexico City to Berkeley to Philadelphia show that when taxed, soda purchases decrease and substitute increase. But here is the problem, people choose from a variety of substitutes based on what they can afford, what is available and what replaces the “job” of a soda (which presumably is to give you something to drink). And of course, all of these studies show a range of substitutions some nutritious, some not-so-much. And the soda tax does not have an effect on substitutes are chosen.

More importantly, while the tax is often framed as providing a health benefit to reduce caloric intake and obesity, there is no study to date that any of these taxes have a positive health effect. In Philadelphia, the city fathers and mothers were at least honest amongst themselves having failed twice to pass a soda tax based on health benefits, this last and successful time it was based on revenue [2] for “the children” specifically pre-kindergarten education.

**Bottom Line**

Given the growing revenue shortfalls for cities and states, sugar taxes are here to stay. They are intended to raise revenue and to justify them as a population health measure or because it will be used to treat obesity is a lie. It will be years before any health benefit, their presumptive purpose are known. And our history with the tobacco settlement and the 18 billion dollars in revenue tobacco taxes provide annually in the U.S. should tell us how the monies are to be spent. Of the 224 billion apportioned to the states, 8 billion about 3% went to smoking cessation; the rest went to whatever else the states desired.

[1] For the conspiratorial, bottled water provides the soda companies, who produce this substitute, a greater profit per bottle than soda, after all, soda is water with other expensive ingredients.

Source: The Short-Term Impacts of the Philadelphia Beverage Tax on Beverage Consumption American Journal of Preventative Medicine DOI: 10.1016/j.amepre.2018.02.017

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[1] https://pooliestudios.com/