Do "sin taxes" really lead to healthier behaviour?

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"Sin taxes" might change people’s behaviour – but not always in the way intended

Taxes are one of the major tools used by governments to alter public behaviour – particularly shopping habits. A few extra dollars at the register can be a powerful deterrent but if these kinds of taxes are not carefully implemented consumers will seek out loopholes that undermine their effectiveness.

"Sin taxes" – the surcharges applied to products like alcohol and tobacco – typically have two main objectives. The first is to raise revenue, the same as any tax, and the second is to push consumers towards healthier choices. These taxes are often touted as a policy win-win; people either change their lifestyle for the better, or provide a financial boost to the government.

As a result, they are increasingly being used to fight obesity rates. By some estimates, up to 36 per cent of North Americans suffer from obesity, leading to billions of dollars in associated medical costs. Additionally, sugar-sweetened beverages have been identified as one of the single largest sources of added sugar in the average North American's diet. These two factors have led several US cities, such as San Francisco and Seattle, to implement various taxes on soda and other sweetened drinks to encourage healthier choices.

The City of Philadelphia implemented its own version on 1 January 2017, imposing a tax of 1.5 cents per ounce on sweetened beverages sold within city limits. It had a dramatic effect, increasing the average price of a two-litre bottle of soda from around US $1.50 to over US $2.50. Philadelphia's tax was also very broad, covering both sugar-sweetened and artificially-sweetened drinks. This meant that diet sodas, pre-sweetened coffees and sports drinks were taxed, alongside the usual suspects of energy drinks and sodas. For consumers, their choice of non-taxed beverages was limited to bottled water and natural fruit juices.

Tax avoidance

One might expect this to cause two changes; a fall in the volume of sugary drinks sold and an increase in the sale of untaxed alternatives. According to our analysis of data from retail stores, both of these predictions did indeed occur. Compared to pre-tax levels, within Philadelphia's city limits sales of the newly taxed drinks fell by 46 per cent. While there was no significant change for bottled water, there was a 9 per cent increase in demand for natural juices.

However, this does not tell the whole story. When including data from stores less than six miles outside the city, total sales of taxed drinks fell by only 22 per cent. Additionally, stores less than six miles outside the city saw a noticeable increase in the sale of sweetened sodas.

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This is a clear indication that in order to avoid the tax, a significant number of Philadelphians moved their shopping beyond city limits, perhaps to during their commute to or from work. This cross-shopping behaviour dramatically limited the effectiveness of the tax, both in terms of increasing revenue and decreasing consumption. In reality, the tax's biggest impact on many people was forcing them to shop a little further away from home.

Additionally, not all of the city’s residents were equally affected. Soda sales in Philadelphia’s lower income neighbourhoods decreased notably less than sales in high income neighbourhoods. This is potentially due to poorer neighbourhoods having less access to cars or transportation, meaning they are not able to take advantage of lower prices outside of the city.

Covering all bases

Philadelphia is a clear illustration of the challenges that accompany localised taxes. When faced with a large enough penalty, people are willing to go out of their way to avoid it. Still, several changes could make these kinds of localised taxes far more effective.

The most important consideration is geography. The City of Philadelphia is an extreme example because it is rather long and thin, meaning people are never particularly far away from the border. However, one should expect a certain percentage of people within any jurisdiction to travel some distance to avoid a tax. The broader a tax’s geographic coverage the harder this becomes, making these kinds of policies difficult to effectively implement on a city level.

The other is thinking about all the ways a person could potentially change their behaviour in response to a tax. By taxing all artificially sweetened drinks, the government is leaving people who want to buy a beverage with very few untaxed options. If the tax’s goal is to push people towards healthier alternatives, excluding drinks that are sweetened with an alternative to sugar might make them more tempting than a trip outside the city.

Whatever your opinion in regard to "sin taxes", a poorly implemented one does not do much good for anyone.

This article is based on findings from “The Impact of Soda Taxes: Pass-through, Tax Avoidance, and Nutritional Effects” by Stephan Seiler (Imperial London), Anna Tuchman (Northwestern University) and Song Yao (Washington University). The paper was among the Distinguished Winners of the 2023 AMA-EBSCO-RRBM Award for Responsible Research in Marketing.

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Stephan Seiler is Professor of Marketing at Imperial Business School. He received his PhD from the London School of Economics and was previously employed at Stanford and UCLA. His research focuses on consumer choice in various markets.

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