

## SSB Taxes Raise Demand for Substitutes and Could Even Raise Caloric Intake

### Brief Description

If the goal is to reduce obesity, taxes on sugar-sweetened beverages (SSBs) may not work because consumers can and do shift demand to cheaper calories. Adam Smith identified sugar, alcohol, and tobacco as appropriate commodities for taxation because they were luxury goods in his day. He would never have supported differential rates of taxation across close substitutes, as implied by a tax on SSBs rather than on calories.

In a forceful call to reexamine the case for taxes on sugar-sweetened beverages (SSBs), Dr. Alain Braillon cleverly invokes a quotation from Adam Smith (1776), which has been deployed for this purpose before (Brownell and Frieden, 2009). Smith seems to have been far ahead of his time in identifying sugar, alcohol, and tobacco as “proper subjects of taxation,” the very same “sin commodities” we associate today with contemporary challenges to public health. But additional context provides a very different view. What Adam Smith knew well but which bears repeating is that taxes shift demand toward substitutes. My original point about SSB taxes (Edwards, 2011) is that if the ultimate goal is reducing obesity, evidence suggests that taxing SSBs alone may not work, because consumers can and do substitute toward cheaper calories.

The major issues in Adam Smith’s time reveal this and a subsidiary insight. Smith was no champion of the American Revolution, which was partly a reaction by the original Tea Party to perceived injustices in the taxation of commodities. But Smith was also not fond of British mercantilism and the primary motivation behind the Molasses and Sugar Acts of 1733 and 1764 and their tariffs on cheap molasses from the French West Indies. A higher tax on French molasses accomplished the twin goals of redirecting American demand toward more expensive molasses and sugar from the British West Indies, and of raising funds to repay British war debts. Smith was against such mercantilist tax policies because they were politically motivated, benefiting the government and certain merchants rather than improving popular welfare, which he felt free markets and the price mechanism were better equipped to do. Taken in context, his statement about taxing commodities reflects the practical aspects in his day of actually collecting revenues that were necessary to pay down war debt, combined with the reasonable intuition that taxing luxury goods — as sugar, tobacco, and alcohol were then perceived — was most feasible politically. An ardent believer in free trade and free markets, he would never have countenanced a differential rate of taxation across close substitutes like British and French molasses, which an SSB tax unfortunately resembles.

British mercantilists understood substitution behavior very well. Taxing cheap French molasses reduced purchases and consumption of cheap sugar, and of rum, another derivative and archaic luxury turned sin, while it increased purchases and consumption of untaxed substitutes like British sugar. But a side effect, apparently underappreciated by the British, is that excise taxes in isolation, even on perceived luxuries, can be broadly unpopular. Smith wrote about taxation as a *quid pro quo*, a sacrifice paid for access to

markets, security, and political representation provided by government. One out of three was not enough for the colonists, whose fondness of cheap rum may rivaled their desire for political representation.

To put it mildly, we know much more today about healthy living than did Adam Smith and his contemporaries. I and many other economists sympathize with Dr. Braillon's perspective that sugar and processed foods are agents of an obesity epidemic that threatens public health. But in my commentary on Andreyeva et al. (2011), I argued that the evidence is not supportive of the idea that a tax on SSBs will actually achieve the intended end, namely a reduction in obesity. This is because there are many close substitutes to SSBs. Studies that measure the substitution effect — Andreyeva et al. do not — have shown that consumers will probably increase their demand for cheaper calories, leaving obesity unchanged but raising the ire of the beverage industry and probably the modern Tea Party. Levying a tax only on SSBs and not on high-calorie substitutes like whole milk is like taxing French but not British molasses. It could serve a political end if there were one, and it will raise revenue, but it is unlikely to improve popular welfare, and it could even motivate political action.

Where does that leave us? I am sympathetic to the notion that taxes are in general an effective tool to change behavior. But I am not sure we should rule out interventions based on “physiopathological-psycho-social theory” given that the target is obesity, the net result of caloric intake and physical activity. Suppose we could tax all calories so that there is no offsetting substitution; what would prevent consumers from walking and exercising even less? Several recent studies have shown that policies aimed at expanding information, limiting misleading information, and reducing travel costs can impact obesity, especially among children (Chou et al., 2008; Currie et al., 2010; Bollinger et al., 2011). Taxes are a blunt tool for changing caloric intake when there are many substitutes.

### **Conflict of Interest Statement**

I declare no conflict of interest. I do enjoy the occasional SSB myself but am currently watching my weight.

### **References**

- Andreyeva, T., Chaloupka, F.J., Brownell, K.D., 2011. Estimating the potential of taxes on sugar-sweetened beverages to reduce consumption and generate revenue. *Prev. Med.* 52, 413-416.
- Bollinger, B., Leslie, P., Sorensen, A., 2011. Calorie posting in chain restaurants. *Am. Econ. J. Econ. Pol.* 3, 91-128.
- Brownell K.D., Frieden T.R., 2009. Ounces of prevention - the public policy case for taxes on sugared beverages. *N. Engl. J. Med.* 360, 1805-1808.
- Currie, J., Della Vigna, S., Moretti, E., Pathania, V., 2010. The effect of fast food restaurants on obesity and weight gain. *Am. Econ. J. Econ. Pol.* 2, 32-63.

Chou, S., Rashad, I., Grossman, M., 2008. Fast-food restaurant advertising on television and its influence on childhood obesity. *J. Law Econ.* 51, 599-618.

Edwards, R.D., 2011. Commentary: soda taxes, obesity, and the shifty behavior of consumers. *Prev. Med.* 52, 417-418.

Smith, A., 1776. *An inquiry into the nature and causes of the wealth of nations.*