‘SIN TAXES’ FAIL TO HELP CONSUMERS WITH LOW SELF-CONTROL: Evidence from Denmark’s soft drink tax reforms

Taxes are not well suited for helping consumers with low self-control to eat healthier, according to research by **Renke Schmacker** and **Sinne Smed**, to be presented at the annual congress of the European Economic Association in Manchester in August 2019.

Their study shows that consumers with low self-control did not reduce their purchases of sugary soft drinks after a tax hike in 2012, although consumers with high self-control did. But when the tax was repealed two years later, both consumers with low and high self-control increased their purchases to a similar extent.

The results indicate that people with low self-control find it harder to break consumption habits and are less responsive to taxes that are meant to discourage consumption. But they do not have a problem with increasing purchases after a price drop. Because of this asymmetry, first introducing and then repealing a tax may lead to even higher consumption levels for low self-control consumers.

Many countries have recently introduced ‘sin taxes’ on sugar-sweetened beverages to reduce high sugar intake. An important rationale for such taxes is that many people would like to eat less sugar but cannot stick to their plans due to self-control problems.

The idea is that a tax, which increases the price of consumption, could potentially help these individuals to achieve their weight loss goals. But this requires that consumers with low self-control actually respond to the tax.

To investigate if that is the case, this study examines whether consumers with low and high self-control respond differently to soft drink tax changes using Danish tax reforms. The results show that consumers with low self-control have almost not reduced their purchases after the tax hike in 2012, while consumers with high self-control have reduced their purchases significantly.

In contrast, when the tax is repealed two years later, both consumers with low and high self-control have increased their purchases to a similar extent. The results suggest that taxes are not well suited to help consumers with low self-control to eat healthier.

The researchers look at variation in the Danish soft drink tax, which was raised in 2012 and completely repealed in 2014. In a previous study, they have shown that the tax hike has led to a price increase of 12% and a drop in purchases of on average 14%. The tax repeal in 2014 has decreased prices by 23% and led to an increase in purchases of 31%.

In the new study, however, they are interested in the targeting properties of the tax in terms of self-control.

Therefore, they use a consumer panel by GfK Scandinavia, in which 1,200 consumers track their grocery purchases from 2010 to 2014. GfK aims for a representative panel of the Danish population and asks their panelists to scan all the purchases they bring into the home using handheld scanners.

The dataset is unique since panelists also answered a survey that features the self-control scale by Tangney et al. (2004). Using this scale, it is possible to stratify the sample in consumers with low and high levels of self-control.

The researchers find that people identified as low self-control have on average a higher BMI, are more likely to say that they would like to reduce their weight, and they also indicate that they would like to eat less sugar. Hence, they argue that these are the people who should be targeted by a tax that aims to correct a self-control problem.

In their empirical exercise, they check for differential changes in purchases after the tax changes by self-control. They find that in response to the tax hike shoppers with low self-control reduce their consumption significantly less than those with high self-control. In contrast, in response to the tax repeal all groups increase their consumption to a similar extent. The study finds a similar pattern for the introduction and repeal of the fat tax on butter.

In sum, the results suggest that people with low self-control find it harder to break consumption habits and are less responsive to taxes that are meant to discourage consumption.

But they do not have a problem with increasing purchases after a price drop. Hence, due to this asymmetry first introducing and then repealing a tax may lead to higher consumption levels for low self-control consumers. Moreover, in order to help people with low self-control other measures than price instruments may be better suited (for example, nudges or incentives for producers to make products healthier).

ENDS

Previous study: Schmacker, Smed (2019): Do prices and purchases respond symmetrically to soft drink tax increases and cuts? Evidence from Danish tax reforms. Mimeo.

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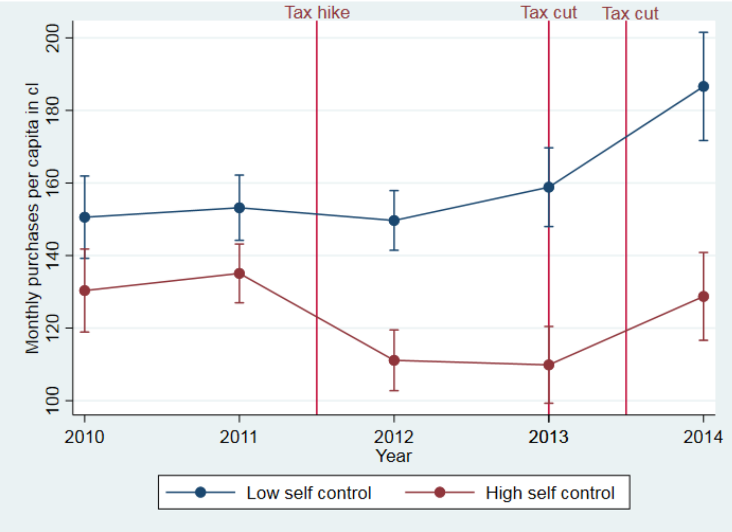

Figure 1: Predicted purchases by self-control by year (cl per individual).
Source: Schmacker, Smed (2019): Can Sin Taxes Help Consumers with Low Self-Control? Evidence from Danish Soft-Drink Tax Reforms. Mimeo.