

# Are Taxes on Sugar-Sweetened Beverages Effective? The Catalan Case

Overweight and obesity are very important and widespread health problems in the world today, especially in developed countries: in the year 2015, 54% of the adult population in the OECD countries was overweight and about 19.5% was obese. In Spain, 48% (25%) of the adult (child) population was overweight in 2011. The consumption of sugar is considered to be one of the leading causes of the growing overweight and obesity rates, and sugar-sweetened beverages (SSBs) in particular contain high quantities of sugar.

In this context, the World Health Organization (WHO) published a report in 2016 with a number of recommendations for governments in developed countries, such as the introduction of taxes on products considered harmful to health. WHO placed special emphasis on taxes on SSBs and prescribed that these taxes should increase the final price of these products by 20%.

Following the recommendation of WHO and the example of other countries, the Generalitat of Catalonia approved a tax on bottled SSBs sold in Catalonia. This tax was implemented on May 1, 2017 and levies taxes on all bottled beverages containing added caloric sweeteners such as sugar, honey, syrups, etc. The tax is 0.08 € per liter for beverages containing between 5 and 8 grams of sugar per 100ml, and 0.12 € per litre for beverages containing more than 8 grams of sugar per 100ml. Beverages with less than 5 grams of sugar per 100ml are exempt from the tax. A peculiarity of the Catalan tax

**The tax on SSBs resulted in an increase of up to 20% in the price of beverages in two-litre containers.**

is, for the first time, it requires that 100% of the tax to be transferred to the final price of the product.

In order to analyze whether the introduction of this tax has reduced the consumption of SSBs, in a recent article with Guillem López ("Impact of SSB Taxes on consumption", CRES-UPF working paper 201804-110), we use data from a large supermarket chain operating in Catalonia (Bonpreu) and which represents a 10% share of the Catalan market. The

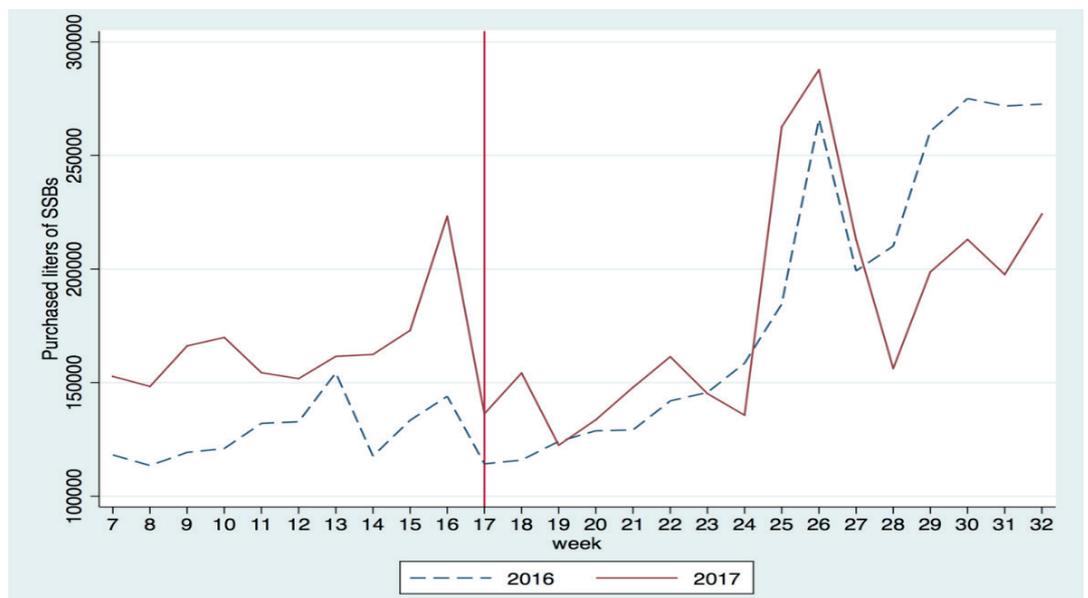


Figure 1. Consumption trend of SSBs in 2016 and 2017

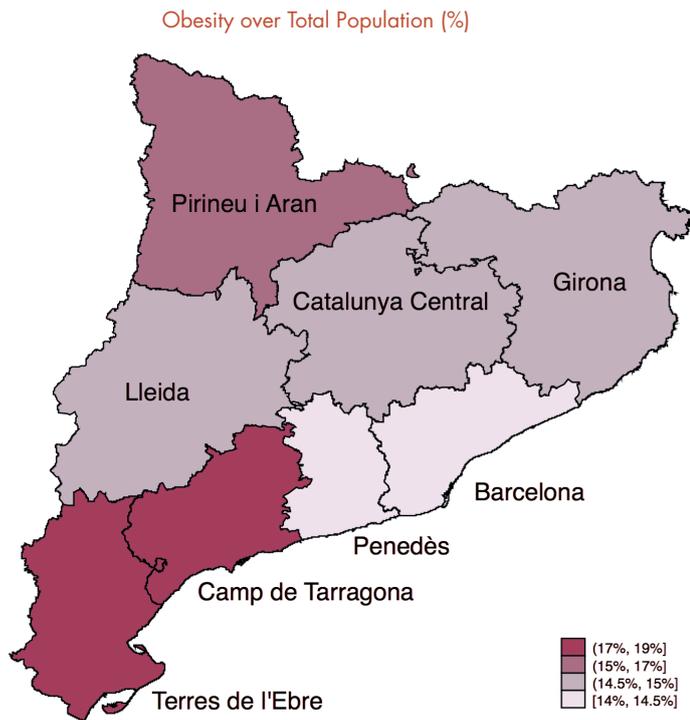


Figure 2. Obesity rate by region (Catalan Health Survey, 2016)

## The decrease in consumption of SSBs is larger in areas with higher rates of obesity.

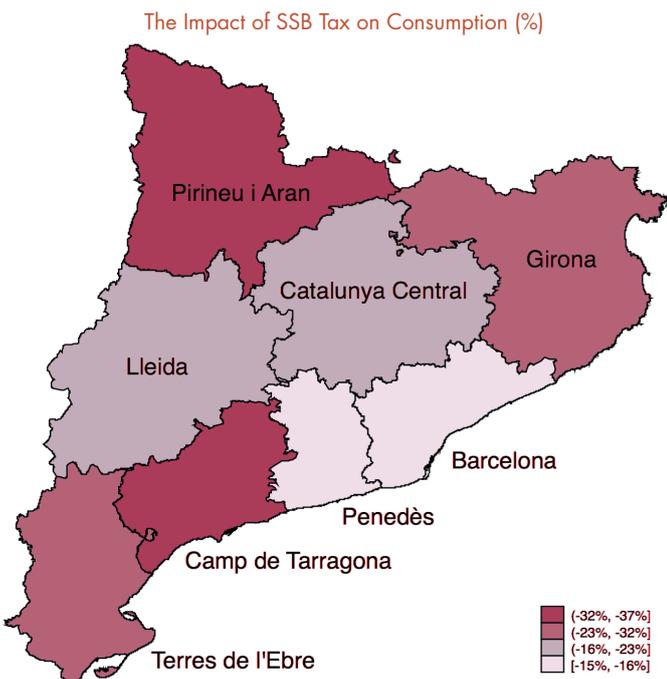


Figure 3. Tax effectiveness by region

data are weekly sales of 105 products, which include SSBs, light/zero beverages, and water. We also have pricing data for these 105 products one month prior to the introduction of the reform and another set of observations one month later. With these observations of the price from two periods for each product, we first calculate how the final prices are affected. We observe two important things: first, we see that the tax was shifted completely to the final price paid by consumer; second, we see that the price increase is between 5-10% for beverages for smaller recipients (cans) but reaches around 20% for beverages in two-litre containers. It is important to note that the 20% price increase is in accordance with the WHO guidance for this type of tax.

Looking at the effects on the consumption of SSBs (see Figure 1), we find that: 1) consumption of SSBs in 2017 is higher than in 2016; 2) purchases of SSBs increased a couple of weeks before the reform (anticipation effect); and 3) at the time of the introduction of the tax, purchases of SSBs dropped and reached the same level as the previous year. We also find that the drop in consumption is more pronounced for two-litre beverages. This fall is accompanied by an increase in the sales of light/zero beverages. More specifically, for every 4.7 liters reduction in the consumption of SSBs, there is an observed increase in the consumption of light/zero drinks by 3.5 liters.

We also note that the decrease in consumption is larger in areas with higher rates of obesity (calculated with data from the Catalan Health Survey of 2016), as can be seen in Figures 2 and 3, and in non-touristic regions.

This type of tax has been implemented in several developed countries over the last 6-8 years. The United Kingdom (2018), France (2012) and Mexico (2014), as well as various U.S. cities (such as Berkeley or Oakland) have introduced similar taxes, and Ireland and South Africa are expected to follow suit in 2018.

In this context wherein more and more countries adopt this type of tax, we believe that the results of our study can provide evidence on the effects of these taxes, and also on the importance of their design. Finally, it should be highlighted that these observed reductions in consumption are likely to translate into medium/long term improvements in the population's weight and, in turn, reductions in diseases linked to the excessive consumption of SSBs.

**Judit Vall Castelló, IEB Researcher**  
[judit.vall@ub.edu](mailto:judit.vall@ub.edu)