Weighing the evidence

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Taxes and obesity in Europe

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Summary

- Taxes on unhealthy food and drink are on the EU agenda. Commissioner for Health, Olivér Várhelyi, floated an EU-wide levy in 2025. While the Safe Hearts Plan, adopted in December the same year, dropped it, it commits the European Commission to support national taxation of unhealthy food, including in Germany, where a tax on sugary drinks could take effect in July 2027.

- These taxes rest on a chain of assumptions: that they raise prices; higher prices cut sales; lower sales translate into decreased calorie intake; and lower calorie intake reduces obesity. But if there is a break in the chain, the policy fails. The evidence outlined in this briefing shows breaks at several points.

- Demand for food and soft drinks is inelastic, so taxes tend to produce only very small effects on consumption. Consumers often switch to cheaper brands and shops, buy from other countries, and choose other untaxed high-calorie products.

- Studies that measure calorie intake or bodyweight, rather than sales of the taxed product, find little or no effect on obesity. Several food taxes, including Denmark's fat tax and Finland's confectionery tax, proved unpopular and were abolished.

- Before extending or harmonising food taxes, the Commission and member states should judge them by their effect on calorie intake and obesity, not by sales of the taxed product, and learn from the countries that have already scrapped them.

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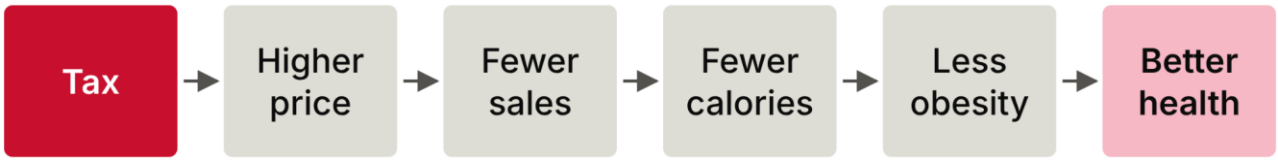
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How the taxes are supposed to work

The principle behind taxing food and drinks that are high in calories sounds simple. In fact, it relies on a sequence of events that are not guaranteed to occur. As shown in Figure 1, the tax must raise the price of the targeted product, and this must lead to a decline in sales. The decline in sales must result in people consuming fewer calories, thereby reducing the prevalence of obesity. Since obesity is related to several adverse health conditions, this should lead to better health among the population.

Figure 1. How food and drink taxes are supposed to reduce obesity



Source: Author's illustration

If there is a break in the chain, the policy will not work. The policy will only work if consumers behave as the policy-makers want them to, but will they? People respond to incentives, but not always in the ways the government would like.

Businesses might absorb the tax rather than pass it on to customers. If the tax is passed on, consumers might absorb higher prices by making cuts in other parts of their household budget. Other consumers might switch to cheaper brands of the product or shop in cheaper shops. If the tax is levied at a very high rate, it might even drive consumers towards the black market. And even if consumers reduce their consumption of the targeted products, there is nothing to stop them consuming different products that will make them fat.

These are all possibilities. Nine EU countries have implemented taxes on sugary drinks, and a few countries have experimented with taxes on saturated fat (Denmark, abolished in 2013), confectionery and ice cream (Finland, abolished in 2017), chocolate and sugar (Denmark, still in place) and 'unhealthy' food in general (Hungary, still in place). Mexico, the UK and parts of the USA have had soda taxes in place for years. So what does the evidence show?

How taxes on food and soft drinks work in practice

Pass-through

The proportion of tax that a business transfers to consumers is known as the pass-through rate. While the food and drink industries are sometimes able to absorb some or all of the tax without raising prices, experience has shown that they are more likely to increase profits by raising prices beyond what is needed to accommodate the tax. In Denmark, Finland and France, taxes on sweet foods, fat and sugary drinks have typically been associated with price rises that were higher than expected given the rate of tax (ECSIP 2014: 25). Likewise, evidence from Mexico suggests that '[p]rices of regular sodas jumped by more than the amount of the tax' (Grogger 2015).

But there are exceptions. When Berkeley, California, introduced a soda tax in 2015 'retail prices rose by less than half of the amount of the tax' (Cawley and Frisvold 2015), but this was likely because of price competition from neighbouring areas. It is relatively easy for Berkeley residents to do their shopping in a place that does not have a soda tax. In the UK, the pass-through rate was only 31%, but this may have been because the Soft Drinks Industry Levy was not an excise tax but was a tax

on manufacturers, meaning that they could spread the cost across their whole product range (Scarborough et al. 2020).

Overall, the pass-through rate tends to be at least 100%, but this is not guaranteed.

Substitution effects and cross-border shopping

If one source of calories becomes more expensive, consumers may switch to another food or drink product or to a cheaper variety of the same product. There is no guarantee that the substitute products will have fewer calories or be better for their health. Since humans are hard-wired to seek out energy-dense food, there is a good chance that a tax on calorific products will mean that 'consumers will probably increase their demand for cheaper calories, leaving obesity unchanged' (Edwards 2012: 284).

High-calorie substitutes for sugar-sweetened beverages include fruit juice, full-fat milk, wine, beer, and, potentially, coffee. Evidence shows that people do indeed switch to these drinks to some extent when sugary drinks are taxed (Dharmasena and Capps 2012). Studying the effect of soda taxes on children and adolescents in the USA, Fletcher et al. (2010) found a 'modest reduction in soft drink consumption' but no effect on obesity because 'any reduction in soft drink consumption has been offset by the consumption of other calories'.

Danish consumers responded to the tax on saturated fat by switching to cheaper brands of the same fatty products and shopping in discount stores (Jensen and Smed 2013). Some even began to shop in Germany and Sweden to take advantage of lower prices. In Hungary, where a tax covers a wide range of energy-dense foods and drinks, there has been evidence of shoppers downshifting to cheaper brands (Daley 2013). Likewise, cheaper confectionery, ice cream and soft drinks won out over premium brands in Finland (ECSIP 2014: 45). In 2021, Norway abolished its chocolate, sugar, and soft drinks taxes due to large-scale shopping over the Swedish border.

Paying up

Basic economic theory predicts that higher prices will lead to less demand. The extent to which consumption falls in response to higher prices depends on how important the product is to the consumer. Food and drink are the cornerstones of the household budget, and most people are reluctant to change their consumption habits unless prices change dramatically. Economic evidence shows that the demand for soft drinks is inelastic, which is to say that a 1% increase in price leads to a decline of less than 1% in consumption.

It is normal for a 'sin tax' on food and soft drinks to have some effect on consumption, but the effect is usually quite trivial. For example, a 13.1% increase in the price of butter resulting from the Danish fat tax was associated with a modest 5.5% decline in sales. Similarly, a 14.8% increase in the price of confectionery in Finland coincided with a mere 2.6% drop in consumption. When the price of soft drinks rose by 7.3% for two consecutive years in Finland, consumption fell by less than 1% in the first year and by 3.1% in the second year (ECSIP 2014: 34). A 10% tax on sugary drinks in Mexico, the poorest country to have experimented with such a policy, was said to have led to a 6% decline in sales (Colchero et al. 2016a).

It is impossible to tell how much of these declines in sales were due to the taxes. Most of them took place in the early 2010s when the European economy was performing badly. However, enough

evidence exists to support the general conclusion that demand for food and soft drinks is inelastic and that taxes levied on them tend to have only a small effect on consumption.[1]

Impact on consumption

The combination of price inelasticity, cross-border shopping, out-of-town sales and substitution effects means that changes in calorie consumption due to taxation are small or non-existent. This is a consistent finding in the academic literature that is sometimes masked by claims about the sale of particular products declining in particular places. For example, a study of Philadelphia's soda tax found that soda sales fell by 40%. This seems like a huge effect. However, the authors found: 'Due to cross-shopping and compositional changes in demand, we do not detect a significant reduction in calorie and sugar intake' (Seiler et al. 2021). Berkeley's soda tax was said to have been a success because sales fell by 9.6% in Berkeley stores. However, sales rose by 6.9% in non-Berkeley stores and sales of untaxed high-calorie drinks to Berkeley residents rose. The result was that Berkeley residents were consuming an extra 26 calories from soft drinks after the tax was introduced (Silver et al. 2017).

A study of Mexico's sugar tax claimed that sugary drink consumption fell by up to 12% (Colchero et al. 2016a). In fact, the decline was closer to 2% (Colchero et al. 2016b), but even a fall of 12% would represent only a 16-calorie reduction in daily energy intake, assuming consumers did not compensate by consuming more calories from other sources.

Impact on obesity

Given the trivial impact these taxes have on calorie consumption, it is not surprising that they have a negligible impact on obesity. Taxes on sugary drinks have never been accompanied by a measurable decline in obesity anywhere in the world. Most studies do not even look at obesity and instead use proxy measures such as sales and calorie intake from the taxed product, but a few have looked at the primary outcome measure of body weight. Studying soda taxes in the USA, Fitts and Vader (2013) concluded that their research 'does not support the theory that soda taxes have a negative effect on body-mass index'. In line with Fletcher et al. (2010) and others, Powell et al. (2009) found 'no statistically significant associations between state-level soda taxes and adolescent [body mass index]'. Another study from the USA found that changes in food prices had no effect on rates of obesity (Han and Powell 2011). Even in US jurisdictions where soda taxes are unusually high, Fletcher et al. (2014) still failed to find any effect and concluded that 'our results cast serious doubt on the assumptions that proponents of large soda taxes make on its likely impacts on population weight. Together with evidence of important substitution patterns in response to soda taxes that offset any caloric reductions in soda consumption, our results suggest that fundamental changes to policy proposals relying on large soda taxes to be a key component in reducing population weight are required.'

A systematic evidence review by Maniadakis et al. (2013: 519) concluded:

> 'Price increase may lead to a reduction in consumption of the targeted products, but the subsequent effect on caloric intake may be much smaller. Only a limited number of the identified studies reported weight outcomes, most of which are either insignificant or very

[1] It has been claimed that Denmark's fat tax reduced consumption of fatty products by 10-15% but this is misleading. The figure comes from a study which looked at the first three months of the new tax regime when consumers were using up the large number of products they had hoarded in the days before prices rose (Jensen and Smed 2013). Researchers who have looked at the whole timeframe have found that the decline in sales was much lower than 10-15% (see Bødker et al. (2015) and ECSIP (2014: 34)).

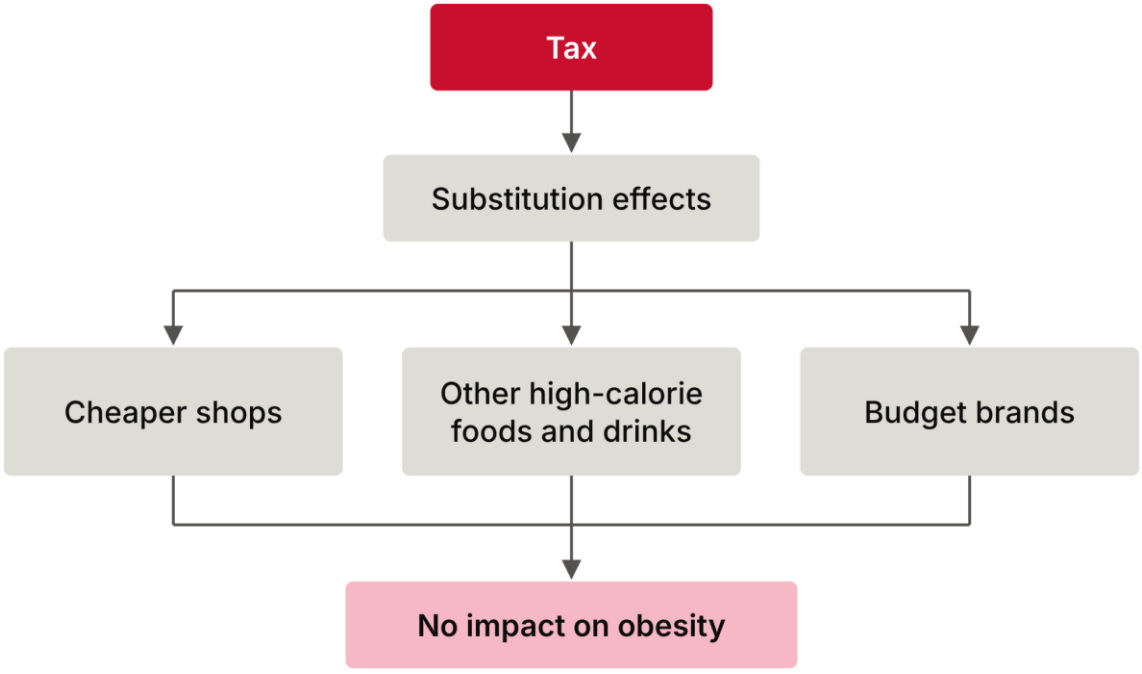
small in magnitude to make any improvement in public health… The effectiveness of a taxation policy to curb obesity is doubtful…'

The simple fact is that taxes on soft drinks, food, or a combination of the two have never reduced obesity anywhere. Hungary, which has the most extensive set of food taxes in Europe, has seen its obesity rate rise from 24% to 31% since 2010. In Mexico, which was said to be leading the world with its sugary drinks tax in 2014, the obesity rate rose from 32% in 2013 to 39% in 2024. Rates of both childhood and adult obesity have risen in the UK since its sugar tax began in 2018.

Conclusion

The evidence for taxing food and soft drinks as a means of reducing obesity is very weak, and unintended consequences abound. In practice, people in affluent countries are not easy to manipulate with blunt tax instruments. The seemingly simple chain of events shown in Figure 1 becomes more complex when substitution effects and unintended consequences are taken into account in Figure 2.

Figure 2. How substitution effects break the chain in practice



Source: Author's illustration

After reading 880 studies for a systematic review, Shemilt et al. (2013: 11) concluded that 'the public health case for using economic instruments to promote dietary and physical activity behaviour change may be less compelling than some proponents have claimed'.

As a result of the negative side effects associated with food and drink taxes, they tend to be unpopular unless levied at such a low rate as to go virtually unnoticed (as in France). Within a year of Denmark introducing its fat tax, 70% of Danes considered it to be 'bad' or 'very bad' and 80% said it had not changed their purchasing habits. Since 2010, EU countries have been more likely to abolish taxes on food than to introduce them. That alone should provide policy-makers with food for thought.

The EU context

The debate is no longer only national. In September 2025, Health Commissioner Olivér Várhelyi told MEPs on the European Parliament's public health committee (SANT) that 'if people take risks, whether they should contribute financially, maybe that is something to look at', and signalled openness to a levy on foods high in fat, sugar, and salt, with the revenue going to public health measures.[2] A leaked draft of the Commission's cardiovascular health plan, reported in November 2025, went further, listing 'EU-wide levies on highly processed, high fat, sugar and salt foods and alcopops in 2026'.[3] The Commission's Safe Hearts Plan, adopted on 16 December 2025, dropped that commitment. It does, however, describe levies and taxes as tools to 'influence consumer behaviour', commits the Commission to support member states in advancing the taxation of unhealthy food, including through a network of national authorities and a database of national taxes, and promises to examine 'possible financial actions' to fund prevention (European Commission 2025).

No EU-level tax has been proposed, but national governments are moving; in October 2026, the German government approved a draft tax on sugary drinks, which would come into effect on 1 July 2027 if it is passed in the Bundestag.[4] The evidence in this briefing suggests that EU coordination would spread a policy whose effect on obesity, where it has been tried, remains unproven at best.

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