

HEAD TO HEAD



Could a sugar tax help combat obesity?

Sirpa Sarlio-Lähteenkorva says that a specific tax on sugar would reduce consumption, but **Jack Winkler** thinks that such taxes are politically unpalatable and would have to be enormous to have any effect

Sirpa Sarlio-Lähteenkorva *adjunct professor, ministerial adviser, Ministry of Social Affairs and Health, Finland*, J T Winkler *emeritus professor of nutrition policy, London Metropolitan University, UK*

Yes—Sirpa Sarlio-Lähteenkorva

Taxes are traditionally regarded as a source of revenue, but they can also be used as tools in health policy. Indeed, taxes on alcohol and tobacco have been widely used for decades and reduce consumption.^{1 2} Many countries have also recently passed legislation to introduce or increase taxes on specific food items such as soft drinks, sweets, chocolate, ice cream, or other unhealthy foods, often aiming to combine fiscal and health benefits.³ Although data are limited, emerging evidence indicates that food taxes can influence consumption.^{4 6}

However, improving dietary habits this way is more complicated than limiting alcohol or tobacco use. Food is a necessity, and overall consumption is relatively insensitive to price changes. When some foods become more expensive consumers tend to look for cheaper substitutes. These cross elasticities of demand need to be considered carefully when planning food taxes. It has been suggested that to influence consumption the price increase has to be at least 20%,⁴ and consumption of some foods is less sensitive to price changes than for others. Limited data come mostly from modelling studies. However, increasing evidence suggests that taxes on soft drinks, sugar, and snacks can change diets and improve health, especially in lower socioeconomic groups, where price elasticity is high.⁵ The potential for improved health is greatest when combined with incentives for choosing healthier foods.⁵

Health and other benefits

Taxes such as excise duties on specific food categories that are common constituents of poor diets are practicable because they are simple to administer. And it is possible to target the most problematic foods, such as sugary soft drinks, which are linked to weight gain, dental caries, and other adverse health effects.^{6 7} Taxes can only be a partial solution, however. The food industry may invent substitutes outside the tax regime, and consumers may form new habits, such as drinking fruit juices or sweetened tea with the same sugar content as soft drinks, if these are not covered by taxes.⁸

A sugar tax on all products could counteract this type of substitution. A study using Finnish household budget data from

several years showed that demand for sugar, sweets, and sugary drinks is very price elastic, particularly in poor households. Based on these estimates of demand elasticity, a tax of about €1 (£0.70; \$1.10) on a kilogram of sugar would substantially reduce demand for sugar and sweets (−0.233) and bakery products (−0.038) with a slight increase in demand for meat (0.02) but no noteworthy changes for other foods.⁹ This sugar tax would reduce body weight by an average 3.2 kg and the incidence of type 2 diabetes by 13%.⁹ Prevalence of coronary heart disease would also lessen, with these health effects greatest among poorer groups, reducing health inequalities. Indeed, targeting fiscal policies to nutrients such as sugar, saturated fat, or fibre is probably more effective at improving dietary intake than targeting specific food categories.¹⁰

The food industry may find a sugar tax more acceptable because it would treat all sources equally. It could also stimulate reformulated products with less sugar and hence liable for less tax.

Practical challenges

In Finland the Sugar Tax Working Group has explored having a sugar tax instead of the current excise duties on soft drinks, sweets, chocolate, and ice cream. Introducing a sugar tax would be challenging. Its administrative burden would be high because of the many taxpayers. Tax on added sugars could be administered easily for domestic products but it would be complicated for imported ones, affecting trade. Alternatively, a tax based on products' total sugar content would be feasible, but mandatory declaration of sugar content is not enforced, and how can healthy products like fruits and vegetables be exempted fairly? The working group concluded that the current system of using excise duty is most practicable. A combination of excise duty for key sources of sugar with tax adjusted based on sugar content would optimally promote health—and product reformulation.¹¹

Introducing new taxes is highly sensitive. In times of economic crisis many countries could benefit from broadening their tax base and shifting from labour taxes to consumption taxes, which are considered less detrimental to growth.³ Nevertheless, taxes for health face many challenges, as recently seen with

Denmark's short experiment with a tax on saturated fat. This tax seems to have reduced consumption of fats by 10-15%, but worries about border trade and lobbying by industry led to its withdrawal.¹²

Industry objection

The food industry argues that consumption taxes are ineffective, unfair, and damage the industry, leading to job losses; similar arguments are used by big tobacco. However, taxation of commodities such as alcohol, tobacco, and unhealthy food seems justified when the burden of ill health is mostly paid for by society.⁴

We need fiscal policies that take health seriously. Sugary foods and sugar sweetened beverages are associated with weight gain.^{6 7 13} Governments must tackle the related adverse health effects, such as diabetes, coronary heart disease, and hypertension. A tax on sugar, preferably with measures that also target saturated fat and salt, and incentives for healthy eating, would help.

No—J T Winkler

For decades, those concerned about diet and health problems never mentioned the price of food. Everyone else—farmers, manufacturers, retailers, consumers—was obsessed with price. But not health advocates.

Recently, they discovered what the food industry always knew: price is a key determinant of food choices. The theory is simple: give people economic incentives to better choices. Make “bad” foods more expensive, “good” foods cheaper, or both.

Many approaches exist to creating price differences, including agriculture (support prices, production quotas), trade (tariffs, quotas, standards), government food purchases (preferred products and providers), differential subsidies in workplace canteens, public distribution (to vulnerable groups), targeted promotions (for nutritionally superior products), and product margins (permanent differentials that favour healthier foods).

Among these, health advocates in most countries have focused on the most difficult—taxing popular foods, especially soft drinks. In the UK the BMA has just endorsed this idea. And the World Health Organization in Europe recently published a review of price policies to promote healthier diets in which the only examples it had available to discuss were taxes.¹⁴

Politically unacceptable

Taxation seems a negative approach, punishing the bad rather than rewarding the good. Not surprisingly, food taxes face political and economic obstacles. Even in good times, no one likes taxes, so politicians do not like them. And many countries linger in recession and have political imperatives to cut taxes, not raise them, especially regressive taxes that disproportionately affect poorer people.

Referendums in the United States have led to soft drinks taxes in just one city (Berkeley); they were rejected in more than 30 states and cities, including New York, Philadelphia, Washington, DC, and San Francisco.¹⁵

Health advocates attribute defeats to campaigns by big food companies protecting their interests. Naturally, companies resist. But, are US residents clamouring to be taxed more, only subverted by industry?

Across the Atlantic, only four of 53 states in WHO Europe have adopted food taxes, all with the stated aim of raising revenue, not improving health.¹⁴

Denmark is the political omen, one of the most tax tolerant nations on Earth. It imposed fat taxes then repealed them a year later, after near universal opposition and widespread evasion. Elected politicians elsewhere are now wary.

Economically ineffective

Food taxes are also economically ineffective. Most advocacy is based on modelling studies that estimate the likely effects of taxes on purchases (“price elasticity of demand” research). Two rigorous studies involved soft drinks in Britain.

One found that a 10% tax would reduce average personal daily intake by 7.5 mL, less than a sip.^{16 17} The other showed that a 20% tax would reduce consumption by 4 kcal.¹⁸ Effects of this size will not reverse global obesity.

Mexico is the only large country to have food taxes, including for soft drinks, explicitly for health as well as revenue, since 2014. Four studies, all incomplete and by interested parties, have produced different results (one claiming large reductions, three showing small falls).¹⁹⁻²²

Food taxes are flawed

Advocates assume that food taxes would be reflected fully in retail prices. But in many countries, especially the US and UK, market forces mean that companies absorb part of all cost increases.²³

Tobacco taxes are often cited as a precedent for such disincentives to consumption. A sense of scale is required. Tobacco taxes vary worldwide, but not in the 10-20% range. The UK rate is 348%.

Sugar taxes have another fundamental inadequacy. Since 2006, the EU agricultural support price (guaranteed for farmers) for sugar has been cut by 36%. And production quotas are to end in 2017, reducing prices by another 20-35%.²⁴⁻²⁶

Simultaneous elimination of caps on production of isoglucose (Eurospeak for high fructose corn syrup), will reduce prices a further 22-24%.²⁵ Altogether, the price of sugar in the EU will fall to a quarter of its 2005 level. It's hard to imagine a more unhealthy agricultural policy, and no conceivable, politically tolerable tax could correct for these reductions.

A positive alternative

Cutting product margins on soft drinks exemplifies a positive alternative, which would make the healthy choice the cheaper choice and simultaneously boost companies' profit.²⁷

Sweeteners cost less than sugar, so sugar-free drinks cost less than their sugared counterparts to manufacture, by roughly \$0.125 (£0.08; €0.11) for 2 litres. But companies add extra margin onto sugar-free drinks so that they always sell for the same price as the sugared alternative.

This extortionate “health premium” means that sugar-free drinks are more profitable. Cutting part of that margin would create a price advantage for sugar-free. Demand would shift, companies would make more money, and public health and private profit might for once push in the same direction.

Before and after the recent UK election, government representatives—with candour rare among politicians—stated repeatedly that there will be no new food taxes and immediately rejected the BMA's proposal.

Why are we still debating this idea? Nutrition policy needs price instruments but a more positive selection. Sugar taxes are unlikely to be adopted and would not make much difference if they were.

Price instruments

Agricultural policies—All over the world contain numerous price instruments that influence what is produced, how much, and of what quality. These include grants, tax exemptions, levies, rebates, storage subsidies, grading standards, research assistance, and “special payments” for particular crops, regions, or activities. But the two most important instruments are support prices and production quotas. Commonly, governments offer to buy farmers’ production at a specified price if they do not receive a better offer from others. This effectively sets a minimum price for any crop. Quotas govern how much farmers can grow that is eligible for such government purchasing

Trade policies—To control the amount of sugar available, you have to control imports as well as domestic production. So countries commonly impose quotas on imports, with exemptions for favoured trading partners and less developed countries. To ensure that cheap imports do not undercut domestic producers, compensatory tariffs are widely applied to raise their price to local levels

Government food purchases—Governments are often large purchasers of food to support operations in schools, the armed services, residential institutions, day care centres, prisons, and hospitals. In the UK, the government buys as much as a large supermarket group. Purchasing contracts can specify nutritional standards for the food bought and give favoured status to suppliers who meet them. But a common problem is that buying is often fragmented between different levels and agencies of government, with different standards

Workplace canteens—Food made available to employees by many large organisations, in both private and public sectors, is usually subsidised by employers. Instead of just outsourcing the work to a catering company, organisations could specify nutritional standards in contracts, and adjust subsidies to favour healthier purchases

Public distribution—Many governments provide food at reduced prices to poor people generally or to selected vulnerable groups. The best known of these is the “food stamps” programme in the US, but India’s system is the largest, covering 16 times as many people as in America. Developing countries often provide food for work on public construction projects. And many offer free school meals to children as an incentive to education. These programmes could all specify nutritional criteria

Promotional discounts—In the UK, in recent years, about 40% of all food purchases have been bought with some form of discount. In theory, it would be easy to offer differential discounts to favour healthier foods. But retailers often resist such a strategy to simplify administration

Product margins—Instead of relying on discounts, a better solution would be to create a permanent price differential in favour of healthier products in standard, everyday prices. The costs of production of popular foods are not widely known, because the information is treated as commercially confidential. Some nutritionally improved foods genuinely cost more to produce but production costs for others are lower, so they could be sold routinely at a lower price. Sugar-free soft drinks are just one example

Competing interests: Both authors have read and understood BMJ policy on declaration of interests and have no relevant interests to declare.

Provenance and peer review: Commissioned; externally peer reviewed.

- 1 Wagenaar AC, Salois MJ, Komro KA. Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies. *Addiction* 2009;104:179-90.
- 2 Chaloupka FJ, Yurekli A, Fong. Tobacco taxes as a tobacco control strategy. *Tobacco Control* 21;21:172-80.
- 3 European Commission. Tax reforms in EU member states. Tax policy challenges for economic growth and fiscal sustainability. 2012 report. Working paper 34-2012. EU Directorate for Taxation and Customs Union, 2012.
- 4 Mytton OT, Clarke D, Rayner M. Taxing unhealthy food and drinks to improve health *BMJ* 2012;344:e2931.
- 5 Eyles H, Mhurchu N, Nghiem N, Blakely T. Food pricing strategies, population diets, and non-communicable disease: a systematic review of simulation studies. *PLoS Med* 2012;9:e1001353.
- 6 Brownell KD, Frieden TR. Ounces of prevention—the public policy case for taxes on sugared beverages. *N Engl J Med* 2009;360:18:1805-8.
- 7 Morega LT, Mallard S, Mann J. Dietary sugars and body weight: systematic review and meta-analyses of randomised controlled trials and cohort studies. *BMJ* 2012;345:e7492.
- 8 Gill JMR, Sattar N. Fruit juice: just another sugary drink? *Lancet Diabetes Endocrinol* 2014;2:444-6.
- 9 Kotakorpi K, Härkänen T, Pietinen P, Reinivuo H, Suoniemi I, Pirttilä J. The welfare effects of health-based food tax policy. 2011. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1959273.
- 10 Jensen DJ, Smed S. Cost-effective design of economic instruments in nutrition policy. *Int J Beh Nutr Phys Activity* 2007;4:10.
- 11 Ministry of Finance. Sugar Tax Working Group report [in Finnish, abstract in English]. 2013. www.vm.fi/vm/fi/04_julkaisut_ja_asiakirjat/01_julkaisut/075_verotus/20130131Sokeri/sokeriverotoyryhmae_NETTI.pdf.
- 12 Jensen DJ, Smed S. The Danish tax on saturated fat—short run effects on consumption, substitution patterns and consumer prices on fats. *Food Policy* 2013;42:18-31.

- 13 Malik VS, Pan A, Willet WC, Hu FB. Sugar-sweetened beverages and weight gain in children and adults: a systematic review and meta-analysis. *Am J Clin Nutr* 2013;98:1084-102.
- 14 World Health Organization, Regional Office for Europe. Using price policies to promote healthier diets. Copenhagen, 2015.
- 15 Kamerow D. The case of the sugar-sweetened beverage tax. *BMJ* 2010;341:c3719.
- 16 Ng S, Ni Mhurchu N, Jebb S, Popkin B. Patterns and trends of beverage consumption among children and adults in Great Britain, 1986-2009. *Br J Nutr* 2012;108:536-51.
- 17 Winkler J. Why soft drinks taxes will not work. *Br J Nutr* 2012;108:395-6.
- 18 Briggs A, Mytton O, Kehlbach A, Tiffin R, Rayner M, Scarborough P. Overall and income specific effect on prevalence of overweight and obesity of a 20% sugar-sweetened drink tax in UK. *BMJ* 2013;347:f6189.
- 19 Kantar Worldpanel. Efecto de los impuestos a alimentos y bebidas saborizadas, 5 Mar 2015. www.kantarworldpanel.com/mx.
- 20 Alianza por La Salud. Mexico’s National Institute of Public Health study indicates the Federal sugar-sweetened beverage tax is successfully reducing purchases in Mexican households, 16 Jun 2015. www.alianzasalud.org.mx
- 21 New Zealand Tax Payers’ Union. Fizzed out: why a sugar tax won’t curb obesity. 2015. www.taxpayers.org.nz/fizzed_out.
- 22 Ise Santa Rita. Refresqueras eliminan 1700 empleos por impuestos. CNN Expansion 2015 Jul 7. www.cnnexpansion.com/negocios/2015/07/07/refresqueras-eliminam-1700-empleos-por-impuesto.
- 23 Campa J, Goldberg L. Pass through of exchange rates to consumption prices. 2006. www.nber.org/papers/w12547.
- 24 Department for Food and Rural Affairs. Implementation of CAP reform in England. Evidence paper. Defra, 2013.
- 25 Ciaian P, Van Doorslaer B, Himics M, Burrell A, Shrestha S. EU sugar policy: a sweet transition after 2015? European Commission Joint Research Centre, 2014.
- 26 ECSIP Consortium for European Commission DG Enterprise and Industry. Food taxes and their impact on competitiveness in the agri-food sector. EC, 2014.
- 27 Sweanor D, Hogg S, Welch V, Winkler J. Soft drinks: making the healthy choice the cheaper choice. *Grocer* 2013 Dec 20.

Cite this as: *BMJ* 2015;351:h4047

© BMJ Publishing Group Ltd 2015