

Sugar sweetened beverage and junk food taxes - A major risk factor for non communicable diseases (NCDs): Why over 45 countries have adopted them

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Outline

- **Why consider a tax on food high in sugar, sodium and saturated fat?**
 1. Unique qualities of beverages with sugar;
 2. Important health impact of **sugar**. This is relatively new whereas the adverse impact of **sodium** on health and functioning is clear as is that of most **saturated fats**.
 3. Potential for reducing health disparities; and
 4. Revenue, with a double benefit if some of the revenue focuses on health or other problems faced by the poor
- The environmental costs of SSB's and other ultra-processed foods!
- Types of taxes and their benefits: Revenue (volumetric) vs health impact (nutrient content based)
- A tax on ultra-processed food will be very impactful.

The Role of our history

Mismatch: Biology which evolved over millennia clashes with modern technology

Core biochemical and physiologic processes have been preserved from those who appeared in Africa between 100,000 and 50,000 years ago.

Biology evolved over 100,000 Years	Modern technology has taken advantage of this biology
Sweet preferences <i>Thirst, hunger/satiety mechanisms not linked</i> <i>Cheap caloric sweeteners, food processing create habituation to sweetness</i>
Fatty food preference <i>Caloric beverage revolution</i>
Snacking Behavior <i>Edible oil revolution — high yield oilseeds, cheap removal of oils; modern processed food; vendor, stall & restaurant sector</i>
Real food with minimally processed ingredients *new* <i>Modern food marketing; accessibility everywhere of unhealthy, nonessential, ready-to-eat snack foods</i>
 Ultra-processed foods: more energy density, additives, smells, hyperpalatable; Beverages: many sweeteners used

Major global shift: Sweetness, added sugars

- Always loved sweetness, probably at least partly because fruit provided unique source of nutrients.
- Dozens of clinical and random controlled studies showed the way on how what we drink affects us differently than sugar in food.
- This is fairly recent knowledge of the last 30 years about the lack of compensation of beverages on food intake.
- Research on sugar's impact on health in food and beverages in the past 3 decades has shown its powerful impact on our health.
- **No natural foods are high both in sugar and saturated fats or sugar and highly refined carbohydrates.** All new in the last half century with ultra-processed foods.

2. Added sugar, added saturated fat and added sodium in food or beverages plays a key negative impact on our health

- Metanalyses of randomized controlled trials and large longitudinal cohorts from all regions of the world all showed a large impact on all nutrition-related NCDs.
- Greatly increased risk of diabetes, hypertension, many other dimensions of heart disease, as well as 13 of the 15 major cancers
- Huge literature on the health impacts led WHO to recommend ideally **5% of calories from added sugar and strict sodium and saturated fats cutoffs.**
- Sodium and saturated fat guidelines have existed for a long time.

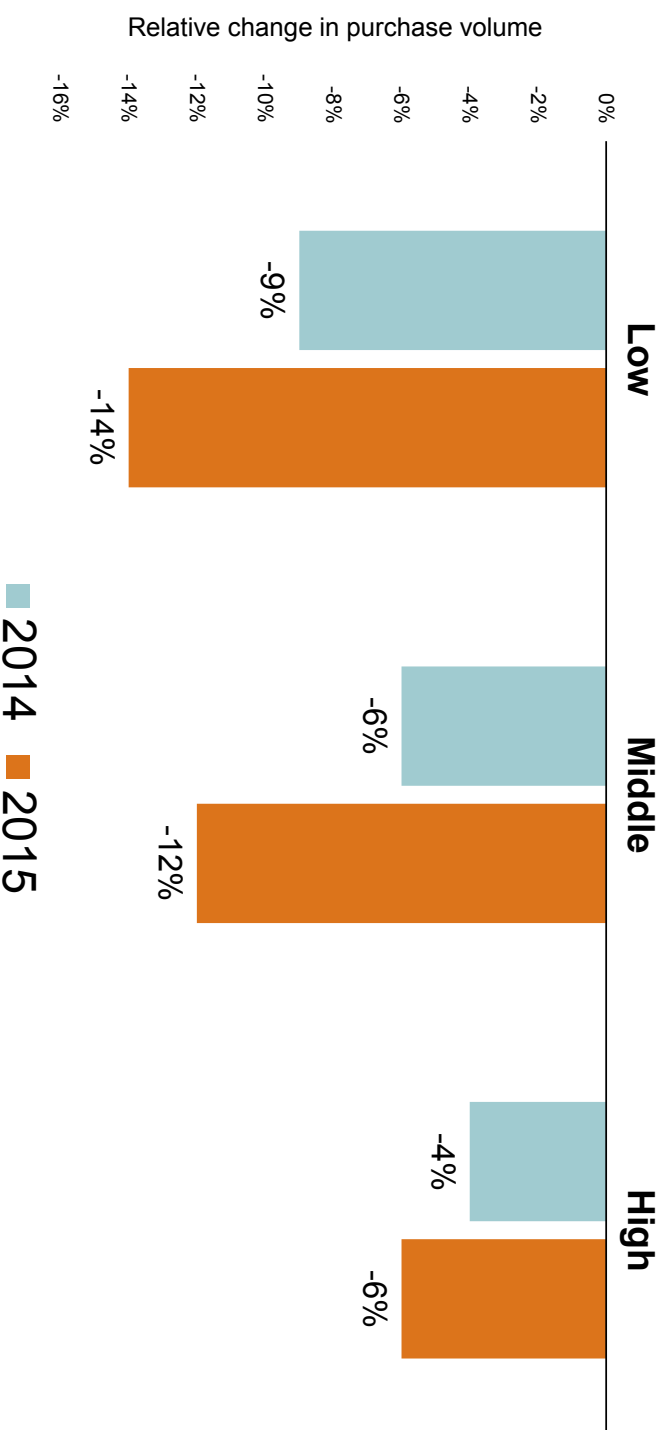
3. Taxation of SSBs and junk food and health disparities

- In most of the high-, low- and middle income countries the poor consume more except sub-Saharan Africa and South Asia but shifting rapidly there. .
- A tax is regressive in economic terms, meaning the poor are impacted more than the rich as a % of their food purchases and income.
 - They have a higher price elasticity (response to price increases)
- However, the poor also have the largest proportion of untreated health conditions such as hypertension, diabetes, and all other noncommunicable diseases (NCDs) as well as face undernutrition and stunting or adult thinness in many countries.
- A tax on ultra-processed food give lower income populations the largest health benefit, as they reduce consumption the most. Thus, it is a **progressive tax in terms of improving health and reducing health disparities.**

Taxation and revenue vs. health impact

- **Two major types of SSB taxes used today:**
 - Taxes based on **volume**
 - Most countries/regions/cities
 - Taxes based on **sugar content** (or tiered)
 - UK, South Africa, and Thailand
- Taxes based on sugar content promote both reduced purchases and product reformulation.
- Taxes on volume (or price — a few taxes) produce more revenue.
- Ideal bonus if tax revenue is used for increased spending on health/welfare programs.
- Junk food taxes to date have focused mainly on taxes based on prices but all options possible. Ideal if warning label or bad grade based on them to reinforce other policies.

Mexico: SSB taxes based on volume, 2-year results: an additional decrease in all three income groups in year 2 of the tax tertiles (see below). Other research found largest decreases among the heavy consumers. Mexican junk food tax found impact comparable to its 8% tax level.



Ng, S. W., *Jet al 2019. Did High Sugar-Sweetened Beverage Purchasers Respond Differently to the Excise Tax on Sugar-Sweetened Beverages in Mexico? Public Health Nutrition.* 22 (4):750-6

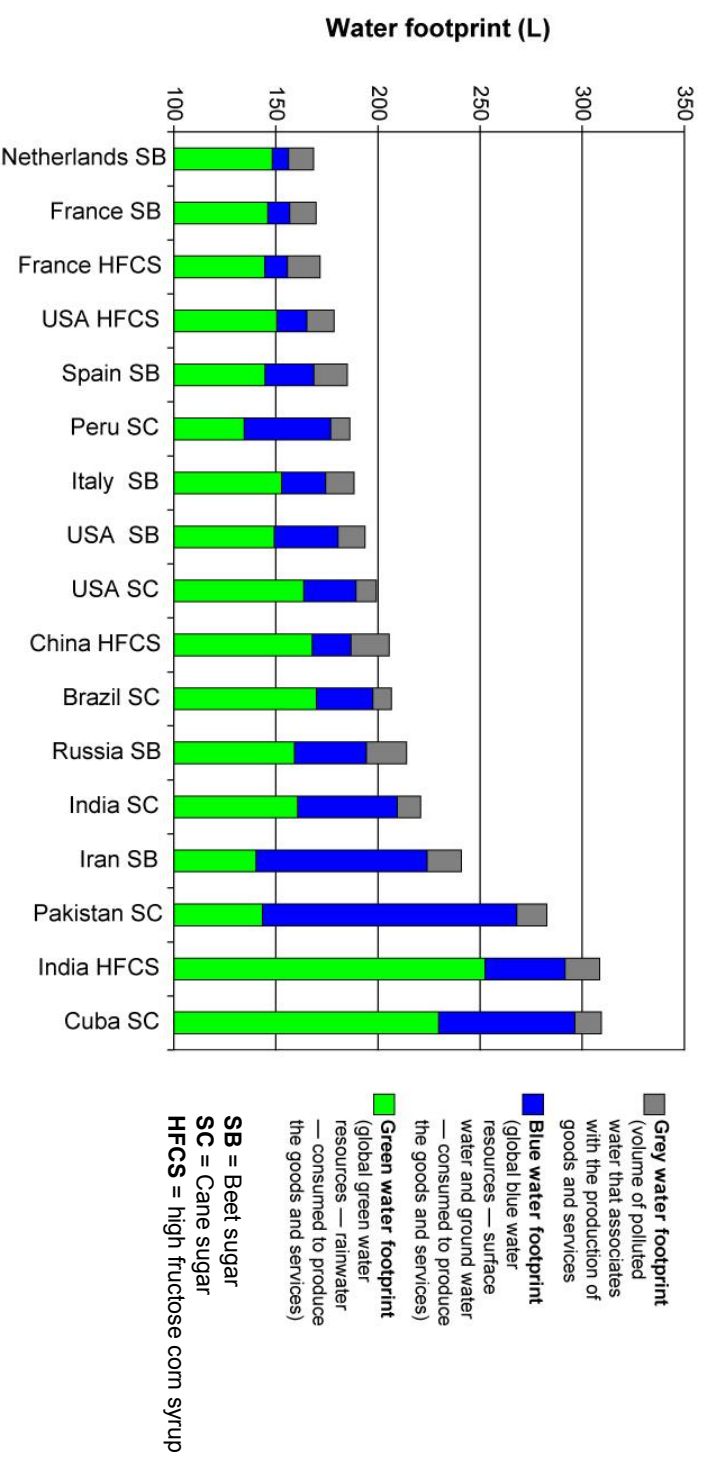
South African impact with a grams of sugar based tax in year 1

- Tax of about 10%
- SSB purchases declined by 29%
- Sugar content declined by 51%
- Lower SES subpopulation reduced purchases by 32% and sugar by 57%

One example of the environmental impact of ultra-processed foods

The water footprint of a sugar-sweetened beverage varies by sugar type and country of origin

The total water footprint of 0.5 L bottle sugar-containing carbonated beverage according to the type and origin of the sugar



Ercin, A. Ertug, Mate Martinez Aldaya, and Arjen Y. Hoekstra. "Corporate water footprint accounting and impact assessment: The case of the water footprint of a sugar-containing carbonated beverage." *Water Resources Management* 25.2 (2011): 721-741.

Taxation is the major option that countries and regions are using to control

- Strong evidence that 20-25% taxation will make an impact on SSB purchases and shift toward bottled water and other substitutes that are healthier.
- Over 45 countries along with cities and regions have passed SSB taxes. The largest are the gulf states 50% taxes.
- Major multinational organizations support such taxes as well as those on nonessential food high in added sodium, added sugar, and added saturated fat.
- Countries with significant nonessential food [i.e. junk food] taxes find them equally impactful.

Impact of SSB taxes on employment

- Very careful studies of the employment impact in Mexico, Philadelphia, and the United Kingdom, among others, show **no impact on employment in this sector**. Beverage companies sell other beverages.
- One study using company-specific monthly income and wages from Chile found **no impact on both employment and wages**, despite the set of laws resulting in almost a 25% decline in SSB purchasing (in the country with the world's highest per capita consumption of SSBs at the time of the laws).

Fiscal policies also work

Evaluations of taxes on sugar-sweetened beverages and nonessential junk food in small countries, US cities, Mexico, Hungary, Chile, South Africa and UK all show these taxes impact intake equal to the size of the taxes.

- **Health: Taxes on sugar content and tiered taxes** appear to have a larger effect on both reformulation and purchases of sugar (South Africa vs. all other countries except the UK evaluated)
- **Revenue:** Volumetric taxes bigger impact on revenue but less on sugar consumption.
- Regressive tax on income, progressive on health, reduces disparities significantly
- **The future lies with a meaningful ultra-processed food tax following WHO regional guidelines for advertising bans. It identifies for each specific all region foods and beverages which are the most unhealthy and should be taxed[coverage of high-in foods/beverages similar to phase 3 of Chile's warning label cutoffs].**

Popkin, et al 2021. *Towards Unified and Impactful Policies to Reduce Ultra-Processed Food Consumption and Promote Healthier Eating.* *Lancet Diabetes & Endocrinology.* [http://dx.doi.org/10.1016/s2213-8587\(21\)00078-4](http://dx.doi.org/10.1016/s2213-8587(21)00078-4)



The Struggle Over the Millennia to Eliminate Arduous Effort Could Not Foresee Modern Technology

