

Tiered Sugary Drink Tax Revenue Calculations

Background

Building off the November 2017 report, *Distribution of Sugar Content in Sugary Drink Purchases in the U.S.: Implications for Tiered Taxation*,¹ and the University of Connecticut Rudd Center for Food Policy and Obesity Revenue Calculator for Sugary Drink Taxes,² researchers estimated the revenue impact of tiered sugary drink taxes versus a uniform volume-based approach (ex. one cent per oz.). A tiered sugary drink tax categorizes sugary drinks into tiers based on the

am 272 17 am 272 17 MCID 14 BDC BT9 0 0 9 265.68 4a2 / , 445.272 TMC S.272 TMC S.33.272



to the penny per ounce tax. The difference varies by region, from an approximate 15 percent decline in purchases

When Tier 2 is taxed at 2 cents per oz. and Tier 3 is taxed at 3 cents per oz.

due to the relatively large tax on tier 3 beverages (up to 60 percent), which could lead to up to 80 percent decline in purchases of tier 3 beverages. Due to the drastic reduction in tier 3 purchases, the tiered tax would lead to lower total

states from the West Coast where per person purchases of tier 3 beverages are much lower compared to other states,



state/municipality. The state-level sales were derived from regional BMC sales data and further adjusted for each state/municipality based on its socio-demographic composition using NHANES and Census data. The distribution of grams of sugar by 8-ounces across beverage brands for each beverage category was applied to the state/municipality-level data by beverage category and then aggregated across the beverage categories for the given states/municipalities.

Population Data: Researchers projected state and municipal population for 2018 based on the 2010 U.S. Census data, U.S. Census Bureau population estimates for 2015-2016, and annual rate of change between 2010 and 2016 (assumed to stay constant for 2017-2018 projections).

To produce per capita estimates for sales of sugary drinks by sugar content, researchers used the 2016 American used state-level population estimates from the U.S. Census Bureau for 2015.

Beverage Prices: Retail prices in 2018 dollars for CSDs, fruit drinks, sports drinks, energy drinks and enhanced water were based on the data from the Bridging the Gap Community Obesity Measures Project (BTG-COMP). To adjust

carbonated beverages (sodas and energy drinks) and non-carbonated beverages (fruit beverages and others). RTD tea and coffee prices were not available from the BTG sources; instead they calculated these prices based on the BMC time. Importantly, average beverage prices were assumed to be constant across states and cities/counties.

Model Assumptions:

1. Tax pass through rate was assumed at 100 percent, or a full pass of the tax, onto retail price for consumers, as would be expected based on economic theory. The same pass through is assumed for all types of beverages.
2. The price elasticity of demand for sugary drinks was assumed to equal -1.21, as shown in prior literature review. The same price elasticity was assumed for all types of beverages.

Important Local Adjustments:

1. There is no adjustment for tourism consumption. Researchers used the residential population of state/cities and per