

## ***Technical Note on Estimated Impact of Alcohol Tax Reform in Brazil***

### **Introduction**

This technical note provides a detailed explanation of the methodology used to estimate the price increase required per can of beer to attain significant public health objectives in Brazil. It outlines the models, key assumptions, and data sources used to model the effects of a price increase on alcohol consumption. It also discusses the assumptions made, and how these estimates should be interpreted.

### **Methodology**

The model used to estimate the impact of an alcohol tax reform that results in a R\$ 1 increase per can on consumption and public health in Brazil is based on the following:

- **Econometric Model:** A demand elasticity model, which links price changes to changes in alcohol consumption. The model assumes that an increase in the price of alcohol will lead to a reduction in consumption, in line with established economic theory and empirical evidence. The model is based on the **Universidade Católica de Brasília (UCB)** alcohol tax simulator for Brazil, adjusted by the **Johns Hopkins University (JHU)** team to show the impact with price values aligned with the most recent price data available.
- **Parameters:**
  - The **price elasticity of demand** for beer is assumed to be -0.62. This implies that a 10% increase in price would result in a 6.2% reduction in consumption. (1)
  - The target **percentage reduction in consumption** from the price increase was set at 18%. This reduction is aligned with UCB estimates assuming:
    - a specific component of R\$ 30 per liter of pure alcohol and
    - an ad valorem component that is set:
      - to reduce total alcohol consumption by 20% across alcoholic beverages and
      - does not diminish its rate with alcohol concentration.

This 18% reduction for beer is aligned and consistent with other estimates (2, 3).

- **Data Source:**
  - **IBGE:** To simulate tax burdens and consumption patterns accurately, the model relies on household-level data from the Household Expenditure Survey (POF 2018/19) conducted by IBGE. This nationally representative survey includes:
    - Weekly purchases of goods, including alcoholic beverages
    - Volumes and unit values of products
    - Household-level sample weights
  - **World Health Organization (WHO):** The most updated data on the average price of a 330ml can of beer is from 2022, as updated in the WHO Global Report on Alcohol Taxes (5).

## Results

- **Impact of Price Increase:** The price increase is set to generate an **18% reduction in beer consumption**.
  - For **beer**, considering a retail price of **R\$3.29** (US\$0.63) per 330ml can, a tax increase that results in a price increase of **R\$1.05** (US\$0.20), will result in a new price of **R\$4.35** (US\$0.83) per can.
- **Tax Structure:** The UCB Alcohol Tax Simulator simulates the impact of different alcohol tax reform scenarios. It compares different outcomes under the current indirect tax system (PIS/COFINS, ICMS and IPI) with estimated outcomes derived from different reform scenarios under the new dual VAT system (CBS and IBS) and the new selective alcohol tax that consists of an ad valorem and a specific tax component.<sup>1</sup> The impact of alternative alcohol tax reform scenarios is simulated with respect to 1) the price of alcoholic beverages obtained from PNS 2019 and updated using IPCA-IBGE inflation index to 2021 values, for Beer, Wine, Spirits and Cachaça; 2) the total indirect tax burden on alcoholic beverages; 3) the consumption of alcoholic beverages; and 4) tax revenue. The tax reform scenarios are modelled in a post-transition period. The default scenario is set to be aligned with the *Plano de Ações Estratégicas para o Enfrentamento das DCNTs no Brasil 2021–2030 (Plano de DANT)* reduction goal for alcohol consumption. The JHU update replaces the prices for beer with the values from WHO, resulting in a simplified version that shows the results in terms of the most sold brand of beer. The JHU update does not simulate the infinite possible combinations between the specific and ad valorem components that will result in a **R\$1.05** (US\$0.20) increase per can.

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<sup>1</sup> The tax scenarios are based on the indirect tax reform legislated in Lcp 214  
< [https://www.planalto.gov.br/ccivil\\_03/leis/lcp/Lcp214.htm](https://www.planalto.gov.br/ccivil_03/leis/lcp/Lcp214.htm) >

## Interpretation

- The decrease is set as a conservative scenario as the 18% decrease in beer (or a 20% reduction in alcohol consumption, assuming a similar tax policy is applied across alcoholic beverages) will fall short of reaching the Plano de DANT goals for 2030.
- By implementing an alcohol tax reform that would increase beer prices by about R\$ 1 per can, Brazil could potentially see a reduction of around 18% in beer consumption.
  - The 18% reduction in alcohol consumption is based only on the reduction of beer consumption. The tax reform in discussion in Brazil considers a reform that will impact all alcoholic beverages.
  - This reduction in beer consumption is aligned with the UCB simulations, showing that an 18% decrease in beer consumption, aligned with a comparable tax structure for wine, spirits and cachaça, may result in a 20% reduction in pure alcohol consumption across alcoholic beverages.
  - This reduction would be aligned with other studies (6) that show a 20% reduction in pure alcohol consumption is estimated to prevent over **10,000 alcohol-related deaths per year**.
- The tax reform scenarios are modelled in a post-transition period, meaning when the reform is fully implemented. During the transition itself, both the old and new tax systems will be in effect, with the old tax structure gradually reducing its tax rates, while the new tax structure will see an increase in its tax levels. If the new tax structure (or the balance during the transition) is not well defined, it may result in a decrease in prices. For that reason, the correct definition of the new tax levels and the balance during the transition period will play a key role.

## Conclusion and Policy Implications

Brazil is currently in the midst of debating a tax reform that includes changes to alcohol taxation. This presents an opportunity to increase taxes on alcoholic beverages and reduce consumption. As an illustration, an increase of about R\$ 1 per can of beer could result in consumption dropping by about 18%, assuming the reform is implemented effectively, resulting in price increases on beer, wine, spirits, and cachaça. While the new Brazilian selective tax applied to alcoholic beverages has both ad valorem and specific components, it is recommended that the specific component has a higher relative importance in the overall tax burden than the ad valorem component to reduce tax avoidance and to have a more effective impact on the reduction of (pure) alcohol.

Considering this, the UCB model simulations show that a tax reform that reduces beer consumption by about 18 % will reduce the other alcoholic beverages even more, resulting in a 20 % decrease in pure alcohol consumption across all beverages. Such decrease could prevent over 10,000 deaths per year from alcohol-related diseases.

## References

1. Divino JA, Candido O, Ehrl P, Valadão M. Selective Tax on Alcohol Products under the Tax Reform Complementary Law (PLC 68/2024) [Internet]. 2025 [Sep 30 2025]. Available from: <https://www.economicsforhealth.org/files/research/1020/policy-note-ucb-20241119.pdf>
2. Fiocruz. Fiocruz study: Alcohol consumption costs Brazil R\$18 billion/year and causes 12 [Internet]. Rio de Janeiro: Fiocruz; 2024 [Sep 22 2025]. Available from: <https://fiocruz.br/en/noticia/2024/11/fiocruz-study-alcohol-consumption-costs-brazil-r18-billion-year-and-causes-12>
3. Vital Strategies. One life per hour could be saved if Brazilians reduce their alcohol consumption by 20% [Internet]. 2025 [Sep 22 2025]. Available from: <https://www.vitalstrategies.org/one-life-per-hour-could-be-saved-if-brazilians-reduce-their-alcohol-consumption-by-20/>
4. Universidade Católica de Brasília, Johns Hopkins University. Alcohol Tax Simulator for Brazil. 2025.
5. World Health Organization. Global report on the use of alcohol taxes, 2023 [Internet]. Geneva: World Health Organization; 2023 [Sep 22 2025]. Available from: <https://www.who.int/publications/i/item/9789240086104>
6. Nilson E. Estimation of the impact of various scenarios of reduction of alcohol use in Brazil: Preliminary report [Internet]. 2025 [Sep 22 2025]. Available from: <https://www.vitalstrategies.org/wp-content/uploads/Estimation-of-the-impact-of-various-scenarios-of-reduction-of-alcohol-use-in-Brazil.pdf>