# Modelling the impact of beer excise taxes on consumption and revenue in South Africa

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REEP
Research Unit on the Economics of Excisable Products

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SPES BONA

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## Executive Summary

This report evaluates the potential impact of tiered beer excise tax structures on alcohol consumption, government revenue, and industry dynamics in South Africa. Alcohol consumption poses a significant public health burden in the country, contributing to violence, injuries, and premature mortality. Beer, accounting for 75% of beverage volume and over 50% of alcohol excise revenue, is central to both the alcohol market and fiscal policy.

In 2024, South Africa's National Treasury (NT) proposed a shift from a flat-rate excise tax to a tiered system based on alcohol content (ABV), aiming to reduce alcohol-related harm and align with international best practices. However, the NT's proposed tiers—particularly the high threshold between 2% to 9% ABV tax band—is unlikely to incentivize meaningful product reformulation, as most beers fall between 4% and 6% ABV.

The Research Unit on the Economics of Excisable Products (REEP) developed an alternative proposal with more granular tiers and stronger incentives for reformulation. Using a tax simulation model adapted from tobacco excise modelling, the report compares the NT and REEP proposals under various scenarios, including industry reformulation and aggressive tax uplift factors.

Key findings include:

- The REEP proposal with industry reformulation leads to the largest reduction in absolute alcohol consumption (–15.7%), 12.9% increase in government revenue with only a 1.3% decline in industry revenue.
- The NT proposal results in a modest 1.9% reduction in absolute alcohol consumption and a 17.7% increase in government revenue.
- Aggressive uplift factors for beers above 4.5% ABV yield the highest revenue gains (68%) and stronger public health outcomes, even without product reformulation.
- Partial reformulation (Simulation 5) balances public health and industry sustainability, reducing alcohol consumption by 11.8% with a 2.4% drop in industry revenue.

The report concludes that a well-calibrated, tiered excise tax system—particularly one that targets the most common ABV ranges—can effectively reduce alcohol consumption, encourage industry reformulation, and generate substantial fiscal revenue. It recommends adopting the REEP proposal, increasing uplift factors for high-ABV beers, and implementing annual above-inflation tax increases.

# 1. Introduction

Alcohol consumption is a major public health threat in South Africa, contributing to a wide spectrum of harms including violence, injuries, trauma-related hospital admissions, mental health disorders, infectious diseases, and premature mortality.[1-2] In 2012, alcohol-attributable harm was responsible for an estimated 7.1% of all deaths and 5.6% of all disability-adjusted life years (DALYs) lost, ranking fifth among leading risk factors.[3] Heavy episodic drinking is a major driver of alcohol-related injuries and disease burden.[1] Estimates of annual alcohol-attributable deaths range from 36,248 to 62,300, based on studies by Matzopolous et al. (2014), Probst et al. (2018), and the World Health Organization (WHO).[1,3-4] Data from the 2015 National Income Dynamics Study (NIDS) show that 33.1% of South Africans aged 15 and older reported alcohol use, with 43.0% of drinkers engaging in binge drinking.[5] The overall prevalence of binge drinking in the population was 14.1%.[5] Additionally, the WHO estimated that average per capita alcohol consumption between 2015 and 2017 was 9.3 litres of pure alcohol among individuals aged 15 and above.[6]

South Africa's alcohol market comprises five main categories: beer, wine, spirits, cider/perry, and ready-to-drink (RTD) beverages. In 2024, beer remained the leading alcoholic beverage in South Africa, making up 75% of total sales by beverage volume and 55.4% by pure alcohol volume.[7] Spirits contributed 17.7% of pure alcohol volume, wine 15.5%, and ready-to-drink beverages (RTDs) at 11.4%.[7] As a result, beer consistently generated the largest share of alcoholic excise revenue, contributing more than 50% of alcohol excise revenue in 2024.[8]

In response to the growing health and social costs of alcohol, excise taxation has become a central component of South Africa's public health and fiscal policy. In November 2024, the National Treasury released its decadal review of alcohol taxation, inviting public input on their proposed reforms.[9] Key among these proposals are changes to the excise tax structures for beer and wine, and the potential introduction of minimum unit pricing (MUP) for alcoholic beverages—a pricing mechanism that sets a floor price per unit of alcohol to reduce the availability of cheap, high-strength drinks.

National Treasury proposes a revision of the current guideline tax incidence rates by either increasing these benchmarks or replacing them with a more flexible, inflation-indexed band system. Further proposals include restructuring excise duties to better reflect alcohol content, particularly for wine and beer, by introducing progressive tax bands or shifting to a system based on absolute alcohol content. National Treasury also addresses the growing challenge of illicit alcohol trade, advocating for stronger enforcement and the use of the MUP.

Currently, malt beer is taxed based on its alcohol content rather than its volume—a policy that targets the harmful component of the beverage and incentivises producers to reduce alcohol strength. Currently, a 330ml bottle of beer with 5% AA is taxed at R2.42 (0.33*0.05*R147.07), while a 330ml beer with 3% AA is taxed at R1.46 (0.33*0.03*R147.07). Since the introduction of alcohol-based excise taxation in 2002, beer manufacturers have increasingly promoted lower-

alcohol brands, such as Castle Lite, which has become one of the leading beer brands in South Africa.

The 2024 alcohol review proposes a tiered excise tax system, where beers with higher alcohol content are taxed at higher rates per litre of absolute alcohol. This represents a significant shift from the current flat-rate system and is designed to strengthen incentives for producers to lower alcohol content. This proposed structure mirrors South Africa's Health Promotion Levy (HPL) on sugar-sweetened beverages, which successfully encouraged industry reformulation to reduce sugar content.[10] The HPL, introduced in 2018, imposes a tax of 2.1 cents per gram of sugar exceeding 4 grams per 100ml in sugary beverages, aiming to reduce sugar consumption and combat non-communicable diseases.

The practical application of tiers requires careful calibration to ensure meaningful reductions in alcohol consumption. Using a tax simulation model, we evaluate the potential impact of the proposed excise tax changes. We compare National Treasury's proposal with a tax structure we developed, which proposes more granular tiers and stronger incentives for reformulation.

The objective of this report is to present modelling results from simulations of tiered excise tax structures, focusing on changes in beer consumption, alcohol content, government revenue, and the industry's net-of-tax earnings. In light of the policy shifts proposed in the 2024 National Treasury discussion document, the analysis explores the potential economic and public health impacts of these reforms in South Africa. By simulating various policy scenarios under different behavioural and market assumptions, the study aims to inform policy that balances public health objectives with economic sustainability.

## 2. Alcohol excise tax framework (2014 – 2024)

South Africa's National Treasury has historically adopted a structured and multi-objective approach to alcohol excise taxation, balancing fiscal revenue generation, public health goals, and industry sustainability.[11] As part of its mandate, NT undertakes periodic reviews of the excise tax framework, typically on a ten-year cycle. The last major review prior to 2024 was conducted in May 2014.[12] The 2014 review reaffirmed the approach adopted in 2002 where beer, wine and spirits were taxed differently. For each of these alcohol categories, a target tax burden, expressed as the excise tax plus the VAT, as a percentage of the average retail price, was set.[12]

The 2014 review raised the targeted tax burden (including VAT) as a percentage of the retail price for beer from 33% to 35%, for spirits from 43% to 48%, while wine remained at 23%, reflecting policy sensitivity to the domestic wine sector.[12] These adjustments aimed to internalize the negative externalities of alcohol consumption and align South Africa's tax regime with international norms. Since 2014, NT has often imposed above-inflation increases in excise duties, which over time caused actual tax burdens to exceed the stated targets. A 2024 report by Oxford Economics Africa, commissioned by SAB, indicated that the effective excise tax burden on beer had risen to 37.8% in 2023/24, surpassing the 35% by only 2.8% above the target set in

2014.[14] SAB has argued that these sustained above-inflation increases have eroded industry margins, constrained job creation, and weakened their competitiveness.

The 2024 NT's review proposed a restructured excise framework.[9] The revised approach is informed by public health considerations—particularly the World Health Organization's position that no level of alcohol consumption is safe—and seeks to reduce alcohol affordability through more progressive taxation.[15-16] A key feature of the 2024 proposal is the introduction of tiered excise rates based on alcohol content for beer, thereby enhancing the equity and efficiency of the tax system.

According to NT's review, beers with an alcohol content between 0.5% and 2.5% ABV would be taxed at the current rate per litre of absolute alcohol, which we call the base rate. Beers with an alcohol content between 2.5% and 9% ABV would face a tax rate 1.2 times the base rate, while those exceeding 9% ABV would be taxed at 1.4 times the base rate. These multipliers, which we refer to as "uplift factors", scale the base tax rate according to alcohol strength.

In August 2023, the United Kingdom also reformed its alcohol duty system by shifting to a tiered structure where beverages are taxed based on their alcohol content.[17] Early evidence suggests that the reform led some beer manufacturers to reduce the strength of alcohol content of their products in order to fall into lower tax bands.[18]

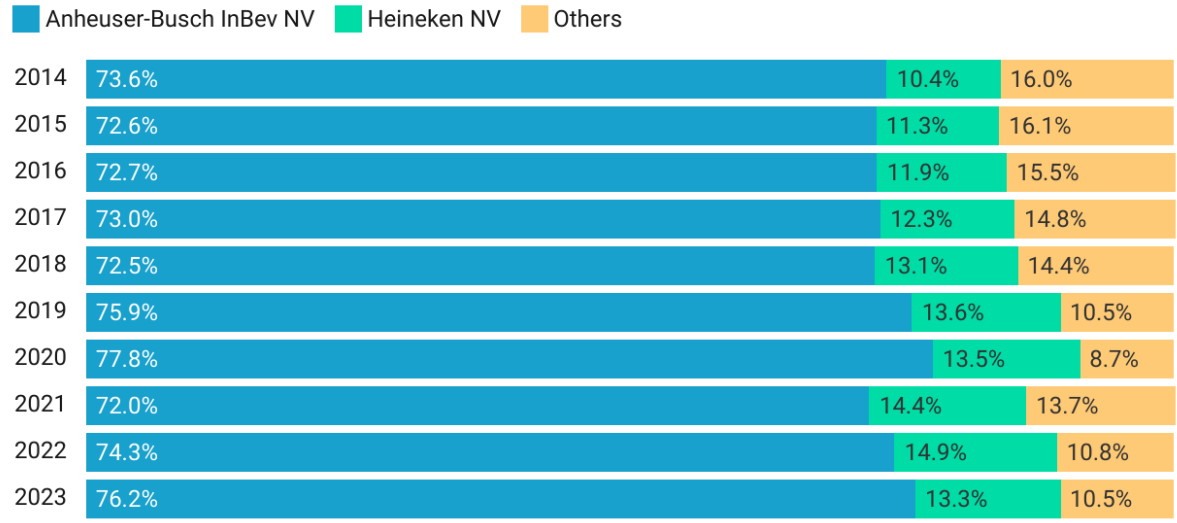
# 3. Beer industry and market dynamics in South Africa

## 3.1 Beer market

The beer market is dominated by two multinational corporations, namely, Anheuser-Busch InBev (*AB-InBev*) and Heineken Beverages.[19] *AB-InBev* operates locally through South African Breweries (*SAB*). *SAB/AB-InBev* has consistently held the lion's share of the beer market, fluctuating between 72% and 77% from 2014 to 2023 (Figure 1).

*Heineken NV*, following its 2023 merger with Distell and Namibia Breweries,[20-21] now operates under the consolidated entity, Heineken Beverages. From 2014 and 2023, Heineken NV steadily increased its market share from 10.4% to 15%. Together, *AB-InBev* and Heineken control over 90% of the beer market in South Africa. Small breweries constitute less than 10% of the beer market.

**Figure 1 |** Beer market share by company, by volume, 2014–2023




Source: Euromontor International. Alcoholic drinks in South Africa: 2014-2023. • Created with Datawrapper

In terms of the composition of beer brands, the beer market is dominated by a handful of flagship brands. In 2023, Carling Black Label, Castle, and Castle Lite—all produced by *AB-InBev*—led the market with shares of 23.5%, 17.9%, and 14.8% respectively (Table 1). Heineken, Amstel, and Windhoek, owned by *Heineken NV*, follow with market shares ranging from 3.3% to 5.9%. *AB InBev* also produces newly-introduced brands such as Flying Fish and Stella Artois, which together account for more than 5% of the market.

**Table 1 |** 2023 beer brand market shares in South Africa

| Brand | Producer | ABV | 2023 market share |
|---|---|---|---|
| Carling Black label | Anheuser-Busch InBev NV | 5.5% | 23.5% |
| Castle | Anheuser-Busch InBev NV | 5.0% | 17.9% |
| Castle Light | Anheuser-Busch InBev NV | 4.0% | 14.8% |
| Hansa Pilsner | Anheuser-Busch InBev NV | 4.2% | 11.6% |
| Heineken | Heineken NV | 5.0% | 5.9% |
| Amstel | Heineken NV | 5.0% | 3.7% |
| Windhoek | Heineken NV | 4.0% | 3.3% |
| Chibuku | Delta Corp Ltd | 4.0% | 3.1% |
| Flying Fish | Anheuser-Busch InBev NV | 4.5% | 2.9% |
| Castle Milk Stout | Anheuser-Busch InBev NV | 6.0% | 2.7% |
| Lion Lager | Anheuser-Busch InBev NV | 4.5% | 2.1% |
| Corona | Anheuser-Busch InBev NV | 4.5% | 0.4% |
| Miller | Molson Coors Brewing Co | 4.7% | 0.4% |
| Tafel Lager | Heineken NV | 4.0% | 0.3% |
| Stella Artois | Anheuser-Busch InBev NV | 5.0% | 0.2% |
| Devil's Peak | Signal Hill Products | 4.0% | 0.1% |
| Others | Others | | 7.1% |

Source: Euromonitor International. Alcoholic Drinks in South Africa. June 2024 • Created with Datawrapper

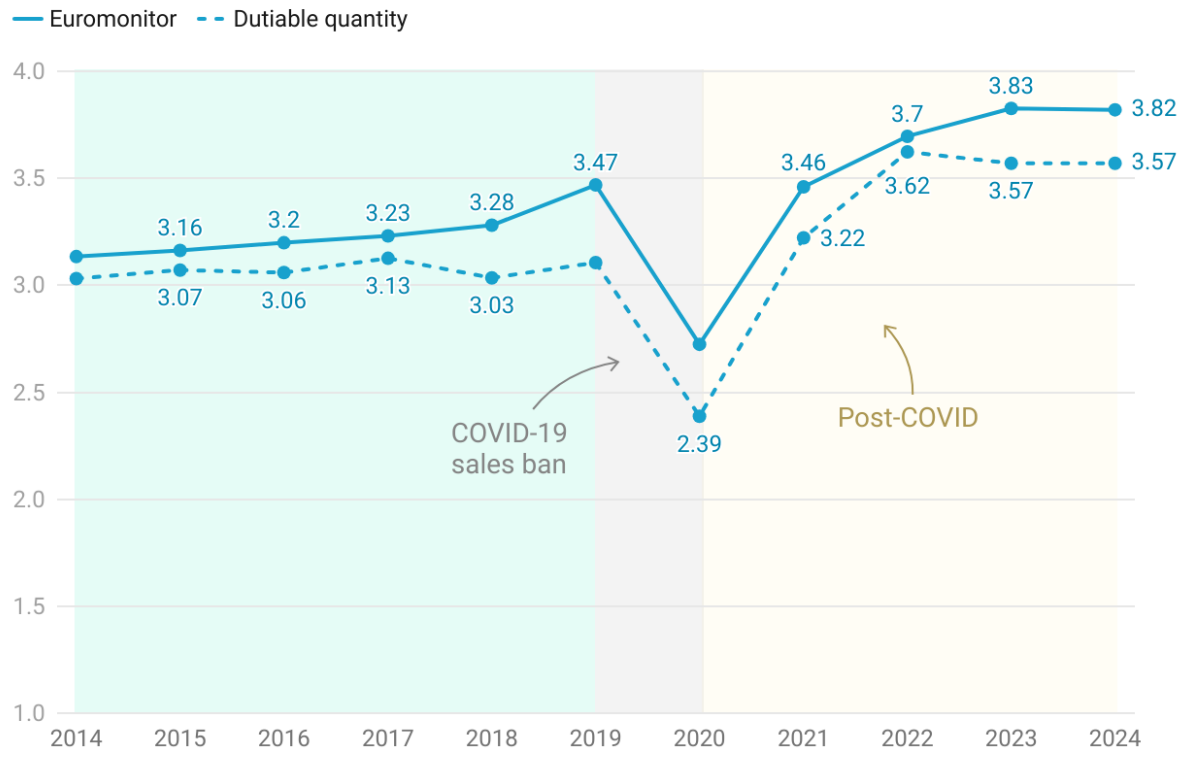
## 3.2 Beer sales

Beer sales in South Africa have followed an upward trajectory over the past decade, with notable disruptions and rebounds, especially during the COVID-19 period (Figure 2). Using Euromonitor sales data, the market experienced steady growth between 2014 and 2019, with total beer consumption rising from 3.13 billion litres to 3.47 billion litres (an increase of 10.9%).[19] The trend was interrupted in 2020 by the COVID-19 pandemic, during which the government imposed four separate alcohol sales bans, cumulatively lasting a total of 23 weeks. The sales bans decreased beer sales volumes to 2.72 billion litres in 2020. Following the lifting of sale restrictions, the market rebounded rapidly, with beer sales accelerating beyond pre-pandemic levels and reaching 3.82 billion litres in 2024.

One can also calculate the total consumption of beer from National Treasury data. To do this, one divides the total excise revenue for a given year by the excise tax per litre of alcohol in that year. This yields the total volume of pure alcohol in beer for that year. The total volume of beer is calculated by scaling up the volume of beer-related pure alcohol, using an estimate of the average alcohol content of beer (4.84% for the period under observation)[1]. The volume of beer that was due for excise tax (excluding imports) from 2014 to 2024 is slightly lower than Euromonitor's estimates of annual sales; however, the trend is similar.

[1] This is a 2023 market weighted average of alcohol content for beer in South Africa.

**Figure 2 |** Beer sales by volume, comparing Euromonitor and dutiable quantity (National Treasury), billion litres




Source: Euromonitor International. Alcoholic drinks South Africa, 2014-2024. Calculations based on excise revenue from annual budget reviews, Republic of South Africa:National Treasury, Budget Reviews (2014-2024) • Created with Datawrapper

## 3.3 Beer Prices

Price data for a range of beer brands were manually collected online in June 2025. The majority of data points were sourced from Shoprite[22] and Pick 'n Pay[23], South Africa's two largest grocery retailers, ensuring broad market representation. To enhance coverage, additional prices—particularly for bulk packaging not available at Shoprite and Pick 'n Pay—were obtained from Makro,[24] offering a more comprehensive view of pricing across retail formats and product types.

All prices were standardized to price-per-litre equivalent to ensure consistency and comparability across different brands. This involves dividing the total price of each packaging option by its volume in litres. For example, a 330ml bottle priced at R15 would have a per litre price of approximately R45.45 (since 330ml = 0.33 litres). This standardization is crucial because beer is sold in different volumes—330ml, 500ml, 750ml, and multipacks—making direct price comparisons misleading without adjusting for volume.

Premium brands typically fall within the price range between R45 to R56 per litre, and include brands like Amstel, Castle Light, Corona, Devil's Peak, Miller, Heineken, and Stella Artois. These beers are often positioned as high-end options. Mid-range brands, priced between R40 and R45 per litre, include Castle Milk Stout, Flying Fish, and Windhoek. These brands offer a balance of

affordability and quality, appealing to consumers who seek a reliable beer without paying premium prices. Lastly, budget brands are those priced below R40 per litre, such as Carling Black Label, Castle, Hansa Pilsener, and Lion Lager. These are more accessible and popular for everyday consumption or bulk purchases.

**Table 2 |** Beer prices, per-litre equivalent, by brand (June 2025)

| Brand | ABV | 330 ml | 500 ml | 750 ml | 6 x 330 ml | 6 x 500 ml | 24 x 330 ml | 12 x 750 ml | Average price per litre |
|---|---|---|---|---|---|---|---|---|---|
| Carling Black label | 5.5% | R42.39 | R39.98 | R29.32 | R47.97 | R36.66 | R39.77 | R29.44 | R37.94 |
| Castle | 5.0% | R48.45 | R37.98 | R27.99 | R42.92 | R33.33 | R35.35 | R27.78 | R36.26 |
| Castle Light | 4.0% | R51.48 | R39.98 | | R45.45 | R36.66 | R46.08 | | R43.93 |
| Hansa Pilsener | 4.2% | R48.45 | R37.98 | R27.99 | R42.92 | R33.33 | R35.35 | R27.78 | R36.26 |
| Heineken | 5.0% | R63.61 | R49.98 | R44.60*** | R55.55 | R43.33 | R50.50 | R38.20 | R49.40 |
| Amstel | 5.0% | R57.55 | R43.98 | | R47.97 | R36.66 | R44.19 | | R46.07 |
| Windhoek | 4.0% | R- | R45.98 | R40.89*** | | R40.00 | | R36.36 | R40.81 |
| Flying Fish | 4.5% | R54.52 | R41.98 | R36.35*** | R47.97 | R36.66 | R38.51 | R35.98 | R41.71 |
| Castle Milk Stout | 6.0% | R51.48 | R39.98 | | R47.97 | R36.66 | R39.77 | | R43.17 |
| Lion Lager | 4.5% | R- | R35.98 | R26.65 | | R31.66 | | R26.11 | R30.10 |
| Corona | 4.5% | R61.94* | R58.51** | | R53.99 | R50.81 | R46.95 | | R54.44 |
| Miller | 4.7% | R60.58 | R56.80** | | R53.03 | R47.34 | R48.61 | | R53.27 |
| Tafel Lager | 4.0% | R51.48 | | | R42.92 | | R39.14 | | R44.52 |
| Stella Artois | 5.0% | R45.42 | R39.98** | | R53.03 | R44.71 | R44.19 | | R45.47 |
| Devil's Peak | 4.0% | R57.55 | | | R50.50 | | R44.82 | | R50.96 |

**Corona is 355ml; **Corona and Stella Artois are 410ml, Miller is 440ml; *** Heineken is 650ml, Windhoek and Flying Fish are 660ml.*

Source: Retail prices collected online on 3 June 2024 from Shoprite (https://www.shoprite.co.za) and Pick n Pay (https://www.pnp.co.za). • Created with Datawrapper

# 4. Alcohol excise taxes and revenue

## 4.1 Beer excise taxes

From 2014 to 2024, beer excise taxation in South Africa followed a varied trajectory in real terms, with distinct shifts in policy emphasis over time (Table 3). Between 2014 and 2016, excise taxes increased modestly in real terms, with year-on-year changes ranging from 1.3% to 2.1%. From 2017 to 2021, the approach became more assertive, with real increases consistently outpacing inflation and averaging 3.2% annually. Starting in 2022, the trend shifted again toward a more restrained stance, with year-on-year real increases tapering off and, in some instances, even registering declines.

**Table 3 |** Beer excise tax per litre of absolute alcohol

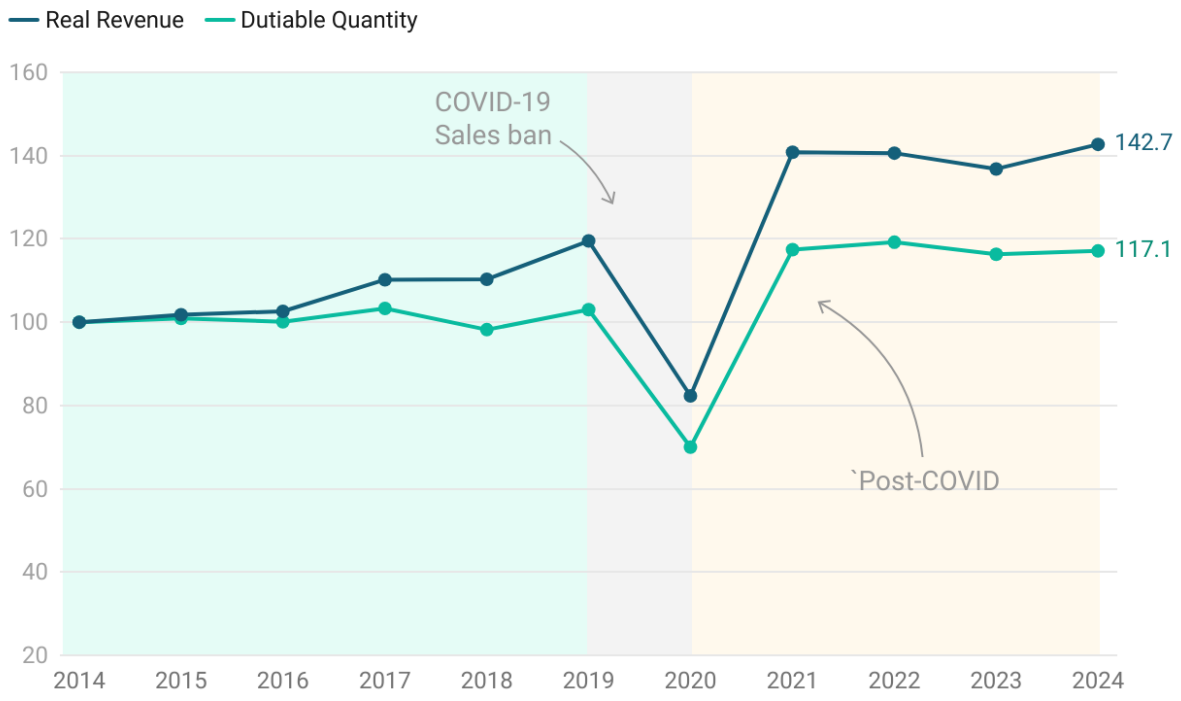
| | | | Excise tax | | YoY Change(%) | |
|---|---|---|---|---|---|---|
| Year | CPI | Inflation | Nominal | Real | Nominal | Real |
| 2014 | 61.5 | | R68.92 | R112.13 | | |
| 2015 | 64.3 | 4.6% | R73.05 | R113.64 | 6.0% | 1.3% |
| 2016 | 68.3 | 6.3% | R79.26 | R115.97 | 8.5% | 2.1% |
| 2017 | 72.0 | 5.3% | R86.39 | R120.05 | 9.0% | 3.5% |
| 2018 | 75.3 | 4.6% | R95.03 | R126.25 | 10.0% | 5.2% |
| 2019 | 78.3 | 4.0% | R102.07 | R130.33 | 7.4% | 3.2% |
| 2020 | 80.9 | 3.3% | R106.56 | R131.69 | 4.4% | 1.0% |
| 2021 | 84.6 | 4.5% | R115.08 | R136.09 | 8.0% | 3.3% |
| 2022 | 90.4 | 6.9% | R121.41 | R134.34 | 5.5% | −1.3% |
| 2023 | 95.8 | 6.0% | R127.40 | R133.05 | 4.9% | −1.0% |
| 2024 | 100.0 | 4.4% | R135.89 | R135.89 | 6.7% | 2.1% |

Source: CPI from Statistics South Africa. Time series data: Excel -CPI(COICOP) from Jan 2008. https://www.statssa.gov.za/?page_id=1854&PPN=P0141&SCH=73791. Excise tax rates from Republic of South Africa: National Treasury. 2024 Budget Review. https://www.treasury.gov.za/documents/National%20Budget/2024/review/FullBR.pdf. 2024 • Created with Datawrapper

## 4.2 Excise revenue

From 2017 to 2019, real excise tax revenue from beer increased steadily, despite less pronounced increases in production volumes (Figure 3). This divergence between revenue and output underscores the short-term fiscal advantages that can be attained through above-inflation adjustments to excise tax rates, even in the absence of production growth. In 2020, the prohibition on alcohol sales resulted in a sharp decline in both production and excise collections. However, following the COVID-19 pandemic, beer excise revenue rebounded strongly, with collections in 2021 significantly exceeding pre-pandemic levels but holding steady at a higher level in 2022 and 2023, with a further upturn in 2024.

**Figure 3 |** Beer excise revenue and dutiable quantity by type of beverage, 2014–2024, indexed (2014 = 100)




Source: Quantity is calculated based on excise revenue from annual budget reviews, Republic of South Africa:National Treasury, Budget Reviews (2014-2024) • Created with Datawrapper

# 5. National Treasury proposal vs REEP Proposal

## 5.1 National Treasury proposal

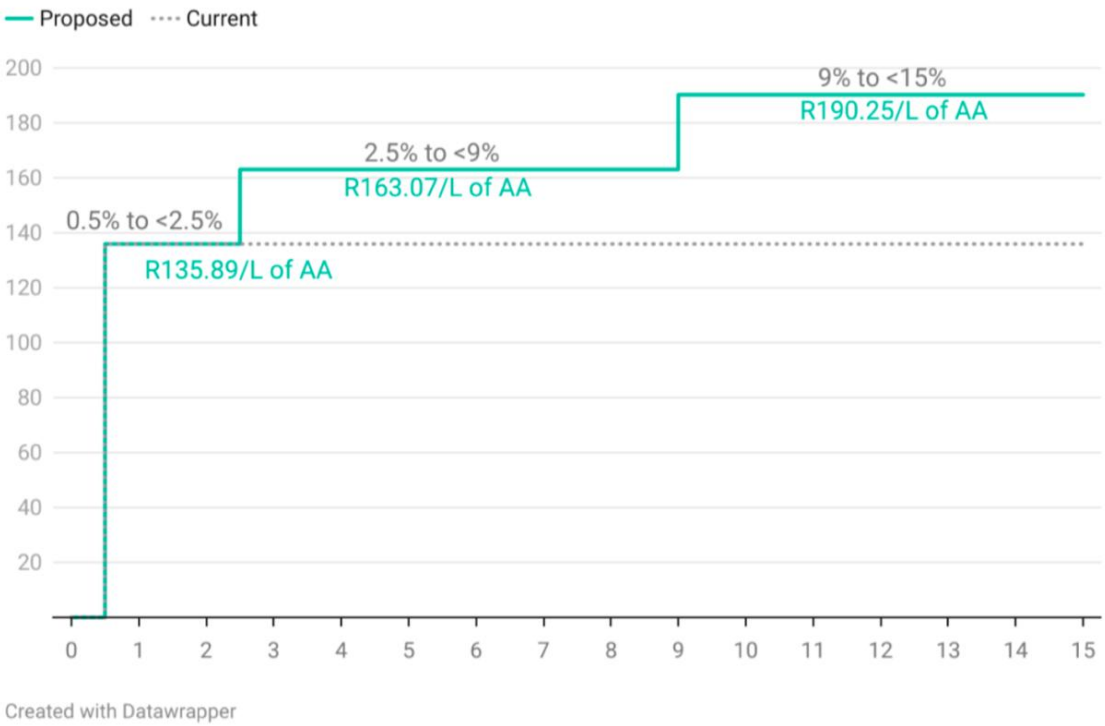
The National Treasury proposal on revising the excise tax structure for beer represents a significant policy shift, by introducing a tiered excise structure based on alcohol content. This approach draws inspiration from the sugar-sweetened beverage (SSB) tax model, where supply-side incentives led to widespread product reformulation aimed at reducing sugar content.

Under the proposed structure, beer with an alcohol content of 0.5% to 2.5% ABV would be taxed at the rate of R135.89 per litre of AA (using 2024/25 tax rates). Beers with an alcohol content between 2.5% and 9% ABV would be taxed at R163.07 per litre—20% above the base rate—while those exceeding 9% ABV would face a rate of R190.25 per litre, representing a 40% above the base rate (Figure 4).

The current system (represented by the grey dotted line in Figure 4) applies a uniform rate of R135.89/L of AA regardless of alcohol content. This flat-rate approach offers some incentives for producers to reduce alcohol content, as the tax amount per litre of beverage is lower for low-alcohol beers than for high-alcohol beers. For example, a litre beer with 5.5% ABV (like Carling Black Label) will attract an excise tax of R7.47 (=135.89 x 0.055), while a litre of beer with 4.0%

ABV (like Castle Lite) will attract an excise tax of R5.43 (=135.89 x 0.04) The proposed tiered structure ties tax rates to alcohol strength, creating a progressive tax model aimed at encouraging producers to reformulate into lower-alcohol beverages that qualify for reduced excise rates.

**Figure 4 |** Beer excise taxes per litre of alcohol content (2024/25 rates)




The NT proposal represents an innovative step to use fiscal policy to support public health objectives. By differentiating tax rates based on alcohol content, the policy creates incentives for producers to lower the alcohol strength of their products. However, despite its merits, the current proposal presents limitations—most notably in the placement of the AA-based tax tiers. The tax thresholds (and therefore the tax bands) will probably not incentivise the reformulation responses by producers, since nearly all beers currently have an alcohol content between 2.5% and 9%. It would make more sense from a public health perspective if the National Treasury sets tax cut-offs in a way that align with realistic and achievable reductions in alcohol content. It is unlikely, for instance, that SAB would lower the alcoholic content of Carling Black Label from its 5.5% ABV to 2.5% simply to benefit from a (modest) tax reduction.

Below, we consider various pieces of evidence to design more appropriate tiers. The analysis draws on international best practices and empirical data from South Africa. The strength of the incentives to reduce the alcohol content of beer depends on two critical factors: (1) the placement of the thresholds for the alcohol content range, and (2) the size of the uplift factors. The thresholds should be realistic and achievable, and the uplift factors should be large enough to encourage the producers to change the alcohol content of their beverages.

## 5.2 International-based tiers

South Africa is not alone in considering a tiered excise tax on beer based on alcohol content; several OECD countries have already adopted similar frameworks. These tiered systems are grounded in economic principles, and aim to internalize the externalities associated with alcohol consumption. The implicit assumption is that beer with a higher ABV does more than proportional harm than beer with a lower ABV. By having a tiered tax system, based on the alcohol content, governments seek to discourage consumption of high ABV beers and/or to create incentives for producers to reformulate their beers to lower alcoholic content. Countries such as Australia, Finland, France, Ireland, and the United Kingdom have implemented tiered excise structures based on alcohol content, though the design and complexity of these systems vary significantly.[25-27] In other countries, such as Canada, Indonesia, the Netherlands, New Zealand, Portugal, Russia, and Switzerland, excise taxes are levied on the total *volume* of the beverage, but at varying rates depending on alcohol content. However, this method (of taxing the volume of the beverage, rather than the alcoholic content) is generally considered less effective.[28]

**Table 4 |** Countries with tiered excise taxes on per litre of alcohol content (nominal)

| | Lower ABV | Higher ABV | Local currency | US Dollar | Uplift factors |
|---|---|---|---|---|---|
| **Australia** | | 3.0% | AUD 52.87 | $35.22 | 1.0 |
| | 3.0% | 3.5% | AUD 61.57 | $41.01 | 1.2 |
| | 3.5% | | AUD 61.57 | $41.01 | 1.2 |
| **Finland*** | | 0.5% | | | 0.0 |
| | 0.5% | 3.5% | EUR 28.35 | $33.32 | 1.0 |
| | 3.5% | | EUR 36.20 | $42.54 | 1.3 |
| **United Kingdom** | | 1.3% | | | |
| | 1.3% | 3.4% | GBP 9.27 | $12.61 | 1.0 |
| | 3.4% | 8.4% | GBP 21.01 | $28.57 | 2.3 |
| | 8.4% | 22.0% | GBP 28.50 | $38.76 | 3.1 |
| | 22.0% | | GBP 31.64 | $43.03 | 3.4 |
| **South Africa** | 0.5% | 2.5% | ZAR 135.89 | $7.84 | 1.0 |
| | 2.5% | 9.0% | ZAR 163.07 | $9.41 | 1.2 |
| | 9.0% | 15.0% | ZAR 190.25 | $10.98 | 1.4 |

**Finland tax is per centilitre of Alcohol content. Exchange rates as at 15 September 2025.*

Created with Datawrapper

Table 4 shows that Australia segments its excise tax on beer into two main categories, if one excludes low-alcohol beer - below 1.5% ABV - which is not taxed at all. The alcohol in beer with alcohol content below 3% is at a base rate of AUD 52.87 per litre of pure ethanol, while beer with an alcohol content above 3% is taxed at with an uplift factor 16.4% higher than the base rate. Finland, also employing a two-tier system, taxing beers with 3.5% ABV or more at a rate 30% higher than the base rate.

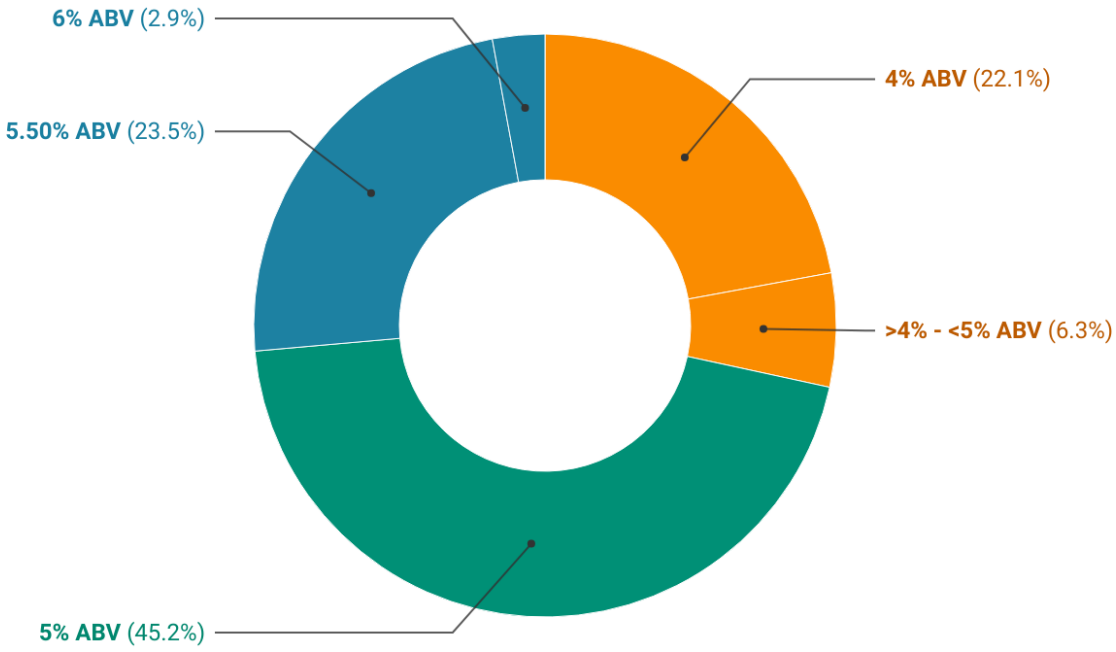
The United Kingdom (UK) adopts a more granular approach, but with more aggressive uplift factors. This allows for precise targeting of alcohol strength and consumer behaviour and incentivise beer reformulation by producers. The UK applies an uplift factor of 2.3 for beers between 3.4% and 8.4% ABV and an uplift factor greater that 3 for beer exceeding 8.4% ABV.[27] The UK framework far exceeds the South Africa's proposed uplift factor of 1.2 for beers between 2.5% and 9% ABV and an uplift factor of 1.4 for beers with alcohol content above 9%. This comparison underscores the relative conservatism of South Africa's proposed structure compared to approaches within the countries mentioned above.

## 5.3 ABV of South African beers

The design of effective tax tiers needs to take cognizance of the distribution of the current ABV content among the different beer brands. A well-calibrated tiered system would reflect the structure of the market, avoid unintended distortions, and incentivise producers to lower the alcohol content in the beers they produce.

The structure of the South African beer market by alcoholic content, as illustrated in Figure 5, highlights the importance of designing excise tax bands that are aligned with actual production patterns. Beers with exactly 5% ABV are the most common in the market, and account for 45.2% of total beer consumption. This is followed by beers with more than 5% ABV (26.4%), beers with exactly 4% ABV (22.1%), and beers with between 4% and 5% ABV (6.3%). Beers with an alcoholic content below 4% are estimated to account for approximately 5-8% of the total beer market.[19]

**Figure 5 |** Beer market shares by alcohol by volume (ABV)




Source: Euromonitor International, Alcoholic Drinks in South Africa, https://www.euromonitor.com/alcoholic-drinks-in-south-africa/report, June 2024. • Created with Datawrapper

## 5.4 REEP proposal

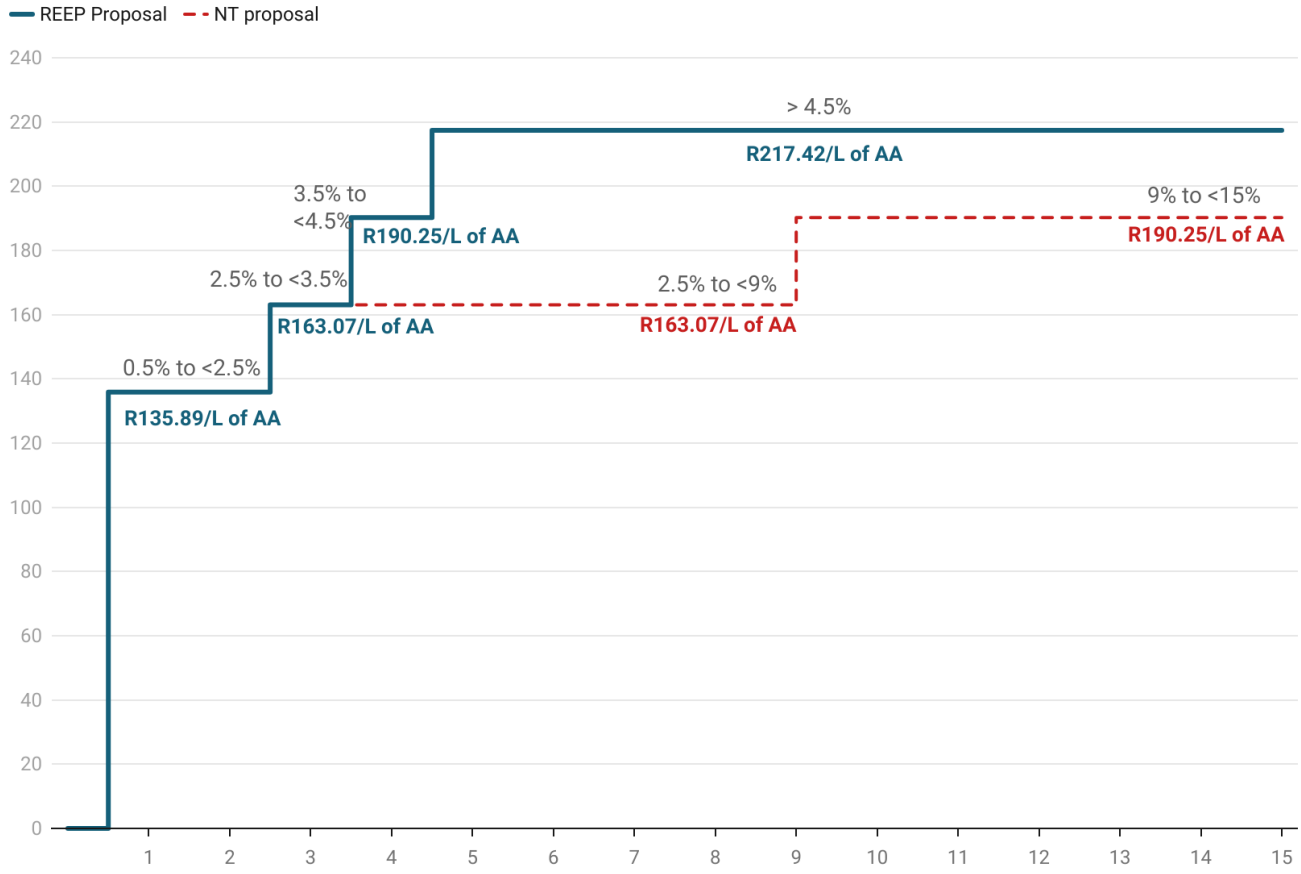
Given that the majority of beers in South Africa have an alcohol content of around 5%, the National Treasury's proposal to impose higher taxes on beers with an ABV of 9% or more raises questions about its underlying justification. Few products, aside from possibly a handful of niche brands, fall into this category. As a result, the policy is unlikely to encourage brewers to lower the alcohol content of their products. Instead, it risks targeting a marginal segment of the market while leaving broader patterns of alcohol consumption unchanged.

We recommend introducing at least two additional tiers within the 2.5% to 9% AA tier. Specifically, we propose a 2.5% to <=3.5% AA tier with an uplift factor of 1.2, and a 3.5% to <=4.5% AA with an uplift factor of 1.4. The remaining 4.5% to <=9% AA tier would then be replaced with a >4.5% AA tier taxed at 1.6 times the base rate. These refined tiers would create meaningful incentives for producers to reduce the alcohol content of beers currently at 5% AA or above to 4.5% AA and those at 4% AA to 3.5% AA. The proposed structure is illustrated in the Table 5 and in Figure 6 below:

**Table 5 |** REEP proposal on beer excise tax per litre of AA

| National Treasury Proposal | | REEP Proposal | |
|---|---|---|---|
| AA | Uplift factor | AA | Uplift factor |
| 0.5% to <2.5% | 1 | 0.5% to ≤2.5% | 1 |
| 2.5% to <9% | 1.2 | >2.5% to ≤3.5% | 1.2 |
| 9% to <15% | 1.4 | >3.5% to ≤4.5% | 1.4 |
| | | >4.5% and more | 1.6 |

**Figure 6 |** REEP proposal on beer excise tax per litre of AA




Source: Research Unit on the Economics of Excisable Products, University of Cape Town, 2024/25 excise tax rate data from National Treasury's 2024 Annual Budget. Proposed tiers data from National Treasury's 2024 'Taxation of Alcoholic Beverages' document. • Created with Datawrapper

# 6. Tax Simulation Model

This section presents the results of several simulations which assess the potential impact of changes in alcohol excise taxation in South Africa. The modelling exercise is designed to inform fiscal policy by evaluating how different tax thresholds and tax levels may influence both alcohol consumption and government revenue. This is a conceptual model, illustrating the potential impact of different tax regimes and different industry responses. Product reformulation, if it were to happen, takes time. As such, we do not commit to a particular time frame, but focus on the "before" and "after" scenarios.

The primary objectives of the tax simulation model are:

1. To estimate the effects of alternative excise tax scenarios on beer consumption (both the volume of the beverage and the total volume of pure alcohol consumed), and

2. To assess the implications of these tax changes for government revenue, specifically excise tax collections.

## 6.1 Simulations

This section outlines the simulation scenarios used to evaluate the impact of proposed changes to the alcohol excise tax structure in South Africa. The scenarios are based on two policy proposals—one from the National Treasury and another from REEP—each introducing different uplift factors based on alcohol by volume (ABV) thresholds. The model also incorporates different industry responses, allowing for variation in how producers may evaluate the costs associated to the new tax amounts and how they reformulate their beer alcohol content.

**Simulation 1 – National Treasury Proposal**

In this simulation, National Treasury's proposed ABV cut-offs and uplift factors are applied. It is assumed that producers do not reformulate their products in response to the tax changes. This assumption is based on the belief that reducing alcohol content to 2.5% AA—the threshold at which the first cut-off takes effect—is an unachievable target for most beer brands.

**Simulation 2 – REEP Proposal with no industry reformulation**

This simulation applies REEP's proposed tax tiers and uplift factors. The proposal from REEP establishes cut-offs that create a strong incentive for the industry to reduce the alcohol content of beer under the new framework. However, in this simulation, the industry is assumed to maintain the current alcohol content (i.e. they do not reformulate the alcohol content in the beer) and pass the tax increases to consumers.

**Simulation 3 – REEP Proposal with industry reformulation**

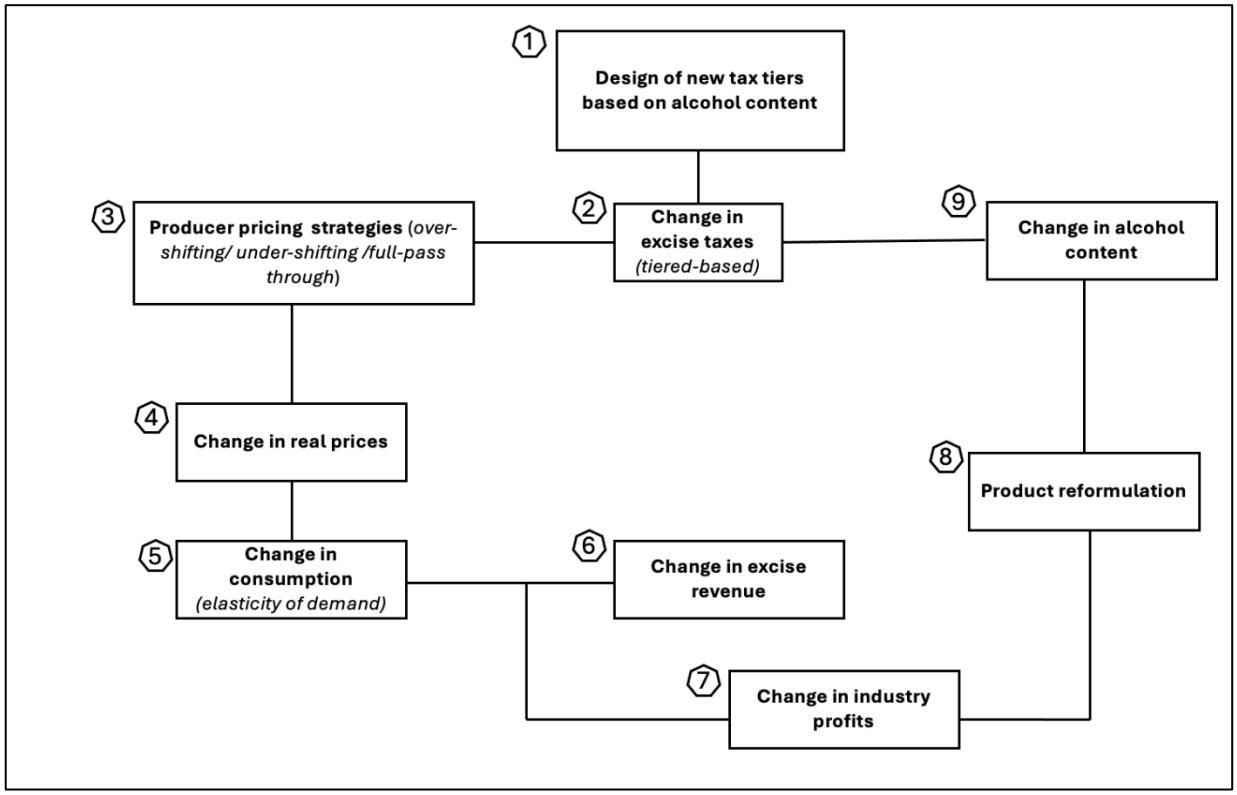
This simulation applies the REEP-proposed tax tiers and uplift factors and assumes that the industry will reduce the ABV for their beverages as shown in Table 8 above.

## 6.2 Description of the tax simulation model

The tax simulation model is a partial equilibrium microsimulation tool designed to estimate the impact of excise tax changes on alcohol consumption and government revenue. The model uses product-level data to simulate how consumers respond to tax-induced price changes. The model accounts for the structure of the excise tax system and models the resulting changes in retail prices, consumption volumes, and tax revenue.

In this modelling exercise, we adapt the same mathematical framework of the Tobacco Excise Tax Simulation Model (TETSiM)[29] to simulate the effects of excise tax changes on alcohol products, specifically beer. While the core logic of the model remains unchanged—estimating behavioural responses to price changes—the inputs have been modified to reflect the beer market. This includes using brand-level data for beer, assumed price elasticities, and the current excise tax structure applicable to beer. By leveraging the structure of TETSiM, we are able to generate estimates of how proposed tax reforms may influence alcohol consumption patterns and government revenue after the taxes have been implemented and the industry has responded to them. The alcohol tax simulation model's policy transmission mechanism is summarised in Figure 7 below:

**Figure 7 |** Description of the tax simulation model




## The process flow of the tax simulation model

*1. Introduction of excise tax tiers*

The model begins with a description of the current tax structure for beer. Subsequently, a tiered structure is introduced, wherein beers with higher alcohol by volume (ABV) are subject to a greater excise tax per litre of pure ethanol compared to those with lower ABV.

*2. Changes in excise tax*

The policy is implemented, leading to changes in the tax rates (/L of AA) based on new tiers. Beer brands are now taxed according to their tiered-based alcohol content, presented in Table 6.

**Table 6 |** Tiered-based excise rate (2025/26 rates used as the base rate)

| | AA | Uplift factor | Excise tax |
|---|---|---|---|
| National Treasury Proposal | 0.5% to < 2.5% | 1 | R145.07/L of AA |
| | 2.5% to < 9% | 1.2 | R174.08/L of AA |
| | 9% to < 15% | 1.4 | R203.10/L of AA |
| REEP Proposal | 0.5% to <= 2.5% | 1 | R145.07/L of AA |
| | >2.5% to <= 3.5% | 1.2 | R174.08/L of AA |
| | >3.5% to <= 4.5% | 1.4 | R203.10/L of AA |
| | >4.5% and above | 1.6 | R232.11/L of AA |

*3. Producer pricing strategies*

Producers adjust their pricing in response to the new tax regime. Producers can respond to a change in the excise tax in one of three ways:

- **Under-shifting**: Beer producers absorb a part of the tax increase, which will result in a smaller increase in the (net-of-VAT) retail price than had there been full pass-through or over-shifting.
- **Full pass-through**: Beer producers increase the (net-of-VAT) retail price by the exact amount of the tax.
- **Over-shifting**: Beer producers increase the (net-of-VAT) retail price by more than the tax increase to preserve or enhance profit margins.

A visual analysis of trends in the real retail prices and the real excise tax in recent years suggests that the excise tax is typically fully passed through in South Africa. The assumption of full pass-through is also standard in most tax simulation models (e.g. the WHO TaxSim).[30] As such, we assume that there will be full tax pass through when the tax structure is changed.

*4. Change in real prices*

The new price of alcoholic beverages $(P_{new})$ following a change in excise tax is calculated as:

$$P_{new} = P_0 + \Delta tax * (1 + VAT)$$

Where $P_0$ is the initial price, and $VAT$ is the value-added tax  Because we are working in real prices, we do not account for inflation. Had we worked in nominal prices, we would have had to multiply $P_{new}$ with $(1 + \pi)$. To revert back to real prices, we would have to divide the nominal price by $(1 + \pi)$, which means that the $(1 + \pi)$ factor falls away. The post-tax changes in real prices by each beer brand is presented in Table 7.

**Table 7 |** Change in real prices of beer brands, assuming no change in the alcohol content

| | | | | NT Proposal | | | | REEP Proposal | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Brand | ABV | Excise tax/litre | Average price per litre | Uplift factor | Excise tax/litre | Real retail price | Percent change | Uplift factor | Excise tax/litre | Real retail price | Percent change |
| Carling Black label | 5.5% | R7.98 | R37.94 | 1.2 | R9.57 | R39.77 | 4.8% | 1.6 | R12.77 | R43.44 | 14.5% |
| Castle | 5.0% | R7.25 | R36.26 | 1.2 | R8.70 | R37.93 | 4.6% | 1.6 | R11.60 | R41.26 | 13.8% |
| Castle Light | 4.0% | R5.80 | R43.93 | 1.2 | R6.96 | R45.27 | 3.0% | 1.4 | R8.12 | R46.60 | 6.1% |
| Hansa Pilsner | 4.2% | R6.09 | R36.26 | 1.2 | R7.31 | R37.66 | 3.9% | 1.4 | R8.53 | R39.06 | 7.7% |
| Heineken | 5.0% | R7.25 | R49.40 | 1.2 | R8.70 | R51.06 | 3.4% | 1.6 | R11.60 | R54.40 | 10.1% |
| Amstel | 5.0% | R7.25 | R46.07 | 1.2 | R8.70 | R47.74 | 3.6% | 1.6 | R11.60 | R51.08 | 10.9% |
| Windhoek | 4.0% | R5.80 | R40.81 | 1.2 | R6.96 | R42.14 | 3.3% | 1.4 | R8.12 | R43.48 | 6.5% |
| Flying Fish | 4.5% | R6.53 | R41.71 | 1.2 | R7.83 | R43.21 | 3.6% | 1.4 | R9.14 | R44.71 | 7.2% |
| Castle Milk Stout | 6.0% | R8.70 | R43.17 | 1.2 | R10.44 | R45.18 | 4.6% | 1.6 | R13.93 | R49.18 | 13.9% |
| Lion Lager | 4.5% | R6.53 | R30.10 | 1.2 | R7.83 | R31.60 | 5.0% | 1.4 | R9.14 | R33.10 | 10.0% |
| Corona | 4.5% | R6.53 | R54.44 | 1.2 | R7.83 | R55.94 | 2.8% | 1.4 | R9.14 | R57.44 | 5.5% |
| Miller | 4.7% | R6.82 | R53.27 | 1.2 | R8.18 | R54.84 | 2.9% | 1.6 | R10.91 | R57.97 | 8.8% |
| Tafel Lager | 4.0% | R5.80 | R44.52 | 1.2 | R6.96 | R45.85 | 3.0% | 1.4 | R8.12 | R47.19 | 6.0% |
| Stella Artois | 5.0% | R7.25 | R45.47 | 1.2 | R8.70 | R47.13 | 3.7% | 1.6 | R11.60 | R50.47 | 11.0% |
| Devil's Peak | 4.0% | R5.80 | R50.96 | 1.2 | R6.96 | R52.29 | 2.6% | 1.4 | R8.12 | R53.62 | 5.2% |

Created with Datawrapper

*5. Calculating changes in consumption*

The change in consumption is determined by incorporating the mid-point price elasticity of demand ($\varepsilon_d$) and the change in real prices:

$$Q_{new} = Q_0 \times \left(1 + \varepsilon_d \frac{\Delta P}{P_0}\right)$$

where $Q_{new}$ is the new consumption level, $Q_0$ is the initial consumption, and $\frac{\Delta P}{P_0}$ is the percentage change in the real price.[2]

We are not aware of any empirical studies that estimate the price elasticity of demand for beer in South Africa. Wagenaar et al. (2009) reviewed 105 studies and found an average price elasticity of –0.46 for beer.[31] Another study by Fogarty et al (2010) reported a similar estimate of –0.45.[32]

In the absence of evidence from South Africa, we use the standard practice in tax modelling and assume an average price elasticity of –0.45. This price elasticity value is assumed to apply for all beer brands.

Furthermore, we assume no substitution between alcohol types.

*6. Changes in excise revenue*

[2] Technically, the percentage change in the quantity, using the mid-point formula of the price elasticity $\varepsilon_d = \frac{(Q_1 - Q_0)}{(Q_1 + Q_0)/2} \div \frac{(P_1 - P_0)}{(P_1 + P_0)/2}$ which means that the new quantity is calculated as $Q_{new} = Q_0 \left(\frac{1+\varepsilon_d \frac{(P_1 - P_0)}{(P_1 + P_0)}}{1-\varepsilon_d \frac{(P_1 - P_0)}{(P_1 + P_0)}}\right)$. For small changes in P and Q the formula shown in the main text gives very similar answers to the more complicated formula shown here.

The combination of the new excise tax rates, the adjusted consumption levels, and the possibly reduced ABV will change the excise revenue ($R^{GOV}$) collected by the government as follows:

$$\Delta R^{GOV} = [P_{new}Q_{new} - (Q_0 \times T_0)]$$

where $T_{new}$ is the new tax and $T_0$ is the baseline tax.

*7. Change in industry revenue*

The change in excise tax rates and the change in consumption will decrease sales and therefore revenue ($R^{IND}$).

$$\Delta R^{IND} = [(Q_{new} \times NOTP_{new}) - (Q_0 \times NOTP_0)]$$

Where *NOTP* is the net-of-tax price

Table 9 below summarizes the key parameters and assumptions used in the tax simulation model:

**Table 9 |** Baseline model parameters

| Parameters | Description | Assumed Value/Range | Data Source |
|---|---|---|---|
| Excise tax | Excise tax per liter of alcohol content. | R145.06/L (current period) | National Treasury Budget 2025 |
| Tax Pass-Through | The extent to which tax changes are reflected in retail prices. | full pass-through | Visual trend of price and taxes. Aligned to standard practice in tax modelling studies. |
| Price Elasticity of Demand | The responsiveness of consumers to changes in alcohol prices. | -0.45 | Wagenaar et al. (2009) |
| Average alcohol content (AA) | The alcohol by volume (ABV) percentage of the product. | 4.84% | Euromonitor |
| Consumption | The initial level of alcohol consumption of beer before tax changes | 3 461 million litres | Euromonitor & National Treasury |

Created with Datawrapper

*8-9. Product reformulation and change in alcohol content*

In response to the new tax structure, producers may reformulate their products to reduce alcohol content in order to fall into lower tax brackets. This reformulation strategy is a cost-minimization response that can help manufacturers maintain competitive pricing while reducing their tax liability.

Table 8 below presents the assumed changes in alcohol content for each brand under different policy scenarios: the NT proposal assuming *no industry response*, and the *REEP proposal* under both scenarios—*with and without an industry response*.

1. **NT Proposal – no industry response**: Under the National Treasury proposal, brands are assumed to keep the ABV unchanged. Given the choice of the thresholds (i.e. at 2.5% and

9% ABV) there will be no incentive for the industry to reformulate. All the brands will have an uplift factor of 1.2.

2. **REEP Proposal – no industry response**: The REEP proposal applies different uplift factors than National Treasury's proposal. Without industry reformulation, the uplift factors will range from 1.2 to 1.6, indicating a higher tax burden (see Figure 8).

3. **REEP – with industry response**: Producers reformulate the product to reduce the alcohol content and lower their tax exposure by dropping to the band below.

**Table 8 |** Alcohol content and uplift factors by tax proposal and industry response

| | | NT (No response) | | REEP (No Response) | | REEP (Response) | |
|---|---|---|---|---|---|---|---|
| **Brand** | **ABV** | **After ABV** | **Uplift factor** | **After ABV** | **Uplift factor** | **After ABV** | **Uplift factor** |
| Carling Black label | 5.5% | 5.5% | 1.2 | 5.5% | 1.6 | 4.5% | 1.4 |
| Castle | 5.0% | 5.0% | 1.2 | 5.0% | 1.6 | 4.5% | 1.4 |
| Castle Light | 4.0% | 4.0% | 1.2 | 4.0% | 1.4 | 3.5% | 1.2 |
| Hansa Pilsner | 4.2% | 4.2% | 1.2 | 4.2% | 1.4 | 3.5% | 1.2 |
| Heineken | 5.0% | 5.0% | 1.2 | 5.0% | 1.6 | 4.5% | 1.4 |
| Amstel | 5.0% | 5.0% | 1.2 | 5.0% | 1.6 | 4.5% | 1.4 |
| Windhoek | 4.0% | 4.0% | 1.2 | 4.0% | 1.4 | 3.5% | 1.2 |
| Flying Fish | 4.5% | 4.5% | 1.2 | 4.5% | 1.4 | 3.5% | 1.2 |
| Castle Milk Stout | 6.0% | 6.0% | 1.2 | 6.0% | 1.6 | 4.5% | 1.4 |
| Lion Lager | 4.5% | 4.5% | 1.2 | 4.5% | 1.4 | 3.5% | 1.2 |
| Corona | 4.5% | 4.5% | 1.2 | 4.5% | 1.4 | 3.5% | 1.2 |
| Miller | 4.7% | 4.7% | 1.2 | 4.7% | 1.6 | 3.5% | 1.2 |
| Tafel Lager | 4.0% | 4.0% | 1.2 | 4.0% | 1.4 | 3.5% | 1.2 |
| Stella Artois | 5.0% | 5.0% | 1.2 | 5.0% | 1.6 | 4.5% | 1.4 |
| Devil's Peak | 4.0% | 4.0% | 1.2 | 4.0% | 1.4 | 3.5% | 1.2 |

Source: Alcohol content - Euromonitor International. Alcoholic drinks South Africa, 2014-2023. • Created with Datawrapper

# 7. Results

## 7.1 Impact on alcohol consumption

Table 10 presents the effects of various policy simulations on the consumption of beer, absolute alcohol consumption (from malt beer only), and government excise revenue from beer. Under the National Treasury Proposal (Simulation 1), both beverage consumption and absolute alcohol consumption decline marginally by 1.9%. This modest reduction reflects a relatively inelastic demand response from a 4.2% increase in real average prices.

In contrast, REEP Proposal without industry reformulation (Simulation 2) leads to a more significant decline in beverage consumption (–4.8%) and absolute alcohol consumption (–4.9%). This suggests a stronger demand response, driven by a substantially higher average price increase of 11.2%.

Simulation 3 of the REEP Proposal, which includes industry reformulation, results in a substantial 15.7% reduction in absolute alcohol consumption. This outcome is primarily driven by a significant decrease in the average alcohol by volume (ABV), from 4.84% to 4.14%, reflecting the assumed reformulation efforts by producers. A critical aspect of Simulation 3 is that the alcohol industry effectively mitigates the impact of the tax by reducing the alcohol content in beverages. In fact, in Simulation 3 the total volume of beer consumed, decreased by only 1.4%, which is less than in the other two scenarios, despite the fact that there is a very substantial decrease in the volume of absolute alcohol consumed.

**Table 10 |** Results on the impact on consumption, government revenue and alcohol content

| Variable | Units | Baseline | National Treasury Proposal | | REEP Proposal | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Simulation 1 (no reformulation) | | Simulation 2 (no reformulation) | | Simulation 3 (full reformulation) | |
| | | Levels | Levels | Percentage change | Levels | Percentage change | Levels | Percentage change |
| Consumption of Beverage | million litres | **3,463** | 3,398 | *-1.9%* | 3,299 | *-4.7%* | 3,415 | *-1.4%* |
| Consumption of absolute alcohol | million litres | **167.5** | 164.4 | *-1.9%* | 159.4 | *-4.9%* | 141.3 | *-15.7%* |
| Government excise revenue | billion rands | **24,304** | 28,617 | *17.7%* | 35,555 | *46.3%* | 27,429 | *12.9%* |
| Average price | rands per litre | **38.86** | 40.47 | *4.2%* | 43.21 | *11.2%* | 40.04 | *3.0%* |
| Average alcohol content (ABV) | percent | **4.84%** | 4.84% | *0.0%* | 4.84% | *0.0%* | 4.14% | *-14.4%* |
| Industry revenue | billion rands | **92,699** | 91,035 | *-1.8%* | 88,473 | *-4.6%* | 91,509 | *-1.3%* |

## 7.2 Impact on government revenue

Government excise revenue increases under all three policy scenarios, though to varying degrees. The National Treasury Proposal yields a 17.7% rise in revenue. The REEP Proposal without reformulation (Simulation 2) generates the highest fiscal impact, with a 46.3% increase,

driven by substantially higher taxes, which result from higher uplift factors. Simulation 3, which includes industry reformulation, results in a 12.9% revenue increase—lower than the other scenarios but accompanied by the most substantial reduction in alcohol content, highlighting a trade-off between public health objectives and revenue generation.

This trade-off between public health and fiscal imperatives was also seen when the Health promotion Levy was imposed on sugared-sweetened beverages. In the 2018/19 financial year, when the HPL was introduced, the government collected about R3.2 billion from the HPL. In the 2023/24 financial year, the revenue had decreased to R2.2 billion, primarily because producers reformulated their products in order to reduce their tax liability. While this decrease in HPL revenue might be interpreted as a loss to the National Treasury, it highlights the positive public health effects of a decrease in sugar consumption through the HPL.

## 7.3 Impact on industry revenue

Industry revenue reacts differently across the three policy scenarios, shaping potential preferences for the industry. Under the National Treasury Proposal, industry revenue declines by 1.8%. The REEP Proposal without reformulation (Simulation 2) results in a more notable 4.6% decrease, driven by reduced consumption and higher tax burdens. Simulation 3, which incorporates product reformulation, results in the smallest impact—a 1.3% decline in industry revenue. This indicates that product reformulation allows producers to offset the effects of taxation by shifting toward lower-alcohol products, thereby minimizing revenue losses.

## 7.4 Additional REEP simulations

This section presents alternative policy approaches aimed at reducing the average alcohol by volume (ABV) of beer, particularly in scenarios where the industry does not undertake product reformulation. These scenarios focus on adjusting the tax structure—specifically, increasing the uplift factors applied to beers with ABV levels exceeding 4.5%. By raising these uplift factors, the policy seeks to create stronger incentives for consumers to reduce the demand of high-alcohol products. This strategy supports public health objectives by encouraging reduced alcohol content, even in the absence of voluntary reformulation by the industry.

**Simulation 4 – Aggressive uplift factors for brands above 4.5% ABV**

Simulation 4 explores the impact of increasing the uplift factor applied to beers with alcohol content above 4.5% ABV—from 1.6 to 2.0. This adjustment is designed to intensify the tax burden on higher-strength beers, thereby encouraging a shift in consumption patterns even in the absence of industry reformulation. By targeting the pricing of high-alcohol products more aggressively, the policy aims to reduce overall alcohol intake while maintaining pressure on producers to consider reformulation as a longer-term strategy.

Compared to Simulation 2, which applies the REEP Proposal without reformulation, Simulation 4 yields stronger public health and fiscal outcomes (Table 11). Beverage consumption declines by 6.8% in Simulation 4, versus 4.7% in Simulation 2, while absolute alcohol consumption drops by 7.1% compared to 4.9%. Government excise revenue increases significantly under Simulation 4—rising by 68.0%, compared to 46.3% in Simulation 2—driven by higher tax uplift factors. Industry revenue experiences a slightly larger decline in Simulation 4 (6.5%) than in Simulation 2 (4.6%), reflecting the stronger demand-reducing effect on high-ABV products. Overall, Simulation 4 demonstrates that more aggressive tax adjustments can effectively reduce alcohol consumption and boost government revenue, even without industry reformulation.

**Table 11 |** Results on the impact on consumption, government revenue and alcohol content from Simulation 4 and Simulation 5

| **Variable** | **Units** | **Baseline** | **REEP Proposal** | | **REEP Proposal (aggressive uplift factors for >4.5% ABV)** | | | |
|---|---|---|---|---|---|---|---|---|
| | | | **Simulation 2 (no reformulation)** | | **Simulation 4 (no reformulation)** | | **Simulation 5 (partial reformulation)** | |
| | | Levels | Levels | Percentage change | Levels | Percentage change | Levels | Percentage change |
| Consumption of Beverage | million litres | **3,463** | 3,299 | *-4.7%* | 3,226 | *-6.8%* | 3,378 | *-2.4%* |
| Consumption of absolute alcohol | million litres | **167.5** | 159.4 | *-4.9%* | 155.6 | *-7.1%* | 147.8 | *-11.8%* |
| Government excise revenue | billion rands | **24,304** | 35,555 | *46.3%* | 40,839 | *68.0%* | 30,063 | *23.7%* |
| Average price | rands per litre | **38.86** | 43.21 | *11.2%* | 45.46 | *17.0%* | 41.02 | *5.6%* |
| Average alcohol content (ABV) | percent | **4.84%** | 4.84% | *0.0%* | 4.84% | *0.0%* | 4.37% | *-9.6%* |
| Industry revenue | billion rands | **92,699** | 88,473 | *-4.6%* | 86,655 | *-6.5%* | 90,471 | *-2.4%* |

### Simulation 5 – Aggressive uplift factors for brands above 4.5% ABV with partial reformulation

Simulation 5 builds on the approach of Simulation 4 by retaining the increased uplift factor for beers with alcohol content above 4.5% ABV—raising it from 1.6 to 2.0—and additionally assumes partial reformulation within this tax tier. Specifically, it assumes that only beers with alcohol content at or above 4.5% AA undergo reformulation to reduce their alcohol strength, while other brands below this threshold keep their ABV unchanged.

Compared to Simulation 4, which applies aggressive uplift factors without reformulation, Simulation 5 delivers stronger public health outcomes with less impact on industry revenue (Table 11). Absolute alcohol consumption drops by 11.8% in Simulation 5, significantly more than the 7.1% reduction in Simulation 4. This is achieved despite a smaller decline in beverage consumption (2.4% vs. 6.8%), indicating that reformulation of high alcoholic brands reduces alcohol intake without substantially curbing overall sales volume. Government excise revenue increases by 23.7% in Simulation 5, lower than the 68.0% rise in Simulation 4. Importantly,

industry revenue declines by only 2.4% in Simulation 5, compared to 6.5% in Simulation 4, suggesting that partial reformulation helps producers maintain profitability while supporting public health goals through lower average ABV (4.37%, down from 4.84%).

## 8. Sensitivity Analysis

Given the absence of recent empirical studies on alcohol price sensitivity in South Africa, conducting a sensitivity analysis is useful to test the robustness of the simulation results. This exercise explores how different price elasticity of demand estimates affect key outcomes. The analysis includes a range of elasticity values from -0.3 to -0.75 (Table 12). Additionally, a targeted scenario is introduced where beers with alcohol content above 4.5% ABV are assigned a price elasticity of demand of -0.6, representing the higher price sensitivity of consumers who prefer stronger alcoholic beverages.

The sensitivity analysis demonstrates a consistent trend: as price elasticity increases—meaning consumers are more responsive to price changes—both beverage and absolute alcohol consumption decline more sharply in response to tax increases. At the same time, government revenue gains are slightly reduced. For instance, under the REEP Proposal without reformulation, beverage consumption falls by 3.3% when elasticity is –0.3, and by 7.8% when elasticity is –0.75. Similarly, absolute alcohol consumption declines by 3.4% and 8.0%, respectively. Despite these reductions, government revenue still increases significantly, rising by 48.6% in the low-elasticity scenario (–0.3) and by 41.4% in the high-elasticity scenario (–0.75). Compared to the baseline simulations using a fixed elasticity of –0.45, these results show that more elastic demand leads to stronger reductions in alcohol consumption, but slightly lower revenue growth.

**Table 12 |** Sensitivity results on consumption, government revenue and alcohol content

| | **Consumption of Beverage** | | | **Consumption of absolute alcohol** | | | **Government Revenue** | | |
|---|---|---|---|---|---|---|---|---|---|
| | NT Proposal (no reformulation) | REEP Proposal (no reformulation) | REEP Proposal (reformulation) | NT Proposal (no reformulation) | REEP Proposal (no reformulation) | REEP Proposal (reformulation) | NT Proposal (no reformulation) | REEP Proposal (no reformulation) | REEP Proposal (reformulation) |
| **Elasticity of demand** | | | | | | | | | |
| **-0.3** | -1.3% | **-3.3%** | -0.9% | -1.3% | **-3.4%** | -15.3% | 18.4% | **48.6%** | 13.4% |
| **-0.35** | -1.5% | -3.8% | -1.1% | -1.5% | -3.9% | -15.4% | 18.2% | 47.8% | 13.2% |
| **-0.4** | -1.7% | -4.3% | -1.2% | -1.7% | 4.4% | -15.5% | 17.9% | 47% | 13% |
| **-0.45** | **-1.9%** | **-4.7%** | **-1.4%** | **-1.9%** | **-4.9%** | **-15.7%** | **17.7%** | **46.3%** | **12.9%** |
| **-0.5** | -2.1% | -5.3% | -1.5% | -2.1% | -5.4% | -15.8% | 17.5% | 45.5% | 12.7% |
| **-0.55** | -2.3% | -5.8% | -1.7% | -2.3% | -5.9% | -15.9% | 17.2% | 44.7% | 12.5% |
| **-0.6** | -2.5% | -6.3% | -1.8% | -2.5% | -6.4% | -16.1% | 17.0% | 43.8% | 12.3% |
| **-0.65** | -2.7% | -6.8% | -2.0% | -2.7% | -7.0% | -16.2% | 16.8% | 43.0% | 12.1% |
| **-0.7** | -2.9% | -7.3% | -2.1% | -2.9% | -7.5% | -16.4% | 16.5% | 42.2% | 11.9% |
| **-0.75** | -3.1% | **-7.8%** | -2.3% | -3.1% | **-8.0%** | -16.5% | 16.3% | **41.4%** | 11.7% |
| | | | | | | | | | |
| **ABV >4.5% @ -0.6** | **-2.0%** | **-5.2%** | **-1.5%** | **-2.1%** | **-5.4%** | **-15.8%** | **17.5%** | **45.4%** | **12.7%** |

# 9. Conclusion and Policy recommendations

We developed a model to assess the potential effects of tiered excise tax structures on beer in South Africa. The analysis focused on estimated changes in beer consumption, consumption of pure alcohol from beer, government revenue, and the broader implications for industry dynamics. The findings confirm that excise taxation is a powerful tool for reducing alcohol consumption and generating fiscal revenue. The simulations are based on an assumption, that has been borne out in other contexts, that tiered excise structures—particularly those that differentiate tax rates based on alcohol content—can effectively incentivize producers to reformulate their products to contain less alcohol, with resultant declines in (absolute alcohol) consumption and increased benefits to public health.

REEP's proposal, which introduces more granular tax tiers within the 2.5%–9% ABV range, shows greater potential to reduce alcohol consumption than the National Treasury's proposal. When combined with industry reformulation, REEP's proposed tax structure leads to a substantial reduction in absolute alcohol intake (15.7%) while maintaining moderate negative impacts on industry revenue. Furthermore, simulations with aggressive uplift factors for beers above 4.5% ABV yield even stronger public health outcomes and revenue gains.

These modelling results show the importance of designing excise tax policies that create both demand- and supply-side incentives to reduce the consumption of alcohol in beer. A well-calibrated tiered system can align public health objectives with fiscal sustainability, while also providing clear incentives for industry reformulation.

## Policy Recommendations

Based on the modelling results and some international experiences, the following policy recommendations are proposed:

1. **Adopt a tiered excise tax structure based on alcohol content**

South Africa should move away from a flat-rate excise tax per litre of absolute alcohol and adopt a tiered structure that increases tax rates with alcohol strength. This approach aligns with WHO recommendations and international trends, and it creates incentives for producers to reduce alcohol content.[4]

2. **Implement the REEP-Proposed Tax Tiers**

The REEP proposal introduces more refined tiers within the 2.5%–9% ABV range, which better reflect the structure of the South African beer market. The proposed uplift factors are:

| Alcohol by Volume (ABV) | Uplift Factor |
|---|---|
| 0.5% to <=2.5% | 1.0 |
| >2.5% to <=3.5% | 1.2 |
| >3.5% to <=4.5% | 1.4 |
| Above 4.5% | 1.6 |

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These newly proposed tiers are designed to incentivise producers to reformulate beers from 5% ABV and higher to 4.5%, and from 4% ABV to 3.5%, thereby reducing the average alcohol content consumed.

3. **Introduce Aggressive Uplift Factors for High-ABV Beers**

To further discourage consumption of high-alcohol products, an additional policy option to consider is to increase the uplift factor to 2.10 for beers above 4.5% ABV. This aggressive alcohol tax policy is likely to significantly reduce consumption and boost government revenue, with industry losses mitigated.

4. **Annual excise tax duty rate adjustments**

Increase alcohol excise taxes by four percentage points above inflation annually for the next 5 to 10 years to reduce affordability. This adjustment reflects the combined growth in inflation and per capita GDP.

5. **Monitoring health prevalence statistics**

Government should establish robust mechanisms to monitor both industry reformulation and shifts in consumer behaviour following the implementation of new tax tiers. This monitoring should not only focus on economic and market responses but also include comprehensive public health surveillance. Key indicators such as hospitalisations, alcohol-related trauma admissions, and hospitalisations for assaults and homicides should be tracked to assess the broader health impacts of the policy. These metrics will provide critical evidence on whether the tax measures are contributing to improved health outcomes and can help refine the policy over time. Furthermore, such data will be instrumental in countering industry pushback and reinforcing the case for sustained or enhanced regulatory interventions aimed at reducing alcohol-related harm.

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