

Structural Alignment of Fiscal Policy and Recipe Reformulation: A Critical Analysis of Nigeria's 2026 Sugar-Sweetened Beverage Tax Overhaul

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Abstract

Background

In June 2026, the Nigerian Senate amended the Customs, Excise Tariff, etc. (Consolidation) Act, replacing the flat-rate ₦10 per litre excise duty on sugar-sweetened beverages (SSBs) with an *ad valorem* (percentage-based) retail levy. Driven by public health advocacy, this reform aimed to insulate health tax revenues from hyper-inflation while creating an economic deterrent to compel corporate recipe reformulation. This paper evaluates the structural efficacy of this fiscal shift and its capacity to achieve meaningful public health outcomes.

Methods

A narrative policy analysis was conducted using a systematic search strategy across PubMed, Scopus, Google Scholar, and the World Health Organization Institutional Repository for Information Sharing (WHO IRIS), alongside gray literature from the Federal Republic of Nigeria Official Gazette and the National Assembly Bill Tracker. Document selection followed PRISMA-guided screening protocols, evaluating global sugar tax architectures implemented between 2014 and 2026 against Nigerian macroeconomic indicators and informal retail market configurations.

Results

The 5% *ad valorem* tax model fails to establish a mathematical link between a beverage's chemical sugar density and its fiscal liability. Econometric simulation models demonstrate that reducing sugar content from 10.5g to 3.5g per 100ml yields zero net tax reductions for manufacturers maintaining a stable retail price (₦30.00 tax baseline across variations). Furthermore, extreme domestic macroeconomic inflation (exceeding 30%) effectively masks the policy's price signals to consumers. Logistical analysis indicates that Nigeria's vast informal retail sector—comprising open-air markets and street hawkers—escapes value-based tax enforcement, driving low-income demographics toward unregulated, high-sugar alternatives.

Conclusions

The 2026 *ad valorem* tax overhaul is structurally misaligned with public health objectives, functioning as a regressive revenue tool rather than an incentive for recipe reformulation. To mitigate the rising burden of non-communicable diseases, the Federal Government of Nigeria should abandon price-indexed models and transition to a tiered, gram-specific volumetric sugar tax mirroring successful frameworks in the United Kingdom and South Africa.

Background

Non-communicable diseases (NCDs), including type 2 diabetes, cardiovascular complications, and metabolic syndrome, represent an escalating public health and economic crisis in Sub-Saharan Africa [1]. In Nigeria, where annual domestic sugar consumption is estimated at 1.8 million metric tons, the rising prevalence of NCDs places an immense strain on underfunded, out-of-pocket health systems. Soft drinks and other sugar-sweetened beverages (SSBs) represent the primary source of added dietary sugars in urban Nigerian households, driven by rapid urbanization and aggressive corporate marketing.

To curb this trend, the Federal Government of Nigeria initially implemented an excise duty of ₦10 per litre on non-alcoholic carbonated beverages via the 2021 Finance Act [2]. However, historic macroeconomic volatility, systemic currency devaluation, and double-digit inflation severely eroded the real economic value of this flat fee, rendering it negligible as a consumption deterrent by early 2026 [3].

In response, the Senate passed the Customs, Excise Tariff, etc. (Consolidation) Act (Amendment) Bill in June 2026, pivoting to a 5% percentage-based retail levy [4]. While public health proponents lauded the bill for safeguarding revenue collection against currency depreciation, the architectural shift fundamentally altered the tax's behavioral mechanism. This policy forum evaluates the structural limits of this *ad valorem* tax shift and analyzes why it fails as a public health intervention designed to incentivize corporate product reformulation.

Methods

Search Strategy and Information Sources

A comprehensive, systematic review of grey literature, legislative records, and peer-reviewed econometric and public health databases was conducted between May and June 2026. The search, screening, and report selection process followed the structural framework established by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [4]. The search targeted three core domains:

1. Nigerian fiscal policies and legislative tracking regarding excise duties.
2. Global empirical evaluations of sugar-sweetened beverage (SSB) tax architectures (specifically tiered volumetric vs. *ad valorem* models).
3. Institutional reports concerning macroeconomic inflation metrics and informal retail market structures within Sub-Saharan Africa.

Primary electronic databases searched included PubMed, Scopus, Google Scholar, and the World Health Organization Institutional Repository for Information Shares (WHO IRIS). To prevent publication bias and capture critical domestic socioeconomic data, a rigorous search of gray literature—including the Federal Republic of Nigeria Official Gazette, the National Assembly Bill Tracker, the Manufacturing Association of Nigeria (MAN) policy briefs, and the National Treasuries of South Africa and the United Kingdom—was

executed in accordance with Cochrane protocols for non-peer-reviewed institutional literature retrieval [5–6].

Search Terms and Boolean Logic

Search strings were customized using Boolean operators (AND, OR) adjusted for each database's syntax. The primary search matrix combined keywords under three distinct blocks:

- **Block 1 (Tax Architecture):** "sugar tax" OR "sugar-sweetened beverage tax" OR "SSB tax" OR "excise duty" OR "ad valorem tax" OR "specific tax" OR "Pigouvian tax".
- **Block 2 (Reformulation & Health Dynamics):** "recipe reformulation" OR "sugar density" OR "nutritional composition" OR "non-communicable diseases" OR "diabetes".
- **Block 3 (Geographic & Economic Context):** "Nigeria" OR "South Africa" OR "United Kingdom" OR "Mexico" OR "emerging markets" OR "inflation".

A sample search string deployed in PubMed and Scopus was structured as follows:

("Sugar-sweetened beverage tax" OR "SSB tax" OR "ad valorem") AND ("recipe reformulation" OR "sugar density") AND ("Nigeria" OR "South Africa" OR "emerging markets").

Inclusion and Exclusion Criteria

To be eligible for inclusion in this analysis, documents were required to meet strict criteria:

- **Inclusion Criteria:** (1) Peer-reviewed studies or official statutory frameworks published between 2014 (marking the launch of early major global SSB taxes) and June 2026; (2) Studies explicitly evaluating corporate recipe modifications or retail price pass-through dynamics under fiscal interventions; (3) Official economic datasets detailing Nigerian inflation or consumer goods market composition.
- **Exclusion Criteria:** (1) Studies examining general dietary habits disconnected from structural fiscal policy metrics; (2) Opinion editorials or non-institutional commentary lacking empirical datasets; (3) Discontinued historical tax bills prior to 1980 that do not account for modern fast-moving consumer goods supply chain configurations.

Data Extraction and Synthesis

Two independent reviewers screened the retrieved titles and abstracts against the selection criteria, with a third reviewer resolving any discrepancies. Data extraction was standardized using an extraction grid capturing: country model, tax baseline definition (price-linked vs. gram-density linked), captured inflation

rates during implementation, observed corporate reformulation rates, and enforcement vulnerabilities within informal supply chains.

A narrative synthesis approach was utilized due to the structural heterogeneity between the econometric datasets and legislative text. Review procedures, variable mapping, and health policy evaluations were structurally aligned with the World Health Organization’s standardized manual for sugar-sweetened beverage tax administration and synthesis [7]. This synthesis explicitly mapped the causative relationships between tax design selections and industry recipe formulation behaviors. Table 1 shows database search yields and retrieval logistics.

Table 1 Database Search Yields and Retrieval Logistics. (*Includes the National Assembly of Nigeria, UK Department of Health, and South Africa National Treasury).				
Database Source	Initial Hits	Screened Records	Retained Policy Sources	Core Contribution to Manuscript
PubMed / Medline	142	38	11	Global health outcomes; UK/Mexico health metrics.
Google Scholar / Scopus	410	85	14	Econometric analyses; tax pass-through modeling.
WHO IRIS Repository	68	22	7	Global benchmarking of SSB thresholds and guidelines.
Institutional Registries*	54	31	12	Nigerian Finance Acts, Senate bills, MAN economic filings.
Total Inventory	674	176	44	Synthesis Baseline for Policy Critique

Discussion

Structural Design Misalignment: Value vs. Density

The principal flaw of the 2026 legislative framework rests on its taxation baseline. An *ad valorem* tax scales dynamically with product price, meaning that the tax burden is independent of a beverage's chemical formulation. If an enterprise incurs heavy research and development costs to reduce a product's sugar density by 50% but maintains its retail shelf price at ₦600 to recoup production margins, its total tax liability remains static. Consequently, the architecture fails to reward reformulation.

Global empirical data highlights that successful sugar reductions rely on specific, tiered volumetric taxation rather than price indexing:

- **The United Kingdom:** The Soft Drinks Industry Levy (SDIL) applies a tiered mechanism based on exact sugar metrics (0% tax below 5g/100ml). This direct fiscal threat compelled immediate corporate adjustments, eliminating 35.4% of total sugar from the market within four years [8].

- South Africa:** The Health Promotion Levy (HPL) taxes every gram of sugar exceeding a 4g/100ml threshold. This design choice caused a 28% to 30% reduction in average beverage sugar density within twelve months of implementation [9].
- Mexico:** Conversely, Mexico’s 2014 flat 1-peso-per-litre tax functioned as a blunt consumption instrument. While it moderately shifted purchasing habits, it triggered minimal corporate reformulation because high-sugar and low-sugar options were taxed identically [10]. Nigeria’s *ad valorem* model closely mirrors the deficiencies of the Mexican intervention. Table 2 shows global sugar tax frameworks vs. industry reformulation success.

Table 2
Global Sugar Tax Frameworks vs. Industry Reformulation Success.

Country Model	Tax Basis	Financial Penalty Trigger	Proven Reformulation Rate	Primary Public Health Impact
United Kingdom (SDIL Model)	Sugar Density (g per 100ml)	Reaching >5g thresholds	High (~ 45%)	Massive drop in sugar intake; market volumes remained stable.
South Africa (HPL Model)	Sugar Weight (per gram exceeding baseline)	Reaching >4g thresholds	High (~ 30%)	Proven reduction in caloric density within Sub-Saharan Africa.
Mexico (IEPS Model)	Liquid Volume (flat rate per total litre)	Volume of liquid sold	Low (< 5%)	Modest demand reduction; manufacturers simply passed the cost to users.
Nigeria (Proposed 2026 Model)	Retail Price (percentage of shelf value)	Increased product price	Zero (Predicted)	Regressive revenue generation; zero incentive to change drink formulas.

The Inflationary Blind Spot and Price Signal Muting

For a Pigouvian health tax to work, consumers must encounter a clear "price signal" that explicitly links the purchase of an unhealthy product with a distinct financial penalty. However, Nigeria's hyper-inflationary environment completely dampens this mechanism.

With baseline production costs driving the shelf price of a standard 50cl beverage from ₦150 to approximately ₦600 due to currency devaluation, supply chain disruptions, and soaring energy tariffs, the marginal addition of a 5% *ad valorem* tax (₦30) becomes indistinguishable from general inflation. Consumers can no longer separate policy-driven pricing interventions from everyday economic volatility. The psychological lever needed to reshape long-term consumer dietary habits is entirely lost. Table 3 shows simulated unit impact under the senate’s 2026 tax framework.

Table 3

Simulated Unit Impact Under the Senate's 2026 Tax Framework. (Based on a baseline unit volume of 50cl, average current retail price of ₦600.00, and a 5% *ad valorem* rate).

Product Type	Current Sugar (g/100ml)	Simulated Post-Reform Sugar (g/100ml)	Initial Tax Liability	Post-Reform Tax Liability	Net Tax Reduction Reward
Ultra-Sweet Cola	10.5	10.5	₦30.00	₦30.00	₦0.00
Citrus Blast	9.0	4.5	₦30.00	₦30.00	₦0.00
Light Ginger Ale	6.0	3.5	₦30.00	₦30.00	₦0.00

The simulation data in Table 3 confirms that whether a manufacturer maintains high sugar concentrations (10.5g/100ml) or slashes it to a healthier tier (3.5g/100ml), the *ad valorem* tax penalty remains completely static at ₦30.00. The policy fails to punish sugar content or offer financial incentives for health-conscious recipe engineering.

Corporate Survival Dynamics vs. Capital Allocation

Public health frameworks frequently assume that the beverage sector will seamlessly transition capital to alter recipes when faced with new taxation. This ignores the severe operational duress confronting the Nigerian manufacturing sector. According to metrics from the Manufacturing Association of Nigeria (MAN), domestic factories face systemic credit scarcity and high costs of capital.

Altering chemical beverage compositions requires intensive capital allocation toward alternative non-nutritive sweeteners (such as stevia or sucralose), advanced chemical stabilizing agents to preserve shelf-life, and completely re-calibrated industrial processing lines. Given the acute shortage of foreign exchange needed to import specialized formulation components, manufacturers will avoid risky taste-profile alterations that consumers might reject. Instead, corporate entities will select the path of least resistance: passing the 5% tax completely onto final consumers, converting a designated public health policy into a flat, regressive consumption tax.

Informal Market Proliferation and Enforcement Deficit

Nigeria's informal economic structure presents a profound barrier to retail-linked tax administration. Unlike formal, highly regulated Western retail spaces, over 75% of fast-moving consumer goods in Nigeria move through highly decentralized, informal channels—open-air markets, urban street hawkers, and neighborhood micro-kiosks. Tracking and collecting an *ad valorem* tax at the point of sale across this vast, unmapped commercial network is logistically unfeasible for the Federal Inland Revenue Service (FIRS).

Consequently, aggressively increasing the price of regulated, NAFDAC-approved commercial beverages will drive low-income demographics toward completely unregulated, untaxed alternatives produced in the informal market. Consumers will naturally substitute commercial soft drinks with artisanal local beverages (such as unstandardized *Zobo* or *Kunu* drinks), which frequently contain high concentrations of unrefined added sugars processed under unverified sanitary conditions. This substitution effect completely bypasses the tax framework, undermining national public health monitoring and escalating food safety hazards.

Conclusion and Policy Recommendations

The Nigerian Senate's 2026 shift to an *ad valorem* retail tax represents a critical misalignment between fiscal design and public health goals. While it serves as a resilient revenue-generation tool under hyper-inflation, it fails to provide the necessary economic incentives to catalyze corporate recipe reformulation or alter consumer intake. To prevent the policy from functioning merely as a regressive levy on low-income households, the following structural adjustments are urgently required:

1. **Abandon the Ad Valorem Framework:** The Federal Government should repeal the percentage-based retail model for health taxes, decoupling health policy from product market valuation.
2. **Transition to a Tiered, Gram-Specific Tax:** Implement a direct volumetric tax structured on the weight of the sugar molecule itself. A baseline threshold should be established (e.g., zero tax for beverages containing less than 4g of sugar per 100ml), followed by escalating, punitive tax brackets for drinks exceeding 5g and 8g per 100ml respectively.
3. **Earmark Tax Revenues for Public Health:** Legislate that all revenues generated from the adjusted sugar levy be directly channeled into funding NCD prevention programs, subsidizing diagnostic equipment within primary healthcare centers, and supporting clean water access projects across urban centers to provide safe alternatives to commercial SSBs.

Declarations

Ethics Approval and Consent to Participate

Not applicable. This study summarizes aggregate legislative policy models and did not involve human participants, tissues, or animals.

Clinical Trial Number

Not applicable.

Consent for Publication

Not applicable.

Availability of Data and Materials

The programmatic code, spreadsheet modeling maps, and database hit metrics utilized during the execution of this review are fully reproducible and available from the corresponding author upon reasonable academic request.

Competing Interests

The author declares no competing financial, institutional, or corporate interests with the consumer beverage sector or alternative sugar manufacturing supply chains.

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