

THE TOBACCO EXCISE TAX SIMULATION MODEL FOR NIGERIA

Forecasting the Impact of Increasing
Cigarette Excise Taxes on Health and Fiscal
Policy Outcomes



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A report prepared for
Civil Society Legislative Advocacy Centre (CISLAC)
and
Tax Justice Network Africa (TJNA)

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Abbreviations

BOP	Balance of Payments
CIF	Cost, Insurance, and Freight
CISS	Comprehensive Import Supervision Scheme
CISLAC	Civil Society Legislative Advocacy Centre
CPI	Consumer Price Index
CSAE	Centre for the Study of Economics of Africa
DaYTA	Data on Youth and Tobacco in Africa
DHS	Demographic Health Surveys
ECOWAS	Economic Community of West African States
ETLS	ECOWAS Tax Liberation Scheme
FCTC	Framework Convention on Tobacco Control (WHO Framework Convention on Tobacco Control)
GDP	Gross Domestic Product
GTER	Global Tobacco Epidemic Report
GYTS	Global Youth Tobacco Survey
IMF	International Monetary Fund
ITT	Illicit Tobacco Trade (index)
NOT	Net-of-Tax Price
REEP	Research Unit on the Economics of Excisable Products
RIP	Relative Income Price
SD	Standard Deviation
TETSIM	Tobacco Excise Tax Simulation Model (The Tobacco Excise Tax Simulation Model for Nigeria)
TJNA	Tax Justice Network Africa
TTS	Track and Trace System
VAT	Value Added Tax
WHO	World Health Organization

Executive Summary

This report presents the results of a tobacco excise tax simulation model for Nigeria. The model predicts how an increase in the specific excise tax on cigarettes would influence the retail price and total consumption of cigarettes, as well as total tax revenues and the potential number of tobacco-related deaths averted. The model focuses on improving health outcomes and raising additional tax revenue for the Government of Nigeria. The report also provides the macroeconomic background and tobacco control landscape to understand the context in which cigarette excise taxes are applied in Nigeria.

Nigeria's recent tobacco excise-tax increases have been largely ineffective in increasing retail prices and reducing tobacco consumption, as they have not adequately accounted for inflation or aligned with the

country's economic growth rate. When one accounts for both inflation and consumer income, cigarettes have become more affordable in recent years, despite tax increases.

Nigeria is currently facing high inflation and ongoing currency depreciation against major currencies, particularly the US Dollar (USD). These challenges diminish the effectiveness of excise taxes. Based on international experience and best practice, it is advisable to prioritise increases in specific taxes rather than ad valorem taxes. Since 2020, Nigeria's Tobacconomics Cigarette Tax Scorecard rating—which rates the effectiveness of a country's tobacco excise-tax system—has remained unchanged at 1.25 out of 5, which is below the African regional average of 1.65.

Given the current macroeconomic context in Nigeria, the outcomes of previous excise-tax increases, and the results of the modelling exercise, the following recommendations are made for policymakers:

1 Substantially increase the specific excise tax on cigarettes. This will reduce cigarette consumption, increase the potential number of tobacco-related deaths averted, and increase tax revenues.

2 As a policy schedule, in year one, implement a large increase in the specific excise tax. In years two to five, implement excise tax increases well above the sum of the inflation and economic growth rates. This strategy will achieve both public health and revenue objectives.

Background

Macroeconomic Context

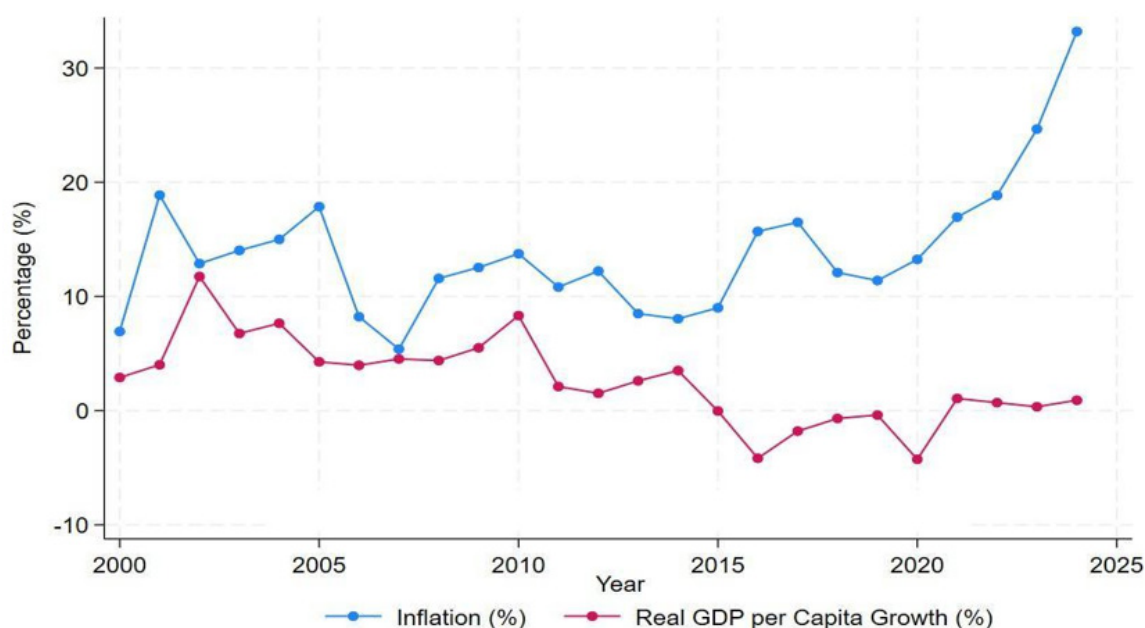
Nigeria is the most populous country in Africa, with a population of approximately 230 million people, growing at an average annual rate of 2.4% (United Nations World Population Prospects, 2024). Nigeria is classified as a lower-middle-income country. Between 2000 and 2024, the economy (measured in terms of per capita real Gross Domestic Product (GDP)) grew by 88%, at an average rate of 2.6% per year.

In the four years preceding the COVID-19 pandemic, and in 2020, Nigeria's per capita GDP growth rate was negative, indicative of economic stagnation. Following COVID-19, the growth rate once again became positive, but at a low rate. The per capita real GDP grew by an average of 0.7% per year between 2021 and 2024 (see Figure 1). The 2025 International Monetary Fund (IMF)

World Economic Outlook predicts a real GDP growth rate of 3.2% in 2025, 3.0% in 2026 and 3.3% in 2027. This translates to a per capita GDP growth of about 0.8% in 2025, 0.6% in 2026, and 0.9% in 2027.

Between 2000 and 2024, the inflation rate in Nigeria fluctuated between 5% and 33%, and increased to over 30% by the end of 2024. On average, the inflation rate over this period was 14%, but with high variability over the years (see Figure 1). All the inflation-adjusted (real) values in this report are expressed in 2024 prices. This is because in February 2025 Nigeria rebased its Consumer Price Index (CPI), changing the price reference period from 2009 to 2024 (National Bureau of Statistics, 2025).

Figure 1. Trends in inflation and real per capita growth rates in Nigeria, 2000–2024

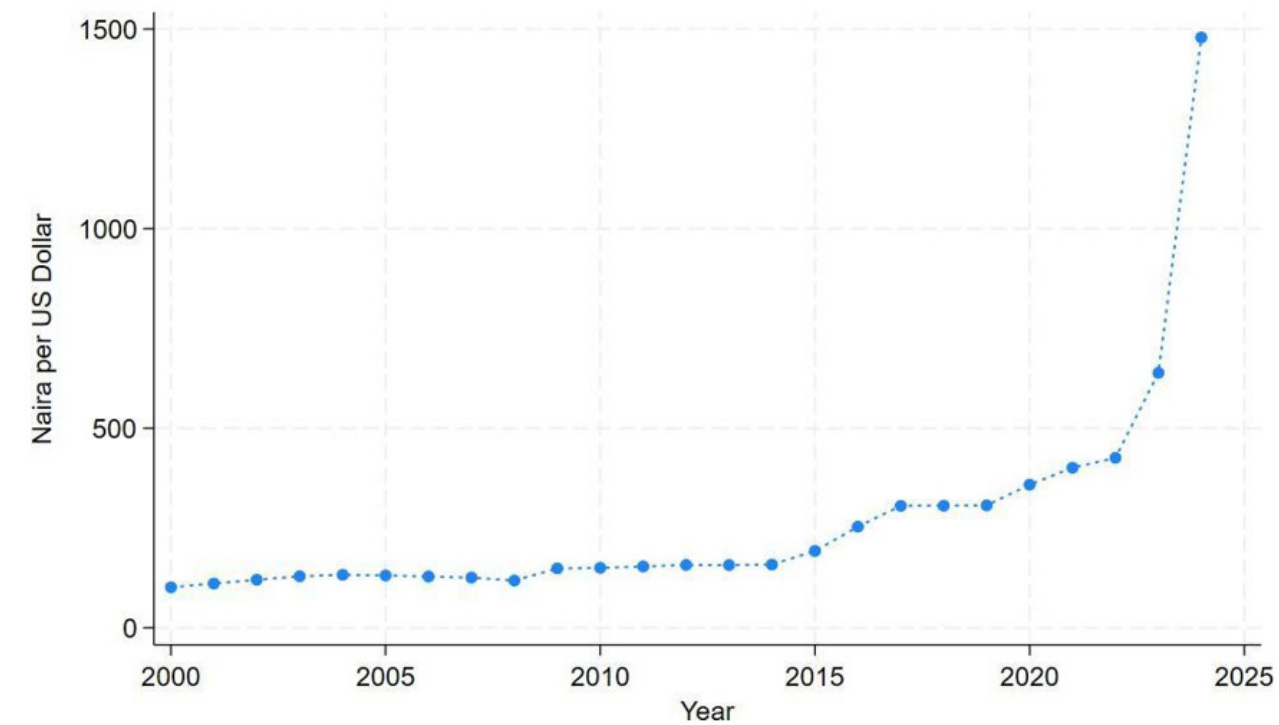


Source: Authors' own representation based from data from the 2025 IMF World Economic Outlook.

The Naira (₦) has consistently depreciated against the US Dollar (USD) in international markets. This means that, each year, more Naira are required to purchase one USD during international trading. Figure 2 shows that, between 2000 and 2015, the Naira gradually

depreciated against the USD, and the depreciation became more rapid between 2015 and 2018. Post-COVID-19 (between 2020 and 2024), the Naira depreciated sharply, by 312%.

Figure 2. Average Naira per US Dollar market exchange rates, 2000-2024



Source: Authors' own representation based on data from the 2025 IMF World Economic Outlook

At the macroeconomic level, currency depreciation in Nigeria, common since the 1980s, has not led to a positive balance of payments (BOP) (Iyoboyi and Muftau, 2014) and has negatively affected economic growth (Wadinga and Ahmed, 2024). Further, currency depreciation typically increases external debt and raises the debt-to-GDP ratio for developing countries like Nigeria (Fisera et al., 2021). From 2011 to 2023, Nigeria's debt-to-GDP ratio rose from 17% to 46% (IMF, 2024).

In summary, Nigeria has a turbulent macroeconomic

context. The Country's inflation rate is high and fluctuating and its economic growth has been unstable. The IMF (2024) forecasts suggest that, although inflation is expected to decrease each year for the next five years, it will still be high. The currency depreciation also presents a challenge and has not contributed positively to growth. To be effective at generating additional revenues and reducing consumption, any excise-tax policy reforms should be cognizant of this macroeconomic context, specifically the high inflation and exchange rate dynamics.

230 million

Approximate population of Nigeria

2.6%

Average economic growth rate between 2000 and 2024

14%

Average inflation rate in Nigeria between 2000 and 2024

46%

Nigeria's debt-to-GDP ratio in 2024

0.7%

Average annual per capita real GDP growth between 2021 and 2024

Tobacco Use Prevalence in Nigeria

Tobacco Use Prevalence among Adults

Table 1 presents the prevalence of cigarette smoking and overall tobacco use by gender, drawn from Nigeria’s Demographic Health Surveys (DHS).. Men in Nigeria use tobacco at a far higher rate than women. Between 2008 and 2018, the prevalence of cigarette smoking among men in Nigeria decreased from 9.0% to 5.4%. During this same period, the prevalence of cigarette smoking among women remained low, at approximately 0.2%. The prevalence of the use of any tobacco product dropped from 14.2% in 2008 to 6.6% in 2018 among men, and from 0.8% to 0.3% among women.

Table 1: Prevalence of tobacco use among adults, 2008–2018

	Cigarette Smoking		Any Tobacco Use	
Year	Men	Women	Men	Women
2008	9.0%	0.2%	14.2%	0.8%
2013	6.5%	0.0%	8.8%	0.0%
2018	5.4%	0.3%	6.6%	0.3%

Source: Authors’ own representation based on data from Nigeria’s Demographic Health Surveys (2008, 2013, and 2018).

Notes: The prevalence applies both men and women aged 15–49 years in Nigeria.

Tobacco use among adolescents

Between 2008 and 2024, the use of any form of tobacco by school-going adolescents aged 10 to 17 dropped from 18.9% (Global Youth Tobacco Survey [GYTS], 2008) to 3.6% (Data on Youth and Tobacco in Africa [DaYTA], 2024). Cigarette smoking among school-going children decreased from 4.1% in 2008 to 1.9% in 2024. The significant decrease in ‘any tobacco’ use could be due to a significant decrease in the use of the categories of ‘other smoked tobacco’ and ‘smokeless tobacco’. As is common across most countries, tobacco use is more prevalent among boys than girls. (see Table 2).

Table 2: Prevalence of tobacco use among school-going adolescents, 2008–2024

	2008		2024	
	Any tobacco	Cigarettes	Any tobacco	Cigarettes
Overall	18.9%	4.1%	3.6%	1.9%
Boys	19.2%	5.1%	5.4%	3.4%
Girls	16.9%	2.9%	1.7%	0.4%

Source: Authors’ own computations based on Nigeria GYTS (2008) and DaYTA (2024) report.

The current prevalence of novel nicotine products among adolescents in Nigeria remains low, with an overall consumption rate of 0.11%. Specifically, the prevalence of e-cigarette use is 0.09%, while that of nicotine pouches is 0.02% (DaYTA, 2024).

This rapid decrease in tobacco use and smoking prevalence is a very positive public health

development. Many high-income countries target a smoking prevalence rate of 5% or less. The fact that Nigeria’s current smoking prevalence (average for both sexes) is less than 5% is a notable public health achievement. However, as has been shown in other countries, continued vigilance is required to keep the smoking prevalence low.

Current State of Tobacco Excise Taxes in Nigeria

Cigarette Excise Taxes

Nigeria is a member of the Economic Community of West African States (ECOWAS), which is a customs union consisting of 15 West African countries:

- Benin
- Burkina Faso
- Cabo Verde
- Côte d'Ivoire
- The Gambia
- Ghana
- Guinea
- Guinea-Bissau
- Liberia
- Mali
- Niger
- Nigeria
- Senegal
- Sierra Leone
- Togo



ECOWAS mandates its member states to implement tobacco taxation in accordance with its directives (Tesche & Van Walbeek, 2020). According to the current ECOWAS Directive, published in December 2017, member states are required to impose a minimum ad valorem tax of 50% and a specific tax of 0.40 USD per pack of 20 cigarettes (ECOWAS Directive, 2017). As of September 15, 2025, the specific component equates to about ₦600 per pack. Members can impose higher excise taxes than the minimum prescribed by the directive.

Nigeria is one of the ECOWAS member that has implemented excise taxes below the prescribed directive's minimum. Nigeria has a mixed excise tax structure for tobacco that incorporates both specific and ad valorem taxes. As of 2024, Nigeria's specific tax is set at ₦104 per pack of 20 cigarettes, an increase from ₦94 in 2023. In June 2023, this specific tax was raised to ₦164 per pack, a rate that is higher than the one announced in 2022 (Federal Ministry of Finance, 2023). However, just two months later, this new rate

was suspended and the rate reverted to the originally announced rate of ₦94.

The main reason was that the new President, who assumed office in May 2023, indicated that,

"he did not want to make life difficult for the Nigerian citizens, and wanted to get rid of unfriendly fiscal policies."^{1 2}

Since the introduction of the specific tax component in 2018, the specific tax has increased by 420%, from ₦20 to ₦104 per pack in nominal terms (Figure 3). This is commendable. Nonetheless, when inflation is considered (i.e., in real terms), between 2022 and 2024 the specific taxes decreased. Therefore, Nigeria should keep increasing these taxes so that they are above the inflation rate and economic growth to improve their effectiveness. The ad valorem tax is currently set at 30% of the unit cost of production or manufacture price (Figure 3). There were plans to increase the rate to 50% in 2023,³ but there is no evidence that this has been implemented (PwC, 2025).

Figure 3. Trends in specific and ad valorem taxes of cigarettes in Nigeria, 2016–2024

1 Nigeria Suspends Taxes on Tobacco- Tobacco Reporter

2 Nigeria Suspends Two-Month Old Excise Taxes on Telecom and Tobacco- Bloomberg

3 <https://www.economicsforhealth.org/blog/tobacco-tax-increases-around-the-world-august-2023-update/>



Source: Authors’ own representation based on WHO FCTC reports, Nigeria’s Ministry of Finance press releases and-- discussions with Nigerian stakeholders. Notes: The real specific tax is expressed in constant 2024 Naira (₦) prices.

Other Cigarette Taxes

Cigarettes are also subject to Value Added Tax [VAT] levied at 7.5% of the retail price. Imported cigarettes from outside the ECOWAS region are also subject to three additional import taxes, levied at different rates of the Cost, Insurance, and Freight [CIF] values (i.e., import value): import duty (21.5%), Comprehensive Import Supervision Scheme [CISS] (1.0%), and ECOWAS Tax Liberation Scheme [ETLS] (0.5%).

Excise Taxes on Other Tobacco Products

Currently, the ad valorem tax on ‘other tobacco products’ (both smokeless and smoked) is set at 30% of the unit cost of production or the manufactured price. In 2024, the specific excise tax for these products was ₦2,000 per kilogram (kg), up from ₦1,500 per kg in 2023, and ₦1,000 per kg in 2022 (Federal Ministry of Finance, 2023; Federal Ministry of Finance, 2022).

7.5%

Value Added Tax (VAT) levied on cigarettes

21.5%

Import duty levied on imported cigarettes

1.0%

Comprehensive Import Supervision (CISS) Scheme levied on imported cigarettes

0.5%

ECOWAS Tax Liberation Scheme (ETLS) levied on imported cigarettes

Merits of Different Excise Tax Structures

An *ad valorem* tax is highly dependent on various factors. The ongoing depreciation of the Naira against major currencies, like the USD, has a significant impact on the *ad valorem* tax, as it is directly linked to price. As the Naira depreciates, imported cigarettes⁴ become more expensive, leading to higher *ad valorem* tax revenue. Very often, during currency depreciation, tobacco companies absorb tax increases instead of passing them on to consumers, a strategy known as “under-shifting”. This can be done quite easily if the absolute amount of the excise tax is low, as it is in Nigeria. This approach allows the tobacco industry to keep prices low and maintain sales volumes, making cigarettes more affordable.

Specific taxes are levied as a specified amount per pack of cigarettes. The main advantage of a specific tax is that it is much easier to administer. Rather than having to determine the value of the product, as is the case with an *ad valorem* tax, one simply needs to count the number of units that are subject to the tax. It is more difficult for the industry to manipulate the amount of the tax payable when the tax is levied as a specific

tax. Experience from other countries has shown that if the tax is levied as a specific tax, it provides a more stable source of government revenue. The guidelines to Article 6 of the WHO Framework Convention on Tobacco Control (FCTC) recommend that countries either implement a specific tax or a hybrid system. In the latter case, the specific component should be larger than the *ad valorem* component.

However, the single biggest disadvantage of a specific tax is that it can easily be eroded by inflation. In a high-inflation country like Nigeria this means that the government should adjust the specific excise tax regularly to account for inflation.

Currently the specific excise tax in Nigeria is set in Naira. Some countries, like Suriname and Zimbabwe, set the specific tax in USD, rather than in the local currency. In the ECOWAS Tax Directive, the excise tax is specified in USD. Setting the specific tax in USD would automatically increase the tax in local currency terms in times of currency depreciation.

Cigarette Tax Scorecard in Nigeria, 2014–2022

The overall performance of the cigarette excise-tax structure is evaluated using an international metric known as the Tobacconomics (now known as Economics for Health) Cigarette Tax Scorecard (Drope et al., 2024). The Scorecard operates on a 5-point scale (0 to 5), where a higher score indicates a better tax system and a lower score reflects a poorer tax system. The Cigarette Tax Scorecard is derived from the average of four criteria used to assess the cigarette excise-tax structure: cigarette price, changes in affordability, tax

burden (cigarette taxes as a share of the retail price), and tax structure (Drope et al., 2024).

As of 2022, Nigeria’s cigarette tax score stands at 1.25, which is calculated as the average of the following scores: price (1), changes in affordability over time (0), tax burden (1), and tax structure (3). This score is below the average score for the African region, 1.64, and the global average of 2.28 (Drope et al., 2024).

30%

The *ad valorem* tax on ‘other tobacco products’ (both smokeless and smoked)

₦2,000

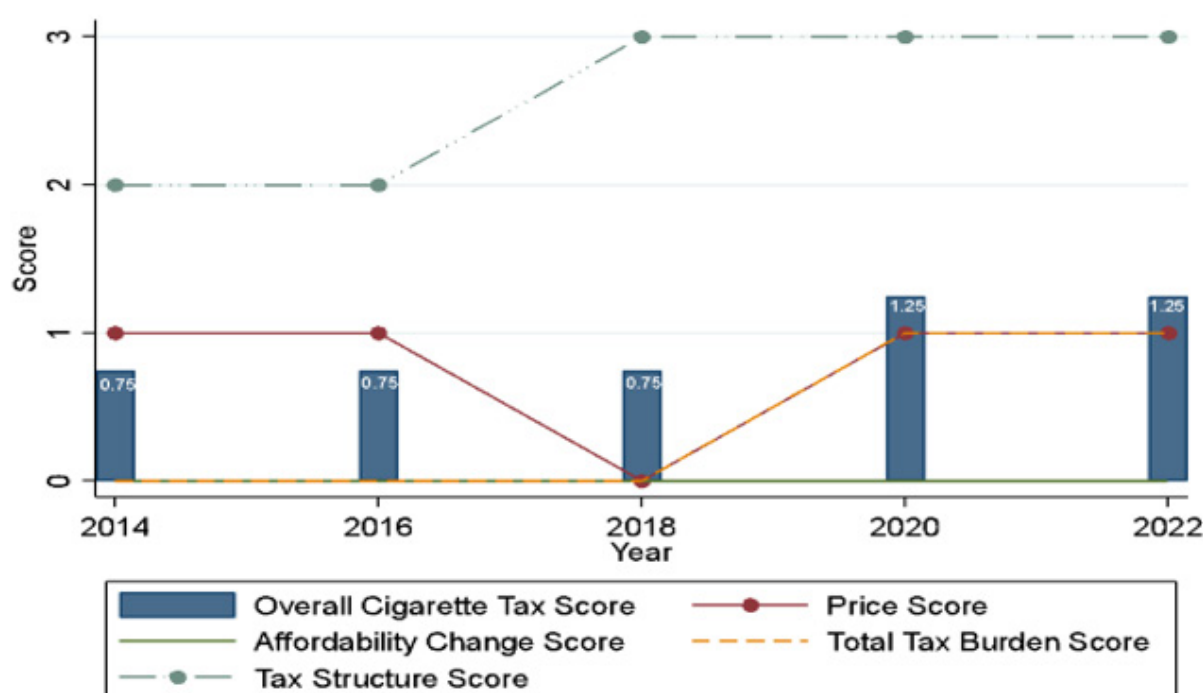
The specific excise tax on ‘other tobacco products’ in 2024

1.25

Nigeria’s cigarette tax score

⁴ Imported cigarettes account for less than 10% (around 8%) of the total cigarette market in Nigeria (Euromonitor, 2024).

Figure 4 Cigarette tax scores of different components of the tax scorecard in Nigeria, 2014–2022



Source: Authors' own representation based on data from the 2nd edition (Chaloupka et al., 2021) and 3rd edition (Drope et al., 2024) of the Tobacconomics Cigarette Tax Scorecard.

Figure 4 illustrates the trend in Nigeria's overall cigarette-tax scores from 2014 to 2022, providing insight into the performance of the country's cigarette-tax system during this period. The figure also presents the trends of the individual components of the overall tax scorecard for the same years. Nigeria's cigarette tax score improved from 0.75 in 2014 to 1.25 in 2020; however, this score has remained unchanged since 2020, and continues to be below the regional

average. This increase in the score was attributed to improvements in the tax structure, specifically the introduction of specific excise taxes in 2018. Despite this improvement, the overall tax score has stagnated due to low scores in other areas, such as cigarette affordability, low prices, and the total tax burden. The following section provides more detailed information on the changes in cigarette prices and affordability over time.

Cigarette Prices, Affordability, and Illicit Trade in Nigeria

Cigarette Prices

About 35 different cigarette brands (produced domestically and imported) are sold on the Nigerian cigarette market. These brands are categorised according to price into three segments:

Premium	Popular	Economy brands
- Benson & Hedges - Chesterfield - Marlboro - Rothmans	- London - St Moritz - Benson Switch - Aspen	- Royal - Pall Mall - Oris⁵

Table 3 shows the trend of average nominal and real cigarette pack prices from 2008 to 2023.

Table 3: Average cigarette prices per pack of 20 cigarettes in Naira (₦) by brand segment, 2008–2023

	Premium		Popular (most sold)		Economy	
Year	Nominal	Real	Nominal	Real	Nominal	Real
2008	-	-	200	1499	180	1349
2010	-	-	200	1194	-	-
2012	-	-	200	947	-	-
2014	350*	1361	265	1031	220*	856
2016	300*	991	220	727	100*	330
2018	250*	613	220	539	165*	404
2020	650	1275	400	785	200	392
2023	540	673	350	436	270	337

Source: The data come from multiple sources; WHO Global Tobacco Epidemic Report [GTER] (2008), WHO GTER (2009), WHO GTER (2021), WHO GTER (2023), WHO FCTC Nigeria Reports (2009, 2014, 2016, 2018, 2023).

Notes: Since 2008, the WHO GTER has been released biennially, with prices of the premium, most-sold (popular), and cheapest (economy cigarette brands) reported in the appendices. In 2008, the WHO GTER provided information on the most-sold (popular), and economy brands only. In the 2011, 2015, 2017, and 2019 WHO GTER reports, there were no data on premium and cheapest cigarette brands for Nigeria. The 2018 WHO prices align with the average prices from the 2018 Centre for the Study of Economics of Africa [CSAE] Survey reported by Akanonu et al. (2018). An asterisk (*) indicates that the prices were obtained from the WHO FCTC Nigeria reports because they were unavailable in the WHO GTER. Real prices are represented in 2024 ₦.

While there have been fluctuations in nominal price, for example around the COVID-19 crisis, the nominal price in all price segments increased over the period, 2008 to 2023 (Table 3). However, once inflation is accounted for real prices decreased across all segments over the period. The overall (2014 – 2023) decrease in real price

⁵ Given that Nigeria has both domestic and foreign cigarette brands, we initially wanted to disaggregate the cigarette market into the import market as well. However, the data from the WHO GTER and FCTC do not consistently report prices for imported cigarettes.

was significant, at 51% for premium, 58% for popular, and 61% for economy. The real decrease in price is due to inflation. As was seen in Section 1, inflation in the country is high and erratic. Inflation has had the effect of eroding the excise tax and eroding the price of cigarettes, making them relatively cheaper over time.

This will likely have caused an increase in cigarette consumption. Inflation is a key factor to consider when setting excise-tax increases. If tax increases are smaller than the inflation rate, then inflation will erode the tax, making the tax less effective for its public health and fiscal objectives.

Affordability

There is well-established evidence that the two main determinants of cigarette demand are price and income (IARC, 2011). If the real price of cigarettes increases at a slower rate than real income per capita, cigarettes will become more affordable. Conversely, if the increase in real prices outpaces the growth in income levels, cigarettes will become less affordable. In other words, all else being equal,, as incomes increase, cigarettes become more affordable.

To evaluate the affordability of cigarettes over time in Nigeria, the research calculated a commonly used

cigarette affordability index, called the Relative Income Price (RIP) (Blecher and Van Walbeek, 2009). RIP is calculated as the percentage of annual Gross Domestic Product (GDP) per capita needed to purchase 100 packs of 20 cigarettes (a total of 2,000 cigarettes). A higher RIP indicates that cigarettes are less affordable (as one needs to spend a higher share of income to buy 100 packs), while a lower RIP suggests that cigarettes are more affordable (as one needs to spend a lower share of income to buy 100 packs).

Table 4. Relative income price for cigarettes, by segment, in Nigeria, 2008–2023

Year	Premium	Popular	Economy
2008	-	14.2%	12.8%
2010	-	9.9%	-
2012	-	7.6%	-
2014	10.3%	7.8%	6.5%
2016	7.3%	5.7%	2.1%
2018	4.9%	4.3%	3.3%
2020	10.8%	6.6%	3.3%
2023	5.6%	3.6%	2.8%

Source: Authors' own computations based on data from the WHO and the IMF World Economic Outlook (2025).

Notes: Real GDP per capita and real cigarette prices used in the computation of the RIP are in 2024 ₦ prices.

Other than in 2020 (during the global COVID-19 crisis), the relative income price decreased every year over the period, 2014 to 2023, across all segments (Table 4). This means that cigarettes cost less and less (relative to income) every year in the period. This is because

incomes consistently increased over the period, while real prices decreased. As a result, cigarettes became more affordable.

For this reason, the government should also be cognisant of GDP per capita growth when setting excise taxes. In addition to being sufficient to offset inflation, excise-tax increases should also be sufficient to offset increases in consumer income.

Illicit Trade of Tobacco Products in Nigeria

Nigeria is one of seven African countries recognized as significant transit and destination points for the illicit tobacco trade. Although there are no current peer-reviewed estimates for the size of Nigeria's illicit tobacco and cigarette market, the illicit market (expressed as a percentage of total production) was estimated at 18% in 2009 (Joossens et al., 2009) and 26.3% in 2020 (Adeniran, Ekeruche, and Castradori, 2020).

The illicit tobacco trade in Nigeria has both domestic and international origins. Domestically, the illegal market is believed to be driven by licensed tobacco producers who under-report their production and sell a share of their products through illegal channels (Adeniran, Ekeruche, and Castradori, 2020). On the international front, illicit tobacco is primarily smuggled into Nigeria from neighbouring countries such as Benin and Togo. The country's weak border controls facilitate this smuggling, and the duty-free policy that allows passengers to carry 200 foreign-produced cigarettes for personal use is often exploited by smugglers (Adeniran, Ekeruche, and Castradori, 2020).

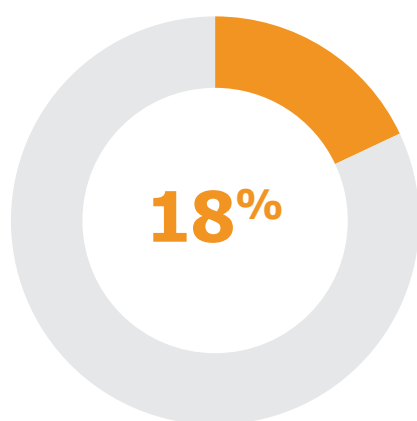
Nigeria has acknowledged the challenges posed by the illicit tobacco trade and has taken steps to address this issue. In 2019, the country signed and ratified the Protocol to Eliminate Illicit Trade in Tobacco Products (United Nations, 2019). This Protocol, developed by the WHO, provides a global framework, aimed at reducing the illicit trade of tobacco products, and complements the provisions outlined in Article 15 of the WHO FCTC.

The Protocol requires countries to implement a robust Track and Trace System (TTS). However, Nigeria has not yet established a TTS. In Africa, about 16 countries – Burkina Faso, Comoros, Côte d'Ivoire, the Democratic Republic of Congo, Egypt, the Gambia, Kenya, Malawi, Mali, Mauritius, Morocco, Senegal, Sierra Leone, Tanzania, Togo, and Uganda – have implemented or are in the process of establishing a TTS (Joossens, 2022; Duperrut, 2024).

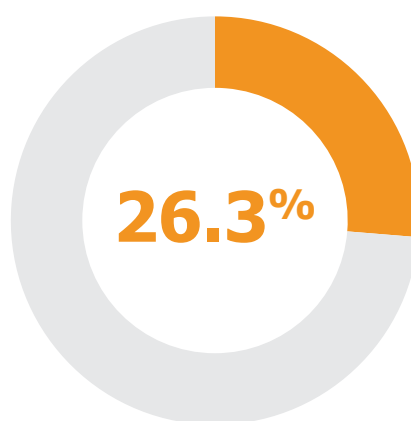
In 2021, an Illicit Tobacco Trade (ITT) index was created by Ulep, Lavares, and Francisco, (2021) to assess the structural and institutional capacities of various countries for combating the illicit tobacco trade. This index is based on data from 160 countries worldwide. It ranges from 0 to 1, with a score of 0 signifying no capability to address illicit trade, and a score of 1 indicating complete capacity to tackle the issue.

Nigeria received an ITT index score of 0.30, which is slightly below the average score of 0.31 for middle-income countries (Ulep, Lavares, and Francisco, 2021). This score highlights the

significant challenges Nigeria faces in addressing the illicit tobacco trade. Evidence suggests that countries in higher income brackets have a greater capacity to combat the illicit tobacco trade compared to those in lower income brackets. Illicit trade is strongly positively correlated with governance, enforcement capacity, and border control. Higher-income countries have these institutional capacities (Ulep, Lavares, and Francisco, 2021).



Nigeria's illicit tobacco and cigarette market (expressed as a percentage of total production) in 2009



Nigeria's illicit tobacco and cigarette market (expressed as a percentage of total production) in 2020

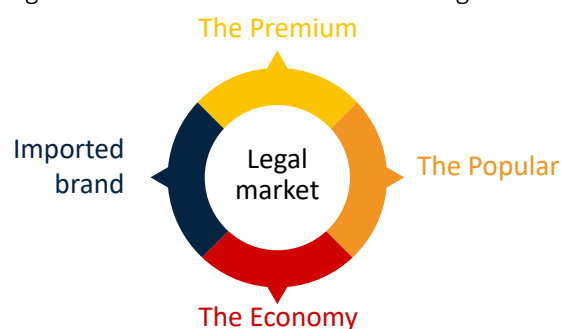
The Tobacco Excise Tax Simulation Model (TETSIM)

Description of the TETSIM

The TETSIM is an Excel-based tobacco excise-tax simulation tool originally developed by Van Walbeek (2010), and has been improved, through continued collaboration, by the researchers at the Research Unit on the Economics of Excisable Products (REEP) at the University of Cape Town. The TETSIM is used by tobacco-control advocates and government officials to predict how an increase in the tobacco excise taxes would influence, among other things, fiscal and health outcomes, such as government tax revenues, industry revenues, the total excise-tax burden, the total consumption of cigarettes, cigarette-smoking prevalence and the number of tobacco-related deaths averted. The model framework uses a baseline scenario—the country's existing tobacco-tax landscape before any excise-tax changes—and simulates various excise-tax policy reform scenarios. Each TETSIM model is tailored to reflect the country for which modelling is being conducted.

For Nigeria, the model consists of five market

segments, each affected differently by policy change. The legal market consists of four market segments:



which are affected by changes in the excise tax policy. The imported brand segment is additionally affected by changes in import taxes- namely import duty, CISS, and ETLS- as well as fluctuations in ad valorem taxes that arise from Naira depreciation. Finally, the model incorporates a fifth segment; the illicit market is not directly affected by a change in the tobacco excise tax structure and tax rates, but rather by the legal tobacco industry's pricing strategy and consumer behaviour.

TETSIM Model Mechanics

The TETSIM model operates in three steps. The first step describes the baseline scenario. For this, the model user inputs the number of cigarettes consumed in the country and the retail price and market share within each price segment. The model also requires data to subdivide the retail price of a pack of cigarettes into various tax and non-tax components. In the Nigerian case, the tax components include the excise tax (specific and ad valorem), VAT, import duties, CISS, and ETLS. The non-tax components include the import/CIF value (for imported cigarettes), the ex-factory price (for domestic cigarettes), and the wholesale and retail margins. Together, these non-tax components are referred to as the net-of-tax price (NOT). Total tax and NOT revenues for the base scenario are obtained by multiplying the relevant tax and NOT components per pack of cigarettes by the number of packs of cigarettes produced or consumed (Van der Zee & Van Walbeek, 2020).

In the second step, the user simulates a change in the excise tax (level or structure) from the status quo. For example, in the current exercise, the model simulate an increase in the level of the specific excise tax, as explained in detail in the next section on the excise-tax

modelling scenario. The simulated tax change causes the tax element to change.

The model then adjusts the NOT elements, in response to the change in the tax. Tobacco companies can respond to a tax change in one of three ways: over-shift (increase the retail price by more than the tax increase, i.e., increase the NOT), under-shift (increase the retail price by less than the tax increase, i.e., decrease the NOT), or perfectly-shift the tax increase (increase the retail price by the same amount as the tax increase, i.e., NOT price remains constant). The model can accommodate any industry pricing response by allowing the user to change the CIF or ex-factory value, or the wholesale and retail margins. Based on the simulated tax and non-tax changes, the model calculates the new retail price (Van der Zee & Van Walbeek, 2020).

Using the simulated (higher) price, the model then calculates a new, reduced, level of cigarette consumption; the magnitude of the reduction in consumption is determined by the price elasticity of demand for cigarettes. Price elasticity quantifies how sensitive consumers' demand is, in response to a change in price. The greater the price elasticity, the

greater the decrease in the consumption of cigarettes in response to a given percentage change in the price. Low- and medium-cost cigarettes are typically consumed by poorer consumers, who are typically more price-sensitive than wealthier consumers. Higher-cost cigarettes are preferred by the affluent, who are typically less price-sensitive compared to the poor. For example, assuming a -0.5 price elasticity of demand for cigarettes, a 10% increase in the price of cigarettes will simulate a 5% reduction in consumption. The TETSIM model does not use exactly this elasticity but rather the arc elasticity. Arc elasticity is more suitable when there are substantial changes in price and quantity. The model accounts for varying price elasticities for different price segments (research shows that lower-income consumers—who typically buy cheaper cigarettes—are most sensitive to price, so the estimated elasticity is typically higher for the lower price segments).

For multi-year simulations (e.g., 2 to 5 years), the model is typically programmed to account for consumption changes driven by population growth and growth in average per capita incomes (economic growth). In

countries like Nigeria, with five market segments, the model accommodates smokers' substitution between brand segments. For example, a substitution elasticity of 0.1, for premium and popular cigarettes, means that for a 10% increase in the price of premium cigarettes, there will be a 1% increase in the consumption of popular cigarettes. All substitution effects cancel out overall (as the loss to one market segment equals the gain to another), but substitution effects are included in the model as they reflect a shift in the market shares of each segment. Once the new quantity demanded is estimated, the model calculates the new tax revenues and net-of-tax revenues by multiplying the new tax and net-of-tax components by the new quantity.

The model includes a brief epidemiological module, which includes health impacts that result from the change in consumption, e.g., the change in the number of cigarettes smoked, cigarette-smoking prevalence, and the number of premature tobacco-related deaths averted. The model can be programmed to simulate a once-off change in the excise tax (from the base scenario), or to simulate a multi-year tax-reform policy (such as the current modelling exercise for Nigeria).

Tax Reform Simulation for Nigeria

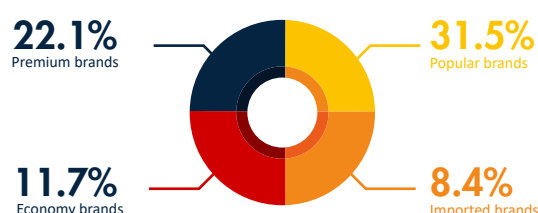


The TETSIM model is used to simulate a multi-year tax increase for Nigeria. The assumptions underlying the simulation exercise are:

1. The base scenario is 2024. Where 2024 data are unavailable, the model uses data from 2023 (or recent years) and assumes that these data did not change in 2024.
2. The model simulates the market for cigarettes only, since this is the type of tobacco that is most consumed in Nigeria. The most accurate and complete data are available for the cigarette market.
3. Because illicit cigarettes are typically the cheapest on the market, it is assumed that the brands with the lowest average prices reported by the WHO are illicit. The average cigarette prices reported range from ₦160 (WHO FCTC, 2023) to ₦540 per pack (WHO GTER, 2023). Thus, we assume the average price of ₦160 as the average representative price for the illicit cigarette segment.
4. An increase in the excise tax does not directly affect illicit trade.
5. The policy targets the specific component of the tax, for reasons stated above. Besides the specific excise tax, the model assumes that the other tax rates remain unchanged over the simulation period. For instance, the model is programmed with a fixed ad valorem tax of 30%, VAT rate of 7.5%, import duty of 21.5%, CISS of 1%, and ETLs of 0.5% (as in the 2024 tax system).
6. Based on IMF (2024) forecasts, it is assumed that the inflation rate will be 25% in 2025, 15.2% in

2026, 15.4% in 2027, and 14% in 2028 and 2029.

7. It is assumed the tobacco industry will increase their retail margins (for all brand segments) by more than the inflation rates, as follows: 35% in 2025, 25% in 2026, and 20% in each of 2027, 2028, and 2029.
8. Cigarette market shares for Nigeria are computed from the cigarette brands reported in the Euromonitor data (2024). The model assumes that 22.1% of the market consists of premium brands (domestic), 31.5% of popular brands (domestic), 11.7% of economy brands (domestic), and 8.4% of imported brands. In line with Adeniran, Ekeruche, and Castradori (2020), the share of the illicit market is set at 26.3%.



9. The model allows for different **price elasticity** estimates for different market segments. Thus, we assume a price elasticity of demand of -0.7 for consumers of illicit brands, -0.5 for consumers of economy brands, and -0.4 for consumers of popular, imported and premium brands.
10. It is assumed that cigarettes in all market segments are normal goods, and therefore, any increase in income will lead to an increase in their consumption. Thus, **income elasticities of demand** are set at 0.8 for premium cigarettes, 0.7 for imported and popular brands, 0.6 for economy cigarettes, and 0.4 for illicit cigarettes.⁶
11. To allow for substitution between cigarette brand segments, the model assumes a cross-price elasticity of demand to be 0.1 for popular, economy and imported cigarettes. The model a cross-price elasticity of 0.02 for illicit cigarettes. This elasticity is defined in terms of the percentage change in consumption in a lower-priced market segment as a result of a one per cent change in price in the higher-priced market segment. In other words, when higher-price cigarettes become expensive, people shift from premium to imported, from imported to popular, from popular to economy,

and from economy to illicit cigarettes, in that order.

12. As the adult population grows, one would expect there to be an increase in aggregate cigarette consumption, simply because there are more potential smokers. If the smoking-prevalence percentage and the smoking intensity (i.e., the average number of cigarettes smoked per smoker) remain unchanged, one would expect aggregate consumption to increase by the same percentage as the increase in the adult population. In other words, **the population elasticity of demand** for cigarettes would be equal to one. However, because cigarette smoking among young people is lower than among adults, it is likely that aggregate cigarette consumption will grow by a smaller percentage than the percentage growth in the adult population. The population elasticity of demand is assumed to be 0.9 for legal brands (premium, popular, economy and imported) while for illicit cigarettes the elasticity to be 0.8. These elasticity estimates are acknowledged to be approximations in the absence of guiding literature; however, they are considered more appropriate than the implicit assumption of a population elasticity equal to one, which would imply that aggregate cigarette consumption is directly proportional to the adult population.
13. It is generally accepted that approximately half of smokers will die prematurely because of smoking-related diseases (Fagerström, 2002; Doll et al., 2004). However, by quitting smoking, people reduce their likelihood of suffering from tobacco-related diseases and tobacco-related mortality. Unfortunately, not all smokers who quit will avoid tobacco-related mortality, because the health damage of tobacco use cannot be undone in all cases. To account for the epidemiological aspect of changes in tobacco use (reduction in tobacco-related mortality), the model assumes that 50% of the decrease in consumption (resulting from the tax change) is a result of smokers quitting (as opposed to continuing smokers who decrease their cigarettes consumed per day). Of these, It is assumed that 35% avoid premature death from tobacco-related diseases, in line with previous TETSIM exercises (Valdois & Van Walbeek, 2018).
14. All currency estimates are presented in both nominal and real terms.

⁶ Income elasticities are different for different consumers because premium cigarettes are considered “luxury/higher cost” items, so as affluent people’s incomes increase, they are more likely to spend on higher- cost products, leading to higher income elasticity. On the other hand, economy and illicit cigarettes are lower- cost products consumed primarily by the poor. As the poor ‘s incomes increase, their consumption does not change significantly, and this results in lower income elasticity.

15. Taking into consideration changing preferences (away from cigarettes), greater health awareness, a move to e-cigarettes, and the effects of tobacco-control legislation, it is assumed that there is an autonomous decrease in the consumption of cigarettes, which is separate from tax and/or

price changes, or income changes. It is further assumed that this autonomous effect decreases cigarette consumption by 0.65% each year over the simulation period (2025 – 2029).

Excise Tax Modelling Scenarios

Four possible excise-tax increases are modelled, for each year during the period, 2025 – 2029:

Scenario 1	Scenario 2	Scenario 3	Scenario 4
The first scenario simulates the status quo, where the excise tax remains unchanged. In this scenario, the specific excise tax remains at ₦104 per pack and the ad valorem tax at 30% for the next five years (2025 – 2029). This scenario depicts what would happen to key fiscal and health variables if the government were to continue with the current policy trajectory.	The second policy scenario simulates a substantial increase in the specific excise tax in the first year. The schedule is as follows: a specific-tax increase of 150% from its current level of ₦104 per pack in 2025, a 30% increase in 2026, and regular increases of 40% each year until 2029.	The third policy scenario proposes increasing the specific excise tax by 20% in 2025, 80% in 2026, and by 50%, 40%, and 30% in 2027, 2028, and 2029, respectively.	The fourth policy scenario proposes increasing specific taxes at the following rates: 50% (in 2025), 30% (in 2026), and 20% each year of the next three years (2027, 2028, and 2029).

Outcomes of Interest

Using each of the above-mentioned policy scenarios, the following outputs are estimated:

1. Cigarette retail price, excise tax amount and burden (%), and total tax burden (%);
2. Total cigarette consumption;
3. Cigarette smoking prevalence;
4. Excise tax revenue;
5. Total revenue (from VAT and excise taxes);
6. Tobacco industry revenue (net of tax revenue);
7. Number of tobacco-related deaths avoided.

The tax, price, and/or revenue-related variables are presented in nominal and real terms.



Results

In this section, the model simulates the effect of an increase in the specific excise-tax level on retail price, cigarette consumption, government revenue, the tax burden, industry revenue, and the number of tobacco-related deaths averted in the short-to-medium term (from 2024 to 2029).

Results: Changes After Year One

The TETSIM was calibrated with the different scenarios and used to calculate the change in the variables of interest and the percentage change in selected variables between the four simulated scenarios and the base scenario. Table 5 presents the base scenario (the situation in the Nigerian cigarette market in 2023/2024, before any excise-tax policy interventions) and the estimated impact of each policy scenario on average price and various outputs. The prices and aggregate results displayed are overall weighted averages (weighted by the markets for premium, imported, popular, economy, and illicit cigarettes). The results are reported in real terms (2024 ₦).

Table 5 TETSIM outputs from various changes to the specific excise tax, 2024 (base scenario) to 2025 (simulated)

Outputs [Specific tax change]	Base Scenario	Scenario 1 [Status quo]	Scenario 2 [Increase by 150%]	Scenario 3 [Increase by 20%]	Scenario 4 [Increase by 50%]
	(1)	(2)	(3)	(4)	(5)
Components of the average retail price					
CIF/ex works value	23.00	24.60	24.60	24.60	24.60
Industry/retail margin	221.43	239.15	239.15	239.15	239.15
Import duty	0.41	0.45	0.45	0.45	0.45
CISS	0.02	0.02	0.02	0.02	0.02
ETLS	0.01	0.01	0.01	0.01	0.01
Ad valorem tax	5.09	5.49	5.49	5.49	5.49
Specific excise tax	76.65	61.32	153.30	73.58	91.98
VAT	21.34	21.44	28.34	22.36	23.74
Retail price	347.95	352.47	451.35	365.65	385.43
Consumption (million cigarette sticks)	19118	19138	17785	18925	18627
Excise tax burden (%)	29%	24%	41%	27%	31%
Total tax burden (%)	36%	31%	48%	34%	38%
Aggregate revenue (real billion ₦)					
Industry (CIF and retail margin)	212	230	209	227	222
Government					
Excise tax	78	65	136	76	91
Import duty	0.4	0.4	0.4	0.4	0.4
VAT	20	21	24	21	22

Outputs [Specific tax change]	Base Scenario	Scenario 1 [Status quo]	Scenario 2 [Increase by 150%]	Scenario 3 [Increase by 20%]	Scenario 4 [Increase by 50%]
Excise and other taxes*	99	87	161	97	113
Total expenditure by buyers	333	341	392	348	358
Percentage changes from baseline (%)					
Weighted average retail price		1.3%	29.7%	5.1%	10.8%
Total Consumption		0.6%	-8.0	-0.8%	-2.7%
Excise tax revenue		-16.5%	73.9%	-3.2%	15.9%
Total tax revenue*		-12.6%	62.3%	-1.6%	14.3%
Total expenditure by buyers		2.4%	17.7%	4.6%	7.7%

Notes: The results are the weighted averages, weighted for the market shares of premium, popular, economy, imported and illicit market segments. Prices are displayed in real (2024 ₦) prices. The base scenario is the best representation of 2024, using data from 2023 and 2024. All simulations assume that the ad valorem tax rate remains unchanged, at 30%.*Total tax revenue includes excise taxes and other taxes, including VAT and import duties. The CISS and ETLS revenues are not reported because they are negligible.

The base scenario gives the current situation, and serves as the comparator. Columns 2 to 5 provide the estimates for 2025, for each of the policy scenarios. In the status quo scenario, the real price increases marginally (due to the tobacco industry increasing their margins), but consumption increases. This indicates that remaining on the current policy trajectory will be an ineffective public health strategy. The real excise-tax revenue would decrease by 16.5%, from ₦78 billion to

₦65 billion. This is due to the effect of inflation.

Scenarios 2 to 4 all predict an increase in the real average price and a decrease in consumption. The largest decrease in consumption is for scenario 2 (an 8.0 % decrease). This policy option is the most ambitious and forecasts the greatest public health benefits. This scenario also provides the best fiscal outcomes, with a predicted increase in real excise-tax revenue of 73.9%.

Scenarios 3 and 4 provide less promising results than Scenario 2. In Scenario 3, the real average retail price increases by 5.1% (driven by tobacco-industry price increases), and aggregate consumption decreases by 0.8%. Because the excise-tax increase (20%) is less than the predicted 2025 inflation rate (25%), real revenue from excise taxes is predicted to decrease (-3.2%). In Scenario 4, the real average price increases by 10.8%, consumption decreases by 2.7%, and excise-tax revenues increase by 15.9%.

Results: Cigarette Consumption and Tax Revenues in the Medium Term

Table 6 compares changes in cigarette consumption for the four policy scenarios over the full simulation period (2025 – 2029). With the exception of the status quo, all scenarios result in a decrease in cigarette consumption in the medium term (2025 – 2029). Scenario 2 delivers the largest decrease in consumption (17.5%), followed by Scenario 3 (12.4%) and Scenario 4 (6.5%). While Scenario 4 shows the second-largest consumption drop in year one, the consumption effects over the subsequent years are small.

Scenarios Result in a Decrease in Cigarette Consumption in the Medium Term (2025 – 2029)

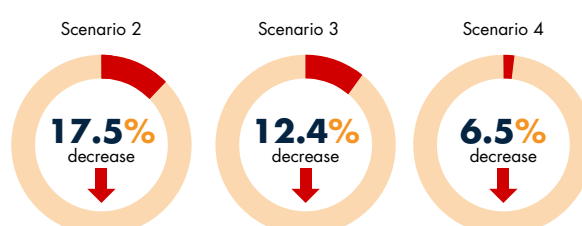


Table 6. Forecasted changes in cigarette consumption across four scenarios

	Status Quo (Scenario 1)		Scenario 2		Scenario 3		Scenario 4	
Year	Amount (million sticks)	Change	Amount (million sticks)	Change	Amount (million sticks)	Change	Amount (million sticks)	Change
Base Scenario: 2024	19118		19118		19118		19118	
2025	19230	0.6%	17588	-8.0%	18962	-0.8%	18593	-2.7%
2026	19113	-0.6%	17122	-2.6%	17948	-5.3%	18131	-2.5%
2027	19302	1.0%	16754	-2.1%	17493	-2.5%	18114	-0.1%
2028	19357	0.3%	16272	-2.9%	17046	-2.6%	17993	-0.7%
2029	19389	0.2%	15778	-3.0%	16752	-1.7%	17873	-0.7%
Total % change compared to Base Scenario		1.4%		-17.5%		-12.4%		-6.5%

Notes: The results represent the total consumption of cigarettes from premium, imported, popular, economy, and illicit market segments. The base scenario is the best representation of 2024, using data from 2023 and 2024. All simulations assume that the ad valorem tax rate remains unchanged, at 30%.

Scenario 2 shows the largest increase in total real tax revenue over the five-year period. Tax revenue increases by 183.4%, 113.2%, and 44.2%, respectively, for Scenarios 2, 3, and 4, between 2025 and 2029. For the status quo, the total cigarette-tax revenue decreases by 31.9% over the period (Table 7).

Table 7. Changes in total cigarette tax revenues (excise tax, VAT, and import duty) in real terms (constant 2024 ₦) across four scenarios

	Status Quo (Scenario 1)		Scenario 2		Scenario 3		Scenario 4	
Year	Amount (Billion ₦)	Change	Amount (Billion ₦)	Change	Amount (Billion ₦)	Change	Amount (Billion ₦)	Change
Base Scenario: 2024	99		99		99		99	
2025	87	-12.6%	161	62.3%	97	-1.6%	113	14.3%
2026	80	-7.2%	176	9.9%	133	36.9%	124	9.8%
2027	75	-6.6%	205	16.2%	162	21.8%	129	4.3%
2028	71	-5.4%	240	17.0%	190	17.0%	136	5.0%
2029	67	-4.9%	280	16.9%	211	11.1%	143	5.0%

	Status Quo (Scenario 1)		Scenario 2		Scenario 3		Scenario 4	
Year	Amount (Billion ₦)	Change	Amount (Billion ₦)	Change	Amount (Billion ₦)	Change	Amount (Billion ₦)	Change
Total % change compared to Base Scenario		-31.9%		183.4%		113.2%		44.2%

Notes: Prices are displayed in real (2024 ₦) prices. The base scenario is the best representation of 2024, using data from 2023 and 2024. All simulations assume that the ad valorem tax rate remains unchanged, at 30%. The CISS and ETLs revenues are not reported as they are negligible.

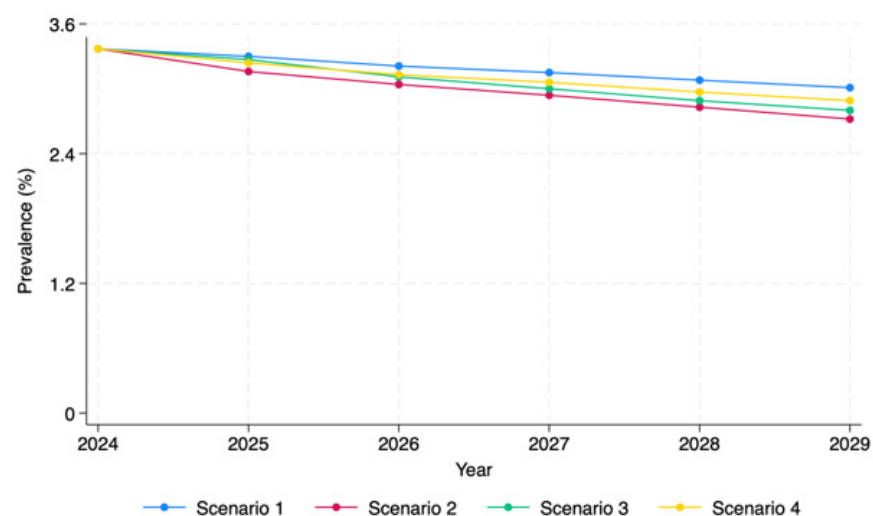
Results on Epidemiological Outcomes

Figure 5 illustrates predicted cigarette-smoking prevalence from 2024 to 2029 across four scenarios. Cigarette-smoking prevalence decreases over time for all four scenarios, with the largest decline occurring in Scenario 2.

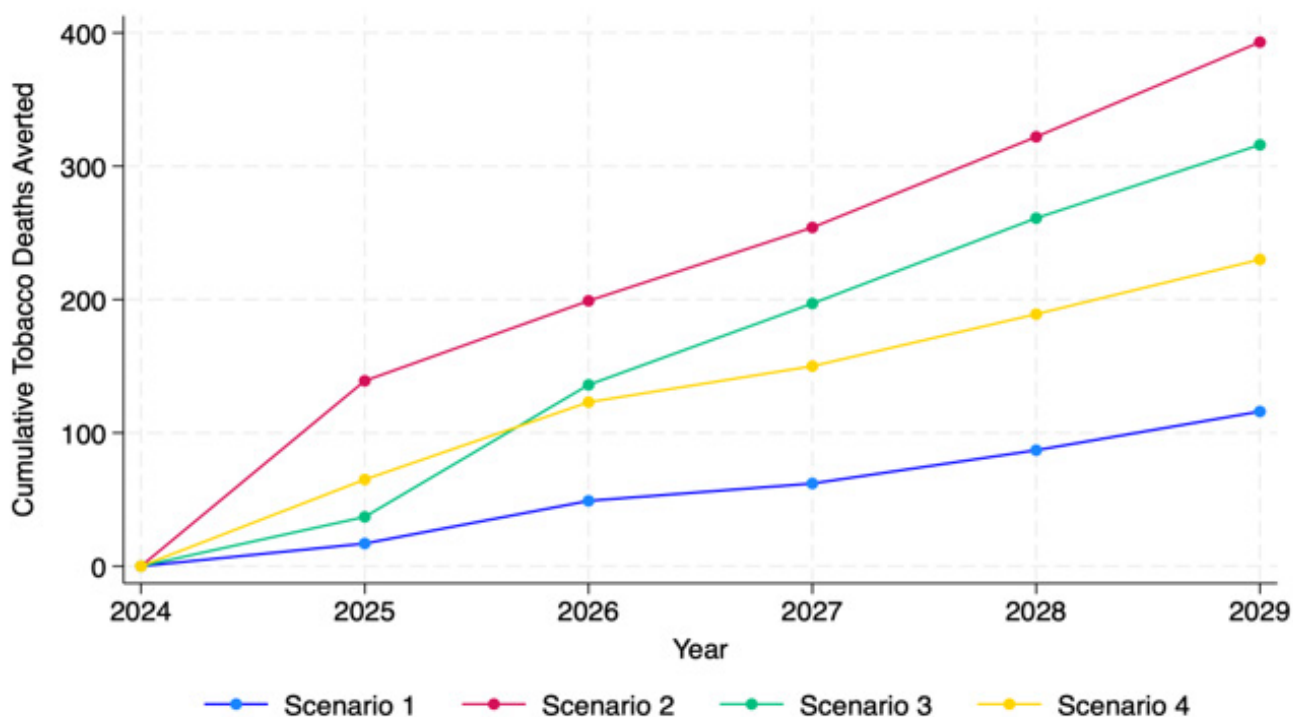
Finally, the modelled scenarios would not only be effective in reducing cigarette consumption and generating government revenue but would also reduce the

number of tobacco-related deaths (because of the decrease in consumption). Figure 6 presents the number of potential tobacco-related deaths avoided, under each scenario. Scenario 2 results in the most deaths avoided, followed by Scenario 3, Scenario 4 and, lastly, Scenario 1.

Figure 5. Cigarette smoking prevalence (%) forecasts across four scenarios



Number of tobacco-related deaths (thousands) averted across scenarios



Notes: This figure should be interpreted with caution. When the model indicates that a certain number of tobacco-related deaths are averted, that does not suggest that these deaths will be averted in that particular year. This is because smoking kills slowly. Thus, many people who smoke today might only

succumb to a tobacco-related illness in the long term (i.e., in 20, 30, or 40 years' time). If these smokers were to quit now, or potential smokers do not start, the deaths will only be avoided in the long term. As such, this is a prospective analysis of the number of premature deaths avoided.



Sensitivity Analysis

Actual inflation and GDP growth are likely to differ marginally from forecasts. This section provides a sensitivity analysis for the TETSIM results, assuming higher and lower inflation and GDP growth in the simulation years.

The sensitivity analysis was conducted under two situations:

1. low inflation and low economic growth
2. high inflation and high economic growth.

Table 8 details how these parameters are determined. Table 9 presents the parameter values used for analysis.

Table 8. Sensitivity analysis assumptions (2025-2029)

Variable	Definition
Real GDP Growth (%)	
Low Growth	IMF Forecast _{year} - SD of GDP growth (2000 – 2024)
High Growth	IMF Forecast _{year} + SD of GDP growth (2000 – 2024)
Inflation Rate (%)	
Low inflation	IMF Forecast _{year} - SD of GDP growth(2000 – 2024)
High Inflation	IMF Forecast _{year} + SD of GDP growth (2000 – 2024)

Notes: The subscript, year, varies from 2025 to 2029 (the forecasting period). SD represents the standard deviation.

Table 9: Inflation and GDP growth rates used in the sensitivity analysis

	Real GDP Growth Rate		Inflation Rate	
Year	Low	High	Low	High
2025	-0.8%	6.8%	19.1%	30.9%
2026	-1.1%	6.5%	9.3%	21.1%
2027	-0.8%	6.8%	9.5%	21.3%
2028	-0.5%	7.1%	8.1%	19.9%
2029	-0.3%	7.3%	8.1%	19.9%

Sensitivity Analysis Results

Under all four situations, the sensitivity analysis results align closely with the main forecasts. Scenario 2 remains the most effective at reducing cigarette consumption, followed by Scenario 3 and Scenario 4. Scenario 1 (the status quo) is consistently ineffective at reducing consumption, making it an ineffective public health strategy. The status quo scenario only results in decreased consumption when extreme factors dictate, namely, when inflation and GDP growth rates are low

(an unlikely outcome, given past trends and forecasts). See Table A.

When there is high inflation and high GDP growth, cigarette consumption will decrease only in the first year, when there is a substantial increase (150%) the specific tax, and increase in other years. This sensitivity evidence shows that excise taxes should be increased substantially and be significantly above the inflation and GDP growth rates to be effective.

Overall, this analysis shows that consumption will decrease by around 36.1% between 2024 and 2029, if the government follows Scenario 2 (the most effective scenario) (Table A).

In terms of tax revenue, the sensitivity analysis is also aligned with the main findings. Scenario 2 continues to be the most effective in generating tax revenue, followed by Scenario 3, and then Scenario 4. Under the status quo, the government would still lose the potential real-tax revenues that could be generated from cigarettes. Real tax revenue will increase by between 180.9% and 183.7% for the period 2024 to 2029, if the government follows Scenario 2 (see Table B).

The sensitivity-analysis results for the cigarette-smoking prevalence are consistent with the main findings. All the scenarios will reduce the prevalence under any combination of inflation and GDP growth

rates. Scenario 2 would still be the most effective and the status quo the least effective. Cigarette-smoking prevalence would decrease from 3.37% (in 2024) to between 2.40% and 3.06% (in 2029) if the government adopts the most effective Scenario 2 (Table C).

Finally, in line with the main results, the sensitivity analysis indicates that Scenario 2 would be the most effective scenario in preventing tobacco-related deaths, followed by Scenario 3, Scenario 4, and the status quo. Specifically, this would be the case under low inflation and low economic growth rates (Table D).

The findings highlight the key message of this report. Inflation is a challenge in Nigeria and strong economic growth affects the effectiveness of excise taxation. Both factors should be considered when setting excise-tax rates. If rates are left unchanged, the public health and fiscal objectives of excise taxation will be undermined.



Conclusion

This report presents a summary of the Nigerian tobacco-control (and tobacco-taxation) context, and provides forecasts for various potential policy scenarios. The report describes the country's macroeconomic context and tobacco-taxation landscape so as to better understand the environment in which cigarette excise taxes operate in Nigeria. Nigeria's current excise-tax structure is mixed, comprising both specific and *ad valorem* taxes. The results of the TETSIM are presented I, assuming four policy scenarios, for the years 2025-2029. The aim of the TETSIM exercise is to quantify the impact of increasing the specific excise tax on cigarettes in Nigeria (while keeping the *ad valorem* tax unchanged), at different rates over the five years.

Scenario 2 simulated increasing the specific tax by 150% in the first year, 30% in the second year, and 40% in the remaining years. This scenario is the most ambitious and produces the best public health and fiscal outcomes. The TETSIM forecasts a decrease in cigarette consumption of 17.5%, an increase in real tobacco-tax revenue of 183.7%, and the largest number of tobacco-related deaths averted. These results are robust to various sensitivity checks. Scenarios 3 and 4 provide alternatives to Scenario 2. These policies are less ambitious, but also lead to a decrease in consumption and an increase in real tax revenue over the medium term. Results from the

status quo simulation indicate that if the government were to leave tax rates unchanged, consumption and smoking prevalence are likely to remain unchanged, making it an ineffective public health policy.

In recent years, Nigeria has taken bold steps to reform tobacco-excise taxation. However, considering the broader economic context, particularly high inflation and fluctuating growth, the actual effects of these tax increases have been dampened and have eroded over time. To strengthen its tobacco-taxation policy, the Nigerian government should implement significant excise-tax increases. In particular, tax increases should be greater than the sum of the inflation rate and GDP per capita growth rate. This will drive real cigarette prices up (making cigarettes less affordable) causing a reduction in cigarette use, and ultimately improving public health outcomes. In addition, the government will benefit from substantial increases in real tax revenues from tobacco products. Tax increases should also happen annually; pre-announcing these increases for several years can simplify the process, eliminating the need for annual negotiations and minimising opportunities for the tobacco industry to interfere with tax policy. This approach may also encourage people who smoke to quit by highlighting the rising costs of tobacco in the future.

Recommendations

Based on the current macroeconomic environment and the TETSIM forecasts, the following two recommendations are made:

- Policymakers should not change the current excise-tax structure but should prioritize increases in the specific excise tax.
- Policymakers should increase the excise taxes substantially to make up for the prices and tax revenues eroded by high inflation in recent years. This will also result in retail prices being high enough to reduce consumption and to increase tax revenues.



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Appendix: Sensitivity Analysis Results

Note: For simplicity, results are presented for “low inflation and low GDP growth” and “high inflation and high GDP growth” only. We do not present results for the combinations of low and high growth and inflation, because those predicted outcomes fall between the above predictions (“low and low” and “high and high”). In other words, the sensitivity analysis reported above presents the “best case” and “worst case” outcomes.

Table A: Changes in Cigarette Consumption across Four Scenarios

	Status Quo (Scenario 1)	Scenario 2	Scenario 3	Scenario 4
Low inflation and low GDP growth				
Percentage (%) change (2024 – 2029)	-21.0%	-36.1%	-32.1%	-27.4%
High inflation and high GDP growth				
Percentage (%) change (2024 – 2029)	27.8%	4.6%	10.8%	18.1%

Table B: Changes in Total Cigarette Tax Revenues (Excise Tax, VAT, and Import Duty) in Real Terms (constant 2024 ₦) across Four Scenarios

	Status Quo (Scenario 1)	Scenario 2	Scenario 3	Scenario 4
Low inflation and low GDP growth				
Percentage change (%) (2024 – 2029)	-31.4%	183.7%	114.0%	45.1%
High inflation and high GDP growth				
Percentage (%) change (2024 – 2029)	-32.8%	180.9%	110.8%	42.3%

Table C: Cigarette Smoking Prevalence between the Base Scenario (2024) and End of the Simulation Period (2029) across Four Scenarios

	Status Quo (Scenario 1)	Scenario 2	Scenario 3	Scenario 4
Base Scenario: 2024	3.37%	3.37%	3.37%	3.37%
Low inflation and low GDP growth rates				
Cigarette prevalence by 2029	2.66%	2.40%	2.47%	2.55%
High inflation and high GDP growth rates				
Cigarette prevalence by 2029	3.33%	3.06%	3.15%	3.25%

Table D: Number of Tobacco-Related Deaths Averted across Four Scenarios

	Status Quo (Scenario 1)	Scenario 2	Scenario 3	Scenario 4
Low inflation and low GDP growth				
Total deaths averted (thousands): 2024-2029	273	519	451	374
High inflation and high GDP growth				
Total deaths averted (thousands): 2024 - 2029	-55	255	169	72

Notes: Under Scenario 1, the negative sign (-) implies that the tobacco-related deaths would not be prevented, but would rather increase.





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