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Simulation-based policy analysis for Georgia using the TETSiM model

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Abstract

This report assesses the fiscal and public health implications of alternative tobacco excise tax policies in Georgia using the Tobacco Excise Tax Simulation Model (TETSiM). Taking 2024 as the baseline and projecting outcomes through 2028, the analysis evaluates the current tax structure and four reform scenarios. Despite a decline in smoking over the past decade, prevalence in Georgia remains high, while excise rates and prices have eroded due to inflation and rising incomes. The results show that a gradual 20% annual increase in specific excise taxes (in the 2026-2028 period) delivers the strongest and most sustainable outcomes. Compared with the status quo, this scenario increases real prices by 33% and annual government revenues by 20% while reducing consumption and smoking prevalence and preventing nearly 17,000 premature deaths. The findings indicate that regular, sizeable, and comprehensive excise increases across all tobacco and nicotine products are essential to achieve durable fiscal and health gains.

Keywords: Excise, Taxation, Tobacco, Smoking

JEL classification: H24, I18

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Executive summary

This report analyses the fiscal and health implications of alternative tobacco excise tax policies in Georgia using the Tobacco Excise Tax Simulation Model (TETSiM). The baseline year is 2024, with scenarios projected through 2028. The analysis considers the current tax structure, recent policy changes, and the interaction of inflation, income growth, and product substitution.

Context. Tobacco use in Georgia has declined over the past decade, but prevalence remains high by European standards and tobacco-related mortality and healthcare costs are significant. Current excise tax rates have failed to keep pace with inflation and income growth, eroding the real tax burden and increasing affordability. The absence of a minimum excise tax floor further undermines policy effectiveness, particularly for low-priced brands.

Simulation scenarios. Five scenarios were modelled:

1. Baseline (status quo): Tax remains at the 2025 level (1.9 Georgian lari [GEL] for cigarettes, GEL 1.85 for heated tobacco products [HTPs])
2. Counterfactual (no 2025 increase): Simulates conditions without the 2025 tax increase
3. One-time 50% increase (2026): One significant tax increase in 2026, followed by unchanged rates
4. Gradual 10% annual increase (2026-2028)
5. Gradual 20% annual increase (2026-2028)

The simulation results show that the 20% annual increase scenario consistently outperforms the baseline and other scenarios across all major indicators. By 2028, government revenues reach GEL 2,354 million compared to GEL 1,907 million in the baseline (+20%). The real weighted average price (WAP) rises to GEL 10.14 versus GEL 7.61 (+33%), reversing the long-standing affordability trend (3.88% of GDP per capita vs. 2.97% in the baseline). The total tax burden increases to 75% across product categories, compared to 68.7% under the baseline. Most importantly, smoking prevalence falls to 24.77% (vs. 26.87% in the baseline), consumption declines to 6.2 billion sticks (vs. 7.3 billion in the baseline), and nearly 17,000 premature deaths are averted in the 2025-2028 period. Whereas other scenarios deliver either temporary or marginal effects, whereas the 20% annual increase provides robust and sustainable fiscal and health gains.

Policy implications. The simulation evidence demonstrates that Georgia's current excise policy is insufficient. Specifically, recent modest increases have been outpaced by income growth and inflation, leaving tobacco more affordable and undermining both health and fiscal goals. To achieve lasting results, several reforms are essential:

› Consistency: While one-off tax hikes only create temporary effects, regular annual increases ensure stability and long-term impact.

› Scale of increase: A 20% annual rise in the specific excise tax is large enough to reduce consumption, improve health, and boost budget revenues simultaneously. Smaller adjustments are neutralised by economic growth and inflation.

› Comprehensive coverage: All tobacco and nicotine products – including heated tobacco products (HTPs), roll-your-own (RYO) tobacco, and e-liquids – must be taxed equally to avoid substitution.

› Better data: Reliable, updated information on the illicit market and substitute products is needed to keep the model current and ensure evidence-based policy decisions.

1. Introduction

A significant decline in tobacco use among the Georgian population – from 33.7% in 2016 to 24.8% in 2025 (NCDC, 2018; LEPL, WHO and CDC, 2025) – is a positive trend. However, the prevalence is still higher than the European average, which remains a major public health and economic challenge. The mortality rate from tobacco-related diseases is high, and public healthcare expenditures are increasing (UNDP, 2018). Against this background, the effective use of tobacco taxation policy stands out as one of the most powerful tools for both protecting public health and for stabilising budget revenues.

To analyse taxation mechanisms and simulate various pricing scenarios, this study employs the Tobacco Excise Tax Simulation Model (TETSiM), a tool that has been used in multiple countries for assessing tobacco tax policies and planning reforms (Jovanovikj et al., 2024; Mostafa et al., 2023; van der Zee and van Walbeek, 2020; van Walbeek, 2010).

The aim of the study is to forecast the potential impact of changes in tobacco excise taxes in Georgia on sales, consumption, budget revenues, and public health. For this purpose, the model explores both the baseline scenario and four alternative taxation scenarios. The model is based on parameters describing the market structure, macroeconomic parameters (e.g. income growth), and price and income elasticities.

1.1. BACKGROUND: TOBACCO CONSUMPTION AND TAXES IN GEORGIA

Tobacco consumption in Georgia has seen notable shifts in recent years, driven by a combination of regulatory reforms, tax policy, and broader socioeconomic trends. As of 2023, total estimated consumption of tobacco products – including factory-made cigarettes (also known as ‘manufactured cigarettes’, or MCs), heated tobacco products (HTPs), and roll-your-own (RYO) tobacco (converted into pack equivalents) – reached approximately 365.8 million packs, a significant decline from the 2012 peak of 555 million packs. This trend largely reflects the effect of stricter tobacco control measures implemented between 2017 and 2020, including advertising bans, public smoking restrictions, and enhanced health warnings (Tsertsvadze et al., 2026).

According to national survey data, smoking prevalence declined from 33.7% in 2016 to 24.8% in 2025 (NCDC, 2018; LEPL, WHO and CDC, 2025). Using this prevalence rate and Georgia’s 2024 adult population (estimated at 2.98 million individuals aged 15 and older), the number of daily smokers is approximately 740,000. The combined consumption of imported MCs, HTPs, and locally produced cigarettes amounted to 354 million packs in 2024, equivalent to 7.09 billion sticks. This implies a daily consumption level of 26.4 cigarettes per smoker, compared to 18.6 cigarettes in 2021 (NCDC, 2021). This figure is broadly consistent with the excise-based consumption estimate, while acknowledging some difference due to timing, returns, or illicit trade.

In terms of market composition, conventional cigarettes remain dominant, comprising 92.1% of the legal market, followed by RYO tobacco (2.9%) and HTPs (5%), based on 2024 foreign trade data from the National Statistics Office of Georgia (Geostat, 2024). Use of e-liquids and disposable e-cigarettes has seen rapid growth, but inconsistent customs classification has historically hindered accurate tracking (Tsertsvadze et al., 2026).

1.2. TAX STRUCTURE AND RECENT POLICY CHANGES

Georgia applies a mixed excise tax system that includes: (i) a specific excise tax; (ii) an ad valorem tax (30% of the retail price); (iii) a value-added tax (VAT) of 18%; and (iv) an import tax of 12% (for imported products). Amendments to the Tax Code adopted in 2024 increased the specific excise tax on cigarettes and HTPs (see Table 1). These changes came into effect on 1 January 2025.

Table 1 / Specific excise rates per pack in 2024 and 2025

	2024	2025
Conventional cigarettes	GEL 1.70 (EUR 0.55)	1.90 GEL (EUR 0.61)
HTPs	GEL 1.70 (EUR 0.55)	1.85 GEL (EUR 0.60)

Source: Tax Code of Georgia (Law of Georgia, 2025)

As for RYO tobacco, the excise rate was halved in June 2024, from 60 Georgian lari (GEL) to GEL 30 (EUR 9.7) per kilogram. Earlier, in 2022, the specific excise on e-liquids was increased fivefold, from GEL 0.2 to GEL 1 (EUR 0.32) per millilitre, and, in January 2025, it rose further, to GEL 1.2 (EUR 0.39). At the same time, excise taxes were also increased on cigars (GEL 1.9 per stick) and cigarillos (GEL 2.2 per 20 sticks), in line with the broader adjustment of tobacco excise rates.

Importantly, Georgia does not apply a minimum excise tax per pack, unlike EU member states, which typically enforce a minimum threshold (e.g. EUR 90 per 1,000 sticks). This absence allows cheaper brands to face lower absolute tax burdens, weakening the deterrent effect for price-sensitive consumers.

While Georgia committed to harmonising tobacco taxation with the EU acquis by 2026 (as part of the 2014 Association Agreement), progress has slowed. The average excise burden in Georgia stood at GEL 3.83 per pack in 2023 (covering both specific and ad valorem components), which is only about 70% of the EU benchmark of GEL 5.4. Moreover, despite inflation and income growth, excise rates for cigarettes and HTPs remained unchanged between 2019 and 2024. Consequently, the real value of the excise tax has eroded, making tobacco more affordable over time (Tsertsvadze et al., 2026). Although excise rates for cigarettes and HTPs were raised in January 2025, this adjustment is unlikely to fully offset the cumulative impact of inflation and income growth since 2019.

The June 2024 reduction in the excise tax on raw (i.e. RYO) tobacco marked a significant departure from the prior policy trajectory. While it may have aimed to curb illicit trade or support local producers, it effectively lowered the tax burden for RYO users – potentially incentivising substitution away from taxed factory-made products. Similarly, although the excise on e-liquids was sharply increased in 2022, affordability has remained high in relative terms due to strong income growth (Tsertsvadze et al., 2026).

1.3. IMPLICATIONS FOR MODELLING AND POLICY

These dynamics are essential for interpreting and modelling tobacco use in Georgia. Given inflation and income growth in the country – as well as the established relationships between consumption choices, tobacco product prices (across all products), and affordability – any credible tax simulation must take inflation, wage growth, and cross-product substitution into account. Without regular tax adjustments or the introduction of a minimum excise floor, the real price of tobacco products is likely to decline, undermining public health and revenue objectives.

2. Methodology

2.1. DESCRIPTION OF THE MODELLING

The primary analytical tool used in this study is the Tobacco Excise Tax Simulation Model (TETSiM), developed at the University of Cape Town (van Walbeek, 2010; van der Zee and van Walbeek, 2020). The model is designed to assess the outcomes of tax policy based on changes in prices, excise rates, and consumer behaviour.

The Georgian market is divided into four segments for the analysis: three for different price categories of factory-made cigarettes (i.e. economy, mid-range, and premium) and one for HTPs. Unfiltered cigarettes are included in the economy segment. The classification of the mid-range and premium segments is based on quartiles of the retail price distribution in the baseline year. For this purpose, we used import data together with the Ministry of Finance retail price survey, and we applied weighted shares by prices and quantities. Volumes in each segment were then derived by allocating total sales data across these quartiles. The segmentation does not include RYO tobacco or other substitutes given the fact that these products only represent 2.9% of the Georgian cigarette market (based on HS 240310 vs. HS 240220 import data+local production, with RYO tobacco converted into cigarette-stick equivalents).

The illicit market segment is also excluded because this market segment is relatively small in Georgia – approximately 1.5% of the cigarette market (based on pack-survey evidence), with a peak in 2019 of around 32% in border areas, such as around the city of Zugdidi (Little et al., 2021). More recent estimates from gap analysis suggest illicit trade was 6.4% in 2020 and declined to 0.6% in 2021 (Mzhavanadze, 2023). In addition, the fact that prices of illicit cigarettes generally tend to increase in parallel with price increases in the legal market (Goodchild et al., 2022; Cho et al., 2024) reduces the incentive for consumers to switch to illicit products. Moreover, access barriers in the illicit market (e.g. availability, trust, and perceived reliability) further limit large-scale switching. Therefore, even without modelling the illicit segment separately, the model still reliably reflects overall changes in consumption.

The model incorporates potential substitution between different categories of tobacco products through cross-price elasticities. When prices increase, consumers may adjust their consumption by switching to cheaper alternatives rather than smoking less or quitting altogether. For example, higher prices for premium cigarettes may result in some smokers shifting to mid-price brands, while smokers of mid-price cigarettes may move to economy brands. In addition, changes in relative prices between cigarettes and HTPs can also trigger substitution.

The model is based on the following data:

› Tax rates: Import duties (CIF) and excise tax rates. These data are based on the Tax Code of Georgia (Law of Georgia, 2025).

› Retail prices: Based on official retail selling prices determined by the Minister of Finance of Georgia for excise tax calculation purposes, including the annexed price tables, available (in Excel format) via the Revenue Service Infohub platform[1] (Ministry of Finance of Georgia, 2025b).

› Import and sales volumes: Based on administrative import-export statistics (Ministry of Finance of Georgia, 2025a) and data on issued excise stamps (Revenue Service of Georgia, 2025).

› Population data: Provided by the National Statistics Office of Georgia (Geostat, 2025).

› Inflation and economic growth forecasts: Primarily based on projections from the National Bank of Georgia (2025), consistent with International Monetary Fund (IMF, 2025) and World Bank (2026) forecasts.

› Elasticity coefficients: Price and income elasticity parameters are drawn from international literature and comparable country experiences. The price and income elasticities applied are listed in Table 2.

› Intensive and extensive margin elasticities: The model assumes that changes in demand are driven by two mechanisms: the intensive margin (existing smokers reduce the number of cigarettes they smoke) and the extensive margin (some smokers quit smoking altogether).

Table 2 / Price and income elasticity coefficients

	Price elasticity	Income elasticity
Economy	-0.7	0.2
Mid-range	-0.6	0.2
Premium	-0.5	0.2
HTPs	-0.98	0.2

Source: Own-price elasticities for cigarettes are consistent with Tsertsvadze et al. (2026), which reported an average price elasticity of -0.6, and with the World Bank study by Fuchs and Gonzalez Icasa (2020). The price elasticity for HTPs is taken from Qian (2024). For income elasticities, we use the standard practice in tax modelling and set income elasticity at 0.2 (Ross & John, 2023; Tesche et al., 2023).

The scenarios used in the model assume that reductions in consumption occur equally through both mechanisms, with a 50/50 distribution between decreased smoking prevalence (extensive margin) and reduced intensity among continuing smokers (intensive margin). This assumption is consistent with the framework presented in the related handbook of the International Agency for Research on Cancer (IARC 2011), which documents that both mechanisms contribute substantially to overall consumption reductions even though their relative importance may vary across countries and contexts. By comparison, van Walbeek (2010) suggested that about 40% of the reduction could be attributed to decreased prevalence, while the remaining share would result from reduced intensity. Our modelling choice of a 50/50 split therefore represents a balanced and literature-based benchmark.

[1] Available at https://infohub.rs.ge/.

2.2. SIMULATION SCENARIOS

Within the framework of the simulation analysis, several alternative tax policy scenarios are examined to assess the short- and medium-term effects of changes in tobacco excise policy. Each scenario is structured based on a baseline case, in which the existing tax rates and prices are maintained as the starting point. The simulated scenarios vary the fixed component of the excise tax. The base year is set as 2024.

In the baseline scenario, it is assumed that over the next four years (i.e. 2025, 2026, 2027, and 2028), the specific excise tax remains unchanged at the 2025 level (GEL 1.9 for cigarettes, GEL 1.85 for HTPs). In the simulation scenarios, four alternatives scenarios are considered in addition to the baseline scenario: no tax increase in 2025, a 50% increase in 2026, 10% annual increases (2026-2028), and 20% annual increases (2026-2028).

Here, we provide a more detailed description of the simulation scenarios. The purpose of presenting multiple scenarios is to capture the range of possible policy options, to assess their objectives, and to project the expected outcomes in terms of consumption, government revenues, and public health. Each scenario highlights not only the direct fiscal impact but also the behavioural responses of consumers, including risks of substitution and affordability dynamics.

1. Baseline scenario (status quo)

This scenario reflects a situation where excise tax rates remain at their 2025 levels. No policy interventions are introduced. As inflation and income growth will make cigarettes more affordable, a slight increase in consumption is expected.

2. Counterfactual scenario: No tax increase in 2025

This scenario assumes that the scheduled 2025 tax increase does not take place.

› By comparing this scenario with the baseline, it becomes possible to isolate and estimate the expected impact of the 2025 tax increase.

› In practical terms, it shows what tobacco consumption, revenues, and health outcomes would look like if policy makers had decided not to raise taxes in 2025.

3. One-time increase scenario

This scenario assumes a single 50% increase in the excise rate for all cigarettes and HTPs in 2026.

› The objective is to rapidly boost budget revenues and reduce tobacco consumption.

› While this sizeable increase initially raises the real value of the excise, its effects are gradually eroded in subsequent years due to assumed annual inflation (3%) and income growth (5%).

› Consumer reaction is immediate, with a sharp decline in consumption, especially among low-income groups.

› However, there is a risk of possible increased substitution towards other tobacco/nicotine products if taxes on those are not increased simultaneously.

4. Gradual increase scenario: 10% annual growth

This scenario involves a 10% annual increase in excise tax over three years (2026, 2027, and 2028).

› Moderate tax changes allow for gradual consumer adaptation.

› Behavioural change is less immediate, but a slight reduction in consumption is expected over time.

› Substitution risk remains relatively low.

5. Gradual Increase Scenario – 20% Annual Growth

This scenario envisions a more ambitious approach, with a 20% annual increase in the specific excise tax over the next three years (2026, 2027, and 2028).

› The objective is a rapid decline in consumption.

› A significant impact is expected on both the extensive margin (smoking cessation) and the intensive margin (reduction in the number of cigarettes smoked).

› Price increases on the market significantly exceed inflation and income growth, leading to a strong decline in smoking.

Table 3 below presents the assumed levels of the specific excise tax on cigarettes for each year under all simulation scenarios. It illustrates how the tax remains constant in the baseline, is omitted in the counterfactual (i.e. no 2025 increase), or rises according to alternative one-time and gradual increase policies. The excise tax rate for HTPs is assumed to evolve according to the same baseline (at the rate of GEL 1.85), counterfactual (GEL 1.7), and alternative increase paths as those described for cigarettes.

Table 3 / Specific excise tax rates on cigarettes under different scenarios, 2025-2028

Year	Baseline (status quo)	Counterfactual	One-time 50% increase (2026)	Gradual 10% annual increase	Gradual 20% annual increase
2025	1.90	1.70	1.90	1.90	1.90
2026	1.90	1.70	2.85	2.09	2.28
2027	1.90	1.70	2.85	2.30	2.74
2028	1.90	1.70	2.85	2.53	3.28

Notes: Figures are expressed in GEL per cigarette pack equivalent.
Source: authors' calculations

3. TETSiM results

The results of our simulation indicate that raising tobacco excise taxes can significantly affect both tobacco consumption and government revenues. The scenarios and corresponding results are presented below.

We then describe the effects of increasing the specific excise tax based on various epidemiological and fiscal indicators.

3.1. WEIGHTED AVERAGE PRICE (WAP)

Higher excise taxes increase prices, which in turn affect consumption (both prevalence and intensity) and, ultimately, health outcomes.

Scenario 1: Baseline – Average prices decline slightly when adjusted for projected inflation, from GEL 7.75 in 2025 to GEL 7.61 in 2028. This is expected, as under otherwise equal conditions (e.g. in the absence of factors pushing cigarette prices up), inflation contributes to a reduction in the real value of consumer prices.

Scenario 2: Counterfactual – With no increase, prices are even lower than in the baseline, falling from GEL 7.34 in 2025 to GEL 7.24 in 2028. This highlights the preventive role of the 2025 excise increase, since without it tobacco products would have become more affordable even faster.

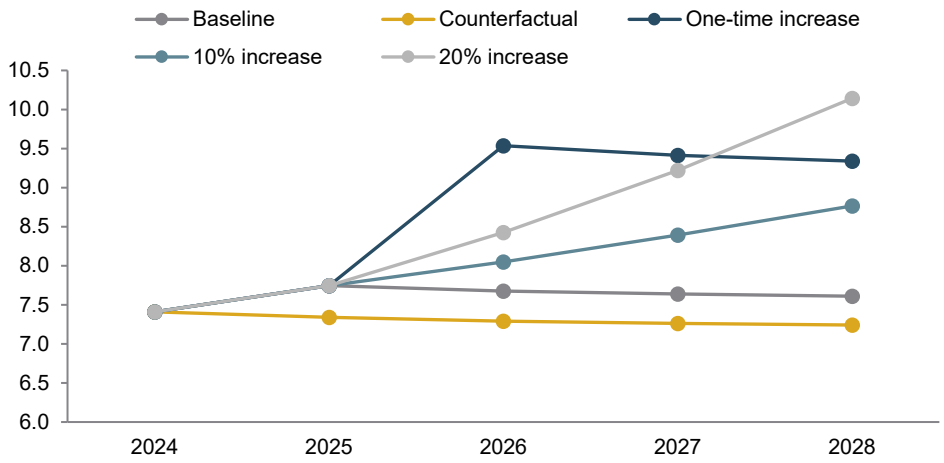
Scenario 3: One-time 50% increase – The WAP of cigarettes rises sharply in 2026, to GEL 9.54, after which they decline slightly in real terms, reaching GEL 9.34 by 2028. This pattern reflects the model's adjustment for inflation and income growth: in the absence of further tax increases, the real value of cigarette prices decreases over time, making tobacco products gradually more affordable again.

Scenario 4: 10% annual increase – Prices rise steadily, from GEL 7.75 in 2025 to GEL 8.77 in 2028, for an average annual growth of about 4%. Although this adjustment slows down the affordability effect, the overall impact remains modest, with prices only moderately higher than in the baseline.

Scenario 5: 20% annual increase – This scenario produces the strongest and most consistent effect on prices. The WAP rises from GEL 7.75 in 2025 to GEL 10.14 in 2028, which is 33% higher than in the baseline.

As shown in Table 4, under the 20% annual increase scenario, and accounting for assumed annual inflation (3%) and income growth (5%), the total tax burden (including excise tax and VAT) reaches 73.6% for HTPs, 82.4% for economy cigarettes, 73.6% for mid-price cigarettes, and 70.7% for premium cigarettes by 2028.

Figure 1 / Evolution of the WAP for cigarettes under the various scenarios (inflation-adjusted in GEL)



Source: authors' calculations

Table 4 / Total tax burden in 2028, generated by TETSiM (%)

Total tax burden	HTP	Economy	Mid	Premium
Baseline	67.3	76.7	67.0	64.2
One-time 50% increase	72.0	81.0	71.9	69.0
10% increase	70.6	79.8	70.4	67.5
20% increase	73.6	82.4	73.6	70.7

Source: authors' calculations

3.2. TOTAL TOBACCO-RELATED TAX REVENUES (EXCISES + VAT)

Following the discussion of weighted average prices, it is important to assess the effect of excise tax policies on budget revenues.

Scenario 1: Baseline – In the baseline scenario, where the excise tax remains unchanged, total revenue (including VAT) in 2026 is projected at GEL 1,900 million, with annual real (inflation-adjusted) growth of approximately 0.2%, reaching GEL 1,907 million by 2028.

Scenario 2: Counterfactual – This scenario assumes that the 2025 excise tax increase does not take place. As a result, revenues are consistently lower compared to the baseline. In 2025, total revenue amounts to GEL 1,825 million instead of GEL 1,900 million in the baseline. The difference remains stable in subsequent years, with revenues projected at GEL 1,834 million in 2028, about 73 million (3.6%) lower than the baseline. This clearly highlights the fiscal contribution of the 2025 tax increase, which adds around GEL 70 million annually to government revenues.

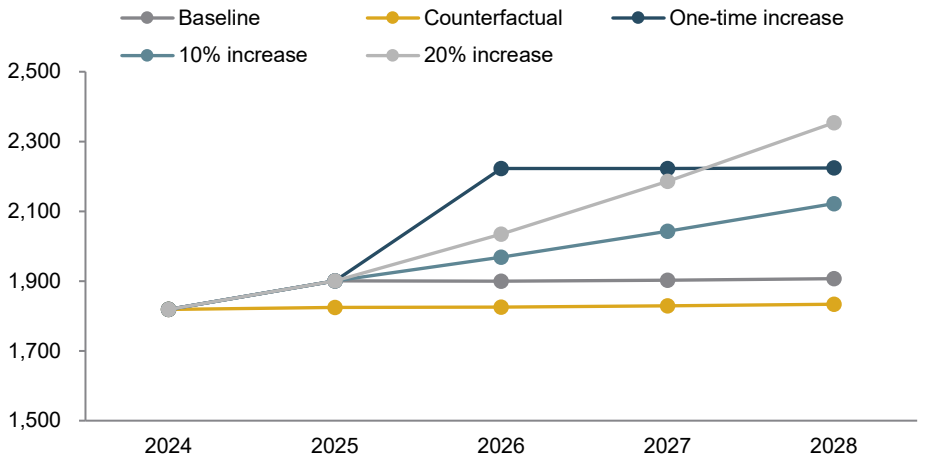
Scenario 3: One-time 50% increase – With a one-time 50% increase in 2026, revenue rises by about 15%, reaching GEL 2,222 million. This level already exceeds the 2028 revenue projection under the baseline, underscoring the strong short-term fiscal effect of this measure. In subsequent years, budget

revenues decline slightly because, in the absence of further increases in the specific excise rate, inflation erodes the real value of tax revenues. Taken together, the initial 15% jump in 2026, combined with subsequent reductions, translates into an average revenue growth of around 15% over the 2025-2028 period, making this scenario clearly preferable to the baseline in terms of fiscal outcomes.

Scenario 4: 10% annual increase – In this scenario, revenue in 2026 reaches GEL 1,969 million, which is approximately 3% higher than the baseline (GEL 1,900 million). Unlike the one-time increase, here the revenue growth compounds over time: with annual excise adjustments, revenue growth (including VAT) averages more than 3% per year between 2025 and 2028. By 2028, revenues reach GEL 2,122 million, about 10% higher than the baseline projection for that year, demonstrating that even a moderate, gradual increase generates a sustained fiscal benefit relative to the status quo.

Scenario 5: 20% annual increase – This scenario results in strong and sustained revenue growth: by 2026, revenue reaches GEL 2,035 million, exceeding the baseline by 7%. With continued 20% annual increases in excise rates, revenues rise much faster than in any other scenario. By 2028, revenue reaches GEL 2,354 million, which is about 23% higher than the baseline. The compound annual growth rate between 2025 and 2028 is around 7%, reflecting both the ambitious scale of the tax increases and their powerful fiscal impact. This makes the 20% annual increase scenario the most effective option for maximising government revenues.

Figure 2 / Tobacco-related tax revenue under different scenarios, total tax incl. VAT (in GEL million, inflation-adjusted)



Source: authors' calculations

Although the simulation assumes an equal 20% annual increase in the *specific excise rate*, the resulting changes in both the total tax burden and retail prices are not proportional (see Table 5 and Figure 3).

As the specific rate increases, the ad valorem component – which has a relatively high share in the total excise – responds only partially, resulting in an increase of less than 20% of the total tax burden.

To illustrate this, Table 5 below compares how the combined burden of *specific excise*, *ad valorem tax*, and *VAT* per pack evolves under different annual increase scenarios (one-time, 10%, 20%). The results

show that even a 20% increase in the specific excise rate translates into a smaller effective rise in total taxes (around 14%), depending on the underlying price level (calculations are based on WAP).

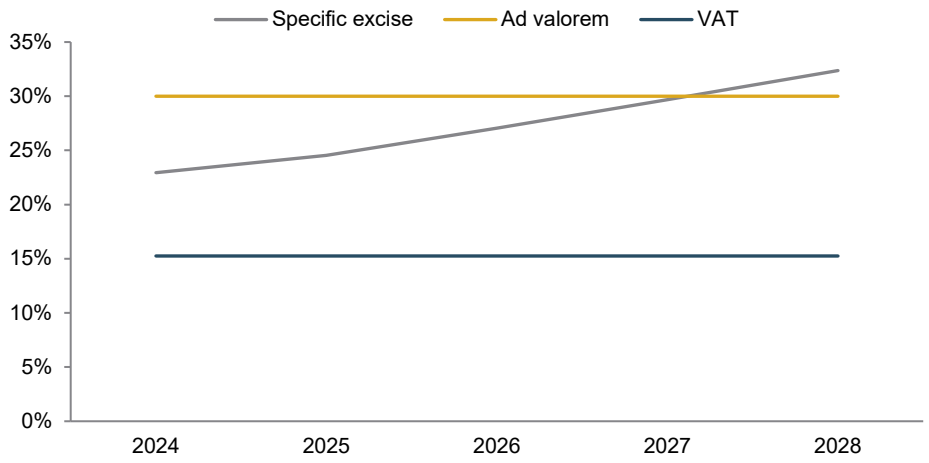
Table 5 / Annual percentage change in excise tax + VAT per pack (based on WAP) (%)

Scenario	2025	2026	2027	2028
One-time 50% increase	7.1	32.5	-0.9	-0.5
10% annual increase	7.1	6.1	6.3	6.5
20% annual increase	7.1	12.7	13.3	13.9

Source: authors' calculations

It should also be noted that in the early years of the 20% increase simulation, the ad valorem component accounts for a higher share of the total tax burden calculated on the WAP of cigarettes compared to the specific excise and VAT. By 2028, however, the share of the specific excise reaches 32% of the total tax burden, exceeding that of the ad valorem component.

Figure 3 / Evolution of tax components in the 20% annual increase scenario



Source: authors' calculations

3.3. SMOKING PREVALENCE

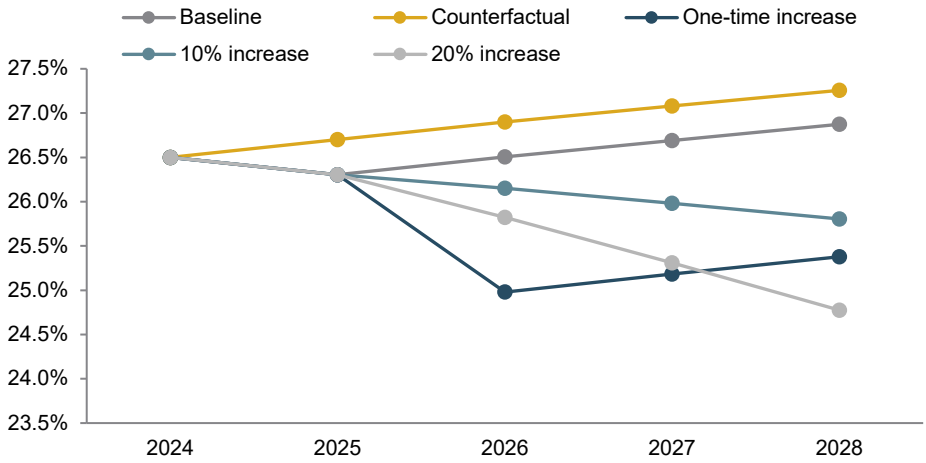
In the baseline scenario, smoking prevalence (initially 26.5%) increases year by year after 2025, reaching 26.87% by 2028.

In the counterfactual scenario (no 2025 tax increase), prevalence rises more and continues to grow, to 27.26% by 2028. This scenario highlights the preventive effect of the 2025 tax increase: without it, smoking prevalence would be about 0.4 percentage points (pp) higher than under the baseline by 2028.

In the case of a one-time 50% increase, prevalence drops sharply in 2026, to 24.98%. However, in the absence of further adjustments for inflation and income growth, tobacco products gradually become more affordable, causing the prevalence rate to rise to 25.38%.

Under both the 10% and 20% excise-increase scenarios, smoking prevalence declines (reaching 25.8% and 24.77%, respectively, in 2028), indicating the effectiveness of a consistent excise rate increase, particularly in the case of the 20% adjustment.

Figure 4 / Evolution of smoking prevalence under the various scenarios



Source: authors' calculations

3.4. CONSUMPTION OF TOBACCO PRODUCTS

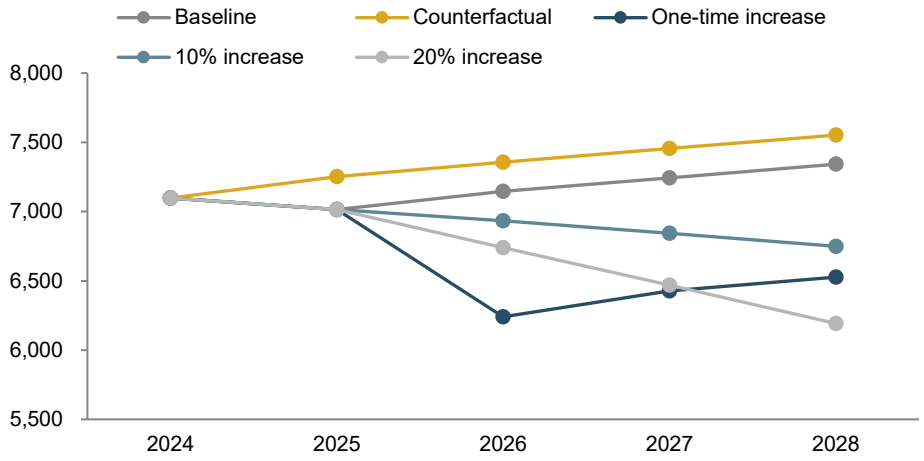
Changes in the specific excise tax rate naturally affect the quantity of cigarettes consumed (including both conventional cigarettes and HTPs). In the baseline scenario, total consumption increases over time, reaching 7.3 billion sticks by 2028, driven by the fact that inflation and income growth make tobacco more affordable over time.

In the counterfactual scenario (i.e. no tax increase), consumption rises even faster: by 2025, it is already 7.25 billion sticks, about 240 million more than in the baseline. By 2028, total consumption reaches 7.5 billion sticks, or 2.8% higher than the baseline projection, underscoring the preventive effect of the 2025 excise increase.

In the case of a one-time 50% increase scenario, a sharp initial drop in consumption is observed: in 2026, consumption falls to 6.2 billion sticks, nearly 900 million fewer sticks than in the baseline. However, in the following years, affordability pressures gradually erode this effect, with consumption rising again, to 6.5 billion sticks by 2028.

In the 10% and 20% annual increase scenarios, cigarette consumption decreases year by year. In the 20% annual increase scenario, the decline in tobacco product consumption is much higher, from 7 billion sticks in 2025 to 6.2 billion sticks in 2028, which is 18% lower than in the baseline scenario for the same year.

Figure 5 / Evolution of consumed manufactured cigarettes (MCs) and HTPs (million sticks)



Source: authors' calculations

3.5. DEATHS AVERTED

The TETSiM model estimates the cumulative number of premature deaths averted as a long-term indicator linked to smoking cessation and prevention of initiation. Based on established evidence, the model assumes that approximately one third of smokers would otherwise die prematurely from smoking-related causes (Goodchild et al., 2016). Accordingly, for each individual who quits smoking or never initiates smoking due to higher prices, the model assigns a 33% probability of avoiding a smoking-attributable premature death. This indicator should be interpreted as reflecting behavioural change and the associated reduction in long-term smoking-attributable mortality risk rather than as a prediction of short-term mortality outcomes. Table 6 below presents the cumulative results for the 2025-2028 period, showing the number of individuals who either quit smoking or never started smoking and thereby avoided a premature smoking-related death in the future.

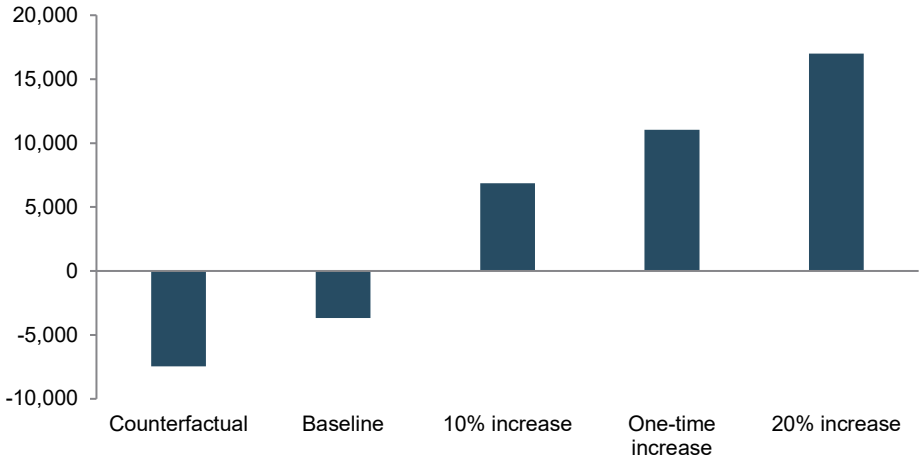
Across all modelled scenarios, the results confirm that regular and well-calibrated excise increases are a key driver of improved health outcomes in Georgia. Even a moderate 10% annual adjustment yields measurable reductions in tobacco-related mortality, while the 20% scenario produces the strongest and most sustained health gains. Although effective in the short run, one-time or irregular increases lose much of their impact over time, as inflation and income growth restore affordability. These findings highlight the importance of predictable, incremental tax adjustments to maintain the long-term effectiveness of tobacco control policy.

Table 6 / Impacts of tobacco-price increase scenarios on the cumulative reduction of premature mortality, 2025-2028

Scenario	Cumulative result (2025-2028)	Interpretation
Counterfactual – no increase	-7,463	In the absence of the 2025 excise increase, tobacco affordability rises further and tobacco-related mortality increases sharply, underscoring the importance of regular tax adjustments.
Baseline	-3,684	Under current policy conditions, tobacco-related premature mortality is expected to increase significantly over the next four years.
10% excise increase	+6,855	A moderate but clearly effective policy measure: The 10% annual increase largely offsets the impact of inflation and income growth, leading to a substantial reduction in tobacco-related mortality compared to the baseline. While stronger annual adjustments would yield even greater gains, this scenario already demonstrates a meaningful and sustained health impact.
One-time increase	+11,045	A large initial shock reduces prevalence sharply in 2026, leading to an immediate gain in lives saved. However, in the absence of further adjustments for inflation and income growth, affordability rises again in later years, eroding the long-term impact. Consequently, the cumulative health effect is smaller than under the 20% annual increase.
20% excise increase	+17,006	A robust and sustained policy intervention: The annual 20% increases consistently outpace inflation and income growth, steadily reducing affordability and smoking prevalence. As a result, 17,000 premature deaths are projected to be averted by 2028, representing the strongest health outcome across all scenarios.

Source: authors' calculations

Figure 6 / Cumulative number of premature deaths averted, 2024-2028



Source: authors' calculations

4. Summary of simulated scenarios

The simulation results provide clear evidence about the relative effectiveness of alternative excise tax policies.

- The counterfactual and baseline scenarios show that without regular excise adjustments, affordability continues to improve and key outcomes worsen over time. Under the baseline (no further increases beyond the 2025 rates), smoking prevalence rises to 26.87% by 2028, and cigarette/HTP consumption increases to 7.3 billion sticks, whereas total tobacco-related tax revenue (excise + VAT) remains broadly flat, at around GEL 1,907 million by 2028. Under the counterfactual (no 2025 increase), outcomes deteriorate further: revenues are about GEL 73 million lower in 2028 (GEL 1,834 million vs. GEL 1,907 million), smoking prevalence rises to 27.26%, and consumption reaches 7.5 billion sticks by 2028, highlighting that the 2025 increase prevents a further rise in affordability but does not eliminate it without continued adjustments.
- A one-time 50% excise increase produces a strong but short-lived impact. In 2026, revenues increase by approximately GEL 317 million compared to the baseline, and smoking prevalence declines by 1.49 pp. However, without further adjustments, rising affordability driven by inflation and income growth gradually erodes these gains, resulting in diminishing fiscal and public health effects in subsequent years.
- The 10% annual excise increase scenario is insufficient to offset the combined effects of inflation and income growth. Although revenues increase compared to the baseline (by approximately GEL 215 million annually by 2028), the gains remain modest and gradually weaken over time, as affordability continues to improve. Tobacco consumption declines only marginally, and smoking prevalence is reduced by just 1.07 pp relative to the baseline by 2028, indicating that a 10% annual adjustment does not generate meaningful or sustained public health benefits.
- A 20% annual excise increase emerges as the most effective scenario. Compared to the baseline, it generates substantial and sustained additional revenues, reaching approximately GEL 447 million annually by 2028, while consistently reducing tobacco affordability. As a result, smoking prevalence declines by 2.1 pp relative to the baseline, and an estimated 20,690 premature deaths are averted in the long term. While this scenario entails a stronger fiscal and behavioural adjustment, it is precisely this sustained policy effort that ensures durable revenue gains and meaningful public health improvements.

Overall, the simulations suggest that regular, ambitious annual increases clearly outperform one-time measures or modest annual adjustments.

To complement this analysis, the next section turns to the affordability of tobacco products. This perspective highlights not only the fiscal and health effects discussed above but also the economic burden borne by consumers under different policy scenarios.

5. Affordability of tobacco products

Affordability is a key indicator linking tobacco taxation to consumer behaviour. For this analysis, affordability is measured as the share of GDP per capita required to purchase 100 packs of cigarettes. To ensure comparability across scenarios, we use the average retail price of a mid-price cigarette brand, which reflects the mainstream segment of the Georgian tobacco market and provides a realistic measure of what the typical consumer faces.

Under the baseline scenario, affordability continues to increase for consumers, as income growth and inflation outpace the stagnant excise rate. In other words, cigarettes become relatively cheaper despite the fact that prices rise in nominal terms.

The one-time 50% increase generates an immediate deterioration in affordability in 2026: cigarettes take up a larger share of income, with a sharp one-year adjustment. However, in the absence of further increases, this effect gradually erodes in subsequent years as income growth restores affordability. This explains why the long-term health impact of the one-time increase is weaker than its initial fiscal shock.

The 10% annual increase scenario shows only a modest effect. While the increase is sufficient to offset the impact of income growth and leads to a slight decline in affordability compared to the baseline, it is not strong enough to achieve further meaningful improvements. By 2028, affordability decreases by only 0.41 pp. Moreover, affordability levels remain above those observed in earlier periods, such as 2019, when affordability for imported cigarettes stood at 4.11%, as documented in the landscape study of Tsertsvadze et al. (2026). In fact, under the 10% scenario, affordability in 2028 remains 1.14 pp higher than in 2019. As a result, smoking remains relatively affordable, and the associated public health benefits are limited.

By contrast, the 20% annual increase delivers the strongest and most sustained impact on affordability. Cigarette affordability consistently declines relative to incomes throughout the simulation period, reaching 3.88% by 2028. This represents a markedly stronger improvement than under the 10% scenario. The 20% scenario generates meaningful reductions in smoking prevalence and consumption in addition to substantial long-term public health gains. At the same time, it delivers robust and sustained revenue growth, aligning closely with international best practice, which emphasises that regular and sizeable excise tax increases are the most effective approach to reducing affordability and achieving durable fiscal and health outcomes.

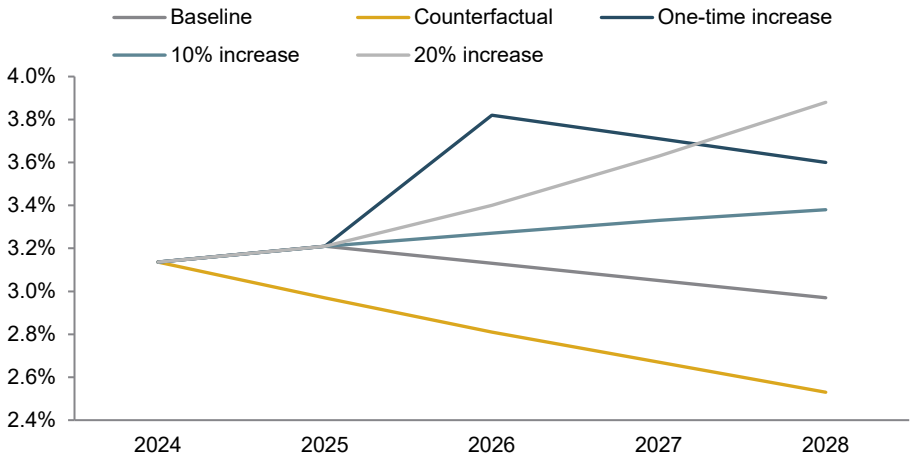
Table 7 and Figure 7 below illustrate the affordability trends under the different scenarios. Together, they show that only ambitious, repeated excise tax adjustments succeed in reversing the long-standing trend of rising cigarette affordability in Georgia.

Table 7 / Affordability of mid-price cigarettes under the different scenarios, 2025-2028 (%)

Year	Counterfactual	Baseline	One-time 50% increase	10% annual increase	20% annual increase
2025	2.97	3.21	3.21	3.21	3.21
2026	2.81	3.13	3.82	3.27	3.40
2027	2.67	3.05	3.71	3.33	3.63
2028	2.53	2.97	3.60	3.38	3.88

Source: authors' calculations

Figure 7 / Affordability trends of mid-prive cigarettes under the different scenarios, 2025-2028



Source: authors' calculations

6. Conclusions

6.1. POLICY RECOMMENDATIONS

Trends in Georgia's tobacco market and the results of the TETSiM model simulation clearly show that the current tax policy is not a sufficient instrument either for protecting public health or for improving fiscal effectiveness. The most recent increase in excise rates (at the start of 2025) was modest and fell well short of the level required to offset income growth and inflation. As a result, it will not be sufficient to generate meaningful reductions in tobacco consumption or to strengthen fiscal revenues. Based on the analysis of the simulation scenarios, several key recommendations can be made for policy makers and implementers:

First, **the size of the excise tax increase matters**. The comparison of scenarios shows that small annual increases (e.g. 10%) are insufficient to generate meaningful and lasting reductions in affordability. In contrast, larger and sustained annual increases (e.g. 20%) are required to achieve durable declines in consumption and smoking prevalence while also securing stable revenue growth.

We also note that attention should be given to the ad valorem component, as Georgia is among the countries with a relatively high reliance on this component, and ad valorem excise duties are also dependent on the tobacco industry's pricing strategy.

Second, **excise tax policy must be regularly adjusted for inflation**. Without inflation indexation, even sizeable nominal increases deliver only temporary effects, as rising prices gradually erode the real value of the tax and restore affordability.

Third, **excise tax increases need to account for income growth**. As real incomes rise, tobacco products become more affordable unless tax adjustments are sufficiently strong. The results indicate that modest increases are at best able to stabilise affordability but do not generate further improvements over time.

Finally, **consistency matters**. The comparison between one-off and regular tax increases shows that while a one-time 50% increase produces short-term fiscal and behavioural effects, these gains are not sustained in the absence of a predictable, long-term adjustment strategy. In contrast, gradual and regular annual increases provide a more stable framework, delivering lasting reductions in affordability and more durable fiscal and public health outcomes.

6.2. LIMITATIONS

It should be noted that the TETSiM model does not explicitly account for cross-product substitution between cigarettes, HTPs, and other tobacco substitutes. Consequently, the simulation results do not capture potential shifts in consumption between these product categories in response to differential tax treatment. While international evidence suggests that uneven taxation across tobacco products may increase substitution incentives (WHO, 2021), this consideration lies beyond the scope of the current modelling framework and should be taken into account when interpreting the results.

6.3. DATA ACCESSIBILITY AND FURTHER RESEARCH

Improved access to local market data is essential, particularly regarding the size of the illicit market. While earlier estimates exist (World Bank, 2019; Little et al., 2021; Mzhavanadze, 2023), these need to be regularly updated to reflect current conditions. Equally important is reliable information on the consumption of other tobacco and nicotine products (e.g. HTPs, e-cigarettes and raw tobacco), since these act as potential substitutes for manufactured cigarettes. Ensuring up-to-date and comprehensive data in these areas would allow for annual model updates and more precise policy evaluations based on the latest evidence.

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