

Policy Brief

Raising and Simplifying the Cigarette Excise Tax in Indonesia: Simulated Revenue Gains and Public Health Benefits

The main objective of the cigarette excise tax simulation is to provide evidence on the potential impacts of future excise tax reform on cigarette consumption, government revenue, smoking prevalence, and the number of premature deaths averted due to smoking. The simulation results aim to help policymakers anticipate the potential “what-if” outcomes of alternative cigarette tax reform scenarios.

As of 2025, the Indonesian government imposes three tax components on a pack of cigarettes: (i) excise taxes, calculated by multiplying the excise tax tariff per stick by the number of sticks per pack; (ii) local taxes, set at 10% of total excise taxes per pack; and (iii) value-added tax (VAT) on tobacco products, set at 9.9%. Currently, excise tax tariffs are structured into eight tiers, based on cigarette type (white cigarettes and kreteks—traditional Indonesian clove cigarettes), production method (machine-rolled or hand-rolled), and manufacturers' production scale.

The following are three suggested policy reform scenarios:

- 1 Uniform annual increases:** Increasing excise tax tariffs by 10% per year for machine-rolled cigarettes and by 20% per year for hand-rolled cigarettes over the next two years.
- 2 Machine-rolled tier simplification:** Simplifying the excise structure by merging machine-rolled cigarette tiers (SPM 1 with SKM 1, and SPM 2 with SKM 2) in the first year, followed by annual excise tax increases of 10% for machine-rolled cigarettes and 20% for hand-rolled cigarettes in both the first and second years.
- 3 Hand-rolled tier simplification:** Simplifying the excise structure by merging hand-rolled cigarette tiers (SKT/SPT 1A with SKT/SPT 1B, and SKT/SPT 2 with SKT/SPT 3) in the first year, followed by annual excise tax increases of 10% for machine-rolled cigarettes and 20% for hand-rolled cigarettes in both the first and second years.

The simulation assumes that the local tax rate (10%) and VAT (9.9%) remain constant. It also assumes that excise tax increases induce consumer down-trading from higher-taxed to lower-taxed cigarette tiers. The effects of price changes are simulated using own-price, cross-price, and income elasticities, assuming full pass-through of taxes to consumers. Net-of-tax prices are assumed to increase in line with inflation. The results of each scenario are compared both with one another and with a no-tax-reform scenario, in which neither the excise tax structure nor tariff are changed. The simulation model is constructed based on the approach developed by the Economics for Health team at Johns Hopkins University¹.

Results

Impact of excise tariffs increases and tier simplification on revenues

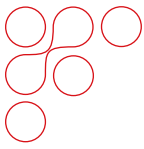
Based on the assumed changes in specific cigarette excise taxes from 2025 to 2027, **Figure 1** and **Figure 2** present the projected impacts on prices, consumption, and government revenue from cigarettes. Among the three proposed scenarios, Scenario 3, which simplifies the tier structure from eight to six by eliminating two hand-rolled cigarette tiers, generates the largest increases in cigarette prices, the greatest reductions in consumption, and the highest revenue gains. The second-largest impact is observed under Scenario 2, which simplifies the machine-rolled cigarette tiers. By contrast, the smallest effect arises under Scenario 1, which applies a 10% excise increase for machine-rolled cigarettes and a 20% increase for hand-rolled cigarettes without structural reform.

Compared with these reform scenarios, the no-tax-reform scenario shows virtually no change. Cigarette prices, consumption, and government revenue remain essentially unchanged, with the small increase in prices, slight decline in consumption, and minimal changes in revenue largely reflecting model assumptions and limitations rather than meaningful policy effects. In Indonesia, stagnant smoking prevalence, difficulties in meeting revenue targets, and persistent cigarette affordability are largely driven by wide gaps across excise tiers². These gaps create substantial price differentials between products, allowing smokers to downtrade to cheaper alternatives when taxes rise³. Narrowing these gaps by raising excise tax tariffs in lower-tier

¹ FJ. Tesche et al., *Modeling the Impacts of Tobacco Taxes: A Tobaccconomics Toolkit* (Tobaccconomics, Institute for Health Research and Policy, University of Illinois Chicago, n.d.), htantargolongantps://www.economicsforhealth.org/

² Rong Zheng, “Cigarette Affordability in Indonesia: 2002 - 2017,” *World Bank Organization*, ahead of print, May 2018, <http://hdl.handle.net/10986/3002>

³ Vid Adrison and Estelle Dauchy, “The Impact of Tax and Price Reforms on Companies’ Prices in a Complex Cigarette Tax System,” *Applied Economics* 56, no. 57 (2024): 7892–911, <https://doi.org/10.1080/00036846.2023.2289905>; Risky Hartono et al., *Strategi Pengendalian Prevalensi Perokok: Tantangan Downtrading & Alternatif Produk* (PKJS-UI, 2025), https://protc.id/wp-content/uploads/2025/10/Policy-Brief-PKJS-UI_Strategi-Pengendalian-Prevalensi-Perokok_-Tantangan-Downtrading-dan-Alternatif-Produk.pdf.



hand-rolled categories by a higher margin than in machine-rolled categories reduces opportunities for downtrading. This leads to noticeable declines in consumption while simultaneously increasing government revenue. Simplifying the excise structure further amplifies these effects by compressing price dispersion and strengthening the overall effectiveness of tobacco tax policy.

Figure 1. Impact of excise tax tariff increases and tier simplification on average price and consumption

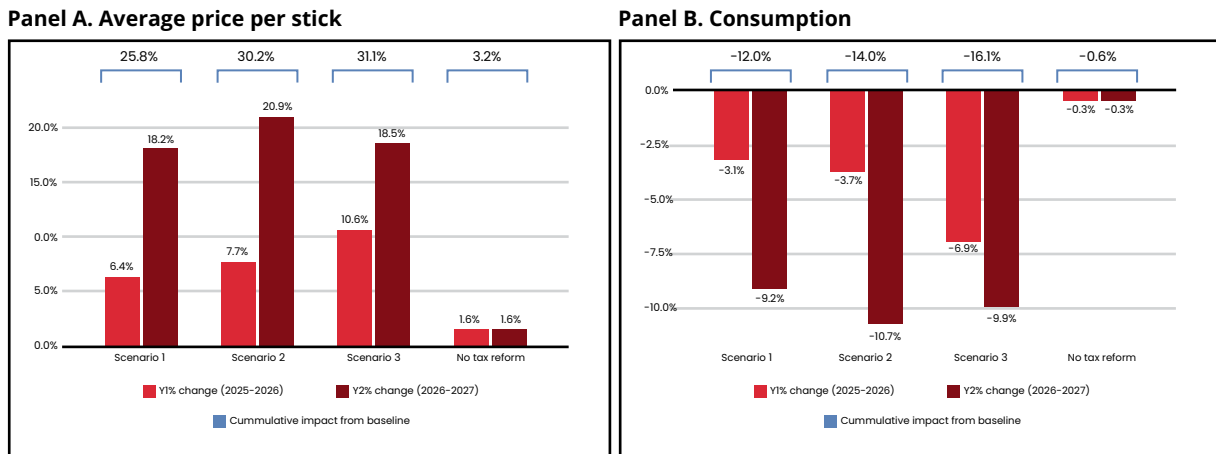


Figure 1 presents the projected impact of excise tax increases and tier simplification on average cigarette prices (Panel A) and consumption (Panel B) under three reform scenarios and no tax reform scenario over two consecutive years (2025–2026; Y1 and 2026–2027; Y2).

In Panel A, average cigarette prices would increase under all scenarios. Between 2025 and 2026, average prices would rise by 6.4% under Scenario 1 (IDR 100 per stick), 7.7% under Scenario 2 (IDR 120 per stick), and **10.6% under Scenario 3 (IDR 166 per stick)**. Between 2026 and 2027, average price increases would accelerate to 18.2% (IDR 302 per stick), 20.9% (IDR 351 per stick), and **18.5% (IDR 320 per stick)** under Scenarios 1, 2, and 3, respectively, with **Scenario 3 producing the largest cumulative average price increase** over the two-year period. Under the no-tax-reform scenario, average cigarette prices are projected to increase by 1.6% annually, driven solely by the inflation assumption built into the model.

In Panel B, cigarette consumption would decline across all scenarios. From 2025 to 2026, consumption would decrease by 3.1% under Scenario 1 (9.8 billion sticks), 3.7% under Scenario 2 (11.9 billion sticks), and **6.9% under Scenario 3 (21.9 billion sticks)**. Between 2026 and 2027, the reductions would deepen to **9.2% (28.1 billion sticks)**, 10.7% (32.8 billion sticks), and 9.9% (29.2 billion sticks), respectively, with **Scenario 3 yielding the greatest cumulative reduction in consumption** over the two years. Under the no-tax reform scenario, consumption is projected to decline by 0.3% in both periods, which is driven by the inflation and price elasticity assumption of the model.

Figure 2. Impact of excise tax tariff increases and tier simplification on excise and total government revenue from cigarettes (including local tax and VAT)

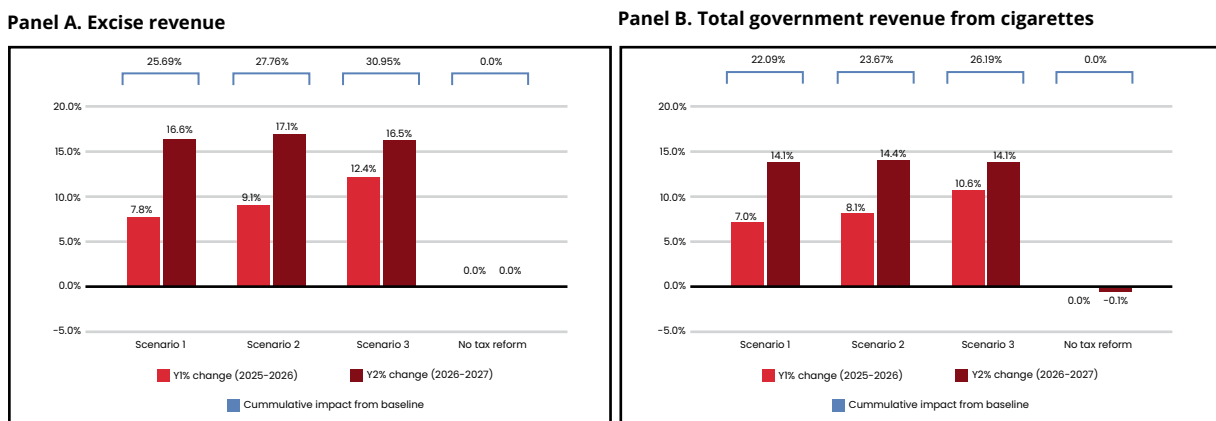
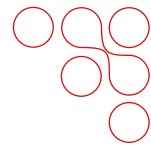


Figure 2 presents the projected percentage changes in cigarette excise revenue (Panel A) and total government revenue from cigarettes, including excise tax, local tax, and VAT (Panel B), under three hypothetical reform scenarios over two consecutive years (2025–2026; Y1 and 2026–2027; Y2).



In Panel A, all scenarios would generate positive growth in excise revenue. Between 2025 and 2026, excise revenue would increase by 7.8% under Scenario 1 (IDR 15.33 trillion), 9.1% under Scenario 2 (IDR 17.7 trillion), and 12.4% under **Scenario 3 (IDR 24.13 trillion)**. Between 2026 and 2027, revenue growth would rise further to 16.6% (IDR 35.1 trillion), 17.1% (IDR 36.5 trillion), and **16.5% (IDR 36.3 trillion)** under Scenarios 1, 2, and 3, respectively. Across the two periods, **Scenario 3 would accumulate the highest total excise revenue.**

In Panel B, total government revenue would also increase under all scenarios. From 2025 to 2026, total revenue would rise by 7.0% under Scenario 1 (IDR 16.8 trillion), 8.1% under Scenario 2 (IDR 19.4 trillion), and **10.6% under Scenario 3 (IDR 25.2 trillion)**. Between 2026 and 2027, the projected increases would reach **14.1% (IDR 36.2 trillion)**, 14.4% (IDR 37.2 trillion), and 14.1% (IDR 37.4 trillion), respectively. Overall, **Scenario 3 would yield the greatest cumulative government revenue** across the projection period. In contrast, under the no-tax-reform scenario, excise revenue would remain stagnant at 0.0% growth in both periods (Panel A). Total government revenue would similarly show no growth in Y1, and would marginally decline by 0.1% in Y2 due to market share changes driven by price, cross-price, and income elasticities (Panel B).

Public health benefits of excise tax tariffs increase and tier simplification

Consistent with the projected changes in consumption and government revenue, Scenario 3, which combines excise tax increases with tier simplification for hand-rolled cigarettes, would generate the greatest public health gains. Under this scenario, adult smoking prevalence would decline by 1.6%, with an estimated 292,324 premature deaths averted.

Scenarios 2 and 1 would yield similar but more modest effects, with smoking prevalence declining by 1.1% and 0.9%, and approximately 211,581 and 176,710 premature deaths averted, respectively. By contrast, the no-tax-reform scenario would not deliver public health gains, as smoking prevalence remains largely unchanged and no premature deaths are averted.

Policy recommendations

1. Increase cigarette excise taxes while simplifying the tax structure.

Indonesia should continue to raise cigarette excise tax tariffs and progressively simplify the multi-tier excise system. Simplification reduces opportunities for down-trading and strengthens the revenue and public health benefits of tax increases.

2. Prioritize larger excise tax increases for hand-rolled cigarettes.

Excise tax increases for hand-rolled cigarettes should be higher than those for machine-rolled products, given their high affordability and role in facilitating down-trading, which weakens incentives to quit smoking. Initial tier simplification efforts should focus on hand-rolled cigarette categories.

3. Consider comprehensive tier simplification to maximize impact.

Starting excise tier simplification with hand-rolled cigarettes, followed by further consolidation across machine-rolled tiers, can deliver stronger and more sustained reductions in consumption while increasing government revenue.

4. Strengthen tobacco control through complementary non-price measures.

Excise tax reforms should be accompanied by robust non-price tobacco control policies, including implementation of smoke-free environments, plain packaging, stricter marketing and advertising restrictions, and enhanced enforcement to eliminate illicit trade.

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