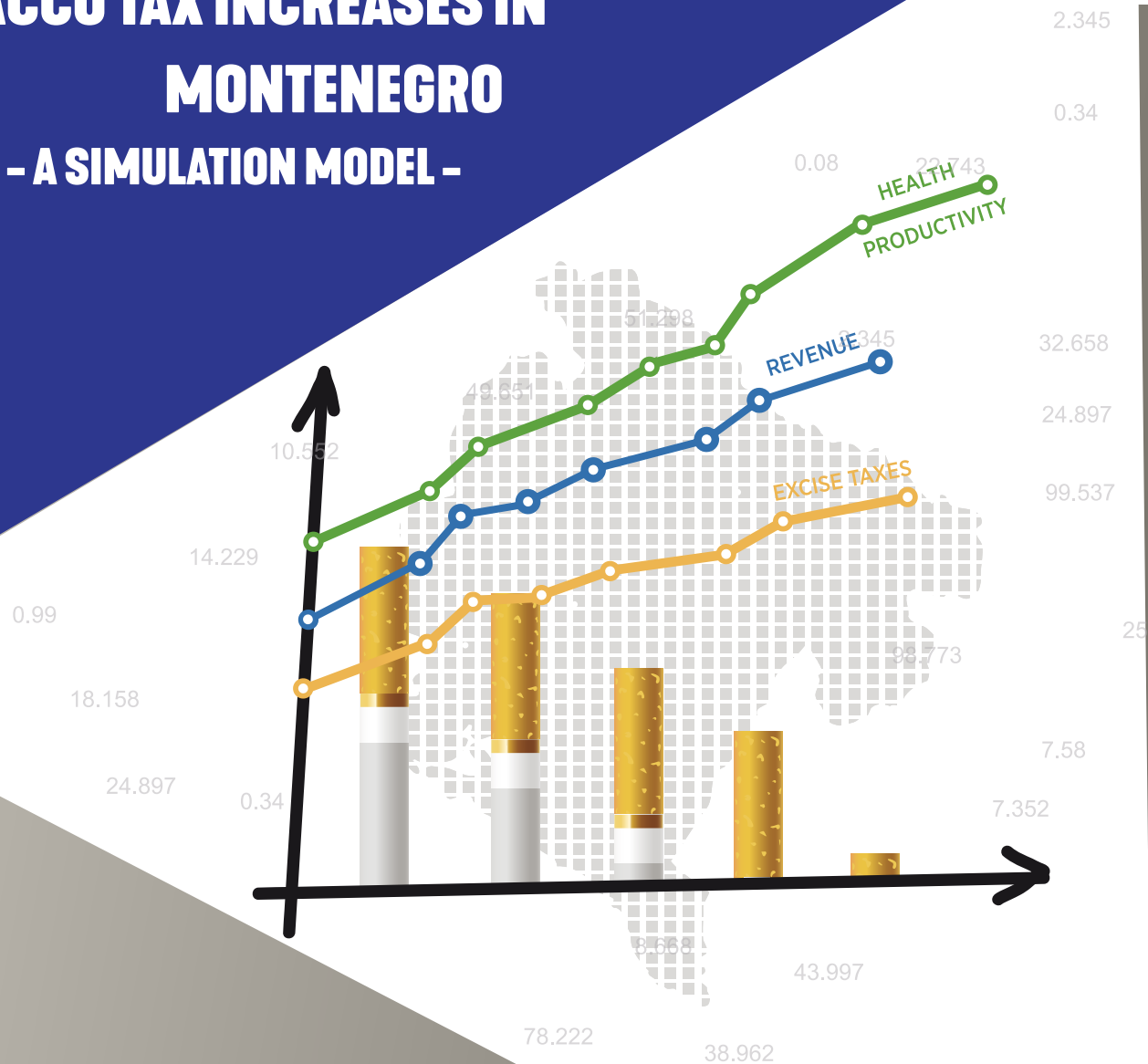


MODELING THE IMPACTS OF TOBACCO TAX INCREASES IN MONTENEGRO

- A SIMULATION MODEL -



The main objective of the simulation model is to provide evidence of the impact of future tobacco excise tax increases on tobacco consumption, government revenues, smoking prevalence, and deaths averted due to price increases. Based on the simulation analysis, policymakers will be able to answer multiple “what if” questions, thus helping them to anticipate the various effects of different changes in tobacco taxes.

In the baseline year 2023 according to the previously defined excise tax calendar the specific tax is 49 euros per 1,000 cigarettes.¹ The model assumes a specific excise tax of 52 euros per 1,000 cigarettes in 2024, which is an increase of 3 euros from the previous year. The same pattern is followed in 2025. In all years, the ad valorem rate is assumed to stay constant at 24.5 percent of the weighted average price of cigarettes (WAPC). The WAPC increases by 10 cent in 2024 and again in 2025. The VAT rate is 21 percent. Table 1 presents the tobacco tax structure used in the simulation model.

Table 1. Tobacco taxes 2023–2025 (in euros)

Description	2023	2024	2025
Specific excise tax per pack	0.98	1.04	1.1
Ad valorem	24.5%	24.5%	24.5%
Minimum excise per pack	1.64	1.73	1.81
VAT	21%	21%	21%

The assumption of this simulation is that the tobacco industry's strategy is to keep the price of the cheapest products at a low level (under-shifting) while increasing the price of more expensive brands (over-shifting). More precisely, the prices are increased less than the excise tax increase in the case of the economy tier, but greater than the excise tax increase for the premium segment. Considering the mid-price tier, the assumption is that the cost of the tax increase is fully passed to consumers. Generally, to simulate cigarette price changes, the net-of-tax (NOT) price is assumed to increase by the inflation rate².

■ SIMULATION RESULTS

Impact of price change on revenues

According to the given assumptions of specific excise tax changes from 2023–2025 and consequent price changes, Table 2 presents the results regarding the changes in consumption and government revenues (a simplified simulation version of shifting to cheaper brands: from premium to mid-price and from mid-price to economy). The baseline is given for year 2023. Throughout both simulated years there is an evident increase in total tax revenues: 1.6 percent and 2.8 percent in 2024 and 2025, respectively. The increase in excise taxes is shown to be the most efficient tool in reducing tobacco use, which at the same time causes an increase in government revenues. Even with the smaller change in price (by 3.9 percent) in 2025 compared to 2024, the positive effects are evident through decreased consumption and increased government revenues. This leads to the conclusion that the Government of Montenegro needs to accelerate the changes to tobacco excise taxes to fulfill all set goals regarding tobacco control policies and the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) requirements.

1) Excise Law in Montenegro <https://www.gov.me/dokumenta/abb0b881-ef6d-4055-8fc2-06fb9d3c01d4>

2) Additional input data is related to own and cross price elasticities by segment, income elasticities by segments and annual GDP growth.

Table 2. Excise tax change impacts on government revenues – simulation results

Market segment	Price/ pack	Quantity, packs (millions)	Excise revenue (EUR)	Excise + VAT revenue (EUR)
YEAR 2023 (Baseline)				
Premium	3.4	10,519,365	19,174,699	25,455,020
Mid-price	2.7	33,207,115	54,509,479	69,839,640
Economy	2.3	13,135,005	21,561,111	26,849,850
Total or average (weighted)	2.73	56,861,485	95,245,289	122,144,510
YEAR 2024				
Premium	3.62	8,988,248	17,315,889	22,960,361
Mid-price	2.8	33,666,061	58,107,622	74,451,701
Economy	2.54	12,333,148	21,287,014	26,730,038
Total or average (weighted)	2.87	54,987,457	96,710,525	124,142,100
% change	5.45%	-3.30%	1.54%	1.60%
YEAR 2025				
Premium	3.78	7,678,787	15,558,441	20,596,299
Mid-price	2.93	34,071,147	61,911,088	79,218,875
Economy	2.65	12,227,629	22,138,123	27,761,740
Total or average (weighted)	2.99	53,977,563	99,607,652	127,576,914
% change	3.87%	-1.80%	3.00%	2.80%

Note: The sensitivity analysis applies the use of more scenarios with different elasticity assumptions to confirm the consistency of results to the same baseline in 2023 (simplified simulation version). The same pattern is evident in all scenarios. Quantity of cigarettes used as weights.

IMPACT OF PRICE CHANGE ON PUBLIC HEALTH BENEFITS

Using the assumptions and input data for measuring the impact of tobacco price changes on public health benefits, the results of the simulation show that reduced prevalence would lead to an increased number of smokers who avoid premature death (both adult and youth population). With the price increase by 5.5 percent (as simulated for 2024), prevalence would drop from 31 percent to 28 percent, leading to 1,247 premature smoking attributable deaths averted in the adult population. With the tax reform, deaths would be averted among current youth because they would not start smoking - due to the high sensitivity to price change, the number of saved lives is estimated at 779.

Even slight increases in taxes can lead to substantial benefits in the context of public health, saving in total 2,026 adult and youth lives in Montenegro. It is also worth noting that estimating lives saved is an underestimate of the positive effects of a tobacco tax increase because it does not account for the improved health of the population or the productivity gains from this far healthier population.

■ POLICY RECOMMENDATIONS

Raise the taxes on tobacco products substantially, which would lead to an increase in the number of smokers who avoid premature death caused by smoking-related diseases and at the same time increase public revenues. More effective tobacco taxation policy that drives down tobacco consumption will also decrease health costs and increase economic productivity, benefitting the government and society.

- The Montenegrin government should expedite the increase of tobacco taxes to advance the effective implementation of WHO FCTC Article 6, which urges parties to employ tax and price policies to make tobacco products less affordable. This would also lead to more rapid alignment with the goal of the EU Tobacco Tax Directive, which mandates a minimum threshold of 90 euros for the overall excise rate per 1,000 cigarettes. Moreover, it is important to follow the WHO recommendation stipulating that the minimum share of tax in the retail price of tobacco should be 75%, a measure that should be uniformly applied across all market segments.
- Implementing complementary non-price tobacco control measures (smoke-free places, standardized packaging, marketing and age restrictions, etc.) more effectively will also drive down consumption and likely enhance the effects of taxes. Using this strategy, the Government could successfully combat youth tobacco use and prevent the consequences such as early loss of life, decreased productivity, costly medical care and lost wages.
- Implement legislative changes to include novel products in all tobacco control policies including taxation, because of ongoing aggressive tobacco industry marketing and pricing strategies.
- Foster high-impact media campaigns jointly with advocacy groups that raise awareness about the dangers of tobacco use.

The Institute for Socioeconomic Analysis (ISEA) is funded by the University of Illinois Chicago's (UIC) Institute for Health Research and Policy to conduct economic research on tobacco taxation in Montenegro. UIC is a partner of the Bloomberg Initiative to Reduce Tobacco Use. The views expressed in this document cannot be attributed to, nor do they represent, the views of UIC, the Institute for Health Research and Policy, or Bloomberg Philanthropies.

The authors are grateful for comments from UIC.

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