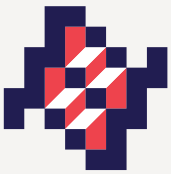

Instituto Nacional
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Proposed tax redesign for tobacco

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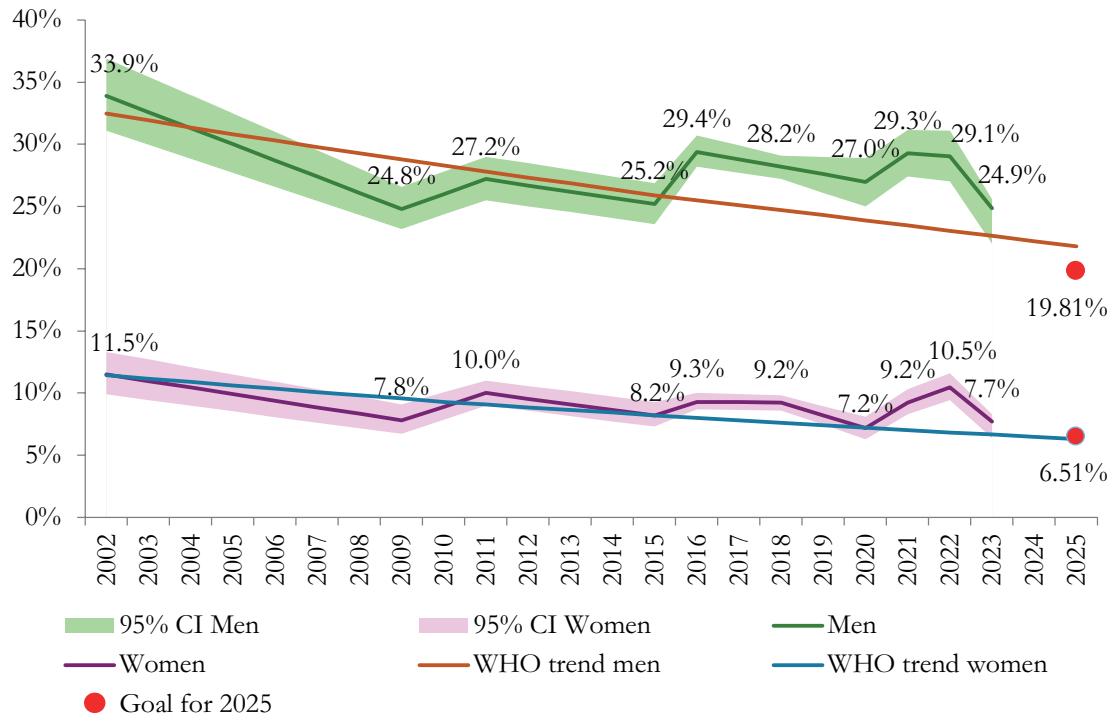
Content

I. The tobacco epidemic and the challenge to reduce the burden of noncommunicable diseases (NCDs)

According to the most recent Global Adult Tobacco Survey implemented in Mexico in 2023 (INSP, 2023), the prevalence of tobacco consumption among individuals aged 15 to 65, for both men and women, remains at the same level as in 2009 (Figure 1). While significant declines were observed during the 2000s —mostly due to price increases (Reynales-Shigematsu et al., 2015; Sánchez-Romero et al., 2021)—, the current rate of reduction appears insufficient to meet the goals set for 2025 (WHO, 2013). Therefore, it is essential to intensify efforts to fully implement the best practices recommended in Article 6 of the World Health Organization Framework Convention for Tobacco Control (WHO- FCTC), which advocates raising taxes on tobacco products.

In 2017, the World Bank suggested a threefold increase in tobacco taxes to expedite the reduction in prevalence and help achieve the Sustainable Development Goals (SDGs) (Jha P et al, 2017). This measure would enhance public health, reduce premature mortality from noncommunicable diseases, decrease gender inequalities, and contribute to poverty reduction among people who smoke. However, this recommendation was not implemented in the country.



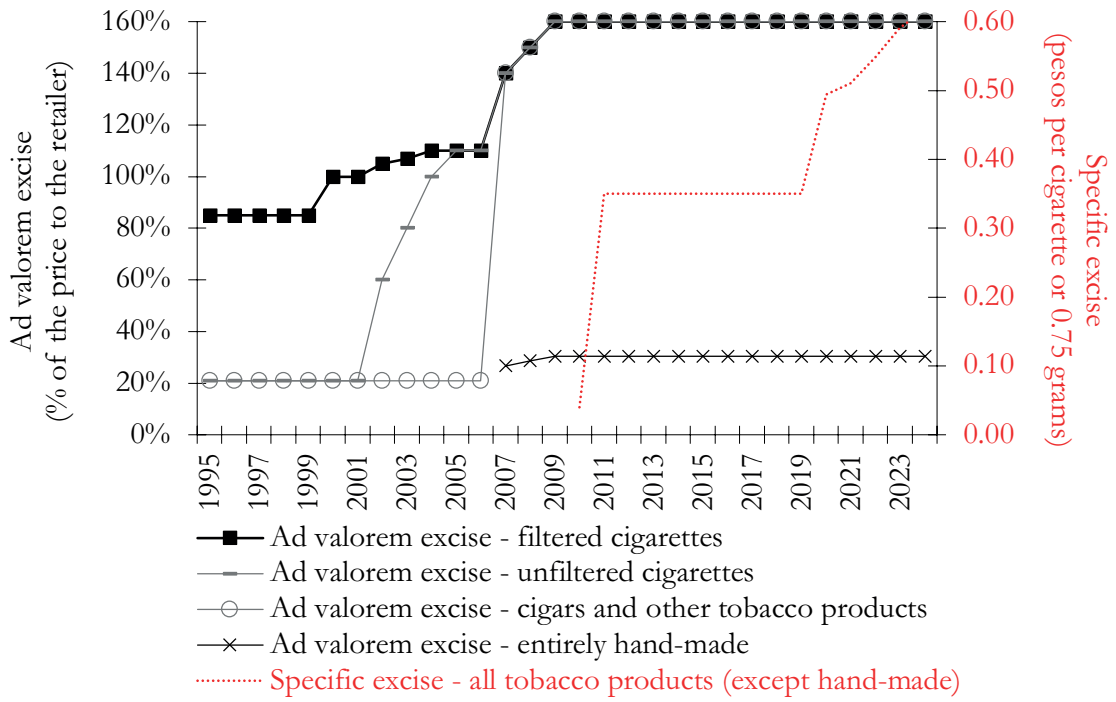
Source: Own estimates based on data from national surveys, WHO projections (WHO, 2024) and smoking prevalence voluntary goals (WHO, 2013). 95% CI = 95% confidence intervals.

Figure 1. Current smoking prevalence in Mexico vs. WHO projections and the goals established for 2025

2. Tobacco taxation in Mexico

The tobacco tax, known as the Special Tax on Production and Services (*Impuesto Especial sobre Producción y Servicios*, IEPS), has been modified multiple times since its implementation in 1981 as an ad valorem tax, calculated as a percentage of the price to the retailer (Figure 2). Over the past two decades,[1] four key adjustments stand out:

1) In 2005, the tax rate was homologated across all cigarette types. Previously, unfiltered cigarettes had a lower tax rate than filtered cigarettes.
2) In 2007, the tax rate was unified across all tobacco products (e.g. cigars or *puros*), excluding those made entirely by hand.
3) In 2010, a specific component of 4 cents per cigarettes was added, creating a mixed tax structure. This component was increased to 35 cents in 2011.
4) After a long period of stagnation, the specific tax component was increased to 49.44 cents in 2020 to account for inflation over the previous nine years. Subsequent automatic annual adjustments for inflation raised the specific tax to 51.08 cents in 2021, 54.84 cents in 2022, 59.11 in 2023, and 61.66 cents in 2024.

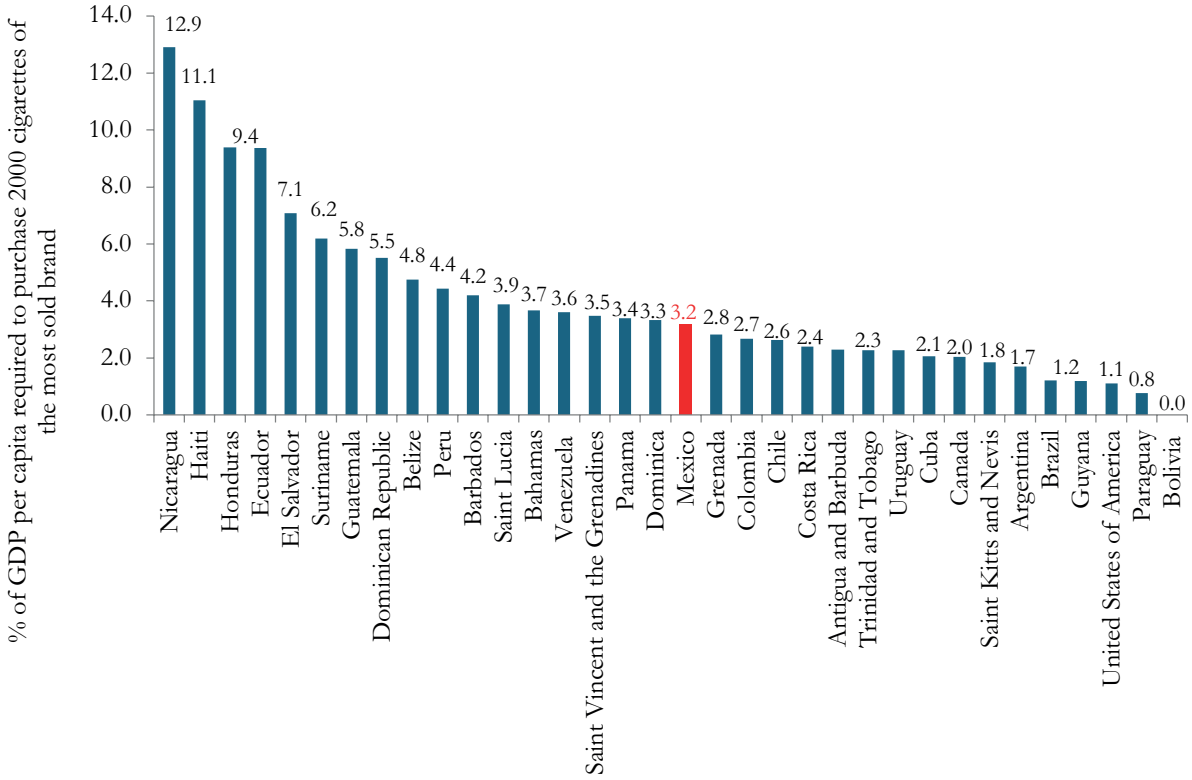


Source: Own estimates based on the IEPS law.

Figure 2. Tobacco tax in Mexico, 1995-2024

[1] A more detailed description of the evolution of the tobacco tax in Mexico since the 1980s can be found in Waters et al. (2010) and Saenz-de-Miera et al. (2022).

Currently, the tobacco tax is set at 160% of the price to the retailer plus 61.66 cents per cigarette or per 75 grams of tobacco. Despite these advances, however, the tax constitutes, on average, 55.4% of the consumer price (or 69.2% when including the value added tax (VAT)), which remains well below WHO recommendations based on global best practices (WHO 2021, WHO 2023). Figure 3 illustrates that cigarettes are significantly more affordable in Mexico than in other Latin American countries, such as Ecuador, Peru, and Guatemala.



Source: Own estimates based on data from WHO (2023).

Figure 3. Cigarette affordability in the region of the Americas, 2022

3. Proposal to increase the tobacco tax

This section describes the proposal to increase the tobacco tax, as well as the potential effects calculated with a simulation model developed for that purpose.

3.1. The model

We use a simulation model that builds on earlier work by the team (e.g., Waters et al., 2010; Saenz-de-Miera et al., 2022). The model is programmed in R, version 4.4.1 (R Core Team, 2024). Based on the price elasticity of the demand for cigarettes in Mexico —which measures the sensitivity of consumers to changes in price—, the model calculates the expected effect on consumption of a change in price induced by the increase in the cigarette tax. The model also considers the effect of income and population growth on consumption.

The proposed scenario considers a one-time increase in the specific tobacco tax to 3 pesos, i.e., from 0.6166 pesos per cigarette in 2024 to 3 pesos in 2025, leaving the ad valorem tobacco tax unchanged (at 160% of the price to the retailer). The rationale for this proposal comes from WHO recommendations based on best practices in the world, which state that the tobacco excise tax should represent around 70% of the final price (WHO, 2021). As mentioned above, the tobacco IEPS (both the ad valorem and the specific component) accounts for only 55.4% of the average price of a 20-cigarette pack. This proposal also considers the rate of reduction in smoking prevalence that is required to resume the downward trend to reach the goal originally established for 2025 as part of the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020 (WHO, 2013). A previous study found that achieving this goal would require an excise tax at least 2.7 times higher (Saenz-de-Miera et al., 2022).

3.2 Inputs

The main inputs of the model are: 1) ad valorem tobacco tax or ad valorem IEPS, 2) specific tobacco tax or specific IEPS, 3) Value Added Tax or VAT, 4) retailer margin, 5) price to the consumer, 6) income growth, 7) population growth, 8) price elasticity of the demand for cigarettes,[2] 9) income elasticity of the demand for cigarettes, 10) pass-through of the tax, 11) inflation, 12) tobacco tax revenue at baseline, and 13) total cigarette consumption. The main outputs are: 1) change in the price to the consumer, 2) change in cigarette consumption, and 3) change in tobacco tax revenue. Table 1 provides more details, including data sources for each model input.

To calibrate the simulation, tobacco IEPS revenue at baseline is used. This implies that total cigarette consumption is not an exogenous input but is instead estimated. The estimation relies on tobacco tax revenue and excise taxes per pack, which are derived from consumer prices and tax rates. This calculation ensures that the product of the excise tax per pack and cigarette consumption aligns with the reported revenue. This approach

[2] Demand estimates were updated from Saenz-de-Miera et al. (2022) using data from the last ENIGH for 2022. We followed the procedure developed by Deaton (1997), the Almost Ideal Demand System (AIDS). Clusters to capture spatial variation in prices were defined based on primary sampling units. The estimated price elasticity was -0.62 (CI95%: -0.55, -0.69) and we used the most conservative bound of the confidence interval (CI), -0.55.

Table 1. Model inputs

Input	Baseline t_0 (2024)	Source
Ad valorem tobacco IEPS (% of the price to the retailer)	160.00%	IEPS Law
Specific tobacco IEPS (pesos per cigarette)	0.6166	IEPS Law
Value Added Tax (% of the consumer price)	16.00%	VAT Law
Retailer margin (% of the price to the retailer)	30.00%	Waters et al. (2010)*
Price to the consumer Pesos per 20-cigarette pack Pesos per cigarette	70.53 3.53	Own estimate based on price data from INEGI and market share by brand from GATS 2023
Per capita GDP growth (as an indicator of income growth)	2.40%	International Monetary Fund
Population growth (15+ years)	1.40%	Own estimate based on data from CONAPO
Price elasticity	-0.55	Own estimate based on data from ENIGH 2016, 2018, 2020, 2022
Income elasticity	0.289	Own estimate based on data from ENIGH 2016, 2018, 2020, 2022
Pass-through of the tax	1.00	Saenz-de-Miera et al. (2022)
Inflation	4.16%	Banco de Mexico
Tobacco tax revenue (million pesos)	52,699.90	Income Law for Fiscal Year 2024

Notes: IEPS = Special Tax on Production and Services (Impuesto Especial sobre Producción y Servicios), VAT = Value Added Tax, GATS = Global Adult Tobacco Survey, GDP = Gross Domestic Product, ENIGH = National Household Income and Expenditure Survey (Encuesta Nacional de Ingresos y Gastos de los Hogares), CONAPO = National Population Council (Consejo Nacional de Población). Data on inflation comes from the Survey on the Expectations of Private Sector Economic Specialists (Encuesta sobre las Expectativas de los Especialistas en Economía del Sector Privado) from April 2024 implemented by the central bank of Mexico (Banco de México). *Waters et al. (2010) estimates of retailer margin come from interviews with retailers. Since it is calculated as a percentage, it is not expected to have changed significantly.

is necessary because cigarette sales data are not publicly available in Mexico. Furthermore, using apparent consumption (national production plus net imports) as a proxy is problematic because it shows a trend inconsistent with observed tax revenue.[3]

[3] Specifically, after a significant reduction between 2009 and 2013, apparent consumption increased rapidly in the following years, even exceeding 2009 levels by 2017. However, tobacco tax revenue remained relatively constant during this period, a pattern also observed in survey data on smokers' average consumption (INSP, 2023). In 2023, apparent consumption was about 1,763 million packs, while the estimate based on tax revenue was about 1,303. Using revenue to approximate legal consumption has certain limitations. For instance, changes across years may reflect shifts in tax administration —such as improvements or declines in tax collection capacity— rather than actual changes in legal consumption. However, this model uses revenue solely to estimate legal consumption at baseline and does not rely on trend data.

3.3 Expected effects of the proposal

Table 2 shows the expected effects of an increase in the tobacco tax to 3 pesos per cigarette. With this policy, consumption could be reduced by 44.2% —from 1,348.72 million packs to 752.05— and tax revenue increased by 25.4% —from 52,699.90 million pesos to 66,071.00. Specifically, per capita consumption would fall from 13.5 cigarette packs per adult 15 years and older to 7.4 (Figure 4). Figure 5 shows that the tobacco IEPS tax share would increase from 55.4% of the retail price to 68.5% in line with WHO recommendations.

Table 2. The effects of increasing the specific cigarette tax to 3 pesos per cigarette in Mexico

	Baseline t_0 2024	t_1 2025
Inputs		
Ad valorem tobacco IEPS (% of the price to the retailer)	160.00%	160.00%
Specific tobacco IEPS (pesos per cigarette)	0.6166	3.00
Value Added Tax or VAT (% of the final price)	16.00%	16.00%
Retailer margin (% of the price to the retailer)	30.00%	
Consumer price (pesos per 20-cigarette pack)	70.53	
Income growth	2.40%	
Population (15+ years)	100,235,249	101,638,943
Price elasticity	-0.55	
Income elasticity	0.289	
Pass-through of the tax	1.00	
Inflation	4.16%	
Tobacco IEPS revenue (million pesos)	52,699.90	
Outputs		
Consumer price (pesos per 20-cigarette pack)		128.16
Total consumption (million packs)	1,348.72	752.05
Tobacco IEPS revenue (million pesos)		66,071.00
Change in consumer price (%)		81.7%
Change in consumption		-44.2%
Change in tobacco IEPS revenue		25.4%
Specific tobacco IEPS as percentage of final price	17.5%	46.8%
Total tobacco IEPS as percentage of final price	55.4%	68.5%

Figure 4. Per capita cigarette consumption before and after increasing the specific cigarette tax to 3 pesos in Mexico

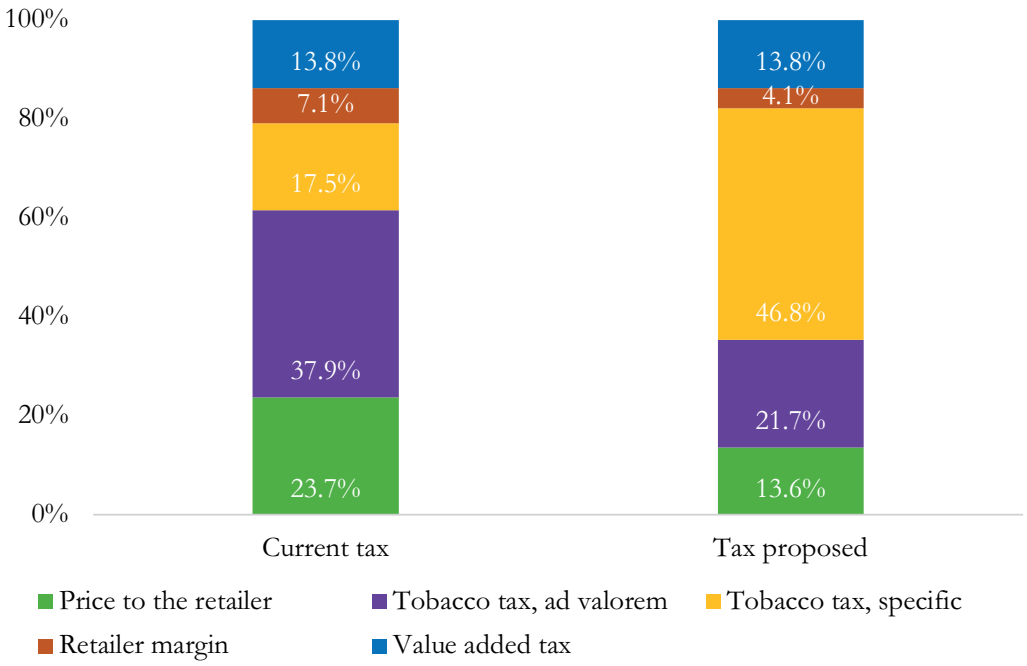


Figure 5. Cigarette price structure before and after increasing the specific cigarette tax to 3 pesos in Mexico

Considering that there are four well-differentiated groups along the cigarette price distribution (premium, medium, discount, and ultra-low; Saenz-de-Miera et al., 2022; Saenz-de-Miera et al., 2024), we also explore the effects across price segments. Table 3 shows that the effect would be much larger for brands in the low and ultra-low-priced segments compared to premium brands. Specifically, prices would increase 95.4% and 147.5% for the low-segment and ultra-low-segment brands, respectively, vs. 73.1% for the premium brand Marlboro. Likewise, tobacco tax as percentage of the price to the consumer would be 67.2%, 70.5%, and 76.6% for premium, low and ultra-low brands.

Table 3. The effects of increasing the specific cigarette tax to 3 pesos per cigarette across price segments in Mexico

	Baseline t_0 2024	**t_1 2025**
Inputs		
Ad valorem tobacco IEPS (% of the price to the retailer)	160.00%	160.00%
Specific tobacco IEPS (pesos per cigarette)	0.6166	3.00
Value Added Tax or VAT (% of the final price)	16.00%	16.00%
Retailer margin (% of the price to the retailer)	30.00%	30.00%
Income growth		2.40%
Population (15+ years)	100,235,249	101,638,943
Price elasticity		-0.55
Income elasticity		0.289
Pass-through of the tax		1
Inflation		4.16%
Tobacco IEPS revenue (million pesos)	52,699.90	
Consumer price (pesos per 20-cigarette pack)		
Premium brands	79.30	
Low priced brands	59.95	
Ultra-low priced brands	38.17	
Outputs		
Total consumption (million packs)	1,348.72	752.05
Tobacco IEPS revenue (million pesos)		66,071.00
Change in consumption		-44.2%
Change in tobacco IEPS revenue		25.4%

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Consumer price (pesos per 20-cigarette pack)		
Premium brands		
Consumer price (pesos per 20-cigarette pack)		137.27
Change in consumer price (%)		73.1%
Specific tobacco IEPS as percentage of final price	15.6%	43.7%
Total tobacco IEPS as % of final price	54.5%	67.2%
Low priced brands		
Consumer price (pesos per 20-cigarette pack)		117.14
Change in consumer price (%)		95.4%
Specific tobacco IEPS as percentage of final price	20.6%	51.2%
Total tobacco IEPS as % of final price	56.8%	70.5%
Ultra-low priced brands		
Consumer price (pesos per 20-cigarette pack)		94.47
Change in consumer price (%)		147.5%
Specific tobacco IEPS as percentage of final price	32.3%	63.5%
Total tobacco IEPS as % of final price	62.0%	76.0%

3.4 Brief discussion of the tax structure

While this proposal focuses on increasing the specific component of the tobacco tax leaving the ad valorem unchanged, it is also important to consider that transforming the tax structure by eliminating the ad valorem component could minimize the incentive to switch to cheaper brands. In particular, increasing the specific tax to 4.4 pesos per cigarette while simultaneously eliminating the ad valorem tax would result in the tax representing approximately 68.5% of the average consumer price (Table 4). However, this percentage would vary, ranging from 66.5% for premium brands to 71.3% for low-price brands and 77.7% for ultra-low priced brands, maximizing the potential of tobacco taxation (Figure 6).

Table 4. The effects of eliminating the ad valorem tobacco tax while increasing the specific component to 4.4 pesos per cigarette

	Baseline t_0 2024	t_1 2025
Inputs		
Ad valorem tobacco IEPS (% of the price to the retailer)	160.00%	0%
Specific tobacco IEPS (pesos per cigarette)	0.6166	4.40
Value Added Tax or VAT (% of the final price)	16.00%	16.00%
Retailer margin (% of the price to the retailer)	30.00%	30.00%
Consumer price (pesos per 20-cigarette pack)	70.53	
Income growth		2.40%
Population (over 15 years old)	100,235,249	101,638,943
Price elasticity		-0.55
Income elasticity		0.289
Pass-through of the tax		1
Inflation		4.16%
Tobacco IEPS revenue (million pesos)	52,699.90	
Outputs		
Tobacco IEPS revenue (million pesos)		66,023.74
Total consumption (million packs)	1,348.72	750.3
Per capita consumption (packs)	13.5	7.4
Change in final price (%)		82.0%
Change in consumption		-44.4%
Change in tobacco IEPS revenue		25.3%
Tobacco IEPS as % of the final price	55.4%	68.6%

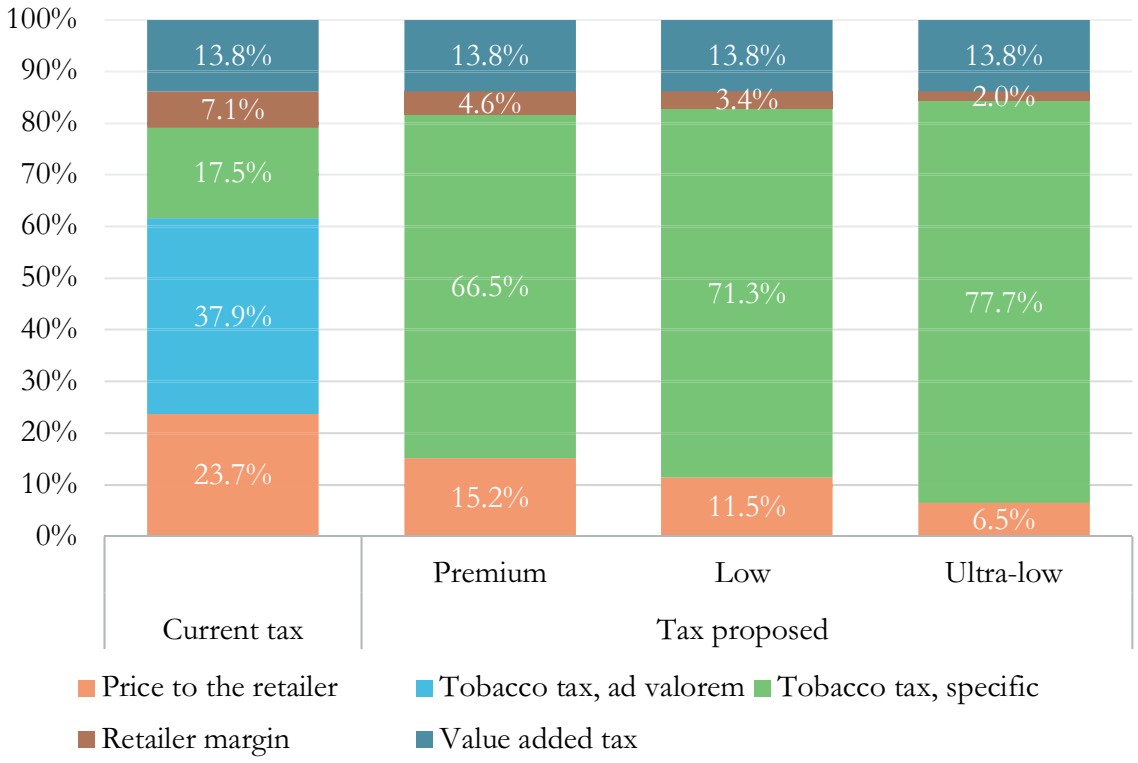

Figure 6. The effects of eliminating the ad valorem tobacco tax while increasing the specific component to 4.4 pesos per cigarette across price segments in Mexico

4. Conclusions

In line with the recommendations of article 6 of the WHO- FCTC (WHO, 2005), and considering that smoking prevalence in Mexico has remained stagnant for over a decade (INSP, 2023) —missing the 2025 goal, particularly for men (WHO, 2013 and 2024)— increasing the specific tax from 0.6166 to 3 pesos would be a significant step forward with substantial health benefits (Figure 7). This tax increase would constitute an average of 68.5% of the consumer price and result in a price hike of 73.1% for premium brands and up to 147.5% for ultra-low-priced brands, thereby substantially reducing affordability. Specifically, the price of low-priced brands could double, while ultra-low-priced brands might increase to 2.5 times their current price, exceeding the current price of premium brands. Also, this tax change is expected to generate an additional 13,371.1 million pesos in tobacco tax revenue, bringing the total to 66,071 million pesos. Currently, tobacco tax revenue represents 0.16% of GDP; the post-tax revenue would represent 0.18%.[4]

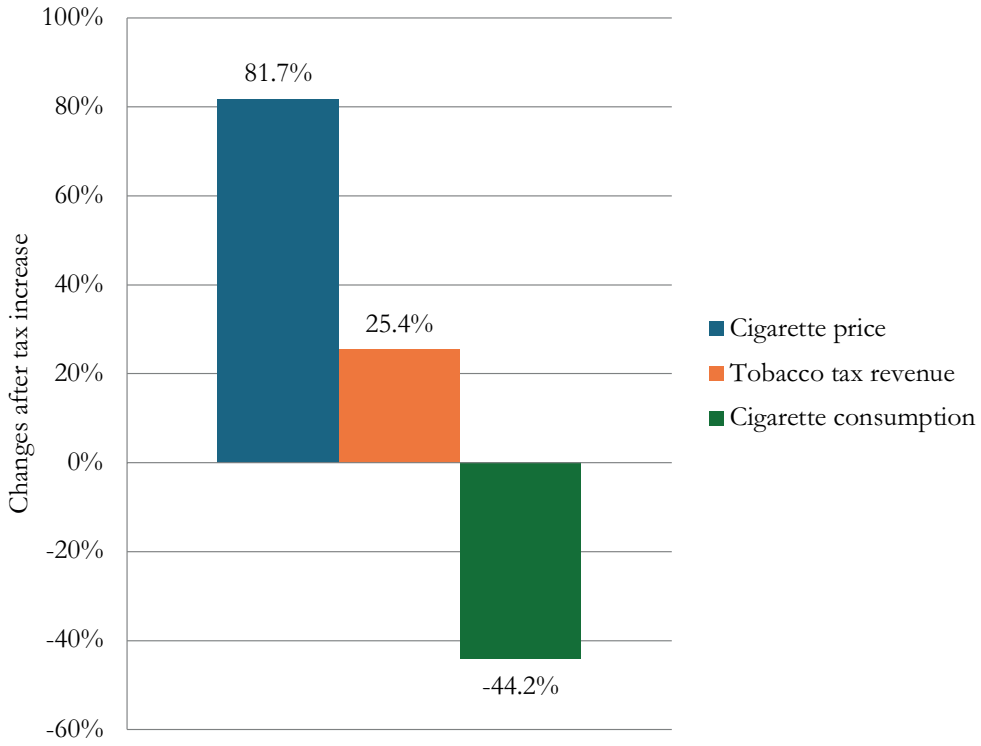

Figure 7. Summary of the main effects of increasing the specific cigarette tax to 3 pesos per cigarette

[4] GDP figures for 2024 (33,927,700 million pesos) and 2025 (36,132,400 million pesos), from the Ministry of Finance (SHCP) projections on economic activity and public finances, were used in these estimates. These projections, which informed the 2025 income law and the expenditure budget, are available at: https://www.finanzaspublicas.hacienda.gob.mx/work/models/Finanzas_Publicas/docs/paquete_economico/precgpe/precgpe_2025.PDF.

These results are consistent with previous studies in Mexico, which have shown that increasing tobacco taxes could significantly reduce premature deaths and illnesses while generating important resources through cost reductions (health care costs, productivity losses and informal care costs) and increased tax revenue (Saenz-de-Miera et al., 2022; Saenz-de-Miera et al., 2024). A distributional analysis of the tax increase lies beyond the scope of this paper. However, previous studies for middle-income countries, including Mexico, have also shown that tobacco taxes, when accounting for extended effects (e.g., direct cost savings), benefit more the poorest quintile than the richest (Global Tobacco Economics Consortium, 2018). Subnational analyses further indicate that this effect is particularly pronounced in the South —the poorest region of the country— where the majority of poor smokers are concentrated (Saenz-de-Miera et al., 2022).

Regarding the tax design, it is essential to emphasize the importance of increasing the specific tax rate, as this reduces price differentials between brands and thus limits the incentive for consumers to switch to cheaper brands. Since the last tobacco tax increase in 2011, the cigarette market in Mexico has shifted to include an ultra-low-price segment, with domestic brands like Link rapidly increasing their market share (INSP, 2023). In this context, transforming the tax structure by removing the ad valorem component may also be beneficial. A specific tax of 4.4 pesos per cigarette would account for approximately 68.5% of the consumer price on average, with this percentage ranging from 66.5% for premium brands to 71.3% and 77.7% for low and ultra-low priced brands, respectively, highlighting the potential of specific taxes to reduce price gaps across segments.

Finally, it is crucial to consider the synergistic implementation of other tobacco control policies, particularly those aimed at preventing and controlling illicit trade. A recent study found that illicit cigarettes account for 18.2% of the current cigarette market in Mexico, although regional heterogeneity is significant —ranging from 0.3% in Hermosillo to 43.4% in Durango, both in the northwest (Sáenz-de-Miera et al., 2024). Furthermore, while most illicit trade involves illicit imports, the study also found that approximately one in five packs of the domestic brand Link lacked the security code required by tax authorities. The scale and shifts in illicit trade could be explained by factors related to public security, inadequate customs controls, and low governance levels. Therefore, a comprehensive strategy is needed, including the ratification and implementation of the Protocol to Eliminate Illicit Trade on Tobacco Products. This should involve establishing an effective track-and-trace system to monitor the entire supply chain and reinforcing customs controls.[5]

[5] Saenz-de-Miera et al. (2022) provide a detailed comparison of the Mexican legislation and the different provisions of the Protocol, along with specific recommendations on key aspects that need to be reinforced for more effective control of illicit trade.

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