

Tobacco Economic Evidence: *México*

Background

In Mexico, 7.2 percent of women and 27.3 percent of men (aged 20+) smoke, of which 44 percent are daily smokers. Smoking is not only concentrated in the adult population. Among children and adolescents (10-19 years old), 4.7 percent smoke, of which 26.4 percent are daily smokers.

Smoking prevalence of daily smokers was significantly reduced in Mexico between 2002 and 2009, from 21.6 percent to 11.8 percent for men and from 7.1 percent to 3.7 percent for women. Since 2009 the reduction has drastically slowed, with daily smoking prevalence in 2020 at 11.3 percent for men and 2.7 percent for women. Meanwhile, the prevalence of occasional smokers increased between 2002 and 2020—from 12.3 percent to 15.7 percent for men and from 4.3 percent to 4.5 percent for women.

Tobacco in Mexico is taxed with the Impuesto al Valor Agregado (IVA) tax, which is a value-added tax that taxes most goods and services in Mexico at a rate of 16 percent, and with the Impuesto Especial sobre Producción y Servicios (IEPS), which is an excise tax on products that create negative externalities, such as alcohol, gasoline, and tobacco.

In the case of tobacco, the IEPS is a mixed tax, with a rate of 160 percent of the production price and a specific component that in 2022 is of 0.5484 pesos per cigarette. The specific component is updated every year according to inflation.

This Evidence Narrative will show the latest research results on the impacts of tobacco taxation in Mexico, including consumer behavior responses, impacts on the poor, the social and economic costs of smoking, and broader economic impacts such as employment and illicit trade.

How do tobacco users respond to taxes and price increases?

Evidence shows that an increase in tobacco taxes and tobacco prices diminishes consumption in Mexico. A 44-percent increase in the specific component of the tax would result in about 1.5 million fewer smokers in Mexico (Saenz-de-Miera et al., 2022). Similarly, it is estimated that an increase of 1 peso on the specific tax component would result in a 34-percent reduction in tobacco consumption (CIAD, 2019). Other studies propose different scenarios with increases on prices by taxes or reductions of individual income to estimate the consequences on the consumption of cigarettes, government revenues or sales. Table 1 summarizes some results of different studies..

Table 1. Tobacco tax impacts on consumption.

Author	Year of publication	Scenario/Proposal	Results
World Health Organization	2008	Increase of 10% in tobacco price	Decrease in consumption by 4% in upper-income countries
			Decrease in consumption by 8% in low- and middle-income countries
Jimenez-Ruiz, Sáenz de Miera, Reynales-Shigematsu, Waters & Hernandez-Avila.	2008	Increase of 10% in tobacco price.	Decrease of 5.2% in consumption.

Belén Sáenz de Miera-Juárez & Roberto Iglesias	2010	Increase of 10% in tobacco price	Decrease of 5.2% in cigarette consumption
		Reduction of 10% in individual income	Decrease of 4.9% in average for cigarette consumption.
Deliana Kostova, Hana Ross, Evan Blecher & Sara Markowitz	2010	Increase of 10% in tobacco price	Decrease of 21.1% in consumption among young people aged 11 to 19.
South American Network on Applied Economics/Red Sur	2019	Increase of IEPS by 79.8%.	Decrease of 23.7% in individual consumption.
Adrián García Gómez, Alejandra Macías, Héctor J. Villarreal Páez, & Judith S. Méndez Méndez	2020	Increase of IEPS by 1.49 pesos per cigarette, allowing increase on 20-cigarette pack price from 58.1 pesos to 82.9 pesos	Increase of 35.6% in government tax revenues and decrease of 18.1% in sales.
Alejandra Macías, Héctor J. Villarreal Páez, Judith S. Méndez Méndez & Adrián García Gómez	2020	Increase of IEPS from 0.49 to 1.49 pesos per cigarette	Decrease in household consumption of about: 58.68% for low-income, 54.16% for middle-income, 46.63% for upper-income Average decrease: 42.4%

<p>Luis Huesca, Linda Llamas Rembao, Abdelkrim Araar, Cesar Osmar & Molina Dávila</p>	<p>2020</p>	<p>Increase of 10% in price of cigarettes</p>	<p>Decrease in consumption, elasticities: -0.479 for richest tercile, -0.726 for middle tercile, -0.594 for poorest tercile Total elasticity: -0.662</p>
<p>Martin González- Rozada & Fiona Franco- Churruarin</p>	<p>2020</p>	<p>Increase of 10% in price of cigarettes</p>	<p>Reduction in daily smoking of about 4%: 4.3% for ages 15–24 3.9% for ages 25-64 4.4% for ages 65+</p> <p>Decrease in consumption by 4.6% for women and 3.5% for men</p> <p>Reduction by quartiles: 4.4% for poorest quartile 4.1% for second quartile 3.9% for third quartile 3.7% for richest quartile</p>
<p>Luis Huesca, Horacio Sobarzo Fimbres & Linda Llamas Rembao (CIAD)</p>	<p>2021</p>	<p>Increase the price 70% for 20-cigarette pack at 90.2 pesos</p> <p>Increase of IEPS to 1.5 pesos per cigarette</p>	<p>Decrease of 26% in consumption.</p> <p>Increase of 45% in government tax revenue and 0.39 points of Gross Domestic Product (GDP).</p>
<p>Luis Huesca, Linda Llamas Rembao, &</p>	<p>2021</p>	<p>Increase of 10% in price of cigarettes</p>	<p>Decrease in cigarette consumption by 6.8%, alcohol 1.38%, and sugary drinks 0.54%</p>

<p>Abdelkrim Araar</p>		<p>Increase of 43% in price of cigarettes</p>	<p>Decrease in consumption by 7.9% for hypertensive smokers, 9.1% for diabetic smokers and 4.3% for obese smokers</p>
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Franco-Churuarin and Gonzalez-Rosada (2021) find that a 10-percent increase in the price of cigarettes would reduce daily smoking prevalence by 4 percent and delay smoking initiation by 16 months from the mean starting age of 18. Another study finds that increasing tobacco prices effectively reduces consumption by making people stop buying cigarettes and preventing new smokers from starting to smoke (CIEP, 2020).

How do tobacco tax policies affect the price of tobacco products, and how will this change in price affect government revenues, consumption, and health outcomes?

A 2020 study (Pichon-Riviere et al., 2020) estimates that a 50-percent increase in tobacco prices due to taxes could avert 38,358 deaths in a period of 10 years, save 3.502 billion US dollars on health care costs and increase tax revenue by 8.138 billion dollars, for a total of 11.640 billion dollars in economic benefits. Another report finds that the savings in health costs (due to reduced consumption) derived from increases in fixed component of IEPS are greater than the increased expenses on tobacco from higher prices. An increase of 1 peso (from 0.49 to 1.49 pesos) of fixed portion per cigarette in tobacco taxes, would increase government revenues by 35.6 percent, despite the 1.8-percent decrease in tobacco sales (CIEP, 2020). This higher revenue collection can help reduce the gap between tobacco tax revenue and health care costs attributable to smoking (CIEP, 2021).

Tax policies on tobacco products could also reduce consumption among people with chronic degenerative diseases. Huesca and Llamas (2021) find that an increase of 43 percent in the price of cigarettes is associated with a decrease in consumption of 7.9 percent in hypertensive smokers, 9.1 percent in diabetic smokers, and 4.3 percent in obese smokers. The same paper analyzes the relationship between the consumption of

tobacco, sodas, and alcoholic beverages and finds that their consumption also decreases with a higher price of cigarettes.

How do tobacco tax policies affect the poor?

One of the main arguments used by the tobacco industry against public policies that increase tobacco prices are that those kinds of policies affect mostly the poor. However, evidence shows that increasing tobacco taxes is in fact a progressive policy. For example, if tobacco prices are increased by 44 percent, the lowest-income group would obtain 26 percent of the life years gained and 24 percent of the costs averted, while only paying 3 percent of the additional tax revenue (Saenz-de-Miera et al., 2022). Franco-Churruarin and Gonzalez-Rozada also find that the poor, as well as youth and women, are more responsive to price increases, so they would reap the most benefits from tobacco price increases (Franco-Churruarin & Gonzalez-Rozada, 2021).

Research has also been conducted on the relationship between tobacco taxes and poverty. The World Health Organization has recognized that the decrease in tobacco consumption is different in upper-income countries, where a reduction of 4 percent in consumption is observed as a result of an increase of 10 percent in prices, and low- and middle-income countries, which reduce consumption by 8 percent with the same policy.

For Mexico, CIEP (2021) finds that an increase on the tax per cigarette from 0.49 pesos to 1.49 pesos would result in a 46-percent smoking reduction on average. Low-income households would reduce their tobacco consumption by about 58.6 percent, middle-income households by 54.2 percent, and upper-income households by 46.6 percent. Therefore, the policy of increasing taxes on tobacco would be most effective for the poorest consumers.

Additionally, the revenue obtained from increased tobacco taxes can be used to reduce poverty by funding price subsidies on staple foods (Huesca & Araar et al, 2021) and transfers for health and medicines, mainly to the elderly and the poor (CIAD, 2019).

What are the health and economic costs of smoking and tobacco use, and how can policies address these costs?

Tobacco use can cause harm not only to the health of the population but also to the fiscal system of a country. Using data from 2015, it is estimated that health costs attributable to tobacco consumption in Mexico reach up to 4.767 billion dollars per year. Policies that increase tobacco prices through tobacco tax increases would help to reduce not only the harms that tobacco use causes to the health of the population but also to the economy. As Pichon-Riviere et al. (2020) estimate, a 50-percent increase in tobacco prices due to taxes could save 3.502 billion dollars in health costs over a period of 10 years.

How do tobacco tax policies affect employment and economic growth?

Another argument used by the tobacco industry against tobacco control policies is that reduced tobacco consumption will translate into loss of employment, which would have an important negative impact on the economy. However, evidence shows that increasing tobacco taxes would not generate major impact on any macroeconomic variable in México, mainly because the tobacco production chain does not interact intensively with other economic sectors. Moreover, the minimal loss of employment in the tobacco industry would be more than offset by investing in the health sector to create more jobs (Huesca & Sobarzo et al. , 2021). The investment in the health sector can be partially or totally funded by the revenue obtained from tobacco taxes.

To what extent are tobacco control policies related to illicit trade of tobacco products?

Illicit trade of tobacco products in Mexico is much lower than 18.8 percent what the industry claims it to be. A recent study finds that illicit cigarettes account for only 8.8 percent of total consumption, based on the analysis of discarded packs, and 7.6 percent based on a survey of smokers. These numbers are lower than both the regional average and the global average (Saenz de Miera & Reynales-Shigematsu et al., 2021).

According to a research that was commissioned and paid for by the tobacco industry (Oxford Economics, 2021), the origin of illicit cigarettes in Mexico is mainly China, where 70 percent of illicit cigarettes are produced. The report assumes other countries' illicit

production, such as India and Vietnam, gets into Mexico via Free Trade Zones of Panama and Belize. These cigarettes are consumed, mainly in central and western-central regions of Mexico where most densely population areas are located (Oxford Economics, 2021). However, this information should be treated with extreme caution because the methodology is not transparent and the industry has considerable incentive to overestimate illicit trade size and its effects, so these results likely represent the tobacco industry's preferred narrative.

Conclusion

Smoking prevalence of daily smokers in Mexico was 11.3 percent for men and 2.7 percent for women in 2020. Tobacco is taxed with IVA (16 percent) and IEPS (160 percent of production price and 0.5484 pesos per cigarette in 2022). Evidence shows that an increase in tobacco taxes leads to a reduction in its consumption. On average, a 10-percent increase in tobacco prices would lead to a 4.6-percent reduction in consumption, according to the research presented.

Increasing tobacco prices effectively reduces consumption, encourages smokers to quit, and prevents new smokers from starting to smoke. Additionally, tax policies on tobacco products decrease consumption among people with degenerative chronic diseases. Most of the research also finds that increasing tobacco prices is a progressive policy and that the youth, the poor, and women are more responsive to price increases; therefore, they are more likely to benefit from them. Additionally, revenue obtained from tobacco taxes can be used to reduce poverty, buy medicines, and make health transfers mainly to the elderly and the poor.

Tobacco tax policies rarely affect the economy in aggregate or at the employment level because tobacco production chains do not interact intensively with other economic sectors, and the minimal loss of employment in the tobacco industry can be offset by investment in the health sector funded by the increased revenue obtained from tobacco taxes. Finally, illicit trade of tobacco products in Mexico represents only about 8.8 percent

of the total market, which is a low percentage compared both with the region and the world and significantly lower than the tobacco industry claims.

References

- CIAD. (2019). Analysis of Tobacco Taxation and Simulations in Mexico using Latinmod. Retrieved from <https://tobacconomics.org/files/research/604/CIAD.-Analysis-of-tobacco-taxation-and-simulations-in-Mexico-using-LATINMOD-1.pdf>
- CIEP. (2020). Extended Cost Benefits Analisis of Tobacco Consumption in Mexico. Retrieved from https://tobacconomics.org/uploads/research/Extended-Cost-Benefit-analysis_Tobacco_CIEP_EN_act-2-1.pdf
- CIEP. (2021). Tobacco Tax Revenues and Public Health Spending in Mexico. Obtenido de <https://tobacconomics.org/files/research/620/impuestos-al-tabaco-y-gastos-en-saludfinalestadosinglesl.pdf>
- Franco-Churuarin, F., & Gonzalez-Rosada, M. (2021). The impact of cigarette price increases on the prevalence of daily smoking and initiation in Mexico. A Tobacconomics Research Report. *Tobacconomics, Health Policy Center, Institute for Health Research and Policy, University of Illinois Chicago*. Retrieved from <https://tobacconomics.org/files/research/719/mexico-price-and-youth-research-report-v4.0.pdf>
- Franco-Churuarin, F., & Gonzalez-Rosada, M. (2021). The impact of cigarette price increases on the prevalence of daily smoking and initiation in Mexico. A Tobacconomics Research Report. *Tobacconomics, Health Policy Center, Institute for Health Research and Policy, University of Illinois Chicago*.
- Huesca, L., Araar, A., & Llamas, L. (2020). The impact of tobacco tax reforms on poverty in Mexico. *SN Bus Econ*, 142. Retrieved from <https://link.springer.com/article/10.1007/s43546-021-00141-x#citeas>
- Huesca, L., Sobarzo, H., & Llamas, L. (2021). A general equilibrium analysis of the macroeconomic impacts of tobacco taxation. *Research Report. CIAD*.
- Jiménez-Ruiz, Sáenz de Miera, B., Reynales-Shigematsu, Waters, & Hernández-Ávila. (2008). The impact of taxation on tobacco consumption in Mexico. (17), pág. 105:110. Obtenido de Tobacco Control.
- Kostova, D., Ross, H., Blecher, E., & Markowitz, S. (2010). Prices and cigarette demand: Evidence from youth tobacco use in developing countries. (NBER, Ed.) *Nber Working paper series*(15781).
- Pichon-Riviere, A., Alcaraz, A., Palacios, A., Rodriguez, B., Reynales-Shigematsu, L. M., Pinto, M., & Castillo-Riquelme, M. (2020). The health and economic burden of smoking in 12 Latin American countries and the potential effect of increasing tobacco taxes: an economic modelling study. *The Lancet Global Health*, 8(10), e1282-e1294.

- Saenz de Miera, B., Reynales-Shigematsu, L., & Stoklosa, M. (2021). Measuring the illicit cigarette market in Mexico: a cross validation of two methodologies. *Tobacco Control*(30), 125-131.
- Sáenz de Miera-Juárez, B., & Iglesias, H. (2010). Impuestos para el control del tabaquismo: las experiencias de Brasil y México. *Salud Pública de México*, 52(2), 172-185. Obtenido de <https://saludpublica.mx/index.php/spm/article/view/4970/4818>
- Saenz-de-Miera, B., C. Whu, D., Beverly M., E., Maldonado, N., Jha, P., & Reynales-Shigematsu, L. M. (2022). The distributional effects of tobacco tax increases across regions in Mexico: an extended cost-effectiveness analysis. *International Journal for Equity in Health*.
- South American Network on Applied Economics/Red Sur. (2019). *Accelerating Effective Tobacco Taxes in Mexico: Tax Policy and Health Costs*. Obtenido de https://www.tobacconomics.org/files/research/547/20190717-PB6-Ethos-EN_0.pdf
- WHO. (2008). *Institutional Repository for Information Sharing*. (MPOWER, Editor) Obtenido de WHO Report on the Global Tobacco Epidemic: <https://apps.who.int/iris/handle/10665/43818?locale-attribute=en&>