

Tobacco tax revenues
and public health spending
in Mexico.





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Tobacco Tax Revenue and Public Health Spending in Mexico

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1. Key messages

- An increase in the specific component of the Excise Tax on Production and Services (IEPS) to 1.4944 pesos per cigarette increases revenue from IEPS on tobacco by 35.6 percent, decreases sales by 18.1 percent, and raises the retail price of a pack of cigarettes from 58.1 to 82.9 pesos.
- The medical costs of tobacco-related diseases exceed current IEPS revenue from tobacco. In 2019 the costs of tobacco consumption reached 82.183 billion pesos, whereas IEPS tobacco revenue totaled 42.484 billion that same year, around half the amount of the former.
- Health costs of tobacco consumption for the non-insured are 19 times higher than the budget spent on treatment and prevention.
- Earmarking funds from tobacco IEPS is an effective way of increasing the budget that can be allocated to the health sector. In Mexico, the most effective way of achieving this is through direct changes to the Excise Tax on Production and Services Law (LIEPS).



2. Executive summary

Smoking is a health problem in Mexico and worldwide. Every year, smoking claims over 8 million lives, with most deaths occurring in low and middle-income countries. In addition, tobacco consumption leads to increased healthcare costs and a loss of human capital as a result of morbidity and mortality due to smoking (WHO, 2020).

Global expenditure on healthcare for tobacco-related diseases in 2012 was estimated at 422 billion dollars. This burden increases to 1.436 trillion dollars when loss of productivity is factored in (Goodchild, Nargis, and Tursan d'Espaignet, 2018).

One of the most effective ways to curb smoking is by levying taxes. An increase in the specific component of the Excise Tax on Production and Services (IEPS) on tobacco from 0.4944 pesos per cigarette to 1.4944 pesos per cigarette increases revenue from IEPS on tobacco by 35.6 percent, decreases sales by 18.1 percent, and raises the retail price of a pack of cigarettes from 58.1 to 82.9 pesos.

Health sector expenditure in Mexico, specifically on treating and preventing smoking-related diseases, is inadequate. The medical costs of treating the population not covered by the social security institutions approach 48.223 billion pesos, **which is nineteen times the budget spent on preventing and treating diseases caused by smoking and exceeds the total estimated revenue from IEPS on tobacco for 2020.**

Tobacco tax revenue can be used to fund the health system in Mexico. One option is to earmark, in full or in part, revenue from IEPS on tobacco to fund health services for those not covered by social security. Similar policies have existed in various countries across the world and, although such a practice poses certain challenges from a legal perspective, legally it is possible in Mexico. The most viable and effective way of achieving this is by amending the Excise Tax on Production and Services Law (LIEPS).



3. Introduction

Smoking is a global health problem and tobacco use has been reported by the World Health Organization (WHO) as a risk factor for cardiovascular and respiratory diseases. Every year, smoking claims over 8 million lives, with most deaths occurring in low and middle-income countries. Of the 8 million who die each year, 1.2 million were passive smokers (WHO, 2020).

In addition, tobacco consumption leads to increased healthcare costs and a loss of human capital as a result of morbidity and mortality due to smoking (WHO, 2020). Global expenditure on healthcare for tobacco-related diseases in 2012 was estimated at 422 billion dollars. This burden increases to 1.436 trillion dollars when loss of productivity is factored in (Goodchild, Nargis, and Tursan d’Espaignet, 2018).

Various measures exist to reduce tobacco consumption. Tobacco taxes are the most cost-efficient measure to reduce tobacco use and healthcare costs, while increasing government revenue (WHO, 2020). Ideally, tobacco taxes should go hand in hand with other types of measures, such as prevention programs, that help to make tax policies more effective. However, to achieve the desired impact on a population, both treating tobacco-related diseases and running prevention campaigns require adequate public funding.

Since 1981, Mexico has levied an excise tax on tobacco, the Excise Tax on Production and Services (IEPS). The tax rate has changed over time but has remained constant since 2011 with an *ad valorem* rate of 160 percent of the manufacturer’s price plus a specific rate of 0.35 pesos per cigarette. In 2020, this fixed component was brought in line with inflation and set at 0.4944 pesos per cigarette.

The IEPS tax on tobacco represents a source of income for the federal government. In 2019, IEPS on tobacco raised 42.484 billion pesos in revenue, while in the Federal Revenue Law (LIF) for 2020, revenue from IEPS on tobacco is forecast at 43.679 billion pesos.

One international recommendation to secure greater funding for the health sector is to earmark taxes – in other words, set aside revenue for a specific purpose. In this case, the



goal would be for IEPS on tobacco to be allocated to fund Mexico's health system. However, earmarking tax is not always possible as there may be legal impediments.

This report explores the impacts that different changes in the IEPS tax rate on tobacco may have on cigarette sales, revenue, and cigarette prices. The study also explores healthcare expenditure associated with smoking and assesses, from both a health and legal perspective, the possibility of earmarking revenue from tobacco taxes to fund the health system in Mexico.

3.1 Structure of the report

This study is divided as follows. Section 4 presents an analysis of various changes to tobacco taxes in Mexico through simulations, showing that increases in taxes result in higher retail prices for cigarettes, while increasing revenue and decreasing sales. Section 5 provides an analysis of expenditure on treating and preventing tobacco-related diseases and explores the legal options and possible pathways to earmark revenue from tobacco taxes to fund the Mexican health system. The last section offers closing remarks.

3.2 Study objectives

The objective of this study is to analyze the impact that changes in tobacco taxes would have on tax revenue, tobacco consumption, and tobacco prices, while exploring how tobacco tax revenue could be channeled to boost expenditure on both general and tobacco-related healthcare. To achieve this, it is necessary to observe the structure and sufficiency of healthcare expenditure.



4. Effects of changes in IEPS on tobacco

4.1 Tobacco taxes in Mexico

In Mexico, cigarettes are primarily taxed in three ways: value-added tax (VAT), the Excise Tax on Production and Services (IEPS) and import duty. VAT is a general consumption tax on goods and services, levied at a rate of 16 percent. IEPS is an excise tax on products that produce negative externalities, such as alcohol, gasoline, and tobacco. In the case of cigarettes, IEPS is assessed at a rate of 160 percent of the price paid to producers plus an additional specific tax, set at 0.4944 pesos per cigarette in 2020 and revised each year in line with inflation. Lastly, imported cigarettes are subject to an import duty of 67 percent.

The IEPS tax rate changes on a yearly basis. Since 2011, the fixed component of the tax had been kept stable at 0.35 pesos. Only in 2020 was it brought in line with inflation accumulated over the 2011-2019 period and the new rate was set at 0.4944 pesos per cigarette for 2020. From 2020, the fixed component will be revised annually based on inflation (Cámara de Diputados del H. Congreso de la Unión, 2020). For a detailed account of changes to VAT, IEPS, and import duties from 1980 to date, see Macías et al. (2020).

This section simulates the impact that changes to IEPS would have on government revenue and cigarette sales and retail prices.

4.1.1 Information sources

Data was collected from the following sources:

- **Market share:** The market share for each brand of cigarettes is based on 2018 figures and was obtained from Euromonitor.
- **Retail price:** The retail price for each brand of cigarettes is the average price reported by the INEGI (National Institute of Statistics and Geography, 2020).



- **Retailer's profit margin:** A margin of 10.72 percent on the price before VAT is used in keeping with Waters, Sáenz de Miera, Ross, and Reynales Shigematsu (2010).
- **Cigarette sales:** The sales volume for 2020 is derived from the Federal Revenue Law (LIF) 2020 (Cámara de Diputados, 2019).
- **Price elasticity of demand:** The elasticities obtained in Macías, Méndez, García, and Villarreal (2020) were employed.

4.1.2 Methodology

The simulations were conducted through a reverse engineering process comprising the following steps:

1. The market share was obtained for the main brands of cigarettes sold in Mexico.
2. The average retail price was calculated based on six values: the average retail price of the five brands with the highest market share, each considered individually, and the average retail price of all the remaining brands. Given that the prices in the database are given for different packet sizes – for example, for packets of 14, 20 and 24 cigarettes, among other sizes – the price was calculated per cigarette and then multiplied by 20.
3. The information from the first two stages was used to calculate the average price of 20 cigarettes, weighted by market share.
4. VAT was deducted from this price.
5. The retailer's margin of 10.72 percent was deducted from the weighted retail price before VAT in the baseline scenario. This margin was then divided by the manufacturer's price to determine its value as a proportion of the manufacturer's price; this proportion was kept constant in the simulations.
6. IEPS was deducted from the values obtained in the previous steps – first, the fixed component of the IEPS, and then the *ad valorem* component. This gives the manufacturer's price.
7. The information broken down in the previous steps provided the weighted manufacturer's price, to which changes in IEPS can be applied to calculate the impacts on revenue and retail price. Since the simulations calculate the changes for 2021, the manufacturer's price is brought in line with inflation, which is



expected to be 3.5 percent for 2020 (Secretariat of the Treasury and Public Credit, 2020).

8. The elasticities estimated in Macías et al. (2020) were used to calculate changes in sales as a result of the change in IEPS.

Thus, the tax burden of a pack of cigarettes is broken down as follows. A price of 63 pesos per pack of 20 cigarettes – the current retail price of premium brands – is used here for illustrative purposes.

The first step is to subtract VAT, which is 16 percent of the final price:

$$\text{Price without VAT} = 63 - \left(\frac{63}{1.16}\right) * 0.16 = 54.3$$

Then, the retailer's profit margin of 10.72 percent is subtracted using the following formula:

$$\text{Price without margin} = 54.3 - \left(\frac{54.3}{1.1072}\right) * 0.1072 = 49.04$$

The next step is to subtract the specific component of the IEPS, which is 0.4944 pesos per cigarette:

$$\text{Price without specific IEPS} = 49.04 - (0.4944 * 20) = 39.2$$

Finally, the *ad valorem* IEPS, which is 160 percent of the manufacturer's price, is subtracted from the price without specific IEPS. This makes it possible to determine the manufacturer's price:

$$\text{Manufacturer's price} = 39.2 - \left(\frac{39.2}{2.6}\right) * 1.6 = 15.1$$

4.1.3 Assumptions

Manufacturer prices increase by the same percentage as annual inflation. It is assumed that, from one year to the next, the manufacturer's selling price increases in the same proportion as inflation accumulated over the year.

All taxes are passed on to the final consumer. This means that producers and retailers do not absorb any tax, and thus the higher prices paid by consumers include the full amount of tax.



As prices increase due to higher taxes, consumers do not switch to cheaper brands. A change in cigarette prices may lead consumers to opt for less expensive brands, which could have impacts that have not been accounted for in the simulations.

Effects on the black market and tax evasion are not included. Any substantial black market presence or increase in tax evasion would reduce the impact of an increase in tax, thus rendering such tax measures less effective. In this regard, one study found that nationally, the illegal cigarette market accounts for 8.8 percent of total consumption, with the city of Durango having the largest illegal market (with 27.5 percent), while in cities like Veracruz and Hermosillo, the illegal market accounts for less than 1 percent of sales. In Mexico City, the illegal cigarette market is estimated at 6.6 percent. The figures found for Mexico are below the global average (10 percent) and other countries in the region, like Brazil (40 percent), Uruguay (11.8 percent), and Chile (10.9 percent) (Sáenz & Reynales, 2019). These figures show that the impact of the illicit market in Mexico is limited and therefore does not significantly alter the results of the simulations.

4.1.4 Scenarios

This study explored three scenarios in which changes are introduced to the specific component of IEPS to observe how this affects revenue, sales, and the weighted price of a pack of cigarettes. The following scenarios are analyzed:

1. **An increase in specific IEPS to 0.511704 pesos per cigarette:** This scenario is analyzed as it is consistent with current law. As per the current Excise Tax on Production and Services Law (LIEPS), the specific component is revised each year for inflation. On the basis of the expected inflation rate of 3.5 percent for 2020, the specific component for IEPS would increase to 0.511704 pesos per cigarette.
2. **An increase in specific IEPS to 1.4944 pesos per cigarette:** This scenario is analyzed as part of a bill currently in the Chamber of Deputies (Medel Palma & Pérez Segura, 2020).
3. **A tax burden of 82.4 percent:** This scenario is analyzed as this tax rate achieves maximum revenue. Any further increases in tax would cause the loss from the drop in consumption to outweigh the gain in revenue from the tax increase. The tax burden includes both VAT and IEPS. In this scenario, the tax burden from IEPS stands at 68.6 percent.



The three scenarios are analyzed using an elasticity of -0.424, taken from Macías et al. (2020). This same study calculated low, medium, and high elasticities, and, therefore, the changes in revenue and sales as specific IEPS changes are shown in a graph for each elasticity.

Including high and low-elasticity scenarios helps to incorporate into the analysis some of the limitations discussed in section 3.1.3. For example, when prices increase due to higher taxes and some consumers decide to switch to a cheaper brand, sales are not greatly reduced but tax revenue is. When, on the other hand, a price increase draws consumers to the illegal market, both legal sales and revenue fall to a similar extent. Including a range of elasticities helps to capture these variations.

4.1.4.1 Results

In the first scenario (Scenario 1), in which the specific component of IEPS increases from 0.4944 pesos per cigarette to 0.511704 pesos per cigarette, the average weighted price per packet increases from 58.1 to 60.1 pesos, sales fall by 1.5 percent, and revenue from IEPS on tobacco increases by 2.0 percent. This increase in revenue is below the expected rate of inflation of 3.5 percent for 2021.

In Scenario 2, in which the specific component of IEPS is increased further to 1.4944 pesos per cigarette, the average weighted price increases to 82.8 pesos per pack of 20 cigarettes, sales drop by 18.1 percent, and revenue from IEPS on tobacco increases by 35.6 percent.

Finally, Scenario 3 would bring the total tax burden up to **82.4 percent**, the specific component of IEPS needs to be set at 2.60 pesos per cigarette. In this scenario, the average weighted price of a pack of cigarettes is 108.50 pesos, sales fall by 36.9 percent, and revenue from IEPS on tobacco increases by 48.7 percent. The results are shown in [Table 1](#).



Table 1 Results

	2020	Scenario 1	Scenario 2	Scenario 3
Specific IEPS rate (pesos per cigarette)	0.4944	0.511704	1.4944	2.6
<i>Ad valorem</i> IEPS rate	160%	160%	160%	160%
Weighted retail price (pesos)	58.1	60.1	82.9	108.5
VAT	8.0	8.3	11.4	15.0
Retailer's margin	4.8	5.0	5.0	5.0
Specific IEPS	9.9	10.2	29.9	52.0
<i>Ad valorem</i> IEPS	21.7	22.5	22.5	22.5
Wholesale price	13.6	14.1	14.1	14.1
Change in sales		-1.5%	-18.1%	-36.9%
Packs of cigarettes (millions)	1,381.3	1,360.8	1,130.8	872.1
Total tax burden	68.3%	68.3%	77.0%	82.4%
IEPS tax burden	54.5%	54.5%	63.2%	68.6%
Revenue from VAT (billions of pesos)	11.0619	11.2791	12.929	13.0562
Revenue from IEPS (billions of pesos)	43.6794	44.5373	59.2353	64.9658
Total revenue (billions of pesos)	54.7413	55.8164	72.1643	78.022
Change in revenue from IEPS		2.0%	35.6%	48.7%
Total change in revenue		2.0%	31.8%	42.5%

Source: National Institute of Statistics and Geography (2020), Euromonitor, and National Institute of Statistics and Geography (2019).

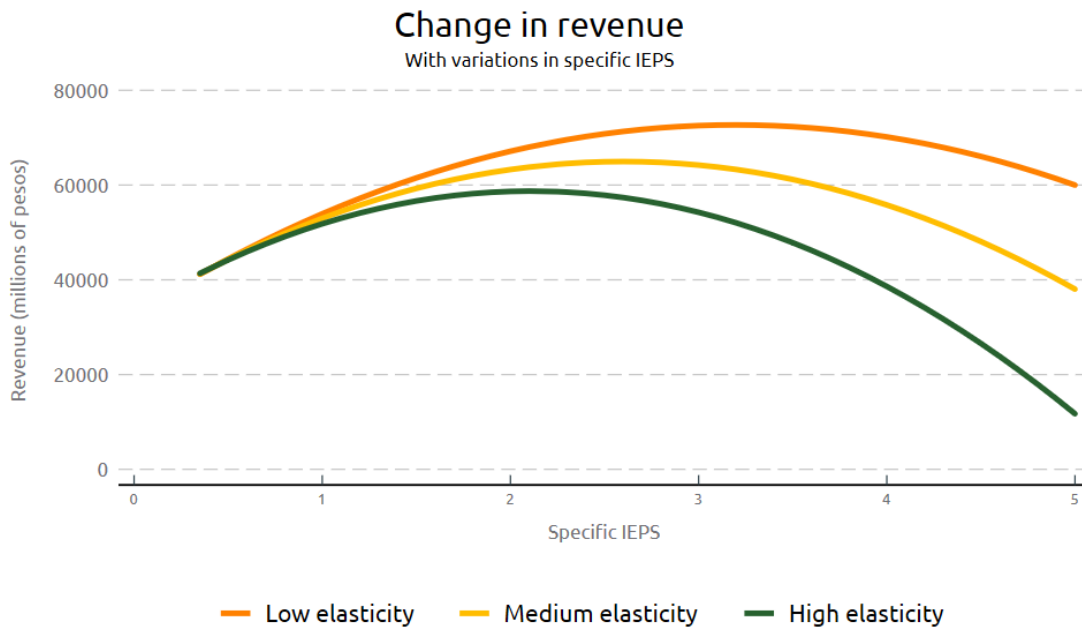
4.1.4.2 Changes with elasticities

As mentioned above, the change observed in revenue and sales as the specific IEPS increases is shown with three different elasticities: a low elasticity of -0.353, a medium elasticity of -0.424 (as employed in the analysis above), and a high elasticity of -0.509 (Macías, Méndez, García, and Villarreal, 2020).

Figure 1 shows revenue as specific IEPS increases. As elasticity decreases, potential maximum revenue increases, as does the rate of specific IEPS at which revenue is maximized.



Figure 1



Considering revenue from IEPS on tobacco in 2020 is estimated at 43.679 billion pesos, any increase in specific IEPS up to 3.70 pesos, in a high-elasticity scenario, would result in greater revenue than current levels. **With medium elasticity, specific IEPS could be increased to 4.70 pesos per cigarette and revenue would still be greater than in the current scenario.**



Figure 2

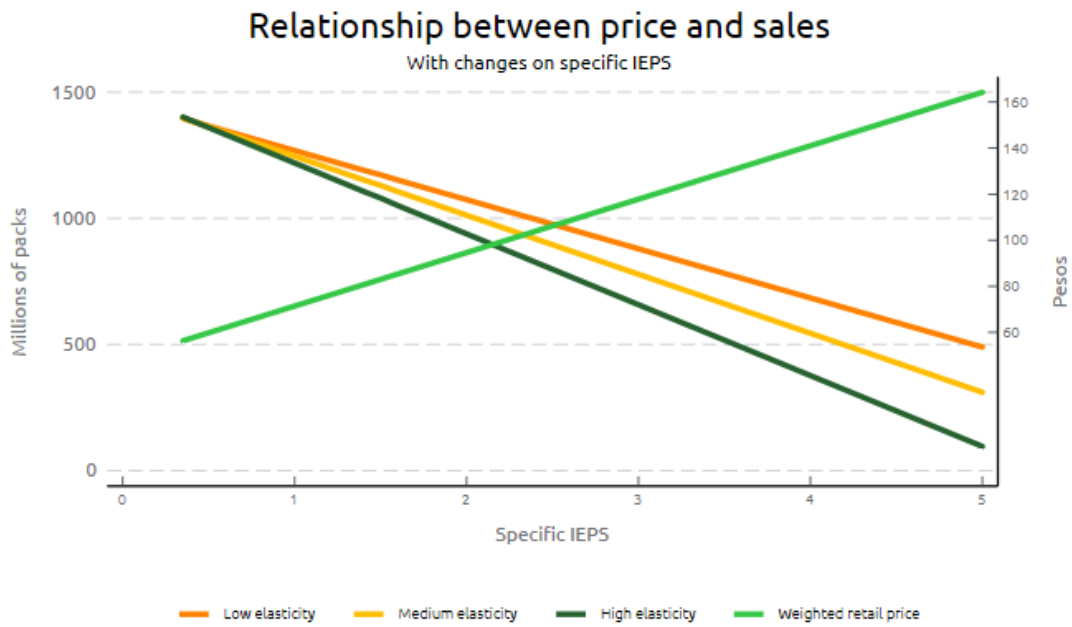


Figure 2 illustrates the relationship between sales and the increase in retail price resulting from changes in the specific IEPS. As the retail price increases, sales fall. This drop becomes sharper as elasticity increases.



5. Healthcare expenditure and costs

This chapter examines, first of all, the medical costs of diseases caused by smoking, and then expenditure on tobacco-related diseases in the national health system, including budgetary programs focused on treating and preventing diseases associated with smoking, expenditure by the Secretariat of Health, and expenditure by the social security institutions. This section closes by exploring the possibility of earmarking funds obtained from IEPS on tobacco for the health system.

5.1 Information sources

The information used in this chapter was collected from the following sources:

- **Direct medical costs of diseases attributable to smoking:** Institute for Clinical Effectiveness and Health Policy (IECS, 2017) for the 2015 figures, and Pichon-Riviere et al. (2013) for the 2013 figures.
- **Distribution of deaths attributable to smoking:** Institute for Health Metrics and Evaluation (2017).
- **Expenditure by budgetary programs:** Public Accounts (*Cuenta Pública*¹) for the years 2010 to 2019 and the Federal Expenditure Budget (PEF) for 2020.
- **Expenditure in the National Institute of Health for Well-Being (INSABI):** Report on Results of the Social Protection System in Health of the National Commission for Social Protection in Health (SSa, 2019).
- **Expenditure on treating diseases associated with tobacco use in the Mexican Social Security Institute (IMSS) and the State Workers' Social Services and Security Institute (ISSSTE):** For the IMSS, information was obtained from the 2018-2019 report to the Federal Executive and the Congress of the Union on the Financial Situation and Risks of the Mexican Social Security Institute (IMSS, 2019). For the ISSSTE, the information was obtained from the 2019 Financial and

¹ *Cuenta Pública*. Document detailing government expenditure and published by the Secretariat of the Treasury and Public Credit (SHCP) each year.



Actuarial Report (ISSSTE, 2019).

5.2 Methodology

A two-part methodology was employed in this section. The first step was to determine the medical costs of diseases caused by smoking, and then calculate public expenditure on preventing and treating these diseases.

These costs were obtained from calculations made by the IECS for diseases caused by smoking in 2013 and 2015. These calculations cover seven medical conditions: heart disease, chronic obstructive pulmonary disease (COPD), second-hand smokers and others, lung cancer, other types of cancer, heart attacks, and pneumonia and influenza. The 2015 figures are used as a basis for projecting costs for subsequent years.

The estimates of the Global Burden of Disease by the Institute for Health Metrics and Evaluation (IHME, 2017) were used to divide costs based on the percentage of deaths directly attributable to smokers and passive smokers in 2016 and 2017.

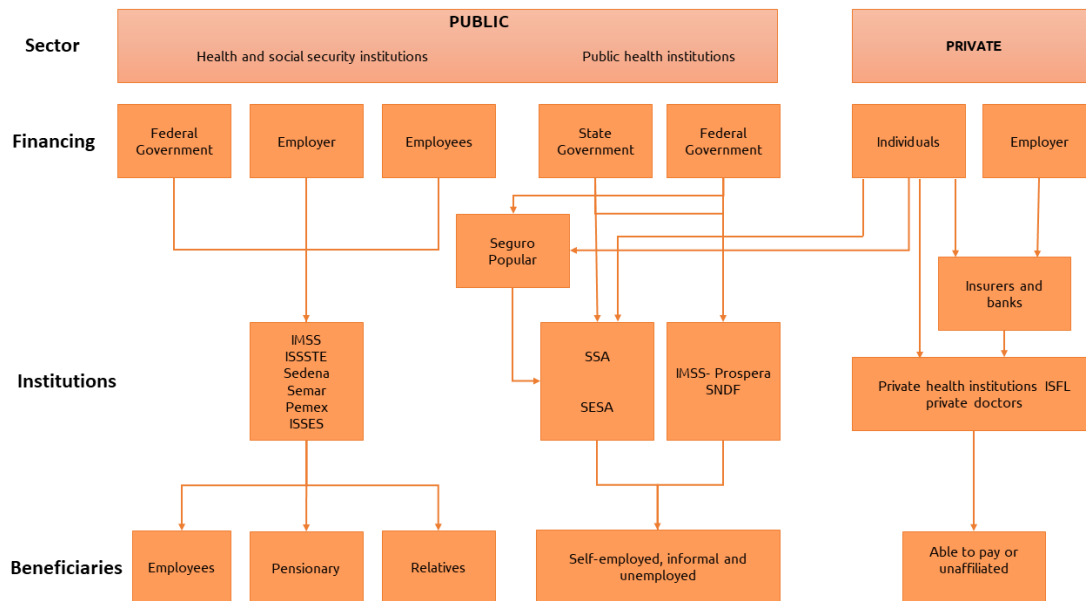
In order to obtain the medical costs for 2016 and 2017, the most recent data available (in this case, data from 2015) was adjusted for inflation and then divided based on the proportion of attributed deaths reported by the IHME. No data on attributable deaths was available for 2018 and 2019, so the figures for those years were projected under the assumption that percentages remained constant, and thus have only been adjusted for general inflation.

5.3 Structure of the public health system in Mexico

To calculate expenditure, it is necessary to understand how the Mexican health system is structured. As shown in [Figure 3](#), the national health system is composed of public and private institutions. The public sector includes social security institutions like the IMSS and ISSSTE, which are funded by worker and employer contributions and by the federal government. Other social security institutions also exist, such as ISSFAM and Pemex for military and federal workers. The sector is spearheaded by the Secretariat of Health (SSa), which is over 90 percent funded by the federal government or state governments (CIEP, 2018).



Figure 3 National health system



Source: Own work based on Dantés et al. (2011).

Therefore, in order to quantify the budget allocated to preventing and treating tobacco-related diseases, this study took into account both the budget of SSA programs and that of the IMSS and ISSSTE social security institutions, in keeping with the fragmented nature of the system.

In the Federal Expenditure Budget (PEF) and Public Accounts (*Cuenta Pública*), just one directly related program was found in the SSA, together with the budget reported by the Seguro Popular (now the National Institute of Health for Well-Being, INSABI) to treat acute myocardial infarctions.

No information was found on other conditions. This poor availability of data is in part due to the procedures covered by the INSABI. The package of care offered by the INSABI is five times smaller than IMSS, and its Well-Being Fund (*Fondo de Bienestar*)² does not include, for example, lung cancer.

There are two more programs that were not included in this analysis and do not directly aim to decrease tobacco consumption, but which may engage in complementary efforts that support this objective: the Healthcare Strengthening

² Until 2019, the Fund for Protection Against Catastrophic Expenses (FPGC).



Program (PFAM) and the Protection and Restoration of the Rights of Children and Adolescents program (Sur & ETHOS, 2019).

Therefore, the Public Accounts (*Cuentas Públicas*) for 2010 to 2019 were examined together with the PEF for 2020 to determine the expenditure of the Addiction Prevention and Treatment budgetary program; for the INSABI, information was drawn from the Report on Results of the Social Protection System in Health, which lists expenditure on tertiary care for certain diseases.³ Heart attacks are the only ailment included that is associated with smoking. In addition, emergency situations associated with heart disease were identified and both concepts were used to approximate expenditure on treating tobacco-related diseases.

Institutional reports submitted to the Congress were reviewed to determine the expenditure of social security institutions. These reports provided the expenditure on treating heart disease, the only ailment among those reported that was directly related to tobacco consumption in the case of the ISSSTE and IMSS.

5.4 Results

5.4.1 Medical costs of diseases attributable to smoking

Based on IECS estimates, in 2015, the medical costs of tobacco-related diseases in Mexico amounted to 75.569 billion pesos (0.4 percent of GDP in 2015), 23.3 percent more than medical costs in 2013 (Table 2). Furthermore, in 2019 the health costs of tobacco consumption reached 82.183 billion pesos, whereas IEPS tobacco revenues totaled 42.484 billion that same year, around half the amount of the former.

Table 2 Projected medical costs of diseases associated with tobacco consumption

	2013	2015	2016	2017	2018	2019
Total medical costs (billions of pesos)	61.252	75.569	76.391	76.708	79.991	82.183
Smokers	54.206	66.875	67.446	67.633	70.528	72.461
Second-hand smokers	7.047	8.694	8.945	9.074	9.463	9.722

Source: IECS (2017), IHME (2017).

³ Tertiary care refers to specialized, more complex healthcare. This level includes Mexico's national specialty institutes (PAHO, 2012).



Table 3 presents the distribution of the total cost in 2015⁴ and shows that 34.7 percent of total costs can be attributed to heart disease, followed by 33.9 percent to COPD. The third highest cost is the effect tobacco has on passive smokers, accounting for 11.5 percent of the total.

Table 3 Distribution of total cost by disease in 2015

Disease	Cost (billions of pesos)	Percentage of total
Heart disease	26.252	34.7%
COPD	25.644	33.9%
Passive smokers and other causes	8.694	11.5%
Other types of cancer	7.491	9.9%
Lung cancer	4.803	6.4%
Heart attacks	2.215	2.9%
Pneumonia	0.471	0.6%
Total	75.569	100%

Source: IECS (2017).

5.4.2 Expenditure on tobacco-related diseases in the national health system

5.4.2.1 Budgetary program: *Addiction Prevention and Treatment*

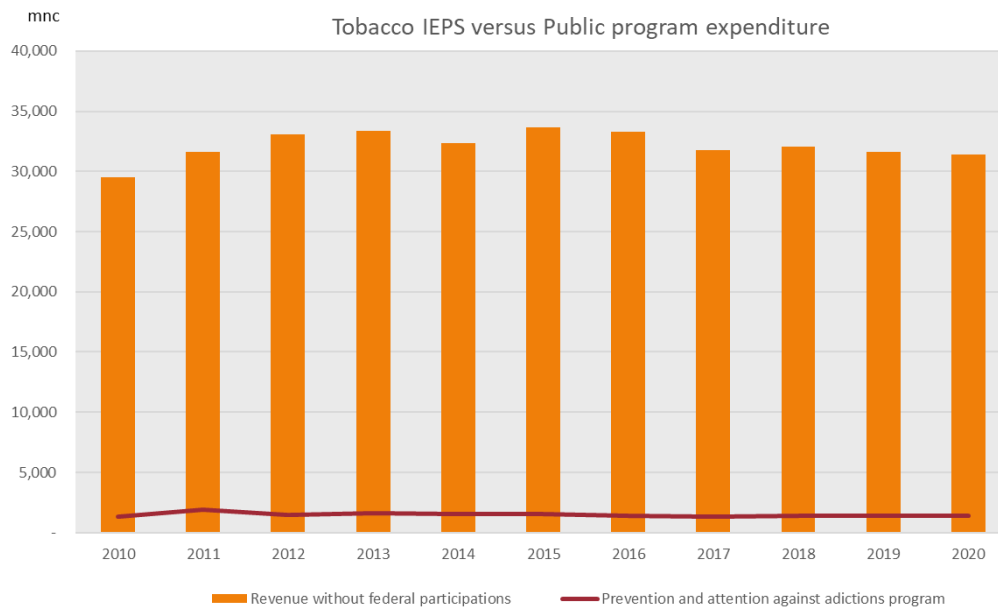
The **budgetary program “Addiction Prevention and Treatment”** (*Prevención y Atención contra las Adicciones*) is a federal program run by the SSa. The program includes activities to prevent and treat tobacco addiction and targets those not formally registered in the social security institutions. While it does not account for all public spending on fighting tobacco consumption, it is **the only federal program** that serves the most vulnerable population: those not covered by any social security institution.

In 2020, the expenditure to income ratio for the budget allocated to this program was kept the same as in 2012. **The program budget equals 4.4 percent of revenue from IEPS on cigarettes** (see Appendix I).

⁴ Most recent data published by the IECS.



Figure 4 Revenue vs. expenditure



Source: Own work with data from SHCP (2020)

According to the National Council for the Evaluation of Social Development Policy (CONEVAL), the program operates by providing financial aid, training in addiction-related issues, and medicine for specialized care units (CONEVAL, 2018).

In 2020, the approved budget for this program is 1.387 billion pesos. This budget is shared between three responsible units: the Ramón de la Fuente Muñiz National Institute of Psychiatry (INPRFM) (1.27 million pesos), Centros de Integración Juvenil (CIJ) (717.6 million pesos), and the National Commission Against Addictions (CONADIC) (668.2 million pesos). For the first of these units, the budget only covers Mexico City, while the budget for CONADIC and CIJ is allocated on a state-by-state basis.

The program's expenditure in 2019 and 2020 is broken down by economic classification in [Table 4](#).



Table 4 Disaggregated expenditure of the budgetary program (in 2020 pesos)

Description	2019	2020	Difference
Materials and supplies	15,966,153	8,479,152	-46.9%
General services	106,619,404	84,208,488	-21.0%
Personal services	1,169,849,767	1,186,257,974	1.4%
Transfers	111,839,614	108,057,600	-3.4%
Total	1,404,274,938	1,387,003,214	-1.2%

Source: Own work with data from SHCP (2020).

In 2020, the budget for the Addiction Prevention and Treatment program fell by 1.2 percent in real terms compared to 2019. The three responsible units spent their budget primarily on personal services, in other words, on staff remuneration (see [Table 4](#)).

Although the full budget assigned to the units is provided, **no disaggregated information is available on the funds allocated by the program to the anti-smoking strategy.**

The program is based on coverage indicators and it lacks an indicator to monitor its impact on tobacco consumption, as its final indicator is the percentage of the country's 12 to 17-year-olds that drink alcohol in a manner that is harmful to health; its purpose indicator is the percentage of 12 to 17-year-olds that engage in addiction prevention actions (CONEVAL, 2020).

With the data available, **it is not possible to determine the impact that the Addiction Prevention and Treatment program has had in terms of preventing tobacco consumption** since the indicators are not disaggregated by type of addiction, and the indicators that exist relate to coverage and not impact.

5.4.2.2 Expenditure by social security institutions

In 2017, in the IMSS, heart disease was the leading cause of medical consultations (18.2 million), the third leading cause of hospital admissions (105,000), and the fifth leading cause of emergency cases (700,000) (IMSS, 2019)⁵. In 2018, heart disease was the

⁵ The associated expenditure is not given.



costliest medical condition for the ISSSTE, at 6.031 billion pesos, including medical consultations and hospital admissions (ISSSTE, 2019).

5.4.2.3 Institute of Health for Well-Being (INSABI)

In January of 2020, the Institute of Health for Well-Being (INSABI) was founded – from what was previously the Seguro Popular – with the goal of serving those not covered by the social security institutions. The INSABI offers primary and secondary care, while the Well-Being Fund (formerly the Fund for Protection Against Catastrophic Expenses or FPGC) exists to cover high-cost procedures.

In the INSABI,⁶ heart conditions are the sixth leading cause of emergency cases. In 2018, the FPGC reported disaggregated expenditure for certain diseases and types of emergency care. Of these, the only afflictions directly associated with smoking are myocardial infarctions (heart attacks), which incurs expenditure of 75.8 million pesos⁷ (SSa, 2019), and emergencies due to heart disease, of which 108,919 cases are reported in the SSa's institutional report, equivalent to 2.247 billion pesos⁸ (SSa, 2019). In the case of heart attacks, 61 percent of expenditure can be attributed to smoking, while for emergency heart care the figure is 49 percent (Reynales-Shigematsu et al., 2006). Using these percentages, expenditure directly associated with smoking stands at 46.2 million pesos and 1.101 billion pesos, respectively.

Table 5 shows expenditure by the SSa on preventing and attending to tobacco-related procedures. **In 2018, a total of 2.441 billion pesos was allocated to prevention and care; in contrast, for the same year the estimated medical cost – that is, the cost of providing care to all those who needed it – was 79.991 billion pesos (IECS, 2017).**

Given the potential share of the population under the SSa⁹ with respect to the country's total population, the medical cost of providing care to the population not covered by the social security institutions is around 48.223 billion pesos, **nineteen times the budget spent on prevention and care.**

⁶ Until 2019, the Seguro Popular.

⁷ This refers to total expenditure on care for acute myocardial infarctions (AMIs). The proportion of AMIs that can be attributed to smoking is estimated to average 61% (53%-69%) (Reynales-Shigematsu et al., 2006).

⁸ This refers to total expenditure on emergency cases due to heart disease. The proportion of cases of heart disease that can be attributed to smoking is estimated to average 49% (43%-55%) (Reynales-Shigematsu et al., 2006).

⁹ This includes the population registered with the Seguro Popular (now the INSABI) and the population not covered by any health program or institution, a total of 75,198,558 individuals or 60.3% of the population reported by CONAPO in mid-2018.



Table 5. Expenditure on preventing and treating tobacco-related diseases, SSa

Description	2018 expenditure (billions of pesos)
Prevention program	1.2942
Acute myocardial infarctions	0.0462
Emergency cases due to heart disease	1.101
Total	2.441

Note: Own estimates based on 108,919 reported cases and a unit cost of 20,633 MXN for the diagnosis and treatment of heart failure and acute pulmonary edema, based on the Universal Catalogue of Health Services (CAUSES).

Source: Own work with data from SHCP (2020).

One key finding in the section is the **discrepancy between the medical costs** associated with providing care for tobacco-related diseases and **actual expenditure** to treat these conditions. Expenditure on preventing tobacco consumption and treating diseases associated with smoking **proves inadequate given the medical cost of treatment.**

5.5 Linking revenue from IEPS on tobacco to healthcare expenditure

Earmarking funds means allocating revenue from a particular source for specific expenditure purposes.

There are arguments in favor of earmarking funds on the basis that doing so improves oversight of public spending (Dhillon & Perroni, 2001). Conversely, it has also been reported that earmarking may make budgets less flexible, thus limiting the use of funds for alternative purposes and hindering the optimal allocation of resources (Wilkinson, 1994).

Two types of earmarking can be identified based on 1) the type of link between revenue and the expenditure it funds, and 2) the type of expenditure funded by revenue. This link can either be hard, meaning that all or most of the tax revenue is used to fund a particular expenditure, or soft, meaning that only part of the tax revenue is used to fund a particular expenditure. The type of expenditure that benefits from earmarking can be specific or narrow (for example, a tobacco control program) or broad (for example, social security or education programs) (NCI & WHO, 2016).



This section discusses international and national experiences, relevant laws in making tobacco tax revenue earmarking viable, and the most efficient pathway to achieve this in Mexico.

5.5.1 International experience

Tobacco tax revenue is earmarked for health purposes in over 20 countries around the world (WHO, 2009c). [Table 6](#) shows how certain countries have utilized these funds. Thailand may be the best success story in terms of allocating tobacco (and alcohol) tax revenue: the Thai government has created ThaiHealth, which receives 2 percent of total national revenue from alcohol and tobacco products.

Table 6 Examples of revenue earmarking

Use of earmarked revenue	Countries
Tobacco control and health promotion	United States (California and Massachusetts) and Thailand
Cancer control and emergency care	United States (Kentucky), Nepal, El Salvador, and Paraguay
Social and health programs	Argentina, Costa Rica, Jamaica, Panama, Mongolia, and the Philippines.
Programs for the protection of children, the elderly, and the disabled	Costa Rica
Sports and arts events	Colombia, Estonia, Australia, and New Zealand

Source: WHO (2010).

The countries breaking ground in Latin America are Argentina, Costa Rica, Jamaica, and Panama, where this revenue has been used for activities including social and health programs and child protection programs.

Panama has made significant progress by, for example, restricting advertising, banning cigarette vending machines, introducing health warnings, and increasing the Excise Tax on Cigarette Consumption (ISC). In addition, 20 percent of ISC revenue is allocated to the Ministry of Health, 20 percent to the National Cancer Institute, and 10 percent to the National Customs Authority (ANA) with the goal of reducing the smuggling of contraband (WHO & PAHO, 2016). Colombia, El Salvador, and Paraguay, on the other hand, have used these resources to treat emergencies and fund sporting activities (WHO, 2010).



5.5.2 The case in Mexico

Historically, Mexico has not earmarked revenue from taxes per se, but has done so for social security contributions and income derived from the payment of fees, duties, and rights. One notable precedent is an attempt to earmark IEPS from flavored beverages, presented in the Federal Revenue Law for the 2014 tax year (Official Gazette of the Federation [DOF], November 20th, 2013).

This Federal Revenue Law for 2014 (LIF, 2014) featured the addition of a transitional Article Six, which came into effect on January 1st, 2014, was amended in the Federal Revenue Law for 2015 (Official Gazette of the Federation [DOF], November 13th, 2014), and remained effective for the 2016, 2017, and 2018 tax years before being abolished in 2019.

This experience earmarking IEPS revenue from flavored beverages provided the following takeaways. First, **it sent a clear message on the use of resources rather than the earmarking of revenue**: the allocation as established by law deducted transfers to states (known as *participaciones*) from the revenue raised, meaning that the funds available were not equal to the total revenue raised. Second, although the legal validity of a provision is the same in the transitional articles of the Federal Revenue Law as in the ordinary articles, in practice **this law was easily removed from one tax year to another**. Third, it was phrased broadly enough to **provide leeway for expenditure without losing sight of the specific objective** – in other words, the revenue was used for various purposes and not just a budgetary program or something else that would restrict spending excessively.

Nevertheless, no mechanism was designed by which actual expenditure could be tracked. Thus, the use of the available resources remained somewhat obscure. Further attempts at earmarking should include legal measures to provide and design tools aimed at trailing revenue to its intended uses.

5.5.2.1 Constitutional provisions

Essentially, there are two constitutional provisions that need considering in earmarking IEPS: **Article 73 Section XXIX and Article 74**. The former states that certain elements of IEPS relate to matters established by the Constitution as falling solely under federal jurisdiction, and therefore **part of this revenue must be transferred to the states. This explains why revenue from IEPS was earmarked after these transfers (*participaciones*) were deducted**. Earmarking these transfers would require a change to the constitution.



Article 74 Section IV stipulates that the power to approve the Federal Expenditure Budget (PEF) is vested solely in the Chamber of Deputies, with no further restrictions than those established by the Constitution itself.

Earmarking taxes is not mentioned in the Constitution. Since no express mention is made, **it must be implied that this is permitted within the general constitutional framework of taxation**, as it respects the formal principles of legality and use for public spending, and the material principles of proportionality, equity, and others.

With respect to Article 74 of the Constitution, there exists a small, underlying legal possibility that the Congress approves a Federal Expenditure Budget (PEF) that is not fully consistent with the provisions of the Federal Revenue Law (LIF) or any other law with respect to earmarking taxes, giving rise to a conflict that would need to be resolved by the Supreme Court of Justice of the Nation (SCJN). In light of this unlikely but possible scenario, we believe it is preferable for **Section IV of Article 74 of the Constitution to clearly stipulate that in any case, the PEF must respect the specific use of resources provided by law.**

5.5.3 Implementation in Mexico

This section outlines the legal pathway that needs to be followed to earmark IEPS on tobacco in Mexico.

5.5.3.1 Federal Revenue Law (LIF) and Federal Expenditure Budget (PEF)

Earmarking could be implemented on the basis of the Federal Revenue Law (LIF), as has occurred in the past, but this not the best legislative practice and does not provide maximum certainty or stability. Neither is the Federal Expenditure Budget (PEF) the most ideal instrument to implement tax earmarking, as it is not a law and is changed from year to year. However, the PEF should reflect the earmarking established by other laws, such that the **PEF should only constitute the first deliverable or evidence that earmarking is being carried out** as provided by tax regulations.

5.5.3.2 Federal Tax Code (CFF)

The Federal Tax Code (*Código Fiscal de la Federación* or CFF) is the country's ultimate code of tax regulations, and therefore it is necessary to examine whether any



amendments are required in order to implement earmarking.

Article 1 of the CFF makes reference to the possibility of establishing a specific use for certain government income, the only consideration being that earmarking must be carried out by means of a law – for example, it must be established in the Excise Tax on Production and Services Law (LIEPS).

5.5.3.3 Excise Tax on Production and Services Law (LIEPS)

The ideal vehicle for establishing a specific purpose for a tax – that is to say, for earmarking a tax – is the Excise Tax on Production and Services Law (LIEPS), which would make it possible to clearly identify which specific elements or categories of the tax are to be earmarked. It also seems fitting to use this particular law for earmarking as it includes provisions relating to the National System of Fiscal Coordination (SNCF) and states that are not part of the system, and therefore by amending this law, it is not necessary to amend other related legislation.

Specifically, the earmarking of funds from IEPS on tobacco can be established in two ways:

- **Article 2, Section I, Subsection C), Paragraph 3.** With a statement to the following effect: “revenue from tax on the disposal or importation of the goods described in this subsection shall be used for the purpose of...”
- **Article 1 of the LIF.** With a comprehensive statement such as “Revenue provided for in this Article from the Excise Tax on Production and Services on prepared tobacco, alcoholic beverages, and beer... should be considered in the PEF as specifically allocated to...”

Enacting reforms to the Excise Tax on Production and Services Law (LIEPS) lowers the ever-present risk of amendment inherent to the LIF. In addition, this would make it possible to specify more clearly which income is to be earmarked and how it is to be used. The steps that need to be taken to amend the Excise Tax on Production and Services Law (LIEPS) are described in Appendix II.



6. Concluding remarks

Smoking causes 8 million deaths worldwide and it costs trillions of dollars in healthcare and productivity losses every year. Curbing consumption is thus a policy objective which carries high stakes in terms of health-related outcomes and economic performance.

Tobacco taxes offer an effective mechanism to reduce tobacco consumption, raise revenue, and alleviate the burden on the health system. An increase in the specific component of the IEPS on cigarettes to 1.49 pesos per cigarette could reduce sales of cigarettes by 18.1% and increase revenue from IEPS on tobacco by 35.6%. Even greater increases would result in even higher revenue and a further drop in consumption, which in the long term would benefit low-income households in particular (Macías et al., 2020). Under the highest elasticity scenario, even an increase in the specific component of the IEPS to 3.7 pesos per cigarette would generate a higher level of revenue than estimated in the LIF for 2020. Such an increase would not result in maximum revenue, but would lead to the greatest drop in sales and, hence, expenditure on public healthcare.

In Mexico, the difference between the medical cost of tobacco-related disease and actual expenditure is of particular concern due to the low expenditure in the Mexican health system and the inequalities between subsystems in terms of medical procedures or conditions that are covered.

Data from 2018 shows that the budget spent on preventing and treating tobacco-related diseases to serve those not covered by the social security institutions is nineteen times lower than the medical cost of treating all those who need care. Additionally, the revenue from IEPS totaled 42.484 billion pesos in 2018, which is about half the total costs related to tobacco consumption on the same year (82.183 billion pesos).

Given the lack of clear mechanisms to fund the INSABI, channeling revenue from IEPS on tobacco into the health system is a viable alternative to fund access to healthcare for those not covered by social security institutions. Earmarking revenue poses legal challenges, yet – as shown by this report – becomes possible by amending the Excise Tax on Production and Services Law (LIEPS).



7. Acronyms

DALY Disability-Adjusted Life Year

EMIM Monthly Survey of the Manufacturing Industry

ENCODAT National Survey on Drug, Alcohol, and Tobacco Consumption

ENIGH National Survey of Household Income and Expenditure

IECS Institute for Clinical Effectiveness and Health Policy

IEPS Excise Tax on Production and Services

IHME Institute for Health Metrics and Evaluation

INEGI National Institute of Statistics and Geography

LIEPS Excise Tax on Production and Services Law

LIF Federal Revenue Law

NCDs Noncommunicable diseases

PEF Federal Expenditure Budget

QALY Quality-Adjusted Life Year

SAT Tax Administration Service

SHCP Secretariat of the Treasury and Public Credit

SSa Secretariat of Health

VAT Value-added tax

WHO World Health Organization

YLD Year Lost Due to Disability

YLL Year of Life Lost



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9. Appendix I

Table 7 Revenue vs. expenditure (2010-2014) in 2020 pesos

Description (billions of pesos)	2010	2011	2012	2013	2014
Revenue	41.062	43.950	46.069	46.450	45.046
Revenue excluding non-earmarked transfers (<i>participaciones</i>)	29.509	31.585	33.108	33.381	32.372
Addiction Prevention and Treatment Program	1.301	1.923	1.470	1.626	1.556
Expenditure / revenue	3.4%	6.1%	4.4%	4.9%	4.8%

Source: Own work with data from SHCP (2020)

Table 8 Revenue vs. expenditure (2015-2020) in 2020 pesos

Description (billions of pesos)	2015	2016	2017	2018	2019	2020
Revenue	46.849	46.293	44.209	44.607	44.014	43.679
Revenue excluding non-earmarked transfers (<i>participaciones</i>)	43.668	33.268	31.771	32.057	31.630	31.390
Addiction Prevention and Treatment Program	1.512	1.429	1.357	1.393	1.404	1.387
Expenditure / revenue	4.5%	4.3%	4.3%	4.3%	4.4%	4.4%

Source: Own work with data from SHCP (2020)



10. Appendix II

The steps that need to be taken to amend the Excise Tax on Production and Services Law (LIEPS) are as follows:

- The reform proposal may be put forward at any time by any deputy, senator or state congress, or by the president.
- The Treasury Commission of the Chamber of Deputies must rule on and approve the proposal.
- Once approved by the Treasury Commission, the reform must be approved at a plenary session of the Chamber of Deputies.
- Once approved by the deputies, it is sent to the Chamber of Senators, where – just as with the deputies – first it is approved by the Treasury and Public Credit Commission and then at the plenary session. Both the deputies and senators must approve the reform by a simple majority.
- Lastly, it is sent to the president, who must enact it and send it to the Official Gazette of the Federation (DOF) for publication. The president has the power to veto – on just one occasion – a reform of a law that has already been approved by the legislature.

Tobacco tax revenues
and public health spending
in Mexico.

