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CIGARETTE TAX REFORM IN LEBANON: A SIMULATION

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Abstract

In this report, we conduct a tax simulation analysis focused on two counterfactual tax policy changes in Lebanon. The analysis focuses on tax structure of cigarettes and is based on findings from the analysis of primary data collected in 2024. We estimate that the current yearly tax revenues are between \$80 and \$90 million. We find that most effective tax change is the introduction of a specific excise tax, which could achieve significant gains in tax revenues, and reduction in consumption for modest rates. A \$0.20 specific excise tax per pack is likely to double tax revenues and reduce consumption by 12 percent.

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1. Introduction

There is mounting evidence that raising tobacco taxes is the most effective policy tool to reduce smoking (WHO, 2024). In this study, we focus on tobacco taxation in Lebanon, a lower-middle income country in the Eastern Mediterranean region.

Lebanon is characterized by a high prevalence of tobacco consumption (Chalak et al., 2025a; WHO, 2023; Nakkash et al., 2022), and very low tobacco tax rates. Policy makers in the country have been reluctant to implement significant changes regarding health taxes, as these taxes are often met with resistance from interest groups. Tobacco taxation is widely rejected by key industry players, who are focused solely on company profits and have a significant political leverage (Abboud et al., 2025). There are very limited contextualized studies on the impact of tobacco taxation in Lebanon. Two previous studies (Chalak et al. 2022, Jawad et al. 2024) concluded that raising tobacco taxation could significantly reduce consumption prevalence while raising tax revenues for the treasury. The poly-crisis that started in 2019 led to significant changes in overall consumer behavior and impacted the government's fiscal priorities. Health taxes, in particular tobacco taxes, are back on the policymakers' discussion tables as tools of public revenue collection, and behavioral correction mechanisms to reduce social costs of consumption. This report provides evidence to inform this national discussion.

2. Methodology

The tax simulation draws on estimates obtained from primary data of a nationally representative survey carried out in 2024.² A full analysis of tobacco consumption, highlighting prevalence of smoking by demographic and socioeconomic groups, identifying key features and stylized facts of tobacco consumption behavior in Lebanon was published in a previous report (Chalak et al., 2025a). Using a volumetric choice experiment that was part of the survey, the research team estimated own-price, cross-price, and income elasticity of demand for cigarettes (Chalak et al., 2025b). The results reported in these two studies constitute the key parameters of the tax simulation presented in this report.

a. Simulation Objective and Scope

The simulation exercise aims to analyze potential changes in taxation policy, with two main counterfactual scenarios: 1) an increase in the VAT tax on sales of cigarettes, and 2) the introduction of a specific excise tax. The analysis focuses on two main outcomes: 1) projecting changes in current smoking prevalence, and 2) estimating variations in tax revenues.

We focus our analysis on cigarettes, since the price elasticity estimates were based on a volumetric choice experiment that was restricted to cigarettes only. The analysis is static, focusing on potential changes in the yearly outcomes of interest, disregarding potential long-term structural changes in consumer behavior.

² More details about the data can be found on the online repository <https://github.com/aliabb87/Tobacco-Use-Survey-Lebanon-2024>

The current tobacco tax structure is composed of different components, including i) an ad valorem excise tax on imported cigarettes, ii) a custom tax on imported cigarettes, and iii) a value-added tax (VAT) on sales. Moreover, raw tobacco used in the production of cigarettes is subject to an ad valorem excise tax. Table 1 summarizes the current tax structure.

Table 1. Current Tax on Cigarettes

Type of Tax	Tax Rate
Ad Valorem Excise Tax on Cigarettes	108% of declared import value (cost, insurance, and freight (CIF))
Import Tax on Cigarettes	5% of producer price
Value-Added Tax on Cigarettes	11% of retail price
Ad Valorem Excise Tax on Raw Tobacco	48% of declared import value (CIF)

In principle, the current tax structures create significant differences in cost between local and imported cigarettes brands. In practice, however, this is not clear. As we highlighted in an earlier study (Abboud et al., 2025), the national monopoly (Regie) is currently producing most international cigarettes brands locally under license. The terms of agreement regarding this deal, and its implications on product taxation, are not clear, since no transparent reporting of the agreement was made. It is likely that under the current agreements, all cigarettes produced in Lebanon, which includes all local and most international brands, are taxed equally. As such, the main taxes applied to cigarettes are the 48% ad valorem tax on raw tobacco used³ for production and the 11% value-added tax on retail price.

There is no publicly available information on total tax revenues from tobacco since the crisis. Based on numbers supplied by the Regie,⁴ a total of \$5.267 billion was collected in VAT and custom duties for all tobacco products between 1994 and 2021, for an average of \$181.6 million per year. It should be noted however, that VAT was implemented starting in 2002 in Lebanon. To put this number in perspective, the total tax revenues (Maktabi et al., 2024) in 2024 were \$2.39 billion, 62 percent of which were generated from value-added and custom taxes.

b. Baseline Parameters

The simulation exercise relies on three sets of baseline parameters: 1) demographic information, 2) cigarette consumption prevalence and frequency by sub-groups, and 3) point elasticity estimates. The details and sources of these numbers are provided below.

³ Regie purchase raw tobacco from local farmers. However, this quantity is considerably smaller than the total quantity needed for local production. Moreover, a significant part of it is exported due to the variety of tobacco leaves needed to produce the tobacco blends for the cigarettes sold in the local market. It is therefore reasonable to assume that most raw tobacco used in cigarettes is subjected to the 48% ad valorem tax.

⁴ Provided to the research team directly by a senior manager at the Regie as part of our earlier study on tobacco supply chain, see Abboud et al., 2025.

Demographic parameters

Lebanon does not have an official census, which poses considerable challenges in determining the total size of the population and the relative size of population subgroups. Additionally, Lebanon has a substantial refugee population whose size is also not clear, with estimates ranging from 800 thousand people to around 1.5 million people. We rely on population estimates by the Central Administration of Statistics (CAS), and the latest Vulnerability Assessment of Syrian Refugees in Lebanon (VASyR) that is conducted yearly by UN agencies in Lebanon.

The latest population estimate produced by CAS put the total residents in the Lebanese territory at around 4.8 million people, 51.6 percent of which are female. Based on CAS estimates, Lebanese nationals constitute around 80 percent of residents, and the remaining 20 percent are mostly Syrians. Therefore, the total number of non-Lebanese residents is around 1 million people. This is slightly lower than the numbers estimated by UN agencies at that time. However, since the beginning of 2025, there has been a significant return of Syrian nationals to Syria, so we will adopt the conservative CAS estimates of non-Lebanese residents for the simulation.

Age distribution based on CAS data shows that 69 percent of Lebanese men and 72 percent of Lebanese women are adults. Among the non-Lebanese population, the proportion of adults are 53 percent and 58 percent for men and women, respectively. The estimated adult population by gender is reported in Table 2.

Table 2. Population Estimates

	Total	Men	Women
Total Population	4,842,500	2,343,770	2,498,730
Adult Population (Lebanese)	2,733,029	1,293,761	1,439,268
Adult Population (Non-Lebanese)	538,293	248,440	289,853

Cigarettes Prevalence and Consumption Frequency

Using the survey data, we compute prevalence of cigarette consumption and consumption quantity (packs per week) by gender and citizenship. We also calculate the proportion of cigarette smokers that use local cigarette brands (Cedars and Byblos). The numbers are reported in Table 3.

Table 3. Cigarettes Consumption

	Lebanese		Non-Lebanese	
	Men	Women	Men	Women
Prevalence	49%	20%	62%	25%
Packs ⁵ (per week)	10.0	7.4	9.2	4.9
Proportion local brand	62%	55%	75%	60%

Based on the numbers reported in tables 3 and 4, we estimate that a total of 11.9 million packs of cigarettes is sold per week, of which 7.6 million are local brands and 4.3 are foreign brands. Regie

⁵ A pack of cigarettes includes 20 sticks. In Lebanon, selling individual cigarettes is illegal and uncommon.

does not disclose the volume of cigarette production or sales, so we are unable to verify this estimate against official data. It should also be noted that this estimate does not include cigarettes smoked by minors.

Point Elasticity Estimates

Price elasticities were estimated using data from a volumetric choice experiment that was conducted as part of the survey. Table 4 summarizes the key estimates from Chalak et al. (2025b).

Table 4. Elasticity Estimates

	Overall	Men	Women
Own-price local	-0.735	-0.717	-0.781
Own-price foreign	-1.019	-1.044	-0.957
Cross-price local/foreign	0.144	0.150	0.129
Cross-price foreign/local	0.299	0.277	0.352

Elasticity estimates by gender are statistically indistinguishable. Therefore, we use average elasticity estimates from the full sample to conduct the simulation.

c. Study Limitations

This study has two main limitations. First, the analysis is static focusing on potential changes in prevalence, frequency and quantity of smoking, and tax revenues. It does not account for dynamic structural changes in tobacco consumption behavior or industry strategy. One potential structural effect could be the prevention or delay in initiation of smoking, especially among young people, which is likely to change the long-run smoking profile of the country. Without considering these added complexities, we are likely to understate the potential impact of tax increases on overall prevalence.

Additional dynamic effects may also emerge from the supply side, particularly with respect to agreements between the Regie and international tobacco companies for the local production of foreign brands. As discussed in a previous section, most foreign cigarette brands are manufactured domestically by the Regie under these arrangements. Consequently, it is not entirely clear which ad valorem tax rate is applied to these foreign-branded cigarettes.

The second limitation is of a technical nature. Our analysis relies on average point elasticity estimates. While these point estimates are consistent, the precision of any simulation or forecasting exercise is likely to decrease with large variations from initial conditions. This is a particular limitation in our context given that the current tax rate is low, consequently limiting our ability to simulate drastic changes in tax rates that bring the level of tax close to the levels recommended by the WHO.

3. Results and Main Findings

Estimating current tax revenues

Due to several factors, including the ambiguity of the current tax structure and how it is applied for foreign brands that are locally produced, it is not straightforward to estimate the current tax revenues from cigarette sales. The average retail sales price at the time of the survey was around \$0.73 per pack, while the average retail price of foreign brands was \$1.68 per pack. The retail price includes a 11 percent VAT. The baseline price can therefore be calculated as

$$\text{baseline price} = \frac{\text{retail price}}{(1 + \text{VAT})}$$

We are therefore, able to estimate the potential VAT tax revenues from cigarette sales, using the VAT per pack, and the total number of packs sold. Our estimation places the number at around \$1.3 million dollars per week, the equivalent of \$65.7 million per year.

In addition to VAT, the main taxes on cigarettes include the import duties and the ad valorem excise tax. As mentioned previously, due to most foreign brands being produced locally by the Regie, it is not clear which ad valorem tax is applied to foreign cigarettes. A foreign cigarette imported to the country is subject to 5% import duties, in addition to a 108% ad valorem tax on CIF. However, a local cigarette, or a locally produced foreign cigarette is only subjected to the 48% ad valorem tax on the CIF of imported raw tobacco.

To proceed with our calculation, we will assume that the quantity of imported cigarettes is negligible and that all cigarettes (local and foreign brands) are locally produced. This implies that the ad valorem tax is equivalent for both the local and foreign brands, since their composition of raw tobacco is similar. To calculate the ad valorem excise tax, we convert the total number of packs consumed into raw tobacco. A pack of cigarettes uses on average 14 grams of raw tobacco. Moreover, the global average CIF for 2024 ranged between \$4,600 and \$7,500 per metric ton. Therefore, the ad valorem excise tax on raw tobacco used in producing cigarettes in 2024 can be calculated as follows:

$$\text{ad valorem tax} = \frac{\text{number of packs} * 14}{1000000} * \text{CIF} * 0.48$$

Using the lower and upper range of CIF, we estimate that the ad valorem excise tax in 2024 based on weekly cigarette consumption was between \$368,000 and \$600,000 per week, equivalent to \$19 million to \$31 million per year.

The total estimated tax revenue from cigarette sales, under the current tax regime, is, therefore, between \$84.7 million and \$96.7 million. It is worth noting that Regie claims⁶ that illicit trade constitutes around 20% of total sales, which would reduce collected tax revenue to be between \$68 million and \$77 million.

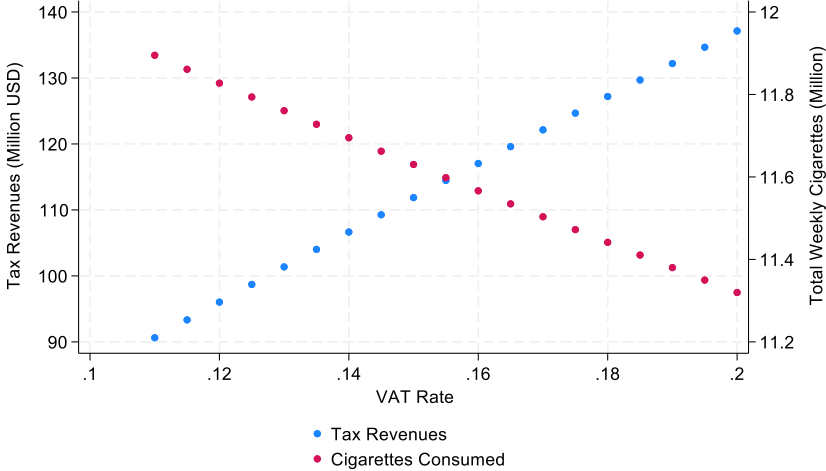
⁶ There are no independent studies in Lebanon that present reliable estimates of the rate of illicit trade or examine how it is affected by price changes.

Tax Reform 1: Adjusting VAT tax rate

Adjustment of VAT taxes on retail prices has been the go-to policy in Lebanon since this tax was introduced. The bureaucratic infrastructure for VAT is well established by the Ministry of Public Finance, and political resistance to minor adjustment on the rate often dissipates quickly.

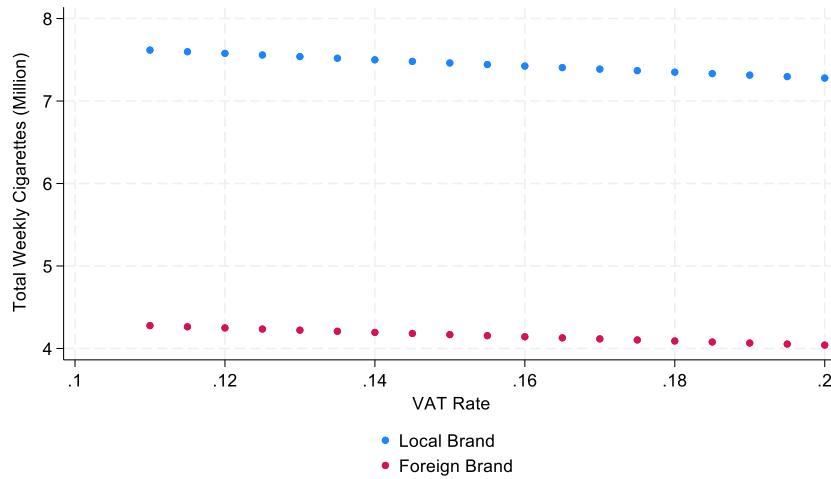
We allow the VAT to vary between its current rate of 11 percent, and a maximum rate of 20 percent. Simulation results show the impact of increasing VAT rate on yearly tax revenues and total number of cigarettes sold are presented in Figure 1. We document a modest reduction in overall consumption of tobacco, even for drastic increases in VAT rates. For instance, raising VAT by 4 percentage points (to 15 percent) would only decrease consumption by 200,000 packs per week, a 2 percent decrease. Potential yearly tax revenues on the other hand could increase to \$137 million.

Figure 1. Impact of Change in VAT on Consumption and Tax Revenue



Changes in the VAT rate do not appear to produce substantial variations in the price gap between local and foreign cigarette brands. A large increase in VAT could theoretically widen this gap, and local (cheaper) brands already account for the largest share of the market. The remaining consumers of foreign brands are likely to have strong brand preferences—reflected in the relatively small cross-price elasticities—meaning that changes in relative prices are unlikely to significantly alter their purchasing patterns. As a result, the distribution of consumption across brand types is expected to remain broadly stable. As shown in Figure 2, there is a decline in consumption of both brands, with a slight steeper decline for the local brand.

Figure 2. Impact of Change in VAT on Consumption of Local and Foreign Brand

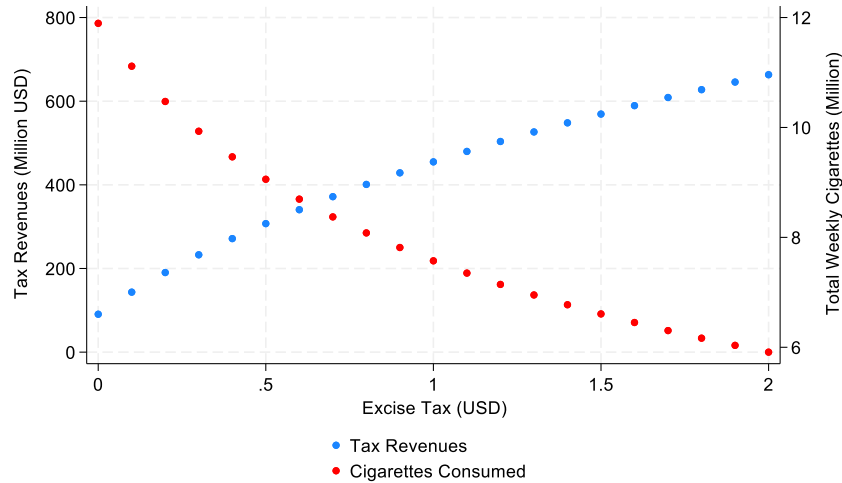


Tax Reform 2: Introducing a Specific Excise Tax

In this scenario, we maintain the VAT rate at the current rate of 11 percent, and we also maintain the 48 percent ad valorem excise tax on imported raw tobacco leaves. We then introduce a specific excise tax that varies between \$0.10 and \$2 per pack.

The introduction of the specific excise tax leads to significant reduction in consumption and massive tax revenue gains, as shown in Figure 3. The estimation shows that by introducing a \$0.2 excise tax per pack, tax revenue generated from cigarettes would double, and the quantity of cigarettes consumed per week would drop by around 1.4 million packs, for a 12 percent reduction in consumption. A \$1 specific excise tax per pack would increase total tax revenues by 400% and decrease consumption to 7.5 million packs per week.

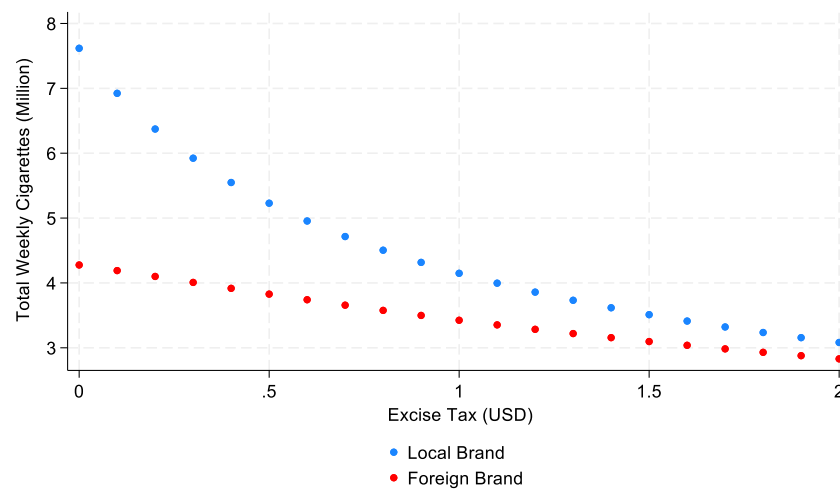
Figure 3. Impact of Specific Excise Tax on Consumption and Tax Revenue



As Figure 3 shows there are considerable potential gains, even from very small levels of excise tax. The returns (financial and reduction in consumption) are parabolic, with sharp gains that diminish with larger increases in the rate of the tax.

The drop in cigarette consumption is driven by the drop in consumption of the local discounted cigarettes brand. By introducing the specific excise tax, the price gap between local and foreign brands shrink, reducing the incentive to substitute for cheaper brands. Under the current tax structure, the local brand price is 43 percent of the foreign brand price, on average, offering a significant discount for low-income consumers. With a \$1 specific excise tax, the local brand price would become 65 percent of the foreign brand price, on average, shrinking the price differential.

Figure 4. Impact of Excise Tax on Consumption of Local and Foreign Brand



The specific excise tax can generate tax revenue and consumption reduction gains that could only be replicated with massive increases in the VAT. It is worth noting that the current tax structure does not explain the massive difference in price between local and foreign brands. As we highlighted above, Regie is currently producing most cigarettes sold in Lebanon. As such the theoretical difference in tax treatment resulting from the difference in ad valorem tax that is applied to imported raw tobacco versus ad valorem tax on imported cigarettes is in fact non-existent. The difference in price is likely a second-degree price discrimination that the Regie applies to extract surplus value from consumers by selling them an apparently differentiated good.⁷

In fact, if we adjust the ad valorem excise tax on raw tobacco from the current rate of 48% to equalize it with the 108% rate on finished cigarettes, we find that the ad valorem excise tax can double, resulting in 28% gains in tax revenues.

⁷ See Mussa and Rosen <https://www.sciencedirect.com/science/article/pii/0022053178900856> for theoretical foundation of the subject.

4. Discussion

The analysis above shows that there are untapped potential gains from cigarette taxation. By introducing a specific excise tax, even at low introductory rate, there are massive gains that could be achieved in terms of additional tax revenue for the treasury and reduction in consumption, which could lead to significant long-term savings for the healthcare system and households. The findings in this study are in agreement with those documented in other studies on Lebanon (Salti et al., 2016), and low- and middle-income and emerging countries (Rana et al., 2023; Divino et al., 2022; La Foucade et al., 2018; Goodchild and Zheng, 2018; Minh et al., 2018; Ahmad and Franz, 2008).

The findings suggest that the specific excise tax is significantly more effective in achieving public policy objectives of reducing tobacco consumption and increasing tax revenues. The key mechanism is the reduction of incentives to substitute between brands. In our earlier study (Chalak et al., 2025a), we found significant brand substitution, from the more expensive foreign brands, to the discounted local brand during the crisis. This indicates that as long as a price gap exists between brands, consumers will always be inclined to switch brands rather than reduce consumption or quit smoking. This is particularly pronounced due to the absolute market power that the national monopoly (Regie) has on the tobacco market. While we do not tackle this issue directly, there is suggestive evidence that the current price gap between brands is likely the result of a profit maximizing strategy adopted by the monopoly to segment the market between consumers with high and low willingness to pay. The direct result of such pricing policy is to increase the availability of cigarettes to consumers and extract the maximal surplus possible. The specific excise tax will reduce the gap and is therefore likely to reduce consumption, especially among consumers of the discounted brand, which are likely in the bottom tail of the income distribution.

The documented tax gains are likely a lower bound of the total social gains that could be achieved by raising taxes. There are several dynamic returns to raising cigarettes taxes that are not directly measured in this analysis. The literature documents positive gains in individual and macroeconomic productivity (Ye et al., 2006), improvement in health (Browser & Canning, 2013), and reduction in healthcare costs (Ahmad & Franz, 2008; Van Baal et al., 2007). Many studies have also documented a potential for reduction in poverty in the long term as a result of increasing tobacco taxation (Salti et al., 2016).

5. Conclusion

The financial and economic crisis have forced policymakers in recent years to reconsider the tax policies in the country. Health taxes are given serious consideration by policy makers. Consumption taxes are often favored by policy makers, due to the ease of implementation and the availability of the bureaucratic infrastructure in the state institutions to monitor and collect these taxes. In 2024, under the previous government, a significant tax reform targeting unhealthy products, mostly alcohol and tobacco was introduced. The proposal included a specific excise tax

of LL12,500 (\$0.14) per pack of cigarettes.⁸ This bill, however, faced significant opposition by lobbyists and in parliament. It was eventually retracted by the new government in 2025 for revision.

The analysis in this report provides supportive evidence for the previously proposed bill. Showing significant potential for gains in needed tax revenues, which is a government priority in the short-term. Added to these short-term gains are potential savings in healthcare cost, avoidance of early deaths, and reduction in productivity losses.

⁸ The proposal included also specific excise taxes on waterpipe tobacco, and an increase in the cost of sales permit fees of tobacco wholesalers.

References

- Abboud, A., Chalak, A., Haddad, J., & Radwan, M. (2025). A political economy of the tobacco supply chain in an Eastern Mediterranean country: The case of Lebanon. *PloS ONE*, 20(3).
<https://doi.org/10.1371/journal.pone.0320050>
- Ahmad, S., & Franz, G. A. (2008). Raising taxes to reduce smoking prevalence in the US: a simulation of the anticipated health and economic impacts. *Public health*, 122(1).
<https://doi.org/10.1016/j.puhe.2007.02.020>
- Bowser, D., & Canning, D. (2013). The effect of health improvements due to tobacco control on earnings in the United States. *Applied Economics*, 45(36).
<https://doi.org/10.1080/00036846.2013.815310>
- Chalak, A., Haddad, J., Jawad, M., Nakkash, R., Abu-Rmeileh, N., M., Khader, Y., Mostafa, A., Abla, R., & Salloum, R. G. (2022). Estimating the impacts of waterpipe tobacco taxation on demand: Evidence from a subgroup analysis in Lebanon. *Tobacco Prevention and Cessation*, 8.
<https://doi.org/10.18332/tpc/150961>
- Divino, J. A., Ehrl, P., Candido, O., & Pereira Valadao, M. A. (2022). Effects of the Brazilian tax reform plans on the tobacco market. *Tobacco Control*, 31. doi: <https://doi.org/10.1136/tobaccocontrol-2021-056822>
- Goodchild, M., & Zheng, R. (2018). Early assessment of China's 2015 tobacco tax increase. *Bulletin of the World Health Organization*, 96(7), 506–512. <https://doi.org/10.2471/BLT.17.205989>
- Jawad, M., Awawda S., Abla, R., Chalak, A., Khader, Y., Nakkash, R., Mostaga, A., Salloum, R., & Abu-Rmeileh, N. (2024). Impact of waterpipe tobacco taxation on consumption, government revenue and premature deaths averted in Jordan, Lebanon and Palestine: A Simulation Study. *Tobacco Control*, 33. <https://doi.org/10.1136/tc-2022-057284>
- La Foucade, A., Gabriel, S., Scott, E., Metivier, C., Theodore, K. Cumberbatch, A., Samuels, T. A., Unwin, N., Laptiste, C. & Lalta, S. (2018). Increased taxation on cigarettes in Grenada: potential effects on consumption and revenue. *Pan American Journal of Public Health*, 42.
<https://doi.org/10.26633/RPSP.2018.195>
- Minh, H.V., Duyen, N.T., Ngan, T.T., Ngoc, N.B., Son, D.T., & Hai, P.T (2018). Potential health impacts of increasing the cigarette tax in Viet Nam. *International Journal of Tuberculosis and Lung Disease*, 22(11), 1378-1382. <https://doi.org/10.5588/ijtld.18.0161>
- Maktabi, W., Atallah, S., & Zoughaib, S. (2024). *Lebanon's 2024 draft budget: Blindly curbing fiscal deficit*. The Policy Initiative.
<https://www.thepolicyinitiative.org/article/details/331/lebanon%E2%80%99s-2024-draft-budget-blindly-curbing-the-fiscal-deficit>
- Mussa, M. & Rosen, S. (1978). Monopoly and product quality. *Journal of Economic Theory*, 18(2).
[https://doi.org/10.1016/0022-0531\(78\)90085-6](https://doi.org/10.1016/0022-0531(78)90085-6)

Nakkash, R., Khader, Y., Chalak, A., Abla, R., Abu-Rmeileh, N. M. E., Mostafa, A., Jawad, M., Lee, J., & Salloum, R. G. (2022). Prevalence of cigarette and waterpipe tobacco smoking among adults in three Eastern Mediterranean countries: A cross-sectional household survey. *BMJ Open*, 12(3), e055201. <https://doi.org/10.1136/bmjopen-2021-055201>.

Rana K, Goel S, & Prinja S. (2023). Effect of tobacco taxation on smoking prevalence and smoking-attributable deaths in India. *Indian Journal of Public Health*, 67(2). https://doi.org/10.4103/ijph.ijph_93_22

Salti, N., Brouwer, E., & Verguet, S. (2016). The health, financial and distributional consequences of increases in the tobacco excise tax among smokers in Lebanon. *Social Science and Medicine*, 170. <https://doi.org/10.1016/j.socscimed.2016.10.020>

Van Baal, P., Brouwer, W., Hoogenveen, R., & Feenstra T. (2007). Increasing tobacco taxes: A cheap tool to increase public health. *Health Policy*, 82(2). <https://doi.org/10.1016/j.healthpol.2006.09.004>

WHO (2023). *WHO report on the global tobacco epidemic, 2023: protect people from tobacco smoke*.

WHO (2024). *Tackling NCDs: best buys and other recommended interventions for the prevention and control of noncommunicable diseases, second edition*.

Ye, C. Y., Lee, J. M., & Chen, S. H. (2006). Economic gains and health benefits from a new cigarette tax scheme in Taiwan: a simulation using the CGE model. *BMC Public Health*, 6, 62. <https://doi.org/10.1186/1471-2458-6-62>