Assessing the effects of the PL3887-2020 tobacco tax reform

The tax reform would result in price increases, reductions in smoking, and additional government revenues while decreasing both the price gap between cigarette brands and cross-border shopping.

Key messages

- The tax reform proposed by the Bill PL3887-2020 would bring a new tax scheme to the cigarette industry with consequences for cigarette prices.
- The reform would replace PIS / COFINS with CBS, which is also a social contribution levied on the turnover, but designed to be a less complex tax.
- The cigarette industry is likely to change its price-setting strategy due to the higher tax burden and the CBS tendency of price equalization among cigarette brands across the country.
- Tobacco tax collection would increase by a minimum of BRL 2.8 billion per year and cross-border shopping across states would decrease.
- The Government can implement sustained efforts to fight cigarette smuggling nationwide, reducing the illicit cigarette market.

Introduction

While there are two Constitutional Amendment Bills in the National Congress that could result in a change in the tax system at both federal and state levels, the Executive Power has also been working on a separate tax reform proposal and has submitted a Bill to the Congress.

The Bill no. 3,887 (PL 3887-2020) replaces the current PIS/COFINS with the CBS (Social Contribution on Operations with Goods and Services). Designed as a social contribution, the CBS is a general, non-cumulative tax on consumption that is assessed on company turnover. Under PL 3887-2020, there is no change in the IPI and ICMS, which are other taxes that are levied on cigarettes. The CBS includes a special regime for cigarettes: a 22 percent ad valorem tax rate on the highest price per brand plus a specific tax of BRL 1.10 per pack. This combination yields a substantially higher tax burden for the new CBS than the current PIS/COFINS which it replaces.

This Policy Brief analyzes the potential impacts of the PL 3887-2020 on cigarette prices, smoking, tax collection, and cigarette consumption considering effect at the federal and state level. Assuming successful implementation of the new CBS through PL3887-2020, this research simulates three price-setting scenarios, where the Tobacco Industry adjusts price to:

i) match the highest price per brand in all the states (Scenario I).

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ii) keep the markup (margin) per cigarette brand and state at the **average** pre-tax reform level (Scenario II).

iii) keep the markup (margin) per cigarette brand and state at the **highest** pre-tax reform level (Scenario III).

Cigarette consumption in Brazil

This Policy Brief uses the latest available data on smoking behavior from the nationally representative surveys in 2018 and 2019 as the basis for the present simulations (Vigitel, 2019). It also uses state data from Ribeiro, L. and Pinto, V. (2019). Following Divino, J., et al (2019) all the brands sold bellow the minimum legal price are considered illicit brands, and listed as price category 1 (PC1). The legal cigarette market is divided into three price categories (PC): low-(PC2), medium-(PC3), and high-price (PC4 or premium) brands.

It is important to note that under the current combination of existing federal and state taxes, the tax burden on cigarettes differs among the 26 states and Federal District. The average prices of the categories in BRL are equal to 5.40, 7.90 and 12.80 for price categories 2 to 4, respectively. The effective tax as the share of retail price for these three price categories is 78.3, 69.4 and 62.2 percent, respectively.

Cigarette consumption also varies across these three price categories and across the states due to differences in income, culture, logistic costs, etc. In order to incorporate smokers' sensitivities to price changes as precisely as possible in the simulations, this research estimates price-

Table 1 - Tax reform simulations across different scenarios

	Baseline	Scenario I	Scenario II	Scenario III
Tax collection (BRL Bi per year)	17.75	23.20	21.92	20.53
Change (Baseline ref)	---	30.7%	23.5%	15.7%
PC2: Low-price brands (BRL)	**5.38**	**8.40**	**10.03**	**11.06**
Tax burden	78.3%	92.3%	87.3%	84.9%
Share in tax collection	24.06%	21.89%	19.63%	18.1%
Consumption (% change)	---	-38.1%	-58.6%	-71.50%
PC3: Medium-price brands (BRL)	**7.90**	**8.40**	**13.15**	**14.87**
Tax burden	69.4%	92.3%	81.2%	78.9%
Share in tax collection	35.75%	37.28%	37.56%	38.21%
Consumption (% change)	---	-3.2%	-33.5%	-44.6%
PC4: Premium brands (BRL)	**12.84**	**15.23**	**19.42**	**23.38**
Tax burden	62.2%	78.5%	74.8%	72.5%
Share in tax collection	40.19%	40.83%	42.81%	43.7%
Consumption (% change)	---	-9.6%	-25.5%	-40.50%

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elasticities by geographical region and price categories as in Divino et al. (2019).

Tax reform simulations: PL3887-2020

To simulate the effects of the proposed CBS on cigarette prices, consumption and cigarette tax collection across states and by price category, UCB replicated the observed cigarette consumption and tax revenue in 2019, based on the current tax scheme and the smoking data from Vigitel (2018/19). UCB calibrated the size of the illicit cigarette market in each state. Starting from this baseline scenario, this research considers three alternative scenarios depending on the industry price-setting behavior in reaction to the new CBS. The simulated scenarios are described in Table 1.

Scenario I – Minimum price adjustment

The industry will most likely react to the new tax structure by increasing retail prices such that profits are positive again for all brands. (A no price-adjustment scenario is not feasible because this would imply negative profits for some cigarette brands that would have a tax burden above 100 percent of the retail price.) This is possible by choosing the highest price per brand so that tax burden will be smaller than 100 percent for all brands. According to UCB simulations, this price would be at least 8.40 BRL. After this adjustment, the low- and medium-price categories essentially collapse to the same price. Moreover, this implies that there will be an implicit floor price below which cigarette sales are not desired by the industry. This price will be 8.40 BRL, which is well above the current official floor price of 5.00 BRL.

Since the tax base is the highest price per brand across the country, producers will lose incentive to charge different prices across states. That is, another relevant consequence of the reform is that cigarette prices per brand would become uniform across states. This induced behavior by the tax reform will reduce both cigarette price gap and cross-border shopping among states.

After these considerations, the simulations of Scenario I indicate that the tax reform would raise cigarette tax revenue by 30.7 percent, or 5.4 billion BRL per year relatively to the baseline. As shown in Table 1, high-price cigarettes would be 15.20 BRL per pack. These price changes are 56.3, 6.3 and 19.8 percent average increases for price categories 2 to 4, respectively, in relation to the baseline. In turn, cigarette consumption would decrease by 38.1, 3.2 and 9.6 percent for categories 2 to 4, respectively.

Scenario II – Average pre-reform markup price-adjustment

In the second scenario, UCB assumes that the cigarette producers not only adjust their prices to avoid losses but also adjust the markup over the production cost from production to the retail point. In the current situation, markups differ across states because the tax burden and logistic costs very while production costs are basically the same. In this scenario, the markup is set to its current average value across all states. Consequentially, cigarette prices as well as profits are higher than under Scenario I.

As a result of the average pre-reform markup, prices for categories 2 to 4 will be equal to 10.0, 13.1 and 19.4 BRL, respectively. Since consumers are price sensitive, cigarette consumption falls by 58, 33, and 25 percent, respectively, while the tax burden will be between 87 percent (PC2) and 74 percent (PC4), see Table 1. These numbers indicate that the aggregate tax collection will be lower than under Scenario 1 but still 23.5 percent higher than current tax collection.

Scenario III – Maximum pre-reform markup price-adjustment

Under this scenario, the cigarette industry adjusts its price-setting strategy to preserve markups (from production to the retail point). Under the new tax structure, the industry has an incentive to choose the highest price per brand that at least keeps the pre-reform markup across states. In this case, the new tax burdens for PCs 2-4 are 84.9, 78.9, and 72.5 percent, respectively. The single prices per cigarette pack and brand for PCs 2-4 are 11.06, 14.87, and 23.38 BRL, respectively. Under this scenario, cigarette consumption decreases sharply in PCs 2-4 by 71.5, 44.6, and 40.5 percent, respectively. Because of this substantial decrease in smoking, tax collection increases only by 15.7 percent per year relative to the baseline. Cross-border shopping across states also reduces because prices per brand will tend to be the same across the country.

Recommendations

- **The partial tax reform proposed under PL 3887-2020 is a step forward for tobacco control in Brazil as it would significantly reduce cigarette consumption.**

- **In all simulated scenarios, the tax reform would lead to higher cigarette prices, tax burden and tax collection and reduce cigarette consumption. In addition, it would reduce cross-border shopping and the price gap between cigarette brands.**

- **The additional tax revenue could be either earmarked to social programs and health expenses or used freely by the government to support the public health system and deter people from smoking.**

- **A crucial issue to reap the positive aspects of the tobacco tax reform is to prevent the illegal market from growing further as a side effect of the cigarette price increases and price equalization by cigarette brand.**

- **A more intense nationwide effort to fight cigarette smuggling as a public policy would reduce smoking and the illicit cigarette market and raise fiscal revenue in these difficult times of COVID-19 pandemic and chronic fiscal imbalance.**

References

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