

Effects of Curbing the Illicit Cigarette Market in Brazil

Key Findings

- Investing in policy measures to fight the illicit cigarette trade will benefit both the population and the government.
- Higher illicit cigarette prices induce smokers to quit, to consume fewer cigarettes, and to switch to legal brands.
- The illegal cigarette market could be reduced by 98 percent if illegal prices were increased by about 55 percent through enforcement efforts to curb illicit trade.

Introduction

The illicit cigarette market is a major concern for the Brazilian government. Illegal cigarettes do not generate tax revenues, potentially encourage other criminal activities in their production and distribution chains, and have greater impacts on the poorest segments of society due to lower prices. It is important for policy makers to understand the benefits of curbing the illicit cigarette market.

Brazil's illicit cigarette market accounts for 36 percent of total consumption and thus ranks second among 36 countries for which independent information is available over the last decade.¹ A study using four different survey methods found that in some Brazilian cities the share of illegal cigarettes is greater than 50 percent.²

Effects of Higher Illicit Prices

This research investigates the effects of curbing the illicit cigarette market in Brazil. We simulate the impacts on cigarette prices, consumption, and tax collection after partial reductions or complete elimination of illicit trade. We use nationally representative individual survey data from Brazil to estimate how smokers adjust their consumption patterns in response to price changes, exploiting independent micro-level data from the National Health Survey, PNS 2019. The study focuses on the effects of an increase in

illegal cigarette prices on consumption of both legal and illegal cigarettes.

Based on the current literature we assume that the most relevant reason for people to smoke illicit cigarettes is the lower price. If the price of illicit cigarettes is no longer lower than that for legal ones, there is no reason to buy them.

It is important to highlight that there are pronounced differences between federal states due to economic and social specific characteristics. The results reported in Table 1 below are for the country as a whole.

The simulation is based on a conceptual framework of smokers' behavior where a higher illegal cigarette price induces smokers to: 1) quit smoking, according to the estimates of the unconditional price elasticity of cigarette consumption; or 2) substitute illicit cigarettes for the licit ones (remaining consumers); and 3) consumers who continue to buy illicit cigarettes will decrease their consumption according to the estimates of the conditional price elasticity of illicit cigarette consumption.

Table 1 below present simulations considering a single shock, caused by higher illegal cigarette prices, calibrated to the 2019 tax collection data. The rationale for this choice is that any government efforts to curb the illicit market through executive and legislative powers eventually culminate in higher illicit cigarette prices.

The assumption is that if the illicit cigarette suppliers are continuously disrupted, the costs of selling in this market increase. Any measure from raids, illegal production shutdowns, and truck inspections on highways, among many others, that increases the costs of supplying illicit cigarettes to the final consumer should be reflected in higher product prices.

In the most probable scenario, if illicit cigarette prices become higher than the official minimum price, which is equal to 5.00 BRL, smokers migrate to the minimum price category. Illegal cigarettes compose the lowest price category

(PC1, that may be legal if the price is 5.00 BRL – LPC1) and the remainder of the market is divided into two equal segments: the legal price categories PC2 and PC3.

The table below shows a summary of the results for this scenario. The results indicate what would happen if measures were implemented such that the average illicit price would equal either (a) 5.00 BRL, (b) the value of legal medium-price cigarettes at 6.81 BRL, or (c) a prohibitively high value such that illicit cigarettes would be completely unattractive to consumers.

Table 1. Changes due to increases in illegal cigarette prices

	Baseline	(a) Illegal price chg. 13.65%	(b) Illegal price chg. 54.73%	(c) Illegal price chg. 79.73%
Tax revenue (billions BRL/year)	12.0351	13.9017	19.5329	19.8167
Change (baseline reference)	-	1.8666	7.4978	7.7816
% change	-	15.51%	62.30%	64.66%
Total consumption change (%)	-	-3.12%	-5.06%	-4.64%
Price category 1 (BRL) – illegal (PC1)	4.40	4.51	4.30	0.00
Standard deviation	0.57	0.46	0.00	0.00
Share of total consumption	49.34%	36.61%	1.07%	0.00%
Consumption (% change)	-	-25.80%	-97.83%	-100.00%
Price category 1 (BRL) – legal min. (LPC1)	-	5.00	5.00	5.00
Share of total consumption	-	10.75%	44.15%	44.83%
Price category 2 (BRL)	6.81	6.81	6.84	6.85
Standard deviation	0.27	0.27	0.27	0.27
Share of total consumption	35.06%	36.54%	38.34%	38.82%
Consumption (% change)	-	0.95%	3.83%	5.58%
Price category 3 (BRL)	10.96	10.96	10.96	10.96
Standard deviation	0.86	0.86	0.86	0.86
Share of total consumption	15.60%	16.10%	16.43%	16.36%

Conclusions & Recommendations

- It is highly beneficial for the country to invest in measures that disrupt illicit cigarette production and sales, as both tend to increase illegal cigarette prices.
- Either cigarette taxes and/or the minimum price should be adjusted upwards, as both

have proven to be appropriate tools to decrease tobacco consumption.

- Enforcement of laws against smuggling and the illegal cigarette trade must be strengthened in order to reduce the size of the illegal market and increase tax collection.

References

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2. Szklo, A. S., Iglesias, R. M., Stoklosa, M., & al., e. (2020). Cross-validation of four different survey methods used to estimate illicit cigarette consumption in Brazil. *Tobacco Control*, Online First. doi:10.1136/tobaccocontrol-2020-056060