

Raising Cigarette Taxes Would Not Lead to an Increase of Illicit Trade in Brazil

Key Findings

- A price increase in the licit (legal) cigarette market is highly effective at discouraging people from smoking and increasing revenue collection.
- Consumption of illicit (illegal) cigarettes does not appear to be impacted by price increases.
- Stronger controls along the tobacco supply chain would increase illicit cigarette prices.
- When illicit cigarette prices increase, many smokers switch to licit cigarettes.

Introduction

Brazil is a world leader in tobacco control and one of the most successful countries in reducing tobacco use. However, Brazil is also known for the considerable size of its illicit cigarette market.

Nominal licit cigarette prices in Brazil rose by 101 percent between 2008 and 2013, while those in the illicit market grew by 79 percent (1). More recent data from the 2018 and 2019 Vigitel surveys (2, 3) suggest that prices in the illegal market follow the movement of formal prices with a correlation of 99.7 percent. Thus, the price-setting strategy of illicit retailers depends heavily on prices in the legal market.

This Policy Brief examines the responsiveness of the licit and illicit cigarette markets to changes in cigarette prices in Brazil, focusing on the impact of increasing cigarette prices on both licit and illicit markets.

Effect of Higher Cigarette Taxes

This research estimates the effects of price changes in the illegal market on the licit market using the most recent National Health Surveys from 2013 and 2019 (4, 5). Table 1 below shows the main results for conditional price elasticities.

The own-price elasticities for legal brands (impact of an increase in the price of legal brands on legal consumption) and for illicit brands (impact of an increase in the price of illicit brands on illicit consumption) are negative and significant in all six estimations. This means that an increase in illicit cigarette prices will decrease consumption

of illicit cigarettes, and likewise, an increase in licit cigarette prices will decrease consumption of licit cigarettes.

Specifically, a tax increase that leads to a 10-percent price increase would reduce consumption of legal cigarettes by 4.12 percent (Column 4). For illicit cigarettes, a 10-percent price increase in would reduce consumption of illicit cigarettes by 2.53 percent (Column 3). As already documented smokers from the illicit market are less price sensitive than consumers of legal cigarettes (6). The same qualitative results for the own-price elasticities hold when the coefficients are estimated from the PNS 2013 or the PNS 2019 data.

Contrary to the frequent claims of the cigarette industry, this study's results indicate that a cigarette tax increase would not cause a demand-switching effect towards the illicit market. The effect of an increase in legal cigarette prices on illicit cigarette consumption is not statistically different from zero (Column 3). There is no observable transition of consumers from the legal to the illegal market due to price increases for legal cigarettes. However, the effect of an increase in illicit cigarette prices on licit cigarette consumption is positive. Columns (2) and (4) in Table 1 indicate that the consumption of legal cigarettes is positively related to the price of illegal cigarettes.

Table 1. Conditional own- and cross-price elasticities

| Variable | PNS 2013 | | PNS 2013 and 2019 | | PNS 2019 | |
|-------------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| | Illicit (1) | Licit (2) | Illicit (3) | Licit (4) | Illicit (5) | Licit (6) |
| Licit cigarette price (log) | -0.196 (0.14) [0.161] | -0.320 (0.136) [0.019] | -0.076 (0.057) [0.182] | -0.412 (0.058) [0.000] | -0.053 (0.061) [0.386] | -0.417 (0.066) [0.000] |
| Illicit cigarette price (log) | -0.142 (0.07) [0.043] | 0.146 (0.065) [0.027] | -0.253 (0.045) [0.000] | 0.075 (0.043) [0.087] | -0.366 (0.061) [0.000] | 0.021 (0.058) [0.723] |
| R^2 | 0.129 | 0.149 | 0.097 | 0.130 | 0.118 | 0.141 |
| # Obs. | 1,233 | 1,233 | 2,744 | 2,744 | 1,511 | 1,511 |

Notes: Robust standard errors are in parentheses and p-values are in brackets.

Thus, a 10-percent increase in illegal cigarette prices would increase the consumption of legal products by between 0.76 and 1.46 percent. In other words, there is a statistically significant demand-switching effect of consumers from the illicit to the licit market whenever illicit cigarettes become more expensive.

As the overall elasticity is smaller than 1.0 in absolute numbers, higher tax increases would mean higher revenue collection because the decrease in consumption is more than compensated by the increase in prices.

Conclusions & Recommendations

- A cigarette tax increase would not cause a demand-switching effect towards the illicit market, but instead, would reduce smoking and increase tax revenues.

References

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