

Increasing the Cigarette Excise Tax Would Reduce Daily Prevalence and Delay Smoking Initiation in Brazil

Key Findings



Increasing cigarette excise taxes that increase cigarette prices reduces the initiation of daily smoking in Brazil.



Increasing prices would reduce daily smoking prevalence, regardless of the group of the population considered.



Price increases delay the age of daily smoking initiation. An increase of 10 percent in cigarette prices delays smoking initiation by almost two and a half years. Delaying the age at which individuals start smoking makes initiation itself less likely, as fewer people initiate as they get older.



Daily smoking prevalence decreases with wealth and is higher for men than women.

Background

There is abundant evidence documenting the negative consequences of smoking on health.ⁱ Over the last thirty years, Brazil implemented effective policies to reduce tobacco consumption, and smoking prevalence has been decreasing in the past 14 years. In Brazil, smoking usually starts in adolescence. On average, people start smoking daily at 17 years old, with many starting as young as the age of 10.ⁱⁱ Moreover, early smoking initiation predicts long-term nicotine dependence, affecting smoking behavior for the duration of the person's life. In practice, while it is possible to predict how certain groups may be more likely to start smoking,

it is not possible to predict which individuals will start smoking and which ones will not. Since avoiding the habit of sustained smoking can have substantial health benefits, there is a compelling need to address the issue of onset and prevalence of smoking in young individuals by the means of population-level policies that work across groups of people.

Impact of a tax increase on smoking prevalence

According to the National Health Survey 2013 (Pesquisa Nacional de Saúde, for simplicity, PNS), 10.42 percent of Brazilians smoke every day.

Prevalence is lower for women than men and is also negatively associated with wealth. The findings of this research study show that a 10-percent increase in cigarette prices would induce a reduction of 2.6 percent in daily smoking prevalence. While daily smoking prevalence is affected by an increase in prices, there is no evidence that an increase in prices affects smoking prevalence of occasional smokers, suggesting that the effect of an increase in prices is more likely to discourage smokers from smoking every day.

Table 1 summarizes the effect on cigarette consumption after a price increase among Brazilians daily smokers. The results indicate that an increase in cigarette retail prices, while inducing a reduction in daily prevalence for all the groups, would have a larger effect on young and older

smokers, and on women. There are also similar effects for the poorest and wealthiest individuals.

However, when considering the effect of the price increase among both groups: daily and less than daily smokers, the reduction in the probability of smoking is smaller. A 10-percent increase in cigarette prices reduces, on average, smoking prevalence for both daily and occasional smokers between 0.05 percent and 1.55 percent. This is a smaller reduction compared to only considering daily smokers, which suggests that some smokers could go from daily to less than daily smokers rather than quitting smoking.

Impact of a tax increase on smoking onset

In Brazil, on average, people start smoking cigarettes daily typically at age 17. Figure 1 shows the pattern of smoking initiation by gender. People have a positive risk of initiating smoking daily from around age 12 or 13. Young men around the age of 17 have the highest risk of starting to smoke daily while for young women this risk is around 16 years old.

Increasing retail cigarette prices delays daily smoking initiation. In particular, at the average starting age of smoking (17 years old), a 10-percent price increase would delay daily smoking initiation by around two years and six months. This effect is similar for men and women. As Table 2 shows, an increase of 10 percent in prices would delay smoking initiation by two years and 10 months for women at their mean starting age, and by almost two and a half years for men. The effect of an increase in retail price on the smoking initiation age is equal for the poorest individuals in the sample and for those in the other quartiles of wealth. A 10-percent increase in the cigarette price would delay smoking initiation by two years and nine months. Increasing the cigarette tax that effectively increases cigarette prices delays smoking initiation. As delaying initiation makes initiation itself less likely, fewer people will initiate as they get older. Thus, increasing tobacco taxes improves long-term health outcomes.

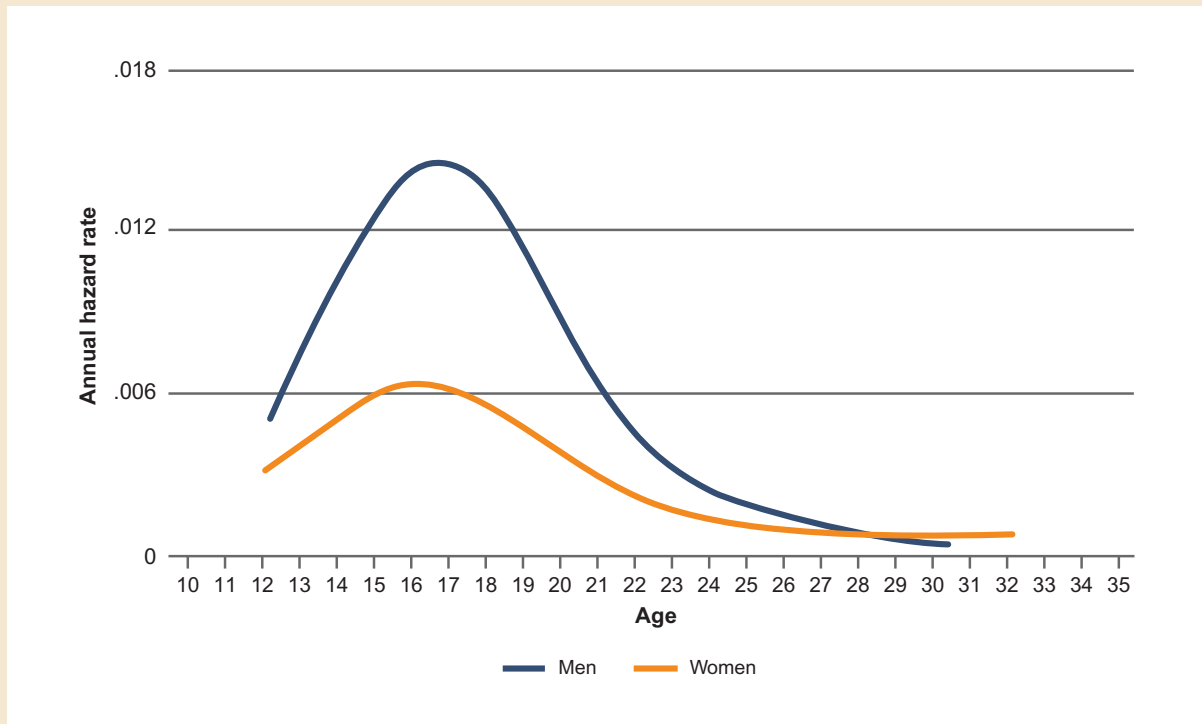
Table 1

Sensitivity of prevalence to a 10-percent price increase among daily smokers, by gender, age, and wealth quartile

Categories	Percent reduction in prevalence caused by a 10% price increase
Men	-2.4%
Women	-2.8%
Age	
15-24 years old	-2.9%
25-44 years old	-2.7%
45-64 years old	-2.4%
more than 65 years old	-3.0%
Wealth quartiles	
Q1 (poorest)	-2.5%
Q2	-2.6%
Q3	-2.7%
Q4 (richest)	-2.7%

Note: Authors' elaboration.

Figure 1
Daily smoking initiation pattern, by gender



Note: Authors' elaboration.

Table 2
Mean smoking starting age and years of delay, by gender

Categories	Mean starting age	Delay caused by a 10% increase in price
Aggregate	17	2 years and 6 months
Men	17	2 years and 5 month
Women	18	2 year and 10 months
Lowest wealth quartile	18	2 year and 9 months
Other wealth quartiles	18	2 years and 9 months

Note: Authors' elaboration.

Conclusion and policy recommendations

Analyzing the effect of price changes in smoking, **this research finds that an increase of 10 percent in cigarette prices induces not only a reduction in daily smoking prevalence of two and a half percent but also a delay in the onset of daily smoking by around two and a half years. In particular, women and the youngest and oldest people would reap the most benefits.**

In Brazil, there are currently four tobacco taxes charged at the federal level and one excise tax

charged at the state level. The four federal taxes are: industrialized products tax (IPI), tax for Social Integration program financing (PIS), tax for Social Security financing (COFINS), and an import duty (II). The only subnational tax is the Merchandise and Service Circulation Tax (ICMS), which varies depending on the state. The industrialized product tax is the fiscal policy instrument that most likely would induce an increase in cigarette prices across regions in Brazil. Using this policy instrument to increase retail prices would reduce daily smoking by delaying or dissuading smoking initiation.

References

- ⁱ U.S. Department of Health and Human Services. (2010) How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
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Authors

This Policy Brief was written by Martin Gonzalez-Rozada PhD, Professor of Econometrics, Department of Economics, Universidad Torcuato Di Tella and Fiona Franco-Churruarin, Researcher, Department of Economics, Universidad Torcuato Di Tella. It was peer-reviewed by Corné van Walbeek, PhD, Professor of Economics, University of Cape Town, Cape Town, South Africa; and Guillermo Paraje, PhD, Professor, Business School, Universidad Adolfo Ibáñez, Santiago, Chile.

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