

Increasing the Cigarette Excise Tax Would Delay Smoking Initiation in Mexico

Key Findings



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



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



The largest reduction in daily smoking prevalence due to increasing prices would occur among youth, the poor, and women, since these groups are more sensitive to price changes.



Price increases delay the age of daily smoking initiation, and this impact is higher for women than for men. Delaying the age at which individuals start smoking makes initiation itself less likely, as fewer people initiate as they get older.



Increasing cigarette taxes is an important public policy because the poor, youth, and women would be among the groups to benefit most.

Context

Tobacco products are highly addictive, and consuming tobacco contributes to many diseases. Global evidence shows that nicotine dependence symptoms can manifest soon after onset in some adolescentsⁱ, often well before daily or even regular smoking and that early onset predicts long-term adult smokingⁱⁱ. Avoiding the habit of sustained smoking can have substantial health benefits and it highlights the importance of addressing the tobacco epidemic through control policies at early ages.

Impact of a tax increase on smoking prevalence

Daily smoking prevalence in Mexico is around 7.5 percent but smoking behavior changes with age, gender, and household wealth. Mexicans between 45 and 64 years old show the highest smoking prevalence at over 8 percent, while for the youngest group, the prevalence of daily smokers is 6.3 percent. The findings of this research study show that a 10 percent increase in cigarette prices would reduce the probability of daily smoking by 4.0

percent. Breakdown by age groups shows that this reduction is of 4.3 percent among those between 15 and 24 years old, 3.9 percent for middle age ranges population and 4.4 percent for those more than 65 years old.

Daily smoking prevalence is larger for men, 11.8 percent, than for women, 3.6 percent, but women are more responsive to price increases than men. An increase of 10 percent in cigarette prices would induce a decline in daily smoking prevalence of 4.6 percent for women and only 3.5 percent for men.

Daily smoking prevalence is highest among individuals in the richest half of the population, at around 8.5 percent. This figure is only 5.3 percent for those in the lowest quartile of wealth. A 10 percent increase in retail prices would reduce prevalence by 3.7 percent in the richest group but by 4.4 percent in the poorest, suggesting that most of the tax burden would not fall on the poor.

Table 1

Sensitivity of prevalence to a 10 percent price increase among daily smokers

| Categories | Percent reduction in prevalence caused by a 10% price increase |
|-------------------------|--|
| Male | -3.5% |
| Female | -4.6% |
| Age | |
| 15-24 years old | -4.3% |
| 25-44 years old | -4.0% |
| 45-64 years old | -3.9% |
| more than 65 years old | -4.4% |
| Wealth quartiles | |
| Q1 (poorest) | -4.4% |
| Q2 | -4.1% |
| Q3 | -3.9% |
| Q4 (richest) | -3.7% |

Note: authors' elaboration

Table 1 summarizes the effect in cigarette consumption after a price increase among Mexicans daily smokers. 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 in young smokers, women, and the poor.

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

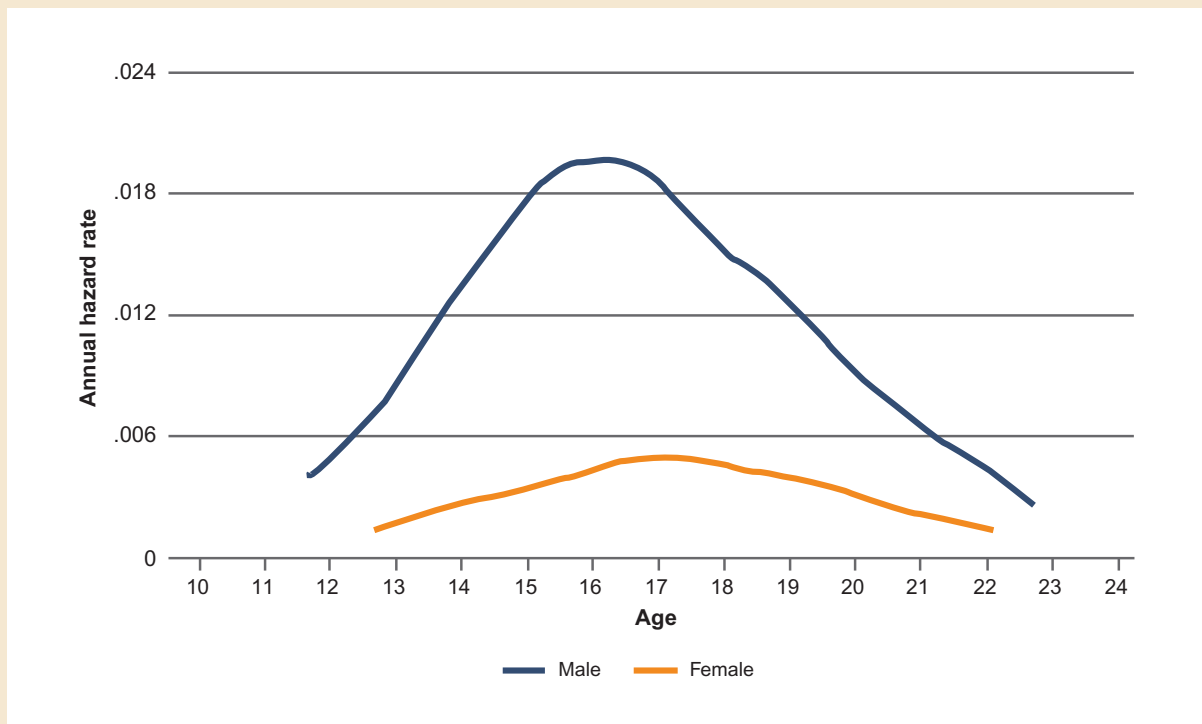
Impact of a tax increase on smoking onset

In Mexico, on average, people start smoking cigarettes daily typically between the ages of 17 and 20. Figure 1 shows the pattern of smoking initiation by gender. The risk of smoking initiation rises sharply after the age of 12, and daily smoking initiation is higher for men than women at all ages. Male teenagers around the age of 16 have the highest risk of picking up a smoking habit, while for women this risk is highest at around 17 years old.

Increasing retail cigarette prices delays daily smoking initiation. In particular at the average onset of smoking, **a 10 percent price increase would delay daily smoking initiation by around one year and four months.** This effect is larger for women than for men. As Table 2 shows, an increase of ten percent in prices would delay smoking initiation by almost two years for women at their mean starting age, and by over a year for men.

The effect on the smoking initiation age of an increase in retail price is slightly larger for the poorest individuals in the sample. For those individuals a 10 percent increase in the cigarette price would delay smoking initiation by 1 year and 4 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.

Figure 1
Daily smoking initiation pattern, by gender



Note: authors' elaboration

Table 2
Mean smoking starting age and years of delay

| Categories | Mean starting age | Delay caused by a 10 percent increase in price |
|------------------------|-------------------|--|
| Aggregate | 18 | 1 years and 4 months |
| Male | 18 | 1 years and 1 month |
| Female | 20 | 1 year and 9 months |
| Lowest wealth quartile | 18 | 1 year and 4 months |
| Other wealth quartiles | 18 | 1 years and 3 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 four percent but also a delay in the onset of daily smoking by around a year and a half. In particular, women, youth, and the poor would reap the most benefits.**

In Mexico, cigarettes are subject to an excise tax with two components, one ad-valorem and one specific per cigarette. Using this policy instrument to increase retail prices would reduce daily smoking by delaying or dissuading smoking initiation mostly in young people, that will also result in less initiating in smoking tobacco as they get older.

Notes

- ⁱ See DiFranza et al., (2000), DiFranza et al., (2007), Gervais et al. (2006), O'Loughlin et al., (2003), O'Loughlin et al., (2009).
- ⁱⁱ Chassin et al., (1990).

References

- Chassin L, Presson CC, Sherman SJ, Edwards DA. (1990). The natural history of cigarette smoking: predicting young-adult smoking outcomes from adolescent smoking patterns. *Health Psychol.* 1990;9(6):701–716. <http://dx.doi.org/10.1037/0278-6133.9.6.701>
- DiFranza JR, Rigotti NA, McNeill AD, et al. (2000). Initial symptoms of nicotine dependence in adolescents. *Tob Control.* 2000;9(3):313–319. <http://dx.doi.org/10.1136/tc.9.3.313>
- DiFranza JR, Savageau JA, Fletcher KE, et al. (2007). Symptoms of tobacco dependence after brief intermittent use: the Development and Assessment of Nicotine Dependence in Youth study II. *Arch Pediatr Adolesc Med.* 2007;161(7):704–710. <http://dx.doi.org/10.1001/archpedi.161.7.704>
- Gervais A, O'Loughlin J, Meshefedjian G, Bancej C, Tremblay M. (2006). Milestones in the natural course of onset of cigarette use among adolescents. *Can Med Assoc J.* 2006;175(3):255–261. <http://dx.doi.org/10.1503/cmaj.051235>
- O'Loughlin, J., DiFranza, J. R., Tyndale, R. F., Meshefedjian, G., McMillan-Davey, E., Clarke, P. B. S., Hanley, J, Paradis, G. (2003). Nicotine-dependence symptoms are associated with smoking frequency in adolescents. *American Journal of Preventive Medicine*, 25(3), 219–225. [http://dx.doi.org/10.1016/S0749-3797\(03\)00198-3](http://dx.doi.org/10.1016/S0749-3797(03)00198-3)
- O'Loughlin, J., Gervais, A., Dugas, E., & Meshefedjian, G. (2009). Milestones in the process of cessation among novice adolescent smokers. *American Journal of Public Health*, 99(3), 499–504. <http://dx.doi.org/10.2105/AJPH.2007.128629>

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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 and Guillermo Paraje, PhD, Professor, Business School, Universidad Adolfo Ibáñez, Santiago, Chile.

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