

Cigarette tax and price gaps between low- and high-price tiers must be closed for effective tobacco taxation in Bangladesh

Key points

- The tiered price/tax structure creates many opportunities for smokers to switch to cheaper cigarettes.
- To decrease cigarette consumption, the tax and price of cigarettes, especially low-price ones, needs to be raised significantly.
- The low elasticity of demand for cigarettes means that government revenues will increase if taxes are increased.
- To reduce cigarette consumption effectively, it is important to increase taxes and prices enough to exceed income growth after adjustment for inflation.

Background

When faced with price changes on cigarettes, many smokers change their smoking behavior. Moreover, when cigarette brands and their prices vary, smokers may behave differently with respect to each brand category when faced with price changes. Thus, the price sensitivity of cigarette consumption may vary widely across price tiers of cigarettes in the presence of diverse brands and a differential tax structure based on price and product characteristics.

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price tiers—for an effective tax and price policy formulation to reduce smoking.

Using survey data from the International Tobacco Control Policy Evaluation Project in Bangladesh, this study estimates the own- and cross-price elasticity and income elasticity of cigarette consumption by price tiers in Bangladesh.

Findings

- The total elasticity for low-price cigarette consumption with respect to its own price is -0.1678 , which is the sum of the elasticity of smoking prevalence of -0.0487 and the elasticity of smoking intensity of -0.1191 . Thus, higher prices for low-price brands lead to lower smoking prevalence overall.
- Increasing prices of low-price brands can reduce the likelihood of smoking across all tiers including low-price and high-price brands.
- While smoking prevalence in Bangladesh is not sensitive to increases in the price of high-price cigarette brands, smoking

intensity—or the number of cigarettes smoked per day—is.

therefore increases the demand for high-price cigarettes.

| Own- and cross-price elasticity and income elasticity estimates of cigarette consumption by price tiers | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------------------|
| | Smoking prevalence | Smoking intensity | | Total elasticity (low-price brands) | Total elasticity (high-price brands) |
| | | Low-price brands | High-price brands | | |
| Price of low-price brands | -.0487 (.0150) | -.1191 (.0489) | .1335 (.1551) | -0.1678 | - |
| Price of high-price brands | -.0318 (.1567) | .2643 (.0619) | -.2512 (.1994) | 0.2643 | -.2512 |
| Income | .0564 (.0780) | -.1934 (.0334) | 1.4044 (.1066) | -0.1370 | 1.4608 |

- The own-price elasticity of the smoking intensity of high-price cigarette brands is -0.2512, while the cross-price elasticity of low-price cigarette consumption with respect to high-price brand prices is 0.2643. Thus, increases in the price of high-price cigarettes may induce smokers to switch to low-price cigarettes.
- Income growth can lead to a reduction in the intensity of smoking low-price cigarettes but an increase in the intensity of smoking high-price cigarettes.
- The income elasticity of smoking prevalence overall is 0.0564. The income elasticity of daily consumption of low-price cigarettes is -0.1934, and for high-price cigarettes it is 1.4044.
- These findings likely indicate that smokers are trading up from low-price to high-price brands as their income increases. The total income elasticity is negative for low-price cigarettes, as the negative effect of income growth on smoking intensity is greater than the positive effect on smoking prevalence.
- The total income elasticity for high-price cigarettes is 1.4608, signifying that higher income enables smokers to purchase more expensive brands and

Policy implications

Increasing the price of cigarette brands in the low-price tier is crucial for reducing smoking prevalence in Bangladesh given the high volume and market share (80–85%) of low-price cigarettes in Bangladesh. However, smokers of both low-price and high-price brands respond to price increases by reducing daily consumption.

The positive cross-price elasticity of daily cigarette consumption of low-price cigarettes with respect to high-price brands provides evidence of downward substitution from high-price tiers to low-price tiers. The existence of a high price differential and the tiered tax structure in Bangladesh are favorable to downward substitution and can undermine the effectiveness of tax and price increases in reducing overall cigarette consumption.

Bangladesh has been burdened with a tiered tax and price structure for cigarettes for decades. The tax structure has inhibited the tremendous potential of cigarette taxation, which is proven to be one of the most effective tobacco control measures worldwide.

Additionally, the positive overall income elasticity of smoking prevalence indicates

that income growth can induce more people to smoke. However, the negative income elasticity of daily consumption of low-price cigarettes and positive income elasticity of daily cigarette consumption of high-price cigarettes indicate that higher income may lead smokers to substitute upward and purchase more expensive brands.

The findings of this study put forward some strong policy implications.

A price increase only in the high-price tier will not reduce the prevalence of smoking nor daily consumption of high-price cigarettes. Instead, it will induce smokers to switch to lower-price brands. Therefore, if policy makers intend to reduce overall consumption, the prices of lower-price and high-price cigarettes need to be increased simultaneously.

The price gap between low- and high-price tiers should be narrowed over time to minimize the incentive to substitute to cheaper brands when prices increase. This requires increases in cigarette prices in the low-price tier that are faster than increases in the high-price tier to achieve a gradual convergence of prices. The introduction of specific taxes and simplification of the current four-tiered tax structure into a uniform specific system would also help reduce the price gap.

Income growth can induce higher smoking prevalence unless cigarette prices are increased significantly to outpace income growth and reduce the affordability of cigarettes. When formulating cigarette tax policy changes, it is important to increase taxes and prices enough to exceed income growth after adjustment for inflation.

The price elasticity of cigarette consumption in the low-price tier is less than 1.0 and very small, meaning that the percentage decrease in cigarette sales will be far less than the percentage increase in price and tax.

Therefore, total tax revenue is expected to increase significantly following an increase in the excise tax. .

Conclusions

Increasing the price of low-price cigarette brands can effectively reduce smoking prevalence and the daily cigarette consumption of smokers, thereby reducing overall cigarette consumption in Bangladesh. Increasing the price of high-price cigarette brands without increasing the price of low-price brands may encourage smokers to switch to low-price brands instead of quitting. As income growth contributes to higher smoking prevalence, increases in cigarette prices need to outpace income growth and inflation.

A cigarette tax policy that simultaneously raises the prices of both low-price and high-price brands, increases prices in the low-price tier at a faster rate than in the high-price tier, and increases the prices of all brands at a pace faster than income growth and inflation can effectively reduce cigarette consumption in Bangladesh.

To effectively reduce cigarette consumption in Bangladesh, cigarette tax policy should increase the prices of both low-price and high-price cigarette brands at a faster rate than income growth and inflation.

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