

Estimating own-price and cross-price elasticity of cigarette consumption by price tiers in Bangladesh

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Abstract

Objectives: The overall price elasticity of cigarette consumption in Bangladesh has been studied extensively. The estimates of price elasticity by price tiers are not available in the existing literature.

Methods: Using cohort data of nearly 6000 individuals from the International Tobacco Control Bangladesh survey, this study estimated the own-price and cross-price elasticity and income elasticity of cigarette demand by price tiers in Bangladesh. The elasticity was estimated in three stages of consumer decisions: whether to smoke, which brand to smoke and finally, how many cigarettes to smoke per day. The decision to smoke cigarettes and the choice of cigarette brands were modelled using instrumental variable probability regression. The cigarette consumption per day was modelled using seemingly unrelated regression.

Results: The price elasticity of cigarette smoking prevalence with respect to the price of low-price cigarettes is -0.0487 . The total elasticity for low-price cigarette consumption with respect to its own price is -0.1678 . The own-price elasticity of smoking intensity of high-priced brands is -0.2512 . The cross-price elasticity of low-price cigarette consumption with respect to high-price brand prices is 0.2643 . 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 . The total income elasticity is 1.4608 for high-price cigarettes.

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

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