Potential mortality averted from sub national tobacco taxes in India

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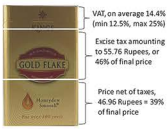
Objectives

- Quantify premature mortality averted in tobacco users as a result of sub-national tax increases
- Understand how state value added taxes differ from central excise taxes in their impact on tobacco product price
- Demonstrate the potential of simple modeling in advancing policymaking and advocacy

Background

- Tobacco excise taxes are the main policy instrument to raise product prices. Value added taxes (VATs) are not traditionally thought of as excise taxes— VATs are levied on consumption as a whole.

Figure 1: Taxes on a pack of king-size cigarettes retailing at 120 Rupees in 2010



- However, state level VATs on tobacco products in India are levied at selectively higher rates – this gives them attributes of excise taxes

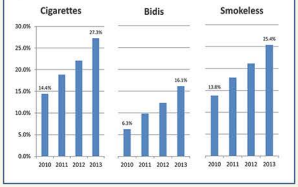
Methods

- Model of the impact of product- and state-specific VAT increases on final price
- Spreadsheet-based simulation of impact of the resulting price increase on consumption reductions using estimates of price elasticity from the literature
- Simulation of potential state- and product-specific potential mortality averted in the 2010 cohort of adults through alternative tax policies under consideration

Results

Value added taxes across all tobacco products rose between 2010-14

Figure 2: Prevalence-weighted average VAT on tobacco products, 2010-11 to 2013-14



- Cigarettes had the highest VAT at the start and the end of the period
- Bidi VATs were introduced in several states with previously zero VAT

If passed on to price, tax-induced consumption reductions can be substantial

Modeled nation-wide impact of state-level tax increases between 2010 and 2013 (prevalence-weighted)

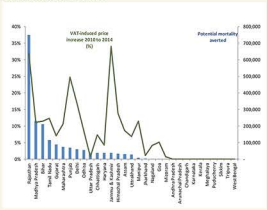
		2010-2011	2011-2012	2012-2013
Cigarettes, using price elasticity of demand of -0.257	Modeled price increase	3.9%	2.7%	4.2%
	Modeled change in consumption	-1.0%	-0.7%	-1.1%
	Implied fewer smokers in 2010 adult cohort	170,079	118,466	184,826
	Implied change in cigarette use prevalence in 2010 adults cohort	-0.5%	-0.3%	-0.5%
Bidis, using price elasticity of -0.91	Modeled price increase	3.4%	2.2%	3.4%
	Modeled change in consumption	-3.1%	-2.0%	-3.1%
	Implied fewer smokers in 2010 adult cohort	844,459	553,880	837,902
	Implied change in bidi use prevalence in 2010 adults cohort	-1.5%	-1.0%	-1.5%

- This modeling assumes differential state level price increases to reflect differential VAT increases
- Results are similar if pricing response to VAT increases is national rather than sub-national - . that is if, rather than raise price every time a state raises its value added tax, if tobacco companies wait and raise prices to reflect the average of the VAT increases in different states,

Equivalent VAT increases have a larger impact in high burden states

- Several large states with high use-prevalence did not have a tax increase
- States with the same cumulative tax increase but a higher use prevalence see larger potential mortality averted

Figure 3: Potential bidi-attributable mortality averted compared with state-specific VAT increases



- National taxes, or national-level pricing smooth out variation in mortality reduction arising from tax-differences, they do not smooth out variations arising from differences in initial burden.

Conclusions

- Modeling can assist policymakers in understanding the connection between taxation, pricing practicies, and mortality reductions
- What-ifs scenarios are a useful policy and advocacy tool
- Ultimately models are only as useful as the data used
  - Alternative demand elasticity estimates
  - Alternative models of pass-through of taxes to price including sub national versus national price setting and less than or one-for-one pass through of taxes to price.

1. Image credit : Tobacco Pack Surveillance System (TPackSS), Initiative for Global Tobacco Control

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