Economics of Tobacco Taxation

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Issues surrounding taxation questions:

• Why tax tobacco?
• How to evaluate the impact of tobacco excise taxes?
• What is the appropriate type of tobacco tax?
• What are the Best Practices in Tobacco Tax Administration?
Why tax tobacco?

To Promote Public Health

- Reduces consumption especially among the higher prevalence groups (e.g. low income groups and uneducated)
  - they are relatively more sensitive to price increases
- Deters youth taking up the smoking behavior-
  - youth is found to be twice as price sensitive as the adults
- Helps reducing tobacco attributable NCDs and gives financial break on health system
- Helps funding health programs including tobacco control and prevention.
As tax increases, consumption reduces
An example from Thailand

Source: Author's estimation by data Euromonitor, and IMF World Economic Outlook 2010
Why tax tobacco?

To generate sustainable and Higher Revenues at least in the short-to-medium term

Tobacco taxes are very efficient source of revenue because of

- Low share of tax in price in most countries
- Relatively inelastic demand for tobacco product
- Few producers and few close substitutes
Higher Taxes Generate Sustainable & Higher Revenues

Thailand: Higher the taxes/pack, higher the revenues

Source: Author's estimation by data from WHO Country study and IMF World Economic Outlook (for inflation data) 2010
Higher Taxes Generate Sustainable & Higher Revenues: Turkish example

Source: Yurekli et al 2010
## Low Share of Tax in Price

Average Price of the Most Sold Brand & Excise Tax per pack, & Total Tax Share

By Country-Income Group, 2008

<table>
<thead>
<tr>
<th>Country-Income Group</th>
<th>Average Price per pack</th>
<th>Excise tax per pack</th>
<th>Total tax share (% of Price)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-income</td>
<td>$2.66</td>
<td>$1.01</td>
<td>63%</td>
</tr>
<tr>
<td>Upper-Middle Income</td>
<td>$2.48</td>
<td>$1.01</td>
<td>54%</td>
</tr>
<tr>
<td>Lower-middle Income</td>
<td>$1.73</td>
<td>$0.54</td>
<td>45%</td>
</tr>
<tr>
<td>Low-income</td>
<td>$1.06</td>
<td>$0.27</td>
<td>39%</td>
</tr>
<tr>
<td>Global</td>
<td>$2.53</td>
<td>$0.95</td>
<td>50%</td>
</tr>
</tbody>
</table>

Average Price of the Most Sold Brand & Excise Tax per pack, and Total Tax Share

By Region, 2008

Relatively inelastic demand for tobacco products:

**Inelastic demand:** Price sensitivity is less than -1 in absolute terms.

- In high income countries:
  - Price sensitivity ranges between -0.25 to -0.4
  - As price increases by 10%, consumption declines between 2.5% and 4%

Source: WHO Technical Manual on Tobacco Tax Administration 2010 & Frank Chaloupka
Relatively inelastic demand for tobacco products:

Inelastic demand: Price sensitivity is less than -1.

- In developing countries: Price sensitivity is greater up to twice as large as in high-income countries

**A few elasticity estimates:**

- SE Asia: -0.6 to -0.9
- China: -0.65 to -1.3
- South Africa: -0.6 to -0.7
- Morocco: -0.5 to -1.5
- Mexico: -0.5
- Turkey: -0.4
- India: Bidis: -0.95 to -1.

**Cigarettes** -0.13 to -0.56

Source: WHO Technical Manual on Tobacco Tax Administration 2010 & Frank Chaloupka
How to evaluate the impact of tobacco excise taxes?

- Impact of tobacco taxes on tobacco use, other outcomes depend on impact of tax on prices of tobacco products
How to evaluate the impact of tobacco excise taxes?

Impact on prices will vary depending on several factors, including:

- Structure and types of tobacco taxes
- Government's pricing policies
- Cost of tobacco product production
- Industry price-related marketing efforts
- Potential for individual tax avoidance and larger scale, more organized tobacco product smuggling

Source: WHO Technical Manual on Tobacco Tax Administration 2010
How to evaluate the impact of tobacco excise taxes?

- Most evidence (largely from the United States) indicates that tobacco tax increases result in comparable or larger tobacco product price increases.

Source: Frank Chaloupka et al calculations
How to evaluate the impact of tobacco excise taxes?

- Emerging evidence from developing countries is promising. Evidence from Turkey

Source: Yurekli et al., Upcoming 2010
How to evaluate the impact of tobacco excise taxes?

**Egypt Example**

<table>
<thead>
<tr>
<th></th>
<th>Average Price /pack</th>
<th>Average Excise /pack</th>
<th>Total Tax revenue Million LE</th>
<th>Expected Sales Million packs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Rates</strong></td>
<td>3.51</td>
<td>1.75</td>
<td>6,806</td>
<td>3,894</td>
</tr>
<tr>
<td><strong>After 2010 Tax increase</strong></td>
<td>5.05</td>
<td>3.27</td>
<td>10,0067</td>
<td>3,078</td>
</tr>
<tr>
<td><strong>% change</strong></td>
<td>44%</td>
<td>87%</td>
<td>48%</td>
<td>-21%</td>
</tr>
</tbody>
</table>

Source: WHO and Ministry of Finance Egypt Analytical work 2010
Excise structure and rates influence the impact of tax increase on prices

Average price and excise tax in WPRO countries grouped by excise tax regime

Tax share

Ad valorem: 26.3%
Specific: 47.5%
Mixed: 32.6%

Evaluating impact of tax increases on prices and tobacco use

Estimates suggest that about half of the impact of price on overall tobacco use result from changes in prevalence

- A 10% price increase reduces prevalence by
  - 1 - 2.5% in high-income countries
  - 2.5 - 5% in low/middle-income countries

Source: Frank Chaloupka 2010
Evaluating impact of tax increases on prices and tobacco use

Changes in prevalence in response to price increase largely result from cessation among current users

- U.S. estimates suggest 10% price increase increases number of smokers trying to quit by more than 10%, with about 2% successful in long term

Source: Frank Chaloupka 2010
Cigarette Prices and Adult Smoking Prevalence, United States, 1970-2006

Source: Frank Chaloupka 2007
What is the appropriate type of tobacco tax?

- Appropriate- with respect to WHAT?

- Public health &/or revenues?
  - Market conditions
  - Government commitment
  - Tax system and structures
  - Political economy
  - Structure of industry
What is the appropriate type of tobacco tax system?

- **Simple**
  - Easy to administer
  - Easy to monitor
  - Easy to estimate

Source: WHO Technical Manual on Tobacco Tax Administration 2010
What are the Best Practices in Tobacco Tax Administration?

Strength of tax administrators
• Monitoring the market
• Technical background

- Supporting legislation and govt. commitment
- Collaboration with the Customs

Source: WHO Technical Manual on Tobacco Tax Administration 2010
WHO's Best Practices in Tobacco Tax Administration

- **Strengthen tobacco tax administrators’ capacity to:**
  - monitor tobacco product markets and evaluate the impact of tobacco tax increases
  - By adopting new technologies and minimize tax avoidance and evasion
  - By licensing all involved in tobacco product manufacturing and distribution
  - By supporting administrators with effective laws and legislations
    - Ensure certain, swift and severe penalties for those caught engaging in illicit trade in tobacco products

Source: WHO Technical Manual on Tobacco Tax Administration 2010
WHO's Best Practices in Tobacco Tax System?

- **Set tobacco excise tax levels so that they account for at least 70 percent of the retail prices for tobacco products**

- **Rely more on specific tobacco excises as the share of excise taxes in retail prices increases**

Source: WHO Technical Manual on Tobacco Tax Administration 2010
WHO's Best Practices in Tobacco Tax System?

- *Rely more on excise taxes than on import duties*
- *Adopt comparable taxes and tax increases on all tobacco products*

Source: WHO Technical Manual on Tobacco Tax Administration 2010
WHO's Best Practices in Tobacco Tax System?

- **Simplify the tax system**

Source: WHO Technical Manual on Tobacco Tax Administration 2010
WHO's Best Practices in Tobacco Tax System?

- *Where revenue increases are a goal, rely on tobacco tax increases to achieve revenue increases*

- *Automatically adjust specific tobacco taxes for inflation*

- *Increase tobacco taxes by enough to reduce the affordability of tobacco products*

- *Include tobacco excise tax increases as part of a comprehensive strategy to reduce tobacco use*

Source: WHO Technical Manual on Tobacco Tax Administration 2010