Introduction to Tobacco Control Economics: Best Practices in Taxation

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Overview

- Rationales for tobacco taxation
- Types of tobacco taxes
- Impact of tobacco taxes on tobacco product prices
- Impact of tobacco product prices on tobacco use
- Best Practices in tobacco taxation
- WHO FCTC Article 6, Guidelines
Rationales for Tobacco Taxation
"Sugar, rum, and tobacco, are commodities which are nowhere necessaries of life, which are become objects of almost universal consumption, and which are therefore extremely proper subjects of taxation."

Why Tax?

- **Efficient revenue generation**
  - Primary motive historically and still true in many countries today
  - Very efficient sources of revenue given:
    - Historically low share of tax in price in many countries
    - Relatively inelastic demand for tobacco products
    - Few producers and few close substitutes
    - One of many goods/services that satisfies the “Ramsey Rule”
  
- “This vice brings in one hundred million francs in taxes every year. I will certainly forbid it at once – as soon as you can name a virtue that brings in as much revenue” – Napoleon III on tobacco tax
Tobacco Taxes and Revenues


Source: Van Walbeek, 2003
Tobacco excise tax revenue in Poland

The excise tax revenue is increasing along with the tax rates

Source: Stoklosa & Cieciierski, 2010

Percentage share of excise tax in retail price of MPPC cigarettes

Tobacco excise tax revenue in Poland (in mln PLN)

Source: Ministry of Finances
Why Tax?

- **Promote public health**
  - Increasingly important motive for higher tobacco taxes in many countries
  - Based on substantial and growing evidence on the effects of tobacco taxes and prices on tobacco use
    - Particularly among young, less educated, and low income populations
  
  - "... We [...] have a package of six policy measures, known as MPOWER, that can help countries implement the provisions in the Convention. All six measures have a proven ability to reduce tobacco use in any resource setting. But tobacco taxes are by far the most effective." Director General Dr. Margaret Chan, WHO, 2008
France: smoking, tax and male lung cancer, 1980-2010

Lung cancer death rates per 100,000 (divided by four): men age 35-44

# cigarettes/adult/day

Relative price

Price (% relative to 1980)

Number/adult/day and death rates

Source: Jha, et al., in progress
Why Tax?

- **Cover the external costs of tobacco and excessive alcohol use**
  - “Pigouvian” tax
  - Less frequently used motive
  - Account for costs resulting from tobacco, alcohol use imposed on non-users
    - Increased health care costs, lost productivity, property damage, criminal justice costs, etc. caused by exposure to tobacco smoke among non-smokers, harms incurred by non/moderate drinkers
  - Can also include “internalities” that result from addiction, imperfect information, and time inconsistent preferences
Sources: CDC/SAMMEC, CTFK, Tax Burden on Tobacco, and author’s calculations.
Why Tax Tobacco?

Other Motives affecting tax structure:

- To protect domestic industry and employment
- To keep some brands/products affordable to the poor
Types of Tobacco Taxes
Types of Taxes

- **Variety of tobacco taxes**
  - Taxes on value of production
  - Customs duties on tobacco leaf, tobacco products, imports and/or exports
  - Sales taxes/Value added taxes
  - Implicit taxes when government monopolizes production and/or distribution
  - Excise taxes (or similar taxes)
  - Many of these are applied to variety of agricultural and/or consumer goods and services
  - Excise taxes are of most interest given specificity to tobacco products
Types of Taxes

- **Excise Taxes**
  - Two types of excises
    - **Specific Taxes**: excises based on quantity or weight (e.g. tax per pack of 20 cigarettes)
    - **Ad Valorem taxes**: excises based on value of products (e.g. a specific percentage of manufacturer’s prices for tobacco products)
  - Excise tax structure
    - **Uniform**: same tax rate applied to all brands/variants of a given product
    - **Tiered**: tax rate varies with price, product characteristics, or producer characteristics
Types of Taxes

- **Excise Taxes**

  - Excise tax systems
    - **Specific**: specific taxes applied to all brands/variants of a given tobacco product
    - **Ad valorem**: ad valorem rate applied to all brands/variants of a given tobacco product
    - **Mixed system**: combination of specific and ad valorem taxes applied to all brands/variants of a given tobacco product

  - Can include:
    - **Minimum specific floor**: in ad valorem or mixed system, a minimum specific tax that sets a floor
    - **Tiers**: can have tiered taxes under all systems
### Excise systems on cigarettes

<table>
<thead>
<tr>
<th></th>
<th>Number of countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total covered</td>
<td>182</td>
</tr>
<tr>
<td>Specific excise only</td>
<td>51</td>
</tr>
<tr>
<td>Ad valorem excise only</td>
<td>54</td>
</tr>
<tr>
<td>Mixture of both excises</td>
<td>56</td>
</tr>
<tr>
<td>No Excise</td>
<td>20</td>
</tr>
</tbody>
</table>

Source: WHO GTCR III
Cigarette Taxation Globally

<table>
<thead>
<tr>
<th>Income Group</th>
<th>Only specific</th>
<th>Only ad valorem</th>
<th>Both specific and ad valorem</th>
<th>No Excise</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>11</td>
<td>2</td>
<td>25</td>
<td>7</td>
</tr>
<tr>
<td>Upper Middle</td>
<td>16</td>
<td>11</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Lower Middle</td>
<td>18</td>
<td>19</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>28</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>By Region</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AFRO</td>
<td>14</td>
<td>29</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>AMRO</td>
<td>13</td>
<td>16</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>EMRO</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>EURO</td>
<td>10</td>
<td>3</td>
<td>36</td>
<td>0</td>
</tr>
<tr>
<td>SEARO</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>WPRO</td>
<td>14</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>All Countries</td>
<td><strong>55</strong></td>
<td><strong>60</strong></td>
<td><strong>48</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

* Countries for which data are available
Source: WHO calculations using WHO GTCR 2009 data
### Table 2: Different bases for tiered systems around the world

<table>
<thead>
<tr>
<th>Differential / Tiered Excise taxes on cigarettes</th>
<th>Number of countries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total covered</strong></td>
<td>156</td>
</tr>
<tr>
<td><strong>With tiers</strong></td>
<td>32</td>
</tr>
<tr>
<td><strong>Base of tiers</strong></td>
<td></td>
</tr>
<tr>
<td>Retail price</td>
<td>11</td>
</tr>
<tr>
<td>Producer price</td>
<td>2</td>
</tr>
<tr>
<td>Sales volume</td>
<td>1</td>
</tr>
<tr>
<td>Production volume</td>
<td>1</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td></td>
</tr>
<tr>
<td>Filter/Non filter</td>
<td>12</td>
</tr>
<tr>
<td>Hand/Machine made</td>
<td>2</td>
</tr>
<tr>
<td>Kretik/White Cigarette</td>
<td>1</td>
</tr>
<tr>
<td>Packaging</td>
<td>3</td>
</tr>
<tr>
<td>Cigarette length</td>
<td>4</td>
</tr>
<tr>
<td>Trade</td>
<td>1</td>
</tr>
<tr>
<td>Domestic/Imported</td>
<td></td>
</tr>
<tr>
<td>Weight (tobacco content in cigarette)</td>
<td>1</td>
</tr>
<tr>
<td>Leaf content (domestic/imported)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Note:** Of the 155 countries with available data in TMA, 10 countries has no excise. Some countries differentiate based on more than one criteria. 8 countries differentiate their excises based on more than 1 criteria.

*Source: TMA 2009*
Strengths & Weaknesses of Tobacco Excise Taxes

• Specific taxes:
  - Generally produce more stable stream of revenue
  - Real value falls with inflation
  - Promote higher “quality” products
  - Easier to administer
  - Reduce incentives for switching down in response to tax increases
Strengths & Weaknesses of Tobacco Excise Taxes

- **Ad valorem** taxes:
  - More unstable revenues
  - Government subsidizes industry price cuts
    - but benefits from industry price increases
  - More likely to keep pace with inflation
  - Undervaluation problems
    - Can be addressed with minimum specific tax
  - Greater potential for switching down in response to tax increase
Strengths & Weaknesses of Tobacco Excise Taxes

• Mixed *ad valorem* & specific systems:
  - Achieve some of the benefits of both excises, but also some of the problems of both
  - More complex administratively
  - Potential for undervaluation on ad valorem component
    - Can be addressed with minimum specific tax
  - Need to adjust specific component for inflation
Strengths & Weaknesses of Tobacco Excise Taxes

- Tiered taxes:
  - More complicated to administer
  - Subject to undervaluation problem
  - Revenues are less stable, harder to forecast
  - Greater potential for switching down in response to tax increase
Impact of Tobacco Taxes on Prices
State and Local Cigarette Taxes and Average Price per Pack
November 1, 2010

Source: *Tax Burden on Tobacco*, 2011, and author’s calculations
Taxes and Tobacco Product Prices

Inflation Adjusted Cigarette Taxes and Prices
South Africa, 1961-2003

Source: Van Walbeek, 2003
Average Price of the Most Sold Brand & Excise Tax per pack, and Total Tax Share
By Income Group 2010

Source: WHO GTCR III
## Average price and excise tax by tax structure, 2010

<table>
<thead>
<tr>
<th>Excise tax structure</th>
<th>Average price PPP</th>
<th>Average excise PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific only</td>
<td>4.51</td>
<td>1.78</td>
</tr>
<tr>
<td>Ad valorem only</td>
<td>2.38</td>
<td>0.77</td>
</tr>
<tr>
<td>Mixed system</td>
<td>3.81</td>
<td>2.17</td>
</tr>
<tr>
<td>Relying more on specific</td>
<td>4.42</td>
<td>2.54</td>
</tr>
<tr>
<td>Relying more on ad valorem</td>
<td>3.40</td>
<td>1.91</td>
</tr>
</tbody>
</table>

Source: WHO GTCR III
Cigarette Tax Structure & Prices

Source: Chaloupka, et al., in progress
Impact of Prices on Tobacco Use
Sufficient Evidence that:

Increases in tobacco excise taxes that increase prices result in a decline in overall tobacco use.
Graph 2.1: Cigarette consumption and real price, 1981-2008

- Consumption per adult (boxes)
- Real price index of cigarettes

Source: Waters, et al., 2010
Sufficient Evidence that:

Increases in tobacco excise taxes that increase prices reduce the prevalence of adult tobacco use.
Cigarette Prices and Adult Smoking Prevalence, United States, 1970-2010

Source: Tax Burden on Tobacco, 2011, National Health Interview Survey, and author’s calculations
Increases in tobacco excise taxes that increase prices induce current tobacco users to quit.
Cigarette Prices and Cessation
US States & DC, 2009

Source: BRFSS, *Tax Burden on Tobacco*, 2010, and author’s calculations
Sufficient Evidence that:

Increases in tobacco excise taxes that increase prices lower the consumption of tobacco products among continuing users.

\[ y = 0.0219x + 16.737 \]
\[ R^2 = 0.2306 \]

Source: BRFSS, *Tax Burden on Tobacco*, 2010, and author's calculations
Increases in tobacco excise taxes that increase prices reduce the initiation and uptake of tobacco use among young people, with a greater impact on the transition to regular use.
Sufficient Evidence that:

Tobacco use among young people responds more to changes in tobacco product taxes and prices than does tobacco use among adults.
Cigarette Price and Youth Smoking Prevalence United States, 1991-2011

Source: MTF, *Tax Burden on Tobacco*, 2011, and author’s calculations
Limited Evidence that:

The demand for tobacco products in low-income countries is more responsive to price than is the demand for tobacco products in high-income countries.
Elasticity Estimates
Aggregate Demand Studies
High-Income, Non-US  Low/Middle-Income

Midpoint of period over which study was performed

Short-run price elasticity of demand

High-Income, Non-US Low/Middle-Income

Source: IARC Handbook 14, forthcoming
In high-income countries, tobacco use among lower-income populations is more responsive to tax and price increases than is tobacco use among higher-income populations.
In low- and middle-income countries, tobacco use among lower-income populations is more responsive to tax and price increases than is tobacco use among higher-income populations.
Changes in the relative prices of tobacco products lead to some substitution to the products for which the relative prices have fallen.
Tobacco industry price discounting strategies, price-reducing marketing activities, and lobbying efforts mitigate the impact of tobacco excise tax increases.
Price-Reducing Marketing:
Cigarette Company Marketing Expenditures, by Type, 1975-2008

Source: author’s calculations from data reported in FTC (2011)
Sufficient Evidence that:

Tobacco tax increases that increase prices improve population health
Taxes, Prices and Health: US, 1980-2005

Medscape

Lung cancer death rates per 100,000 (divided by 4): men age 35–44

Cigarettes per adult per day

Relative price

Year

Source: Nat Rev Cancer © 2009 Nature Publishing Group
WHO FCTC Article 6 & Best Practices in Tobacco Taxation
Article 6: Price and tax measures to reduce the demand for tobacco

- “The parties recognize that price and tax measures are an effective and important means of reducing tobacco consumption by various segments of the population, in particular young persons.”

- “....each Party should...adopt or maintain, as appropriate, measures which may include:
  - “implementing tax policies and where appropriate price policies on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption; and
  - Prohibiting or restricting, as appropriate, sales to and/or importations by international travellers of tax- and duty-free tobacco products.”
Article 6 Guidelines

- At 4\textsuperscript{th} Conference of the Parties, Parties called for drafting of guidelines on implementation of Article 6
  - Guiding principles and recommendations adopted at COP5
  - Continued intercessional work on draft guidelines, with aim to adopt full guidelines at COP6 (October 2014)
  - Drafting group met June 3-7 in Geneva
WHO’s Best Practices in Tobacco Taxation

- Use tobacco excise tax increases to achieve the public health goal of reducing the death and disease caused by tobacco use
  - As called for in Article 6 of the WHO FCTC
  - Additional benefit of generating significant increases in tobacco tax revenues in short to medium term
WHO’s Best Practices in Tobacco Taxation

- **Simpler is better**
  
  - Complex tax structures more difficult to administer
  - Greater opportunities for tax evasion and tax avoidance under complex tax structures
  - Where existing structure is more complex, simplify over time with goal of achieving single uniform tax
WHO’s Best Practices in Tobacco Taxation

- **Rely more on specific tobacco excises as the share of total excises in prices increases**
  - Greater public health impact of specific excises given reduced opportunities for switching down in response to tax/price increases
  - Sends clear message that all brands are equally harmful
  - Where existing tax is ad valorem, adopt a specific tax and increase reliance on specific tax over time
Article 6 Guidelines

**Recommendation:**

- Parties should implement the simplest and most efficient system that meets their public health and fiscal needs, and taking into account their national circumstances. Parties should consider implementing specific or mixed excise systems with a minimum specific tax floor, as these systems have considerable advantages over purely ad valorem systems.
WHO’s Best Practices in Tobacco Taxation

- Automatically adjust specific tobacco taxes for inflation
  - Unless adjusted, real value falls over time, as does the real value of revenues generated by tax
  - Ensures the public health impact of tax is maintained
  - To date, not widely done (Australia, New Zealand)
Article 6 Guidelines

**Recommendation:**

- Tax rates should be monitored, increased or adjusted on a regular basis, potentially annually, taking into account inflation and income growth developments in order to reduce consumption of tobacco products.
WHO’s Best Practices in Tobacco Taxation

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

  - In many low/middle income countries, positive relationship between income and tobacco use
  - Implies consumption increases even as taxes increase if increases in income larger
    - Depends on relative price, income elasticity
  - Increasing affordability will result in increasing tobacco use and its consequences
Article 6 Guidelines

**Recommendation:**

- When establishing or increasing their national levels of taxation Parties should take into account – among other things – both price elasticity and income elasticity of demand, as well as inflation and changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence. Therefore, Parties should consider having regular adjustment processes or procedures for periodic revaluation of tobacco tax levels.
WHO’s Best Practices in Tobacco Taxation

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

  - Update of World Bank ‘yardstick’ of any taxes accounting for 2/3 to 4/5 of retail prices
  - Well above where most countries are currently
  - Further increases in countries that do reach this target
Article 6 Guidelines

- **Recommendation:**
  - Parties should establish coherent long-term policies on their tobacco taxation structure and monitor on a regular basis including targets for their tax rates, in order to achieve their objectives within a certain period of time.
WHO “Best Practices” for Tobacco Excise Taxes

- **Adopt comparable taxes and tax increases on all tobacco products**
  - Maximizes public health impact of tobacco tax increases by minimizing opportunities for substitution
Article 6 Guidelines

**Recommendation:**

- All tobacco products should be taxed in a comparable way as appropriate, in particular where the risk of substitution exists.
- Parties should ensure that tax systems are designed in a way that minimises the incentive for users to shift to cheaper products in the same product category or to cheaper tobacco product categories as a response to tax or retail price increases or other related market effects.
- In particular, the tax burden on all tobacco products should be regularly reviewed and, if necessary, increased and, where appropriate, be similar.
WHO “Best Practices” for Tobacco Excise Taxes

- **Earmark a portion of tobacco tax revenues for related/other tobacco control and/or health promotion efforts**
  - Maximizes the health impact of tobacco tax increases
  - Increases public support for tax increases
Article 6 Guidelines

**Recommendation:**

- Parties could consider, while bearing in mind Article 26.2 of the WHO FCTC, and in accordance with national law, dedicating revenue to tobacco-control programmes, such as those covering awareness raising, health promotion and disease prevention, cessation services, economically viable alternative activities, and financing of appropriate structures for tobacco control.
Best Practices in Tobacco Taxation

- Strong public health and economic rationale for increasing tobacco taxes
- Higher tobacco taxes lead to increased tobacco product prices
- Higher tobacco product prices reduce tobacco use, promote cessation, prevent initiation, and reduce the death, disease, and economic consequences of tobacco use
- Simpler tax structures are more effective in achieving public health goals of tobacco taxation.
For more information:

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Coming soon:

www.tobacconomics.org