Structure of Tobacco Tax

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Overview

- Criteria for evaluating tax structure
- Types of tobacco taxes
- Structure of cigarette price and how tax affect retail price
- Tobacco tax structure in selected countries in South East Asia
- Trend in cigarette prices and their affordability in selected countries in South East Asia
Criteria for evaluating taxes

- **Efficiency** (neutrality for market incentives)
  - Vulnerability to **tax avoidance** (legal exploitation of tax loopholes)
  - Vulnerability to **tax evasion** (reducing tax by illegal means)
- **Equity** (fairness)
- **Simplicity**
  - Minimising public administrative costs
  - Minimising private compliance costs

**Efficiency**

- A **broad-based, uniform tax** is preferred because it is hard to avoid by switching to another brand or type of tobacco; narrow-based taxes (i.e. taxes with **multiple exemptions**) are easier to avoid.
- **Single rate taxes** are harder to avoid than multiple rates
- **Import duty** could be avoided by switching to domestic brands
Equity (fairness)

- Generally, taxes should be designed to reduce the gap between the rich and the poor.
- Primary goal of tobacco taxes is to improve public health, other type of taxes are better suited to address the issue of equity:
  - Income taxes
  - Broad-based (non discriminatory) consumption taxes
- Higher tobacco taxes improve welfare of the poor and reduce the health inequality.
- Tobacco tax revenue can help to fund health care for the poor (earmarked tax).

Simplicity

- Wholesale taxes are preferred to retail taxes to reduce taxing points and the number of cash transactions.
- Clear instructions need to be provided to tax payers including the penalties for non-compliance.
- The calculation of tax liability should not be complicated.
Types of Tobacco Taxes

- Taxes on value of tobacco crop
- Customs duties on tobacco leaf imports and/or exports
- Customs duties on tobacco product imports and/or exports
- Sales taxes
- Value added taxes
- Tobacco excise taxes (the most efficient for tobacco, alcohol products, fuel)

Two Types of Tobacco Excise Taxes

**Specific Taxes:** excises based on quantity or weight (e.g. tax per pack of 20 cigarettes)

**Ad Valorem taxes:** excises based on value of tobacco products (e.g. a specific percentage of manufacturer’s prices or retail prices)

- Some countries use a mix of specific and *ad valorem* tobacco excises
- Many countries apply different types of taxes and/or tax rates on different types of tobacco products (e.g. manufactured cigarettes vs. bidis)
- If reducing tobacco use is primary goal, specific tax generally preferred
Cigarette Price

wholesale price = ex-factory price

retail price

wholesale price

production costs

industry profit

wholesale margin

specific excise tax

ad-valorem excise tax

VAT/sale tax

total tax

What are we interested in:

total tax as % of retail price (19/35 = 54%)

Retail price and specific excise tax are known, the rest needs to be calculated.

Example

retail price = 35 Baht

wholesale price = 14 Baht

total tax = 19 Baht

specific excise tax = 8 Baht

ad-valorem excise tax: % of wholesale or retail price

VAT/sale tax: % of wholesale price with/without excise tax
What is tax as % of retail price?

- Retail price = 35 Baht
- Wholesale price = x Baht
- Total tax = y Baht
- Retail margin = 2 baht (guess, interview retailers)
- Specific excise tax = 8 Baht (law)
- Ad-valorem tax: 55% of wholesale (law)
- VAT/sale tax: 20% of wholesale price without excise tax (law)

Ad-valorem is % of wholesale price:
\[ x + 2 + 8 + 0.55x + 0.20x = 35 \]
\[ x = 14 \text{ baht (wholesale price)} \]
\[ y = 8 + 8 + 3 = 19 \text{ Baht (total tax)} \]

Total tax as % of retail price (19/35 = 54%)

Ad valorem tax

**Advantage:**
- It is automatically indexed for inflation

**Disadvantage:**
- The tax amount can be lowered by producing low-price, low-quality cigarettes
Impact of a tax increase when ad valorem tax is applied (example)

100% tax increase (from 20% to 40%)

**High price brand:**
- wholesale price = $2.00;
- old excise tax = $0.40; new excise tax = $0.80;
- 10% VAT= $0.24; new 10% VAT = $0.28
- old retail price = $2.64; new retail price = $3.08

**Low price brand:**
- wholesale price = $1.00;
- old excise tax = $0.20; new excise tax = $0.40;
- 10% VAT= $0.12; new 10% VAT = $0.14
- old retail price = $1.32; new retail price = $1.54

The price difference before the tax increase is $1.32
The price difference after the tax increase is $1.54

Specific tax

**Advantage:**
- It treats all products equally
- It is easier to administer since quantity is easier to measure than to determine the value of a product
- It is the most suitable to recover the costs associated with smoking

**Disadvantage:**
- It is not automatically indexed for inflation
- Per stick taxes may encourage the production of longer cigarettes (e.g. “super king size”)
Impact of a tax increase when specific tax is applied (example)

100% tax increase (from $0.40 to $0.80)

High price brand:
⇒ wholesale price = $2.00;
⇒ old excise tax = $0.40; new excise tax = $0.80;
⇒ 10% VAT= $0.24; new 10% VAT = $0.28
⇒ old retail price =$2.64; new retail price = $3.08

Low price brand:
⇒ wholesale price = $1.00;
⇒ old excise tax = $0.40; new excise tax = $0.80;
⇒ 10% VAT= $0.14; new 10% VAT = $0.18
⇒ old retail price = $1.54; new retail price = $1.98

The price difference before the tax increase is $1.10
The price difference after the tax increase is $1.10

Taxes in Cambodia (ad valorem)

Local cigarettes:
excise tax 10% of ex-factory price + VAT 10% (ex-factory price with excise tax) + public tax 3 % (ex-factory price with excise tax and VAT)

Tax is 24.6% of wholesale price, but 19.8% of retail price

Imported cigarettes:
import duty 7% of CIF (costs, insurance, freight) + excise tax 10% (wholesale price) + VAT 10% (ex-factory price with excise tax) + public tax 3 % (ex-factory price with excise tax and VAT)

Tax is 33% of CIF, but 25% of retail price
Taxes in Indonesia (mixed tax structure, multiple rates)

Local cigarettes:
Excise tax 4% - 40% of minimum retail price
+ specific tax 3 – 7 Rp per stick (higher % for machine made compared to hand made, and for factories with higher production volume)
+ VAT 8.4% of retail price.

Government sets the minimum price, therefore the tax is determined in specific amounts.

Tax is 37% of retail price: ad valorem tax (19% of retail price), specific tax (9% of retail price) and VAT (8% of retail price).

Taxes in Malaysia (mixed tax structure, single rates)

Local cigarettes:
Excise tax RM 150 per 1,000 + 15% of (ex-factory price) +

sales tax 5% of (ex-factory price + excise)

Tax is 49 - 57% of retail price (premium versus mid-price brand)
Taxes in Philippines (specific tax, multiple rates)

**Local cigarettes:**
If price without excise tax and VAT is
a) over PHP 10.00, the excise tax = PHP 26.06 (about 44% of the market share)
b) PHP 6.50 -10.00, the excise tax = PHP 10.88
c) PHP 5.00 - 6.50, the excise tax = PHP 6.74
d) below PHP 5.00, the excise tax = PHP 2.23
VAT 12% (of retail price – VAT)
Tax is **49% of retail price** of Marlboro, **46% of retail price** of cheap local brand

Taxes in Thailand (ad valorem, single rates)

**Local cigarettes:**
Excise Tax = 80% of wholesale price + all tax (except for VAT)
Health Tax = 2% of excise tax yield
Local Tax = around 1 Baht per pack
VAT = 7 % of (price – VAT)
Tax is **63% of retail price of 42 Baht**
Taxes in Vietnam (ad valorem, single rates)

**Local cigarettes:**

Excise tax = 65% of wholesale/ex-factory price VAT is 10%

Tax is **45% of retail price**

### Summary

<table>
<thead>
<tr>
<th>Country</th>
<th>Tax as % of retail price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>63</td>
</tr>
<tr>
<td>Malaysia</td>
<td>49 - 57</td>
</tr>
<tr>
<td>Philippines</td>
<td>46 - 49</td>
</tr>
<tr>
<td>Vietnam</td>
<td>45</td>
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<tr>
<td>Indonesia</td>
<td>37</td>
</tr>
<tr>
<td>Cambodia</td>
<td>20</td>
</tr>
</tbody>
</table>
Cigarette Prices in $, 2007

Cigarette Prices in PPP $, 2007
Real Prices of Tobacco Products, 1997-2007
(Consumer Price Index 1997 = 100)

Affordability of Tobacco Products
1997-2005 (Price/GDP 1997= 100)
Thank you!

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Impact of Tobacco Tax Increase – Example

Price elasticity = - 0.4 (- 0.2 impact on prevalence)

Tax increase 10% causes 5% raise in cigarette prices (tax = 50% of retail price)

Price Elasticity - 0.4 = % quantity / 5%

% quantity = - 0.4 * 5% = - 2%

Result: increasing tax by 10% will increase the price by 5% and reduce cigarette consumption by 2% and reduce smoking prevalence by 1%. 
Impact of Tobacco Tax Increase – Example (continued)

If current smoking prevalence = 35.00%, the smoking prevalence after tax increase = 34.65%.

Reduction in prevalence small, but when applied to the whole population, the number of people prevented from smoking is substantial.

# of non-smokers * cost of smoking per smoker = economic gains from tax increase

Hypothetical tax increase
Indonesian Example

<table>
<thead>
<tr>
<th>Tax increase</th>
<th>% price change</th>
<th>% demand change</th>
<th>% tob. tax revenue change</th>
<th>Revenue change as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% ↑</td>
<td>3% ↑</td>
<td>1.5% ↓</td>
<td>8% ↑</td>
<td>0.26</td>
</tr>
<tr>
<td>50% ↑</td>
<td>18% ↑</td>
<td>9% ↓</td>
<td>36% ↑</td>
<td>0.33</td>
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### Indonesia - the Impact of Higher Tobacco Taxes on Smoking Prevalence

<table>
<thead>
<tr>
<th>% Sales Price</th>
<th>Current Tax Levels</th>
<th>Increase Tax Rate to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in Number of Smokers (million)</td>
<td></td>
<td>56.9 (current # of smokers)</td>
</tr>
<tr>
<td></td>
<td>37%</td>
<td>50%</td>
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<tr>
<td>Price Elasticities**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-0.27</td>
<td>-0.40</td>
<td>-0.67</td>
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<tr>
<td></td>
<td>1.8 5.0 7.3</td>
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<tr>
<td></td>
<td>2.5 6.9 10.0</td>
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<td></td>
<td>4.1 11.5 16.8</td>
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<tr>
<td>Remaining Smokers (million)</td>
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<tr>
<td>-0.27</td>
<td>-0.40</td>
<td>-0.67</td>
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<tr>
<td></td>
<td>55.1 51.9 49.6</td>
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<tr>
<td></td>
<td>54.4 50.0 46.9</td>
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<td></td>
<td>52.8 45.4 40.1</td>
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<td>Additional Excise Revenue (Rp trillion)**</td>
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<td>-0.27</td>
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<td>25.1 59.3 75.8</td>
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<td>Additional Excise Revenue (US$ billion)**</td>
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