

Tobacco Tax Policy

Hana Ross, Ph.D.

RTI International

ITEN

Tobacco Tax and Economics

Why this session?

Why are tobacco taxes are **important** for TC?

What would you like get out of the session?

How do you plan to **apply** it to your TC activities back home?

Economics and Tobacco Control

Economic theory: a person's behavior is motivated by maximizing utility (pleasure) with given resources (budget constraint).

S/he achieves it by paying identical price for each unit of pleasure.

Change in behavior can be achieved by increasing the price or by reducing utility from the behavior.

Applying to TC: increase price of cigarettes, make smoking less pleasurable (e.g. smoking bans, health information, etc.)

Full Price of Smoking

Price Based Interventions

Non-Price Interventions

$$\text{The Full Price of Smoking} = \text{Monetary Cost} + \text{Cost of Obtaining} + \text{Consumption Cost}$$

Market Price of Cigarettes (taxes)

- Restrictions on access/purchasing
- Bans on advertising and/or sponsorship

- Restrictions on Use
- Health Information

Economic Issues Related to Tobacco Taxes

- **Public health** – will higher taxes improve health of the nation?
- **Budget** – will higher taxes increase or decrease budget income?
- **Economy/development** – is there any negative effect? Employment? Smuggling? Trade?
- **Equality** – will higher taxes burden low income groups? How about individual welfare?
- **Retaliation from the tobacco industry to new taxes**

Research Evidence: Taxation is the Most Effective Measure

- Higher taxes change behavior: induce **quitting**, **reduce consumption** and **prevent starting**
- A 10% price increase reduces demand by:
 - 4 - 8%
 - Some of this impact is on the amount and some on the initiation and quitting
 - Long-run effects may be greater
- **Young** people and the **poor** are the most price responsive

What is the “right” level of tax?

- **Complex question**

Depends on various factors, such as degree to which society wishes to **protect children**, **revenue** considerations, health care costs, state of public health & **development**, etc.

- **Useful yardstick:** where comprehensive programs used, tax is at least $2/3$ to $4/5$ of retail price.

Source: Chaloupka *et al.*, 2000

What Do We Want To Focus On?

1. How to evaluate tobacco **tax structure** (criteria for evaluation)
2. Arguments addressing the **regressivity** of tobacco tax increase
3. **Categories and types** of cigarette taxes (terminology)
4. Tobacco tax earmarking
5. Example of a simple analysis of tax share in final price
6. Calculating tax collection after tax increase

Criteria for evaluating taxes

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

Efficiency

- Generating revenue with the minimum amount of distortion of resource allocation (unless deliberate) - Tobacco taxes aim to deliberate **distort incentives** (to reduce smoking)
- Desirable to have **a broad-based, uniform rate** system so that the tax cannot be avoided by switching to another brand or type of tobacco
- For example, **import duty** could be avoided by switching to domestically-produced tobacco; different taxes on cigarette and **RYO tobacco**

Equity (fairness)

- Alleviating (or not increasing) **poverty**
- There are more effective ways than tobacco taxes to **achieve fairness**
 - Broad-based (non discriminatory) consumption taxes
 - Income taxes
- But the best way to help the poor is to provide **public social welfare** and pay for health expenditures
- Could be funded from tobacco tax revenue (**earmarked tax**)

Simplicity

Goal is to achieve:

- **Low compliance costs** – minimising costs imposed on business in collecting the tax and remitting it to the tax authorities
- **Low administrative costs** – minimising the costs imposed on the public sector in administering and collecting the tax

Vulnerability to Tax Avoidance and Tax Evasion

- Some types of taxes are much more vulnerable:
- **Narrow-based taxes** (taxes with multiple exemptions) as opposed to **broad-based taxes**
- **Taxes with multiple rates** as opposed to **single rate taxes**
- **Retail taxes** as opposed to **wholesale taxes** (many more taxing points are difficult to oversee and result in many more cash transactions)

Arguments Addressing Regressivity Issue: the Numbers Principle of Economic Policy (1)

- For efficient economic policymaking the **number of economic instruments** must be at least equal to the **number of targets**
- **Targets** are the objectives of economic policy (for example, reducing smoking, reducing poverty)
- **Instruments** are policies designed to achieve targets (for example, taxation)
- Thus tobacco taxation (one instrument) cannot be used both to reduce smoking and, **at the same time**, to reduce poverty in the short run (two targets)

Arguments Addressing Regressivity Issue: the Numbers Principle of Economic Policy (2)

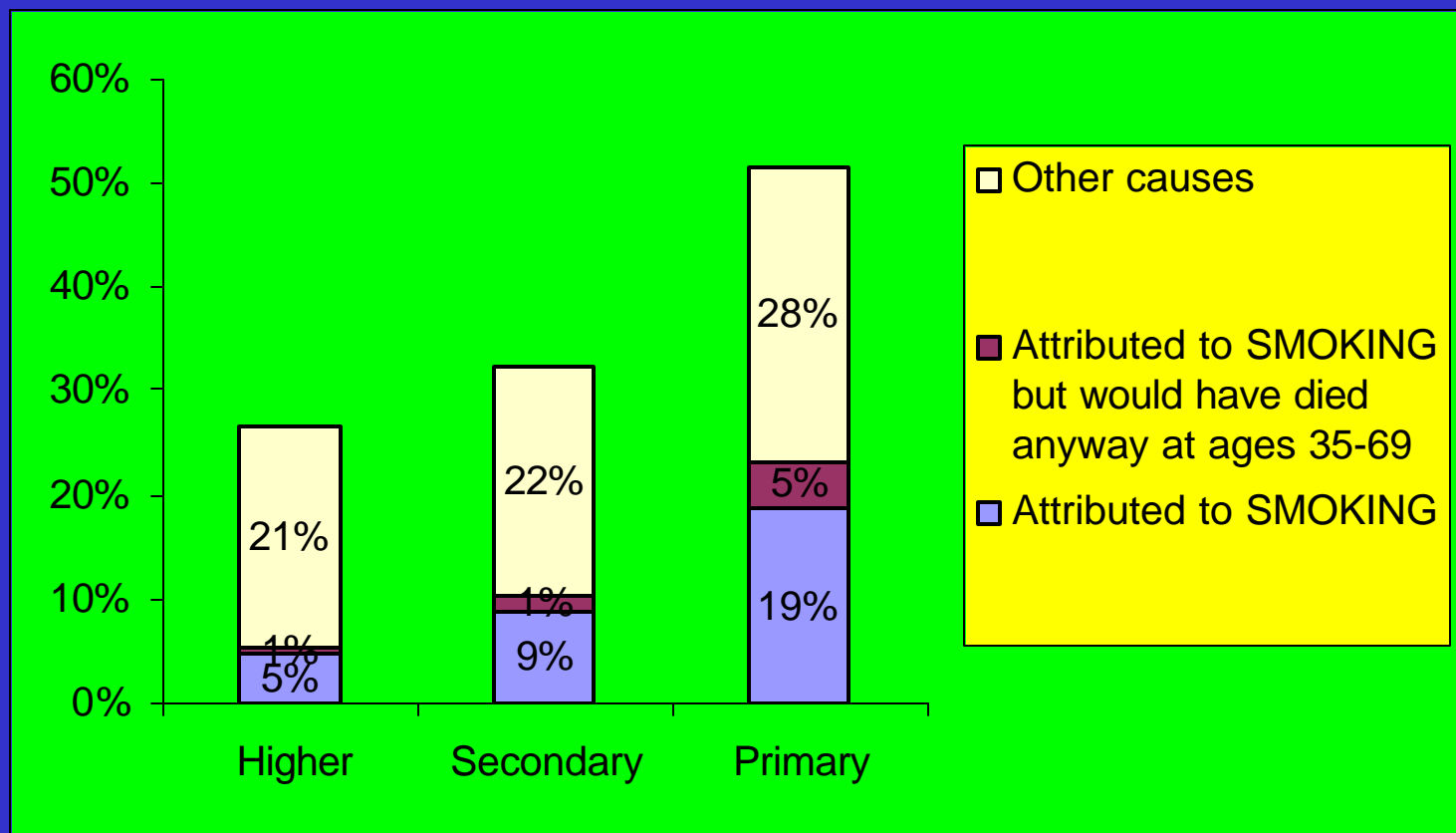
- **In the short run** tobacco taxation may increase **poverty** while reducing smoking
- But low tobacco taxes will not protect the poor
- The **health effects** of smoking hit the poor comparatively hard, because their health status is lower and they have less money to pay for health care
- **In the long run** the poor benefit greatly from smoking less
- Quitting smoking also **releases funds** for other expenditure e.g. education, health
- Thus tobacco taxation should be used to reduce smoking, and **other economic measures** should be used to correct for any undesirable equity effects

Addressing Regressivity Issue (continued)

- Tax increases can be **progressive**
 - Greatest sensitivity to price in lowest income populations
- Tobacco taxes should be considered in context of **overall tax and spending system**
 - Revenues generated from tax can be used to support programs targeting the poor (**earmarking**)
- Health benefits of tobacco control are progressive
 - Tobacco accounts for about half of **health gap** between the rich and poor

Smoking accounts for much of the mortality gap between rich and poor

Risk of death of a 35 year old male before age 70, by education levels in Poland, 1996



Source: Bobak *et al.*, 2000

Should Tobacco Taxes be Earmarked?

- Setting aside part of tobacco tax revenue to particular uses, for example:
 - Health promotion foundations
 - Health care expenditure
- But needs to be **designed carefully** otherwise it may just release resources to be used elsewhere
- Can be a useful **political device** to sell high tobacco taxation to the electorate

Categories of Taxes

Ad valorem taxes

- Applied as a percentage of some value (for example, wholesale price)
- Automatically indexed (as cigarette prices rise, tax revenue automatically rises)

Specific taxes

- Tax base is a physical measure (for example, per kilo of tobacco or per stick)
- Not automatically indexed

Types of Taxes (1)

Value-added tax (VAT)

- Efficient (especially if broad-based, single rate)
- High administrative and compliance costs (especially if exemptions and multiple rates)
- Values are harder to measure than physical quantities
- Many taxing points
- Vulnerable to evasion at retail level through the cash economy. Relatively invulnerable at other levels
- Automatically indexed
- High rates politically difficult
- For these reasons, difficult to use to discriminate against smoking

Types of Taxes (2)

Retail sales tax

- Automatically indexed
- Relatively high administrative and compliance costs
 - Many taxing points
- Highly vulnerable to evasion
 - Most transactions in cash
 - Many taxing points

Wholesale sales tax

- Automatically indexed
- Lower administrative and compliance costs
 - Fewer taxing points
- Less vulnerable to evasion
 - Fewer cash transactions
 - Fewer taxing points

Types of Taxes (3)

Excise duty (specific tax)

- **Relatively low administrative and compliance costs**
 - Fewer taxing points
- **Less vulnerable to evasion**
 - Fewer taxing points
 - Fewer cash transactions
- **Physical quantities are easier to measure than values**
- **Not automatically indexed and difficult to legislate for new rate each year**
- **But automatic indexation is possible, for example by legislating automatic link between rates and price indexes**
- **Per stick taxes may encourage the production of longer cigarettes (e.g. “super king sized”)**

Types of Taxes (4)

Import duties (customs duties, tariffs)

- **Low administrative and compliance costs**
 - Relatively few taxing points
- **Inefficient**
 - Distorts resource allocation towards protected domestic industry
 - Better to have an efficient tobacco industry which can be heavily taxed, yielding high revenue to fund other expenditures
- **Vulnerable to avoidance (by switching to domestically produced cigarettes)**
- **Vulnerable to evasion (through smuggling)**

Tax Design - Conclusions

- Different circumstances exist in different countries and one size does not fit all

Recommendations

- Broad-based, uniform rate
 - For example, maintain consistency of rate between cigarettes and roll-your-own tobacco
- Relatively few collection points
- No discrimination against imports
- VAT is not easy to use to discriminate against tobacco
- Specific **excise tax** (with automatic indexation) or **wholesale sales tax** have most advantages

Simple Analysis of Tax Structure - Example Cambodia (1)

Different tax structure for local and imported cigarettes

Local cigarettes:

**10% excise tax (ex-factory price) +
10% VAT (ex-factory price with excise tax) + 3 % public tax (ex-factory price with excise tax and VAT)**

**This is 24.6% of factory price, but
19.8% of retail price**

Simple Analysis of Tax Structure - Example Cambodia (2)

Imported cigarettes:

7%, 15%, 35% import duty on CIF value
(CIF = costs + insurance + freight) +

10% excise tax (CIF with import duty) +

10% VAT (CIF with import duty and
excise tax) + 3 % public tax (CIF with
import duty and excise tax and VAT)

This is 33%, 43%, 68% of CIF, but

25%, 30%, 41% of retail price

Simple Analysis of Tax Structure - Example Cambodia (3)

Imported cigarettes:

$$\text{CIF} + 0.07\text{CIF} + 0.1 (\text{CIF} + 0.07\text{CIF}) + 0.1 \{ \text{CIF} + 0.07\text{CIF} + 0.1 (\text{CIF} + 0.07\text{CIF}) \} + 0.03 [\text{CIF} + 0.07\text{CIF} + 0.1 (\text{CIF} + 0.07\text{CIF}) + 0.1 \{ \text{CIF} + 0.07\text{CIF} + 0.1 (\text{CIF} + 0.07\text{CIF}) \}] = 1.333541\text{CIF}$$

This is 33% tax on CIF

If $1.333541\text{CIF} = 100\%$, $\text{CIF} = 74.98832$ and tax is what remains to 100%, which is about 25%.

Revenue From Tobacco Taxes

Impact of a tax increase on **tax revenue**

Current tax revenue = **tax base**(# cigarette packs) *
tax rate (tax per pack)

Percentage increase in price = proposed tax
increase/current price*100

Change in demand after tax increase = current
demand(tax base) * **price elasticity** *
percentage increase in price/100

New tax revenue = new demand * new tax rate

Revenue From Tobacco Taxes - Example

Current tax revenue = tax base(# cigarette packs)
[10 mil] * tax rate(tax per pack) [\$2] = \$20 mil

Percentage increase in price = proposed tax
increase [\$4]/current price[\$4]*100 = 100% (it is
200% tax increase)

Change in demand after tax increase = current
demand(tax base) [10 mil] * price elasticity
[-0.4] * percentage increase in price/100 [1] =
- 4 mil cigarette packs

New tax revenue = new demand [6 mil] * new tax
rate [\$6] = \$36 mil (\$16 mil more)