

# Economics of Tobacco Control and Tobacco Tax Policy

Hana Ross, PhD.

University of Illinois at Chicago



<http://www.tobaccoevidence.net>

# Should Government Intervene in the Tobacco Market?

Yes, because tobacco use results in inefficiencies

- **It imposes physical or financial costs on non-smokers (victims of second hand smoke)**
- **Information about the health risks of tobacco is not well spread and understood**
- **The risk of addiction is underestimated**

# Financial Costs of Tobacco Use

Tobacco burdens the economy due to

- higher health care costs
- lower labor productivity
- premature deaths

This slows economic growth

1994 World Bank estimates: tobacco use results in a global net loss of \$200 billion per year.<sup>1,2</sup>

- Half of this loss occurs in developing countries.<sup>1</sup>

## Philippines: Annual productivity loss from smoking, selected diseases, 1999, in pesos.

Tobacco-Related Diseases	Average Number of Days Spent Out of Work	Total Losses of Work Days	Cost of Lost Work Days
Lung Cancer	77.17	169,504.81	42,376,203.45
Chronic Obstructive Pulmonary Disease	10.64	387,447.76	96,861,940.48
Coronary Artery Disease	27.93	1,648,440.42	412,110,104.28
Cardiovascular Disease	27.93	7,747,225.98	436,813,996.19
Total		9,952,618.97	988,162,244.40

Source: Cigarette Smoking in the Philippines (Dans, 1999).

# Philippines: Annual health care costs of smoking, selected diseases, 1999, in pesos.

Tobacco-Related Diseases	Average Health Care Cost Per Individual With Disease (PhP)	Total Cost Per Disease
Lung Cancer	*192,597.00 **82,012.00 ***409,297.00 ****18,036.00	*****816,256,674.77
Chronic Obstructive Pulmonary Disease	79,038.00	4,889,519,415.97
Coronary Artery Disease	147,107.50	13,150,113,423.75
Cardiovascular Disease	85,567.00	8,376,014,580.84
Total		27,231,904,095.33
Thoracotomy cost*		
Radiotherapy cost**		
Chemotherapy cost***		
Usual care cost after chemotherapy/radiotherapy or surgery****		
Cost for lung cancer is the average cost for thoracotomy, radiotherapy, and chemotherapy plus usual care cost*****		
Source: Cigarette Smoking in the Philippines (Dans, 1999).		

# Estimate of Total Costs of Tobacco Use in Philippines

Health care - P27 billion

Productivity loss due to illness – P1 billion

Productivity loss due premature death - P18 billion

Annual total costs at least = P46 billion, or 1.07% of GDP

# What Can Government Do?

**The most effective approach is to intervene on the demand side of the market:**

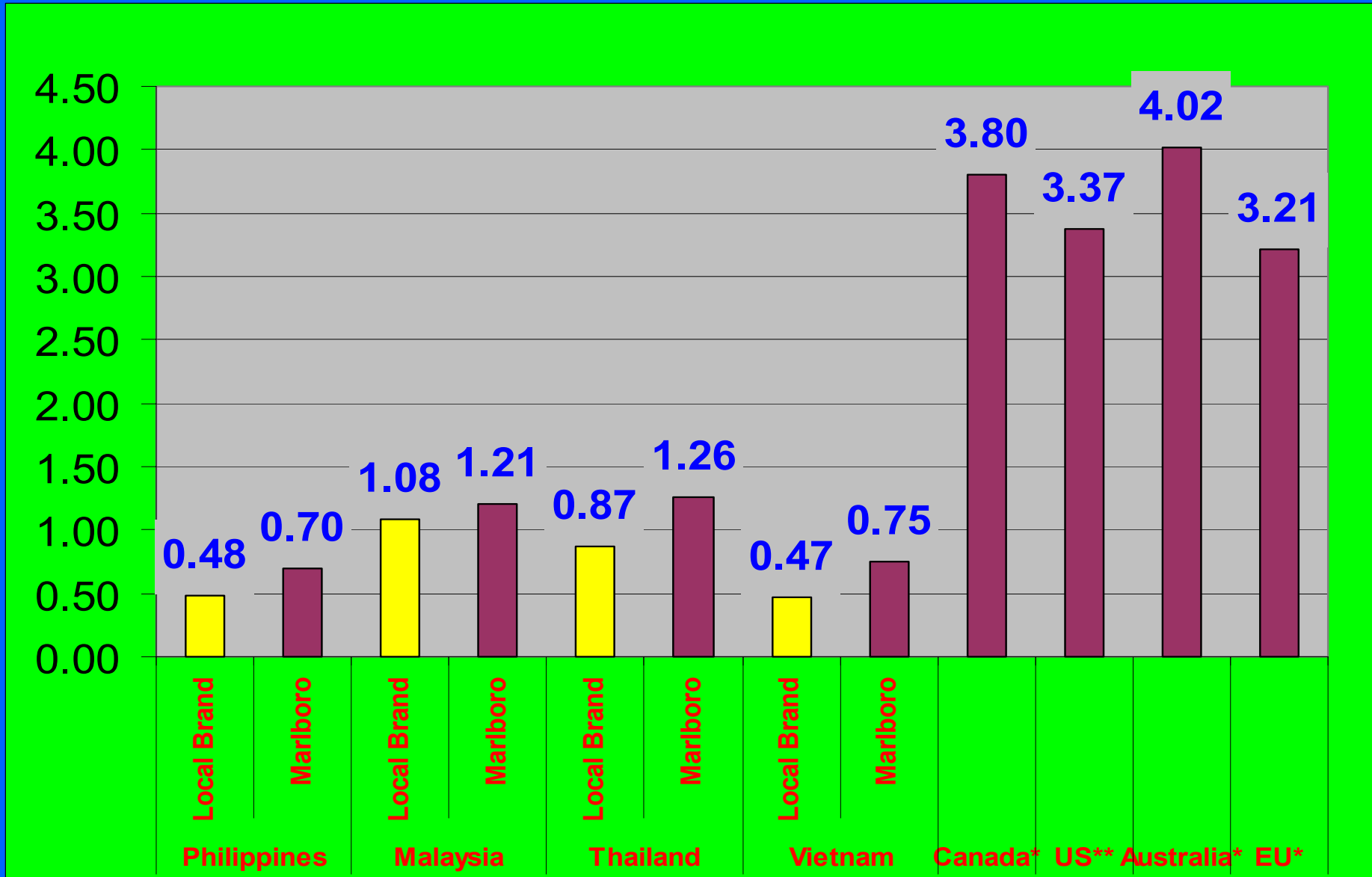
- **Use economic incentives to reduce demand for tobacco (taxes, access to tobacco, consumption and advertising limits)**
- **Improve information dissemination**
- **Reduce social acceptability of smoking**

# Higher Taxes Are Most Effective

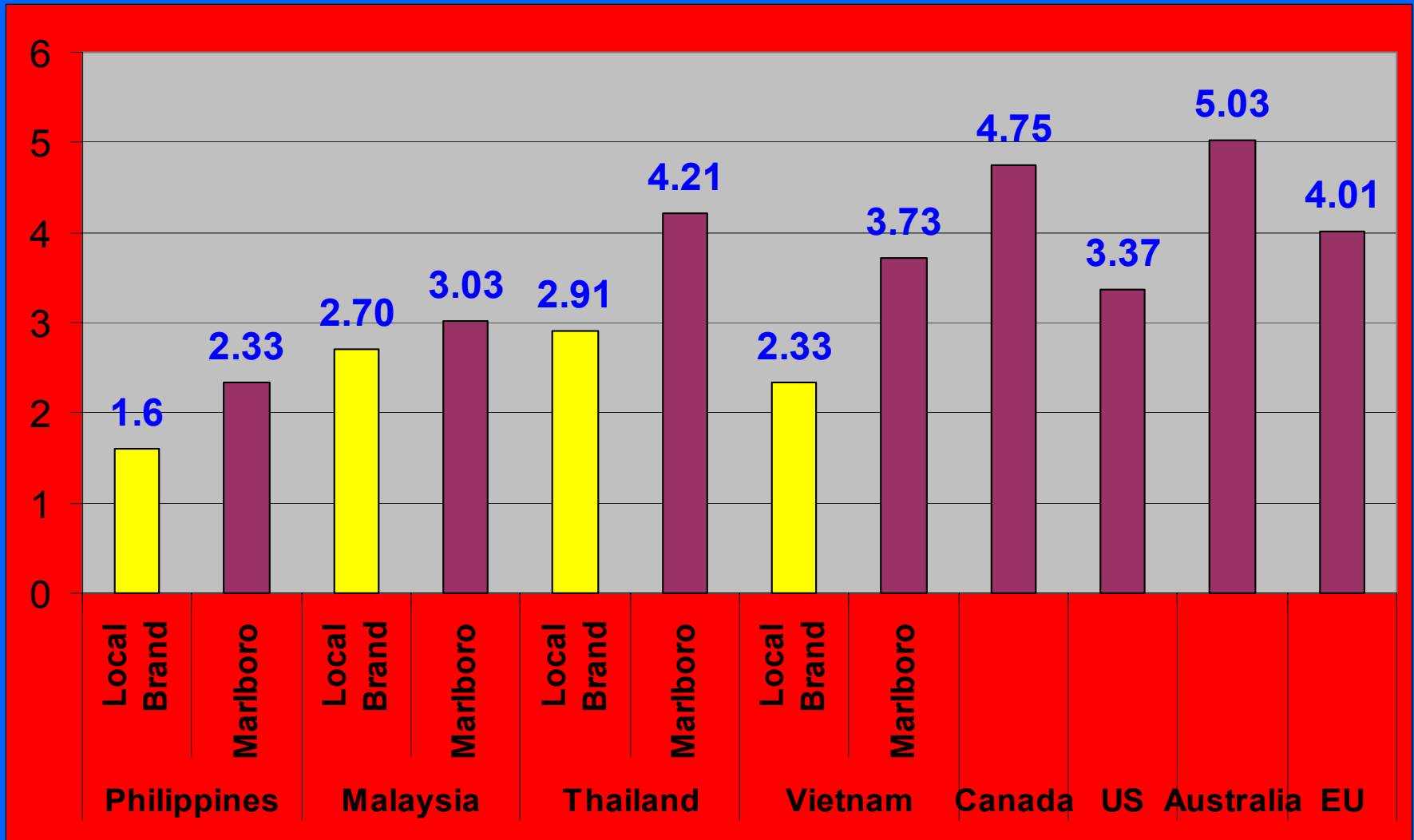
- Higher taxes can induce quitting, reduce consumption among current smokers, prevent initiation, and increase collection of cigarette taxes
- A 10% price increase may reduce demand by:
  - 4% in high-income countries
  - 8% in low or middle-income countries
- Long-run effect of higher price is greater
- Young people and the poor are the most price responsive
- Higher taxes increase incentives for tax evasion

Source: Chaloupka *et al.*, 2000

# Cigarette Prices in \$, 2001



# Cigarette Prices in PPP \$, 2001



# Tobacco Excise Tax, Philippines, 1999 & 2003.

Kinds Of Taxes/Impositions	TAX RATES in Ph P	
	1997	2003
1) Smoking tobacco and other partially manufactured tobacco	0.75/kg	0.75/kg
2) Chewing tobacco	0.60/kg	0.60/kg
3) Cigars	1.00/cigar	1.12/cigar
4) Cigarettes packed by hand	0.40/pack	0.40/pack
5) <b>Cigarettes</b> packed by machine, with net retail price (excluding the excise tax and the VAT) of <b>more than ₱10 per pack</b>	12.00/pack	13.44/pack
6) <b>Cigarettes</b> packed by machine, with net retail price (excluding the excise tax & the VAT) from <b>₱6.50 to P10 per pack</b>	8.00/pack	8.96/pack
7) <b>Cigarettes</b> packed by machine, with net retail price (excluding the excise tax & the VAT) from <b>₱5 to P6.50 per pack</b>	5.00/pack	5.60/pack
8) <b>Cigarettes</b> packed by machine, with net retail price (excluding the excise tax and the VAT) of <b>less than ₱5 per pack</b>	1.00/pack	1.12/pack

Source: Statistics Division, Bureau of Internal Revenue (Collection based on GFS Classification)

# Taxes Are Low in Philippines

- **Low end cigarettes:**

Price = P 25

Tax = P 1.12, it is 4.48% of final price

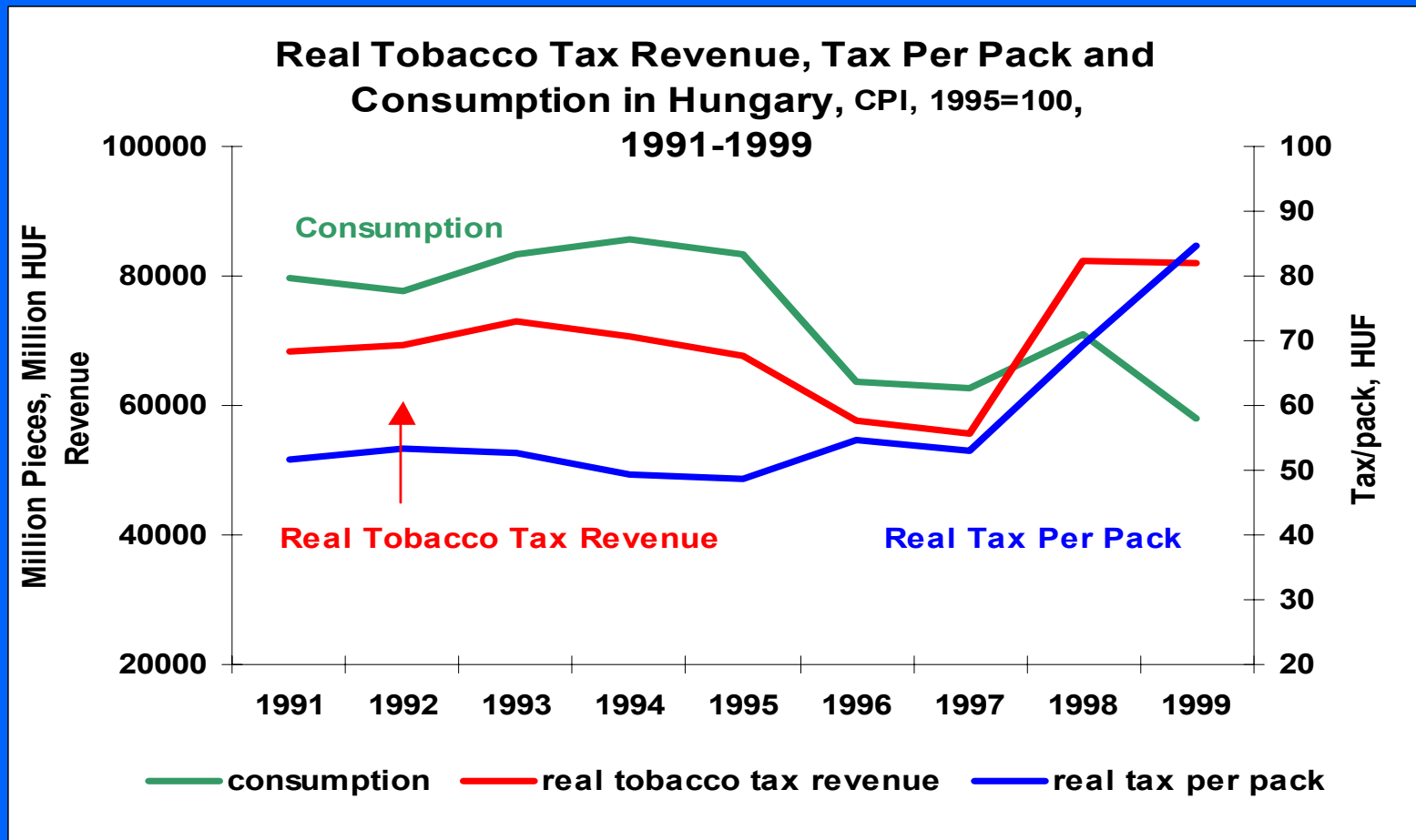
- **High end cigarettes:**

Price = P 40

Tax = P 13.44, it is 33.6 % of final price

**Recommendations: tax should be at least 2/3 to 4/5 of retail price.**

# Higher taxes reduce consumption and increase budget revenue



# Hypothetical tax increase

## Indonesian Example

Tax increase	% price change	% demand change	% tob tax revenue change	Revenue change as % of GDP
10% ↑	3% ↑	1.5% ↓	8% ↑	0.26
50% ↑	18% ↑	9% ↓	36% ↑	0.33
100% ↑	36% ↑	18% ↓	63% ↑	0.40

# Tobacco Tax Revenues, Philippines, CY 1993-2003.

Year	Total Revenue Collection (Million Pesos)	Tobacco Tax Revenue			
		Tobacco Products	Tobacco Inspection Fees (Leaves)	Totals	% Share
1993	145,926.75	10,288.83	10.33	10,299	7.06
1994	187,443.92	11,703.47	59.37	11,763	6.28
1995	211,462.40	13,801.07	73.38	13,874	6.56
1996	260,774.15	15,001.98	83.28	15,085	5.78
1997	314,697.89	15,915.44	111.92	16,027	5.09
1998	337,176.73	16,766.46	31.68	16,798	4.98
1999	341,320.46	16,530.75	10.93	16,542	4.85
2000	360,802.32	17,416.68	10.64	17,427	4.83
2001	388,679.31	19,352.15	9.04	19,361	4.98
2002	394,549.18	20,063.78	4.36	20,068	5.09
2003	426,010.48	19,971.95	20.51	19,992	4.69

Source: Statistics Division, Bureau of Internal Revenue (Collection based on GFS Classification)

# Tax Design

- Different circumstances exist in different countries

## Recommendations

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

# Should Tobacco Taxes be Earmarked?

Several countries have set aside part of tobacco tax revenue to:

- establish **Health promotion foundations**
- pay for health care, help tob. farmers to switch to alternative products

Can be a useful **political device** to sell higher tobacco taxes to voters

Can improve **equity** if well designed

**Careful design** is necessary otherwise resources may be used elsewhere



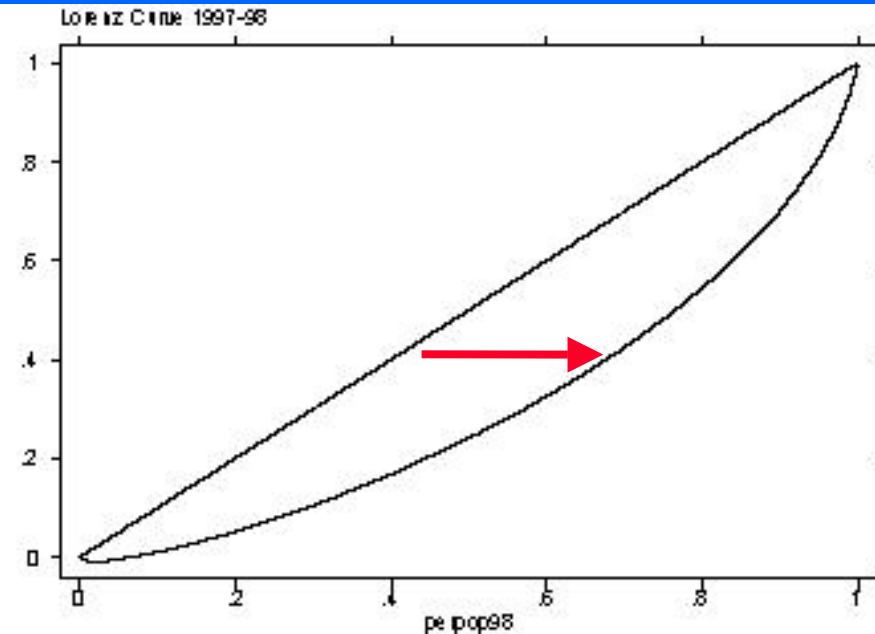
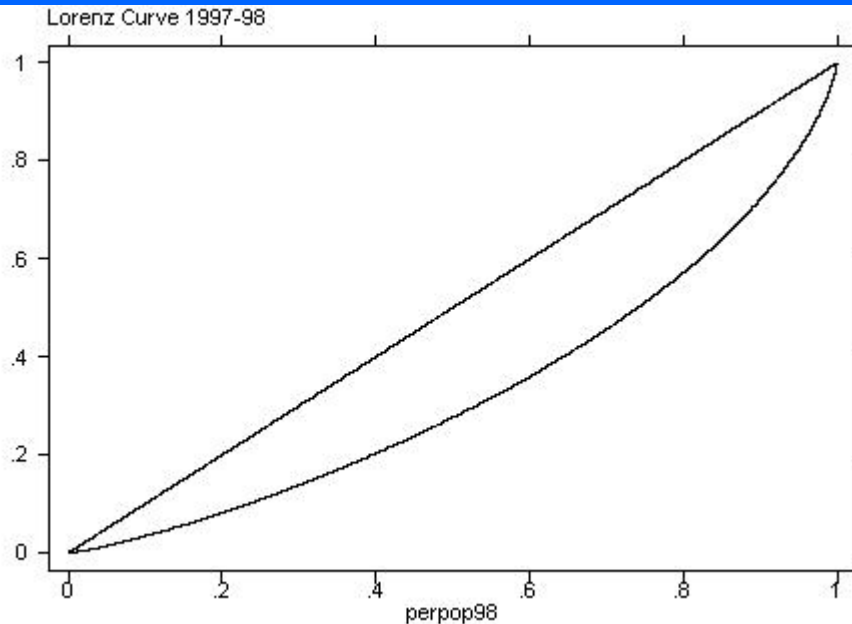
# Impact on the Poor

- **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**
- **Health benefits of tobacco control are progressive and long term**
  - **Tobacco use accounts for about half of health gap between the rich and poor**

# Equality Evidence from Vietnam- Lorenz Curve

Including tobacco

Excluding tobacco



Source: Hoang Van Kinh et al. *calculation from VLSS 1997-98*

Note: Inequality increases when removing taking tobacco spending from household spending

# Non-price Measures to Reduce Tobacco Demand

- **Improve consumer information: dissemination of research findings, warning labels, counter-advertising**
- **Comprehensive ban on advertising and promotion**
- **Restrictions on smoking in public and work places**
- **Increase access to services supporting cessation and to nicotine-replacement therapies (NRT)**

# **Many Effective Policy Measures Cost Little or Nothing**

- **Advertising bans**
- **Clean Indoor Air Policies**
- **Package Warnings**
- **Ingredient Disclosure/Product Regulation**

# How Cost-effective are Tobacco Control Measures?

US dollars per healthy year life gained

<i>Region</i>	<i>Price increases of 10%</i>	<i>Non-price measures with effectiveness of 5%</i>	<i>NRT (publicly provided) with 25% coverage</i>
<i>Low / middle income</i>	<i>4 to 34</i>	<i>68 to 272</i>	<i>276 to 297</i>
<i>High Income</i>	<i>165 to 1,370</i>	<i>1,347 to 5,388</i>	<i>746 to 1,160</i>

**Note: 3% discount rate, costs for non-price measures and all benefits projected over 30 years**

*Source: Ranson et al., 2000*

# Tobacco's Importance to the Economy

- **A significant economic *presence* does not imply significant economic *dependence*.**
- **Spending on tobacco is rarely important to an economy.**
  - *Money not spent on tobacco will be spent on other goods and services instead, thereby creating a comparable number of jobs.*

**Real costs = costs of transition to alternative products.**