

Economics of Tobacco Control and Tobacco Tax Policy

Hana Ross, PhD.

Research Triangle Institute



<http://www.tobaccoevidence.net>

Most smokers live in developing countries

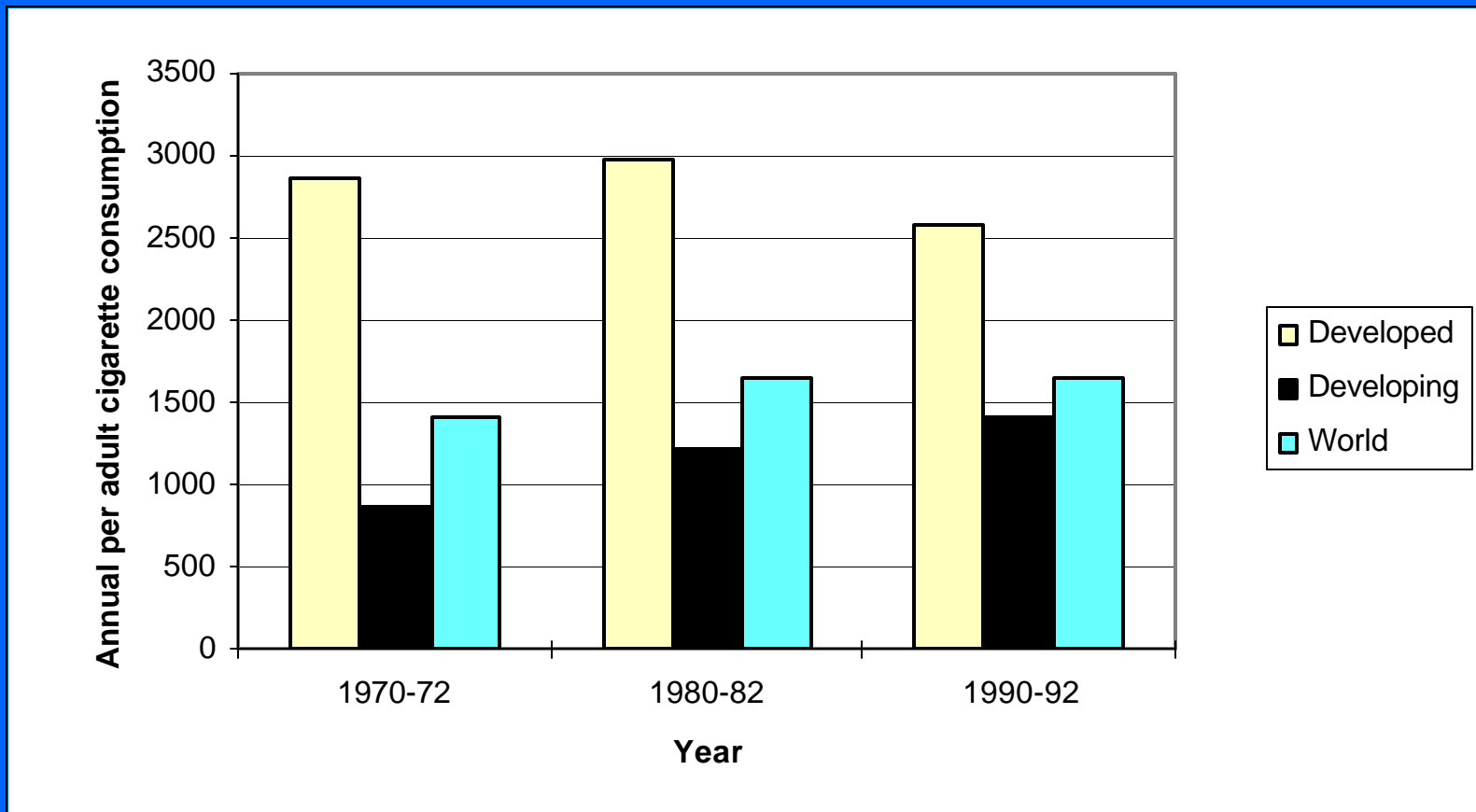
Current smokers in 1995 (in millions)

<u>Region</u>	<u>Number</u>
Low/Middle income	933
High Income	209
World	1,142

Quit rates low in low income countries

- ◆ 5-10% in China, India
- ◆ 30-40% in UK

Per capita cigarette consumption has increased in developing countries

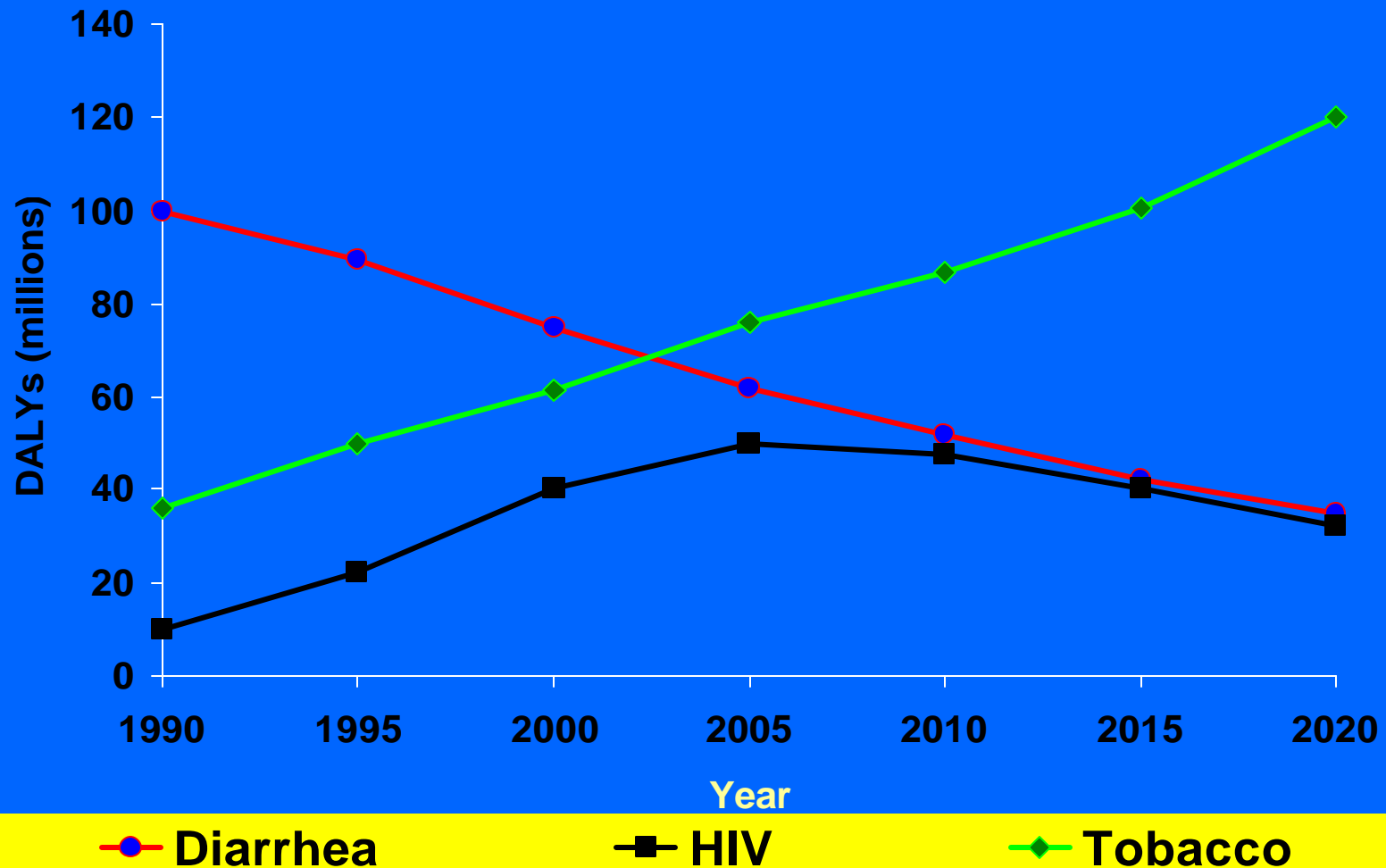


Source: WHO 1997

CHINA: Current and Future Tobacco Deaths (in millions per year)

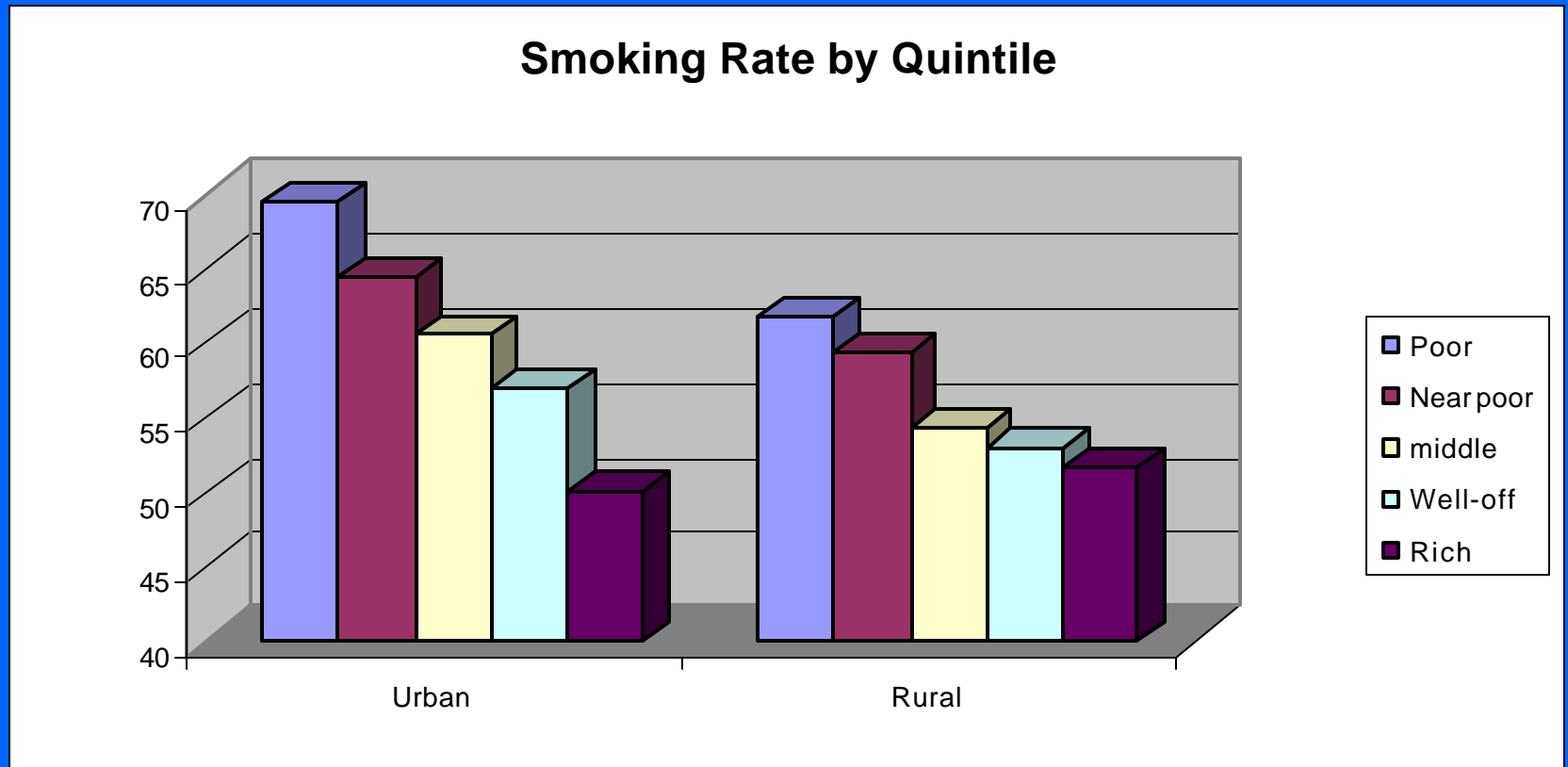
1990	—————	0.6 m
2000	—————	0.8 m
2010	—————	2.0 m
mid-2000s	———	3.0 m

DALYs Attributable to Diarrhea, HIV and Tobacco, 1990-2020 (baseline scenario)



Source: Murray C and Lopez A. The Global Burden of Disease. 1996.

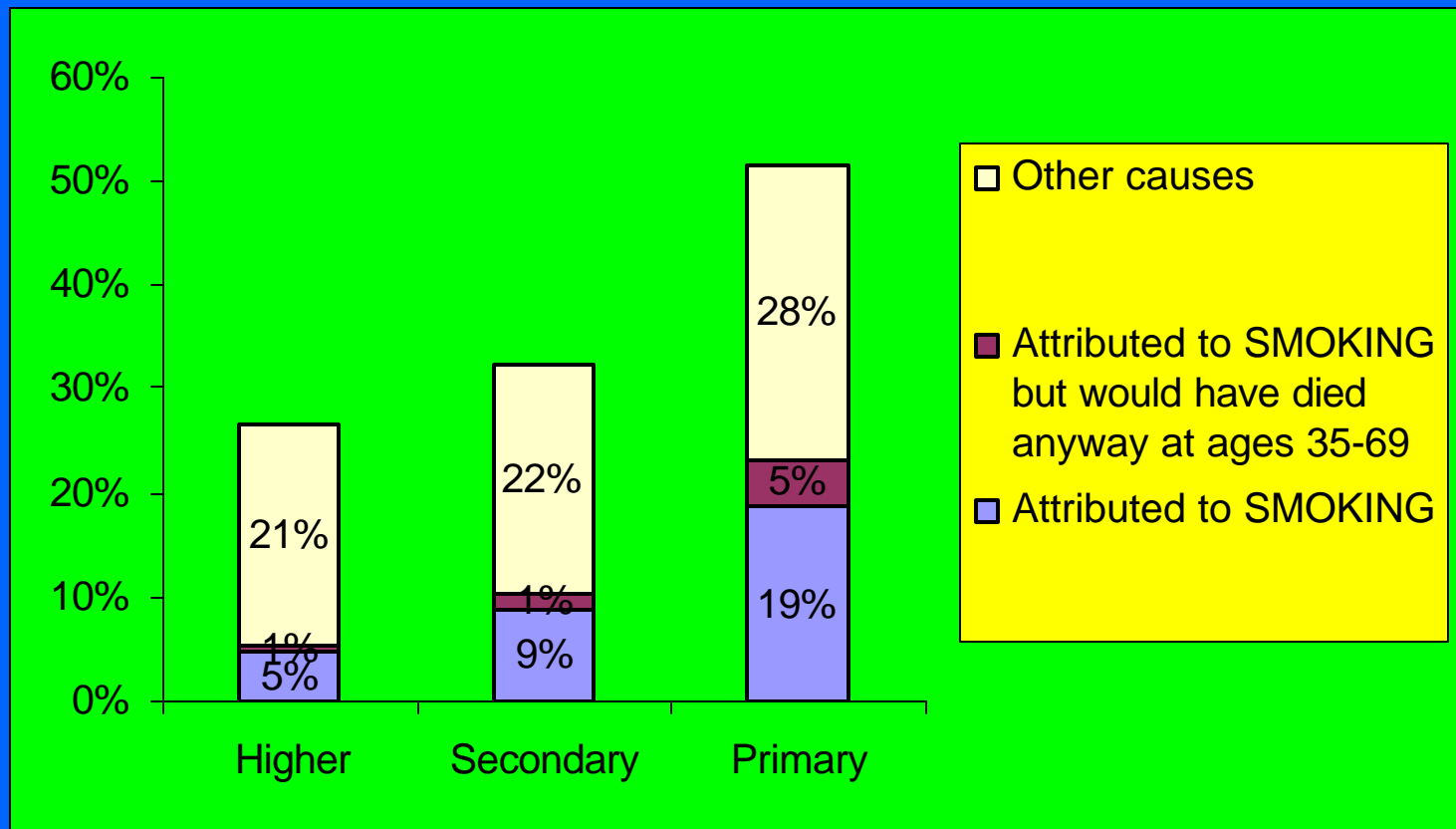
Smoking Rate in Vietnam by Income



Source: National Health Survey 2002.

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

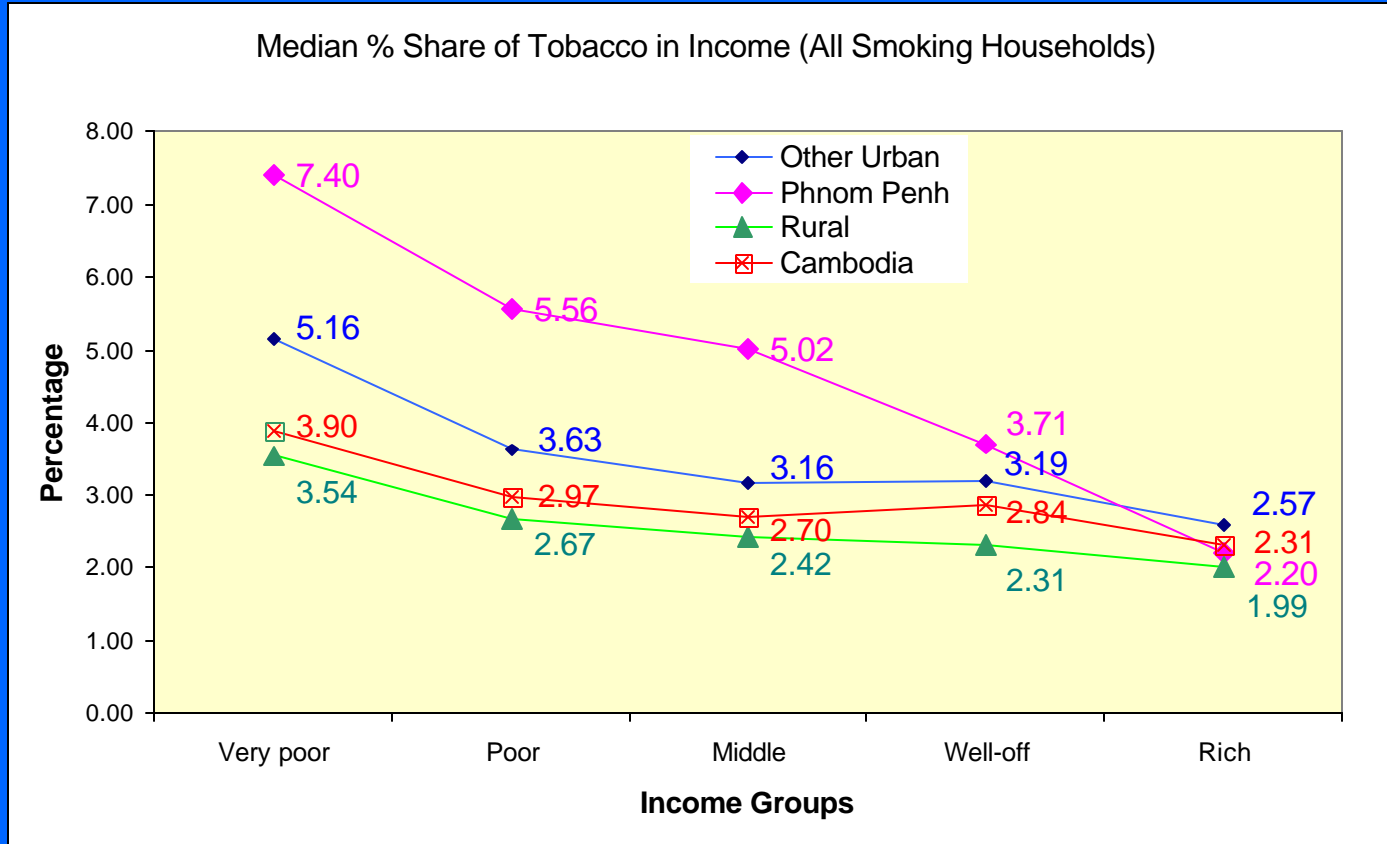
Risk of death of a 35 year old male before age 70,
by education levels in Poland, 1996



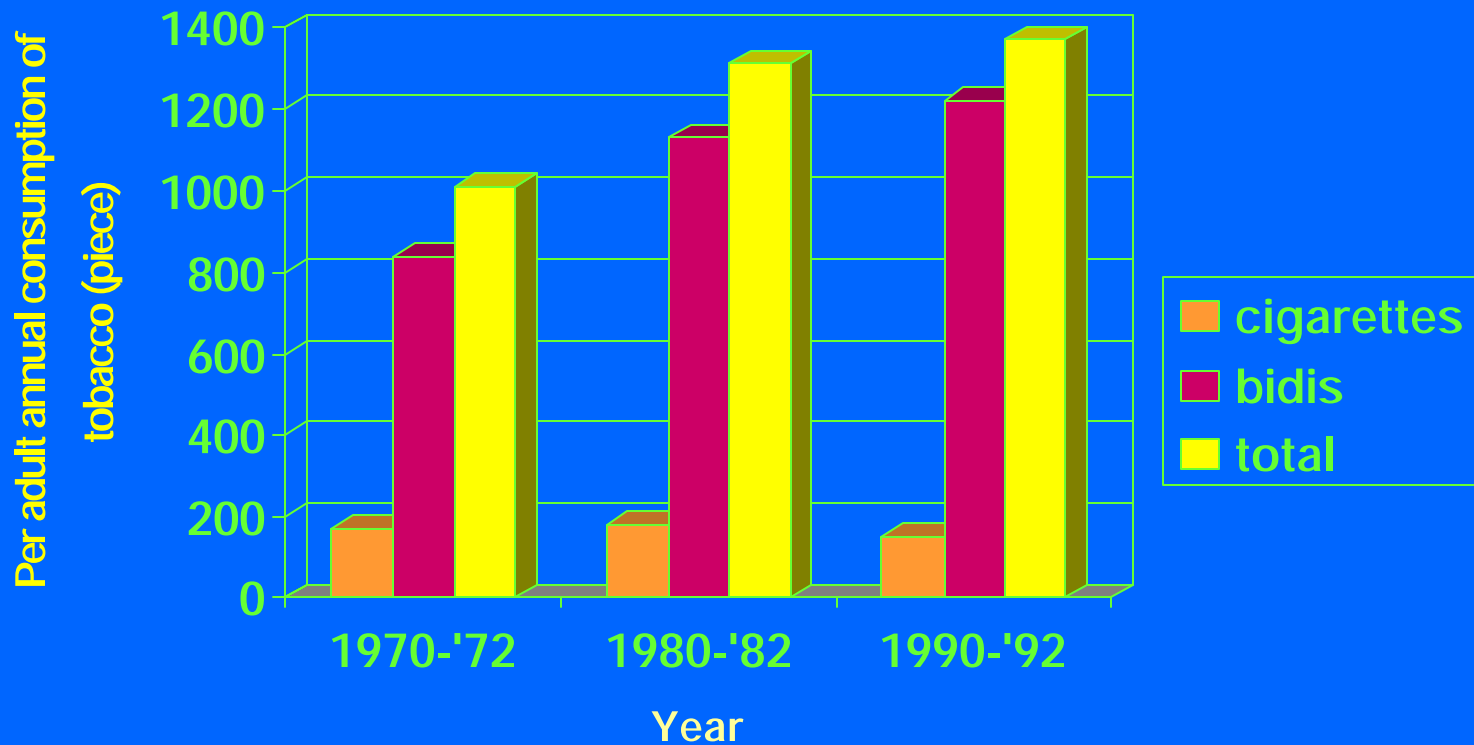
Source: Bobak *et al.*, 2000

The Poor Are Hurt Most by Tobacco

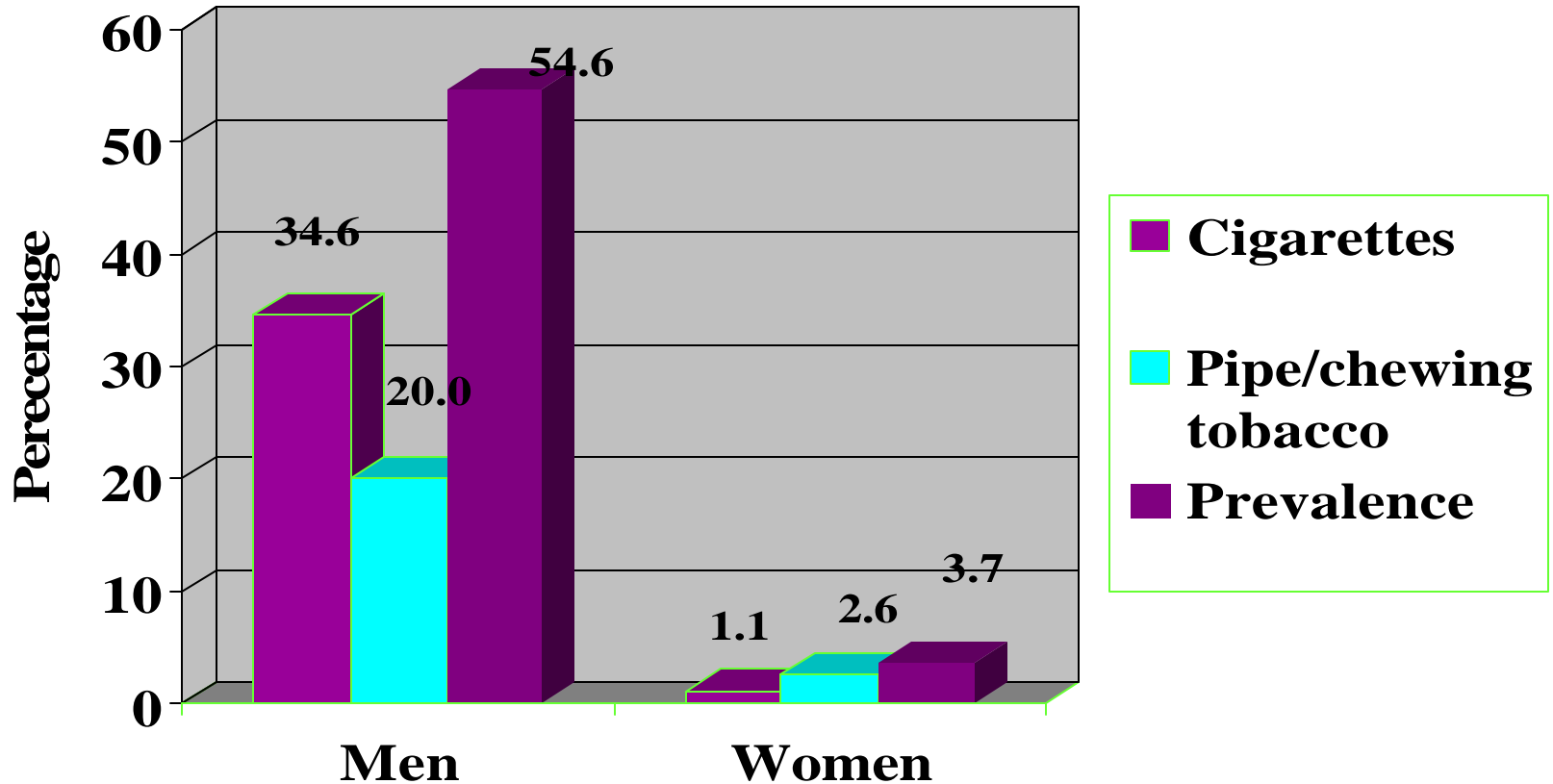
Portion of income spent on tobacco increases in Cambodia as income decreases



Per Adult (15 And Above) Annual Consumption of Cigarettes and Bidis in India

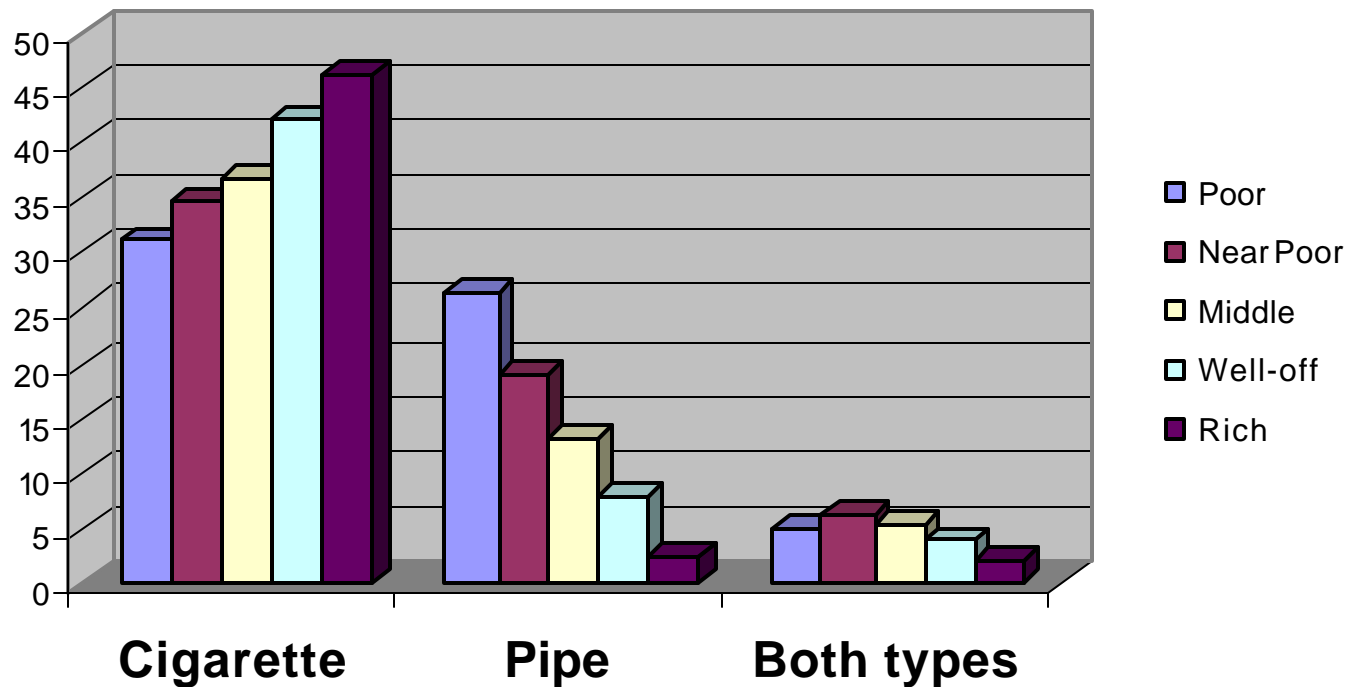


Smoking Rate in Vietnam 2002



Smoking Prevalence by Income and Tobacco Type

Smoking Rate by Quintile & Type of Tobacco



Should Government Intervene in the Tobacco Market?

Yes, because tobacco use results in inefficiencies
(distorts the natural balance in the market economy)

- It imposes physical or financial costs on smokers, non-smokers and financial costs on the government
- Information about the health risks of tobacco is not well spread and understood (7 in 10 of Chinese smokers thought smoking does them “little or no harm”)
- The risk of addiction is underestimated (in high-income countries, 7 in 10 smokers wish they had not started)

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.^{1,2}

Half of this loss occurs in developing countries.¹

Estimate of Total Costs of Tobacco Use in Philippines

Health care - P27 billion (\$0.7 billion)

Productivity loss due to illness – P1 billion

Productivity loss due premature death - P18 billion

Annual total costs at least = P46 billion (\$1.2 billion) or 1.07% of GDP

What Can Government Do?

Adopt policies changing motivation of people to smoke:

- Use economic incentives to reduce demand for tobacco (taxes, ban on smoking in indoor spaces, advertising ban)
- Deliver information on the harmful effects of smoking (anti-smoking campaigns)
- Reduce social acceptability of smoking (by banning smoking in public buildings, setting examples among respected people)

Higher Taxes Are Most Effective

Higher tobacco taxes lead to higher prices of tobacco products

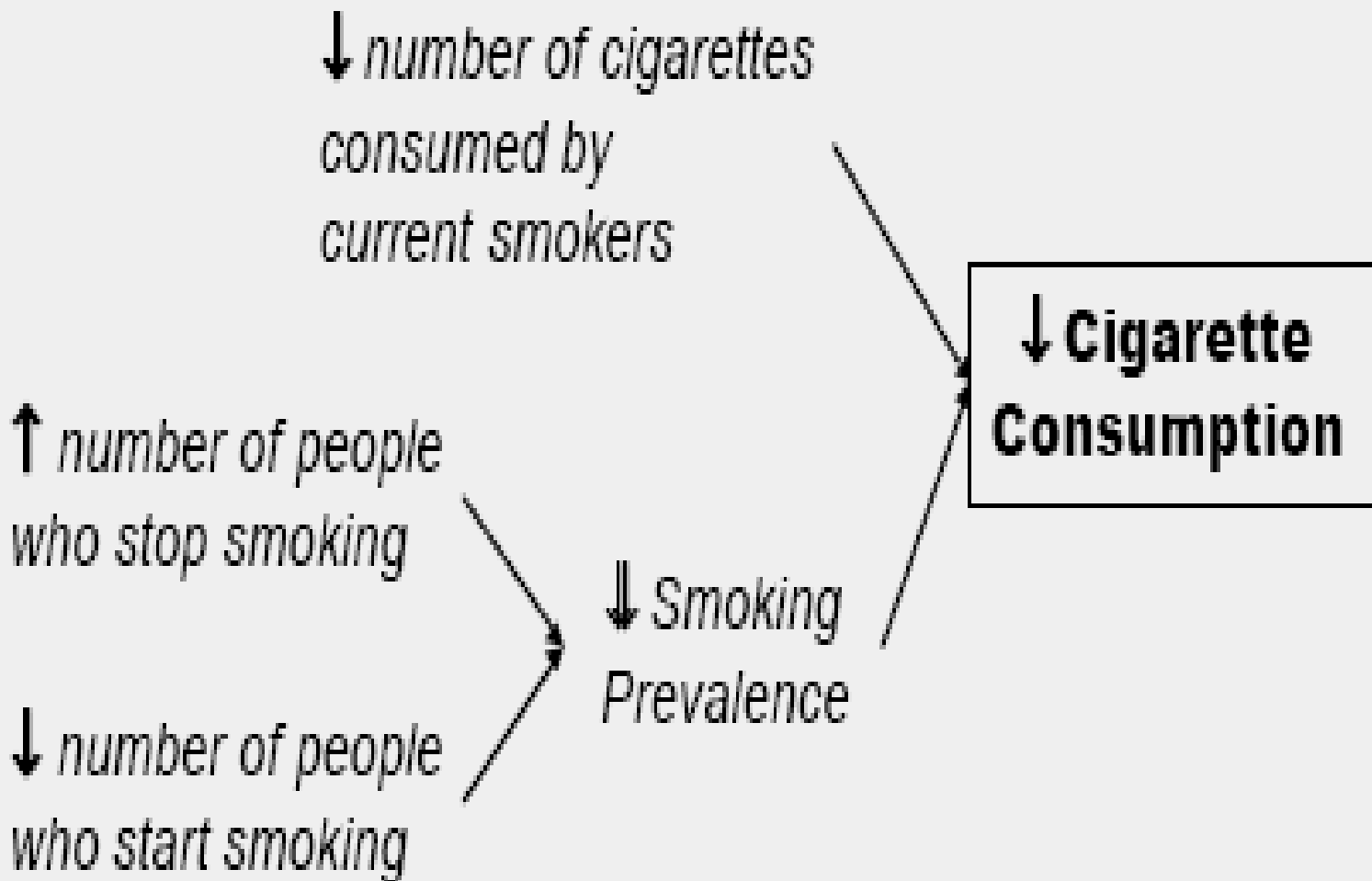
A 10% price increase may reduce demand by:

- 4% in high-income countries
- 8% in low or middle-income countries

Demand consists of:

- smoking participation (% of population that smoke) – can be changed via cessation and initiation
- intensity of smoking among smokers

Impact of Higher Tobacco Prices (1)



Impact of Higher Tobacco Prices (2)

- **Make smokers to quit**

USA: 10% increase in price ? 10% smokers try to quit and 3.5% succeed in quitting

- **Reduce # cigarettes consumed by smokers**
Vietnam: 10% price increase ? 5% reduction in # of cigarettes, or about 1 cigarette a day for a pack per day smoker (or 365 less cigarettes per year)

Impact of Higher Tobacco Prices (3)

- **Prevent initiation**

USA: 10% increase in price ? 6.3% reduction in smoking initiation among young people

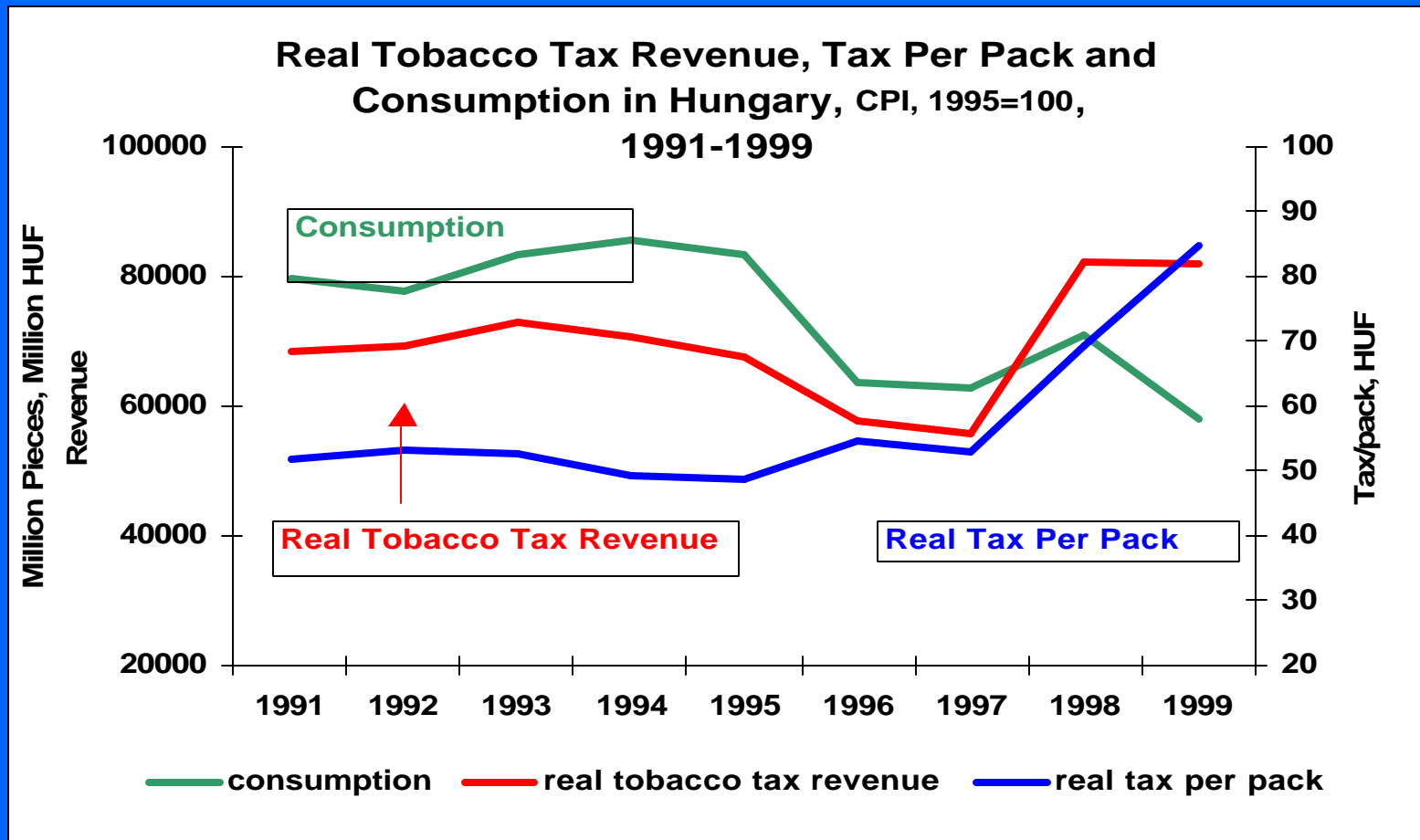
Young people and the low income population are the most price responsive: US youth is up to 3-time more price responsive; Vietnam 2 lowest income quintiles are twice more price responsive compared to 2 highest income quintiles

Long-run effect of higher price is greater (double)

Additional Impact of Tobacco Tax Increase

- **Increase collection of cigarette taxes**
- **Reduce overall expenditures on cigarettes among the lowest income groups**

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

Potential Revenue Gain from an Annual Increase of 5% in Cigarette Prices

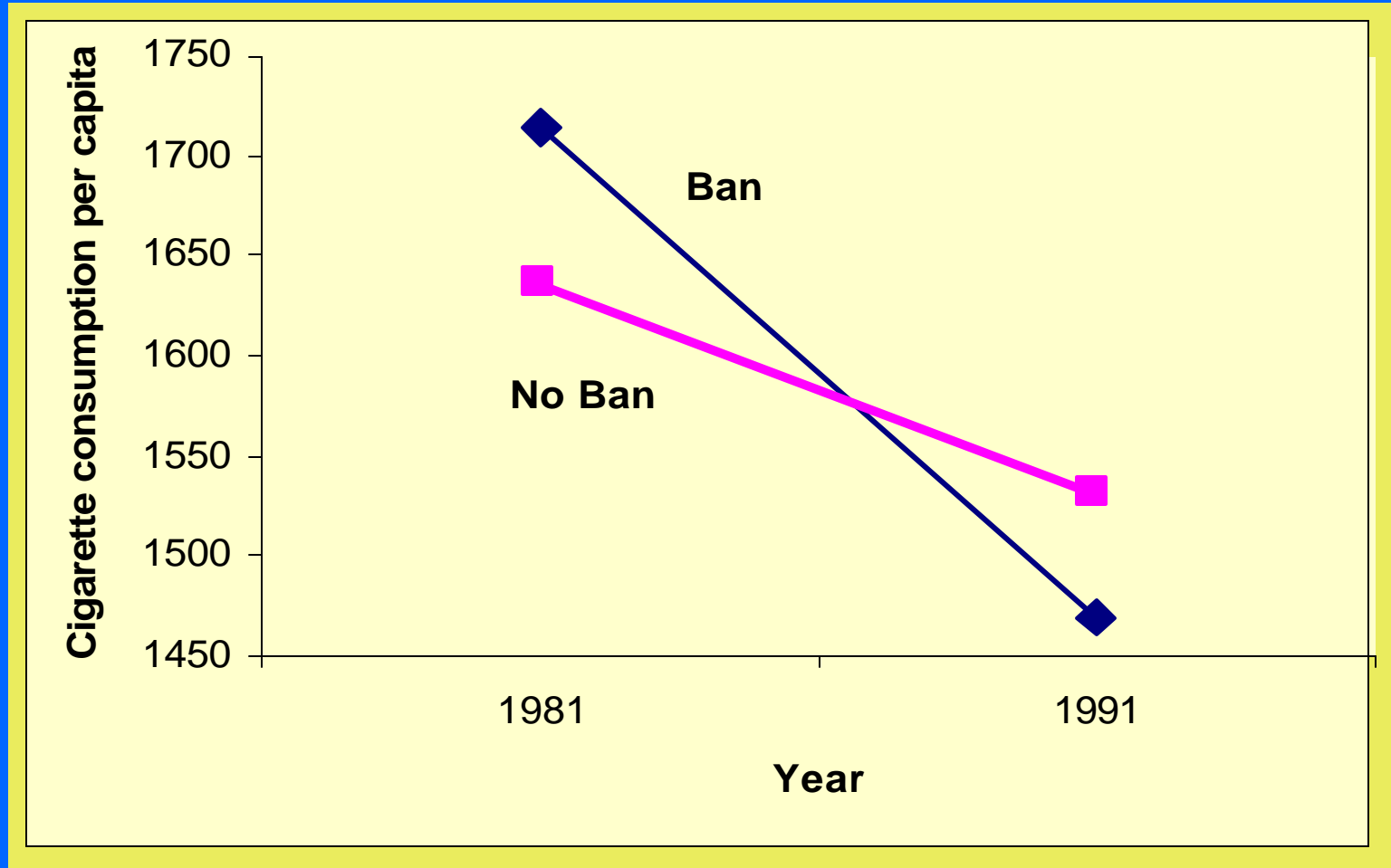
		Revenue gain (million US\$)	
		Annual	Cumulative since 2000
Bangladesh	2005	88	302
	2010	174	994
Indonesia	2005	740	2 548
	2010	1 434	8 300
Maldives	2005	2	8
	2010	4	24
Nepal	2005	39	158
	2010	69	440
Sri Lanka	2005	64	238
	2010	126	725
Thailand	2005	423	1 456
	2010	822	4 750

Non-price Measures to Reduce Tobacco Demand

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

Comprehensive Advertising Bans Reduce Cigarette Consumption

Consumption trends in countries with such bans vs. those with no bans
(n=102 countries)



Potential Impact of Price Increase of 10% and a Package of Non-price Measures

Region	Change in number of smokers (million)		Change in number of deaths (millions)	
	10% price increase	Non-price measures that reduce prevalence by 2%	10% price increase	Non-price measures that reduce prevalence by 2%
Low/Middle income	-38	-19	-9	-4
High-income	-4	-4	-1	-1
World	-42	-23	-10	-5

The World Bank 1999 – Recommendations Based on Comprehensive Review of the Evidence

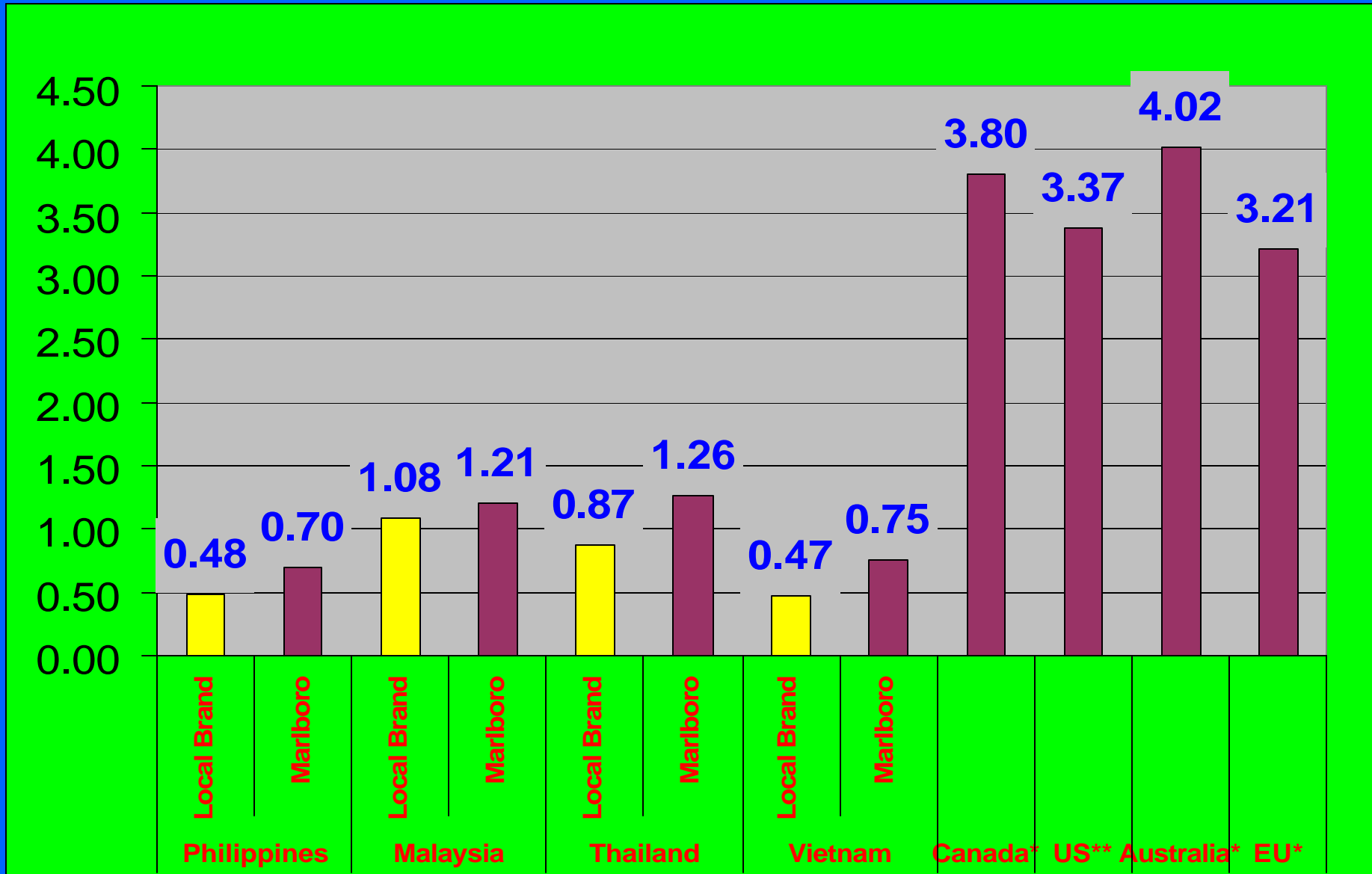
Governments: should adopt multiple strategy,
tailored to each country

- **Tobacco tax increases: 2/3 to 4/5 of retail price**
- **Advertising and promotion bans**
- **Consumer information –warning labels, mass-media campaigns**
- **Restrictions on public smoking**
- **Widen access to cessation therapies**
- **Research**

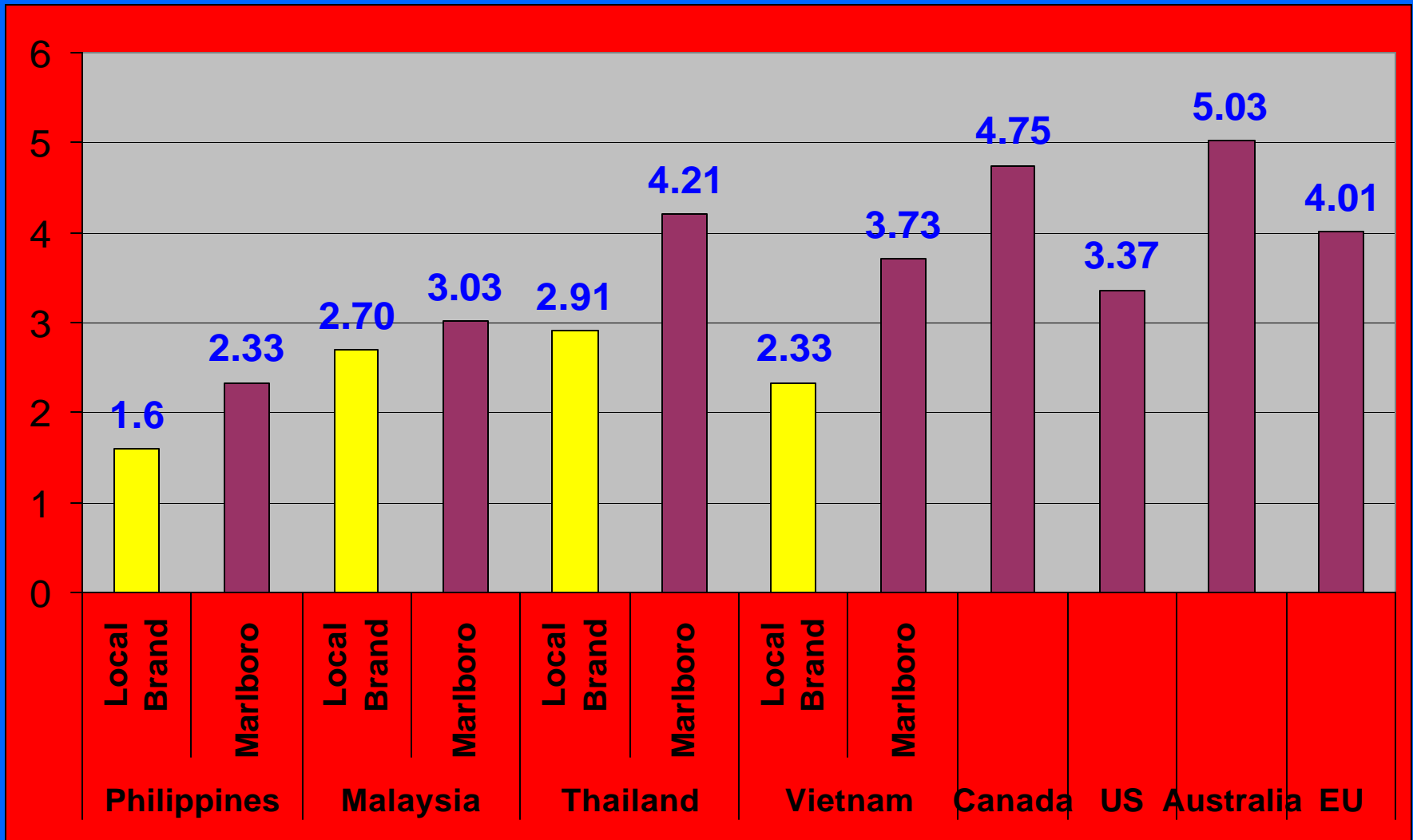
Many Effective Policy Measures Cost Little or Nothing

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

Cigarette Prices in \$, 2001

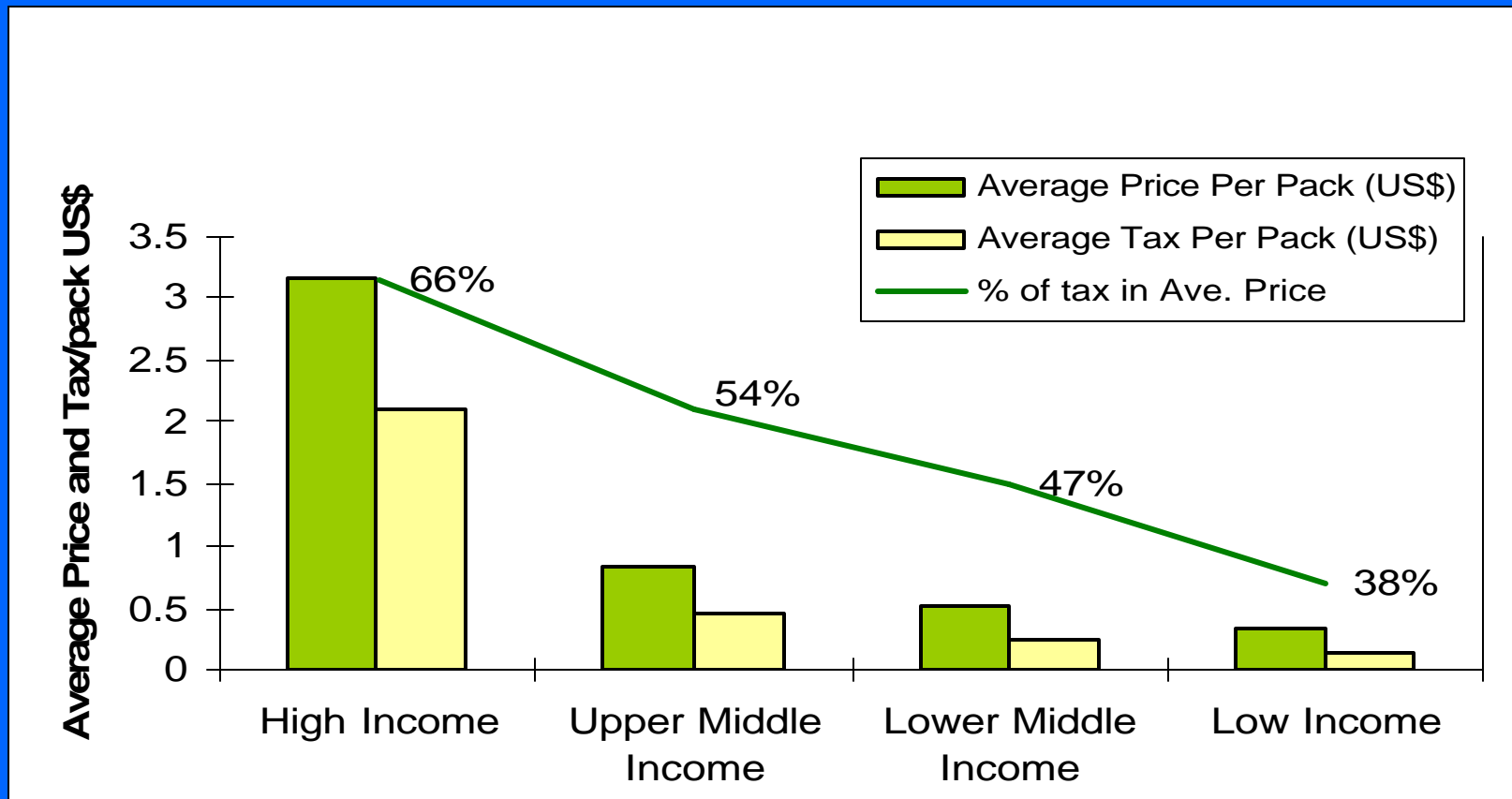


Cigarette Prices in PPP \$, 2001

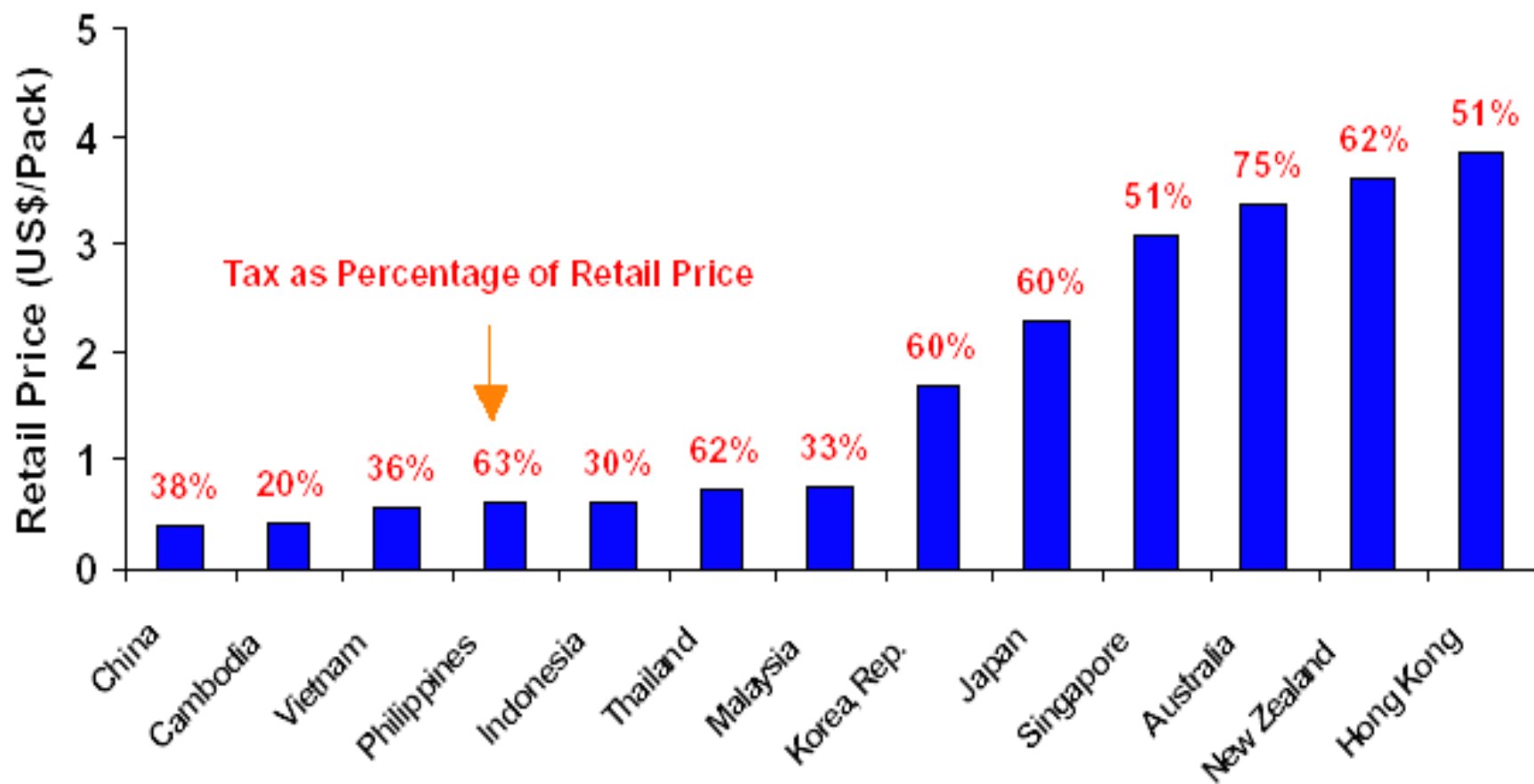


There is Still Room, Especially in Lower-Income Countries, to Raise Cigarette Taxes

Cigarette Prices and Taxes (Excise & VAT), 1999

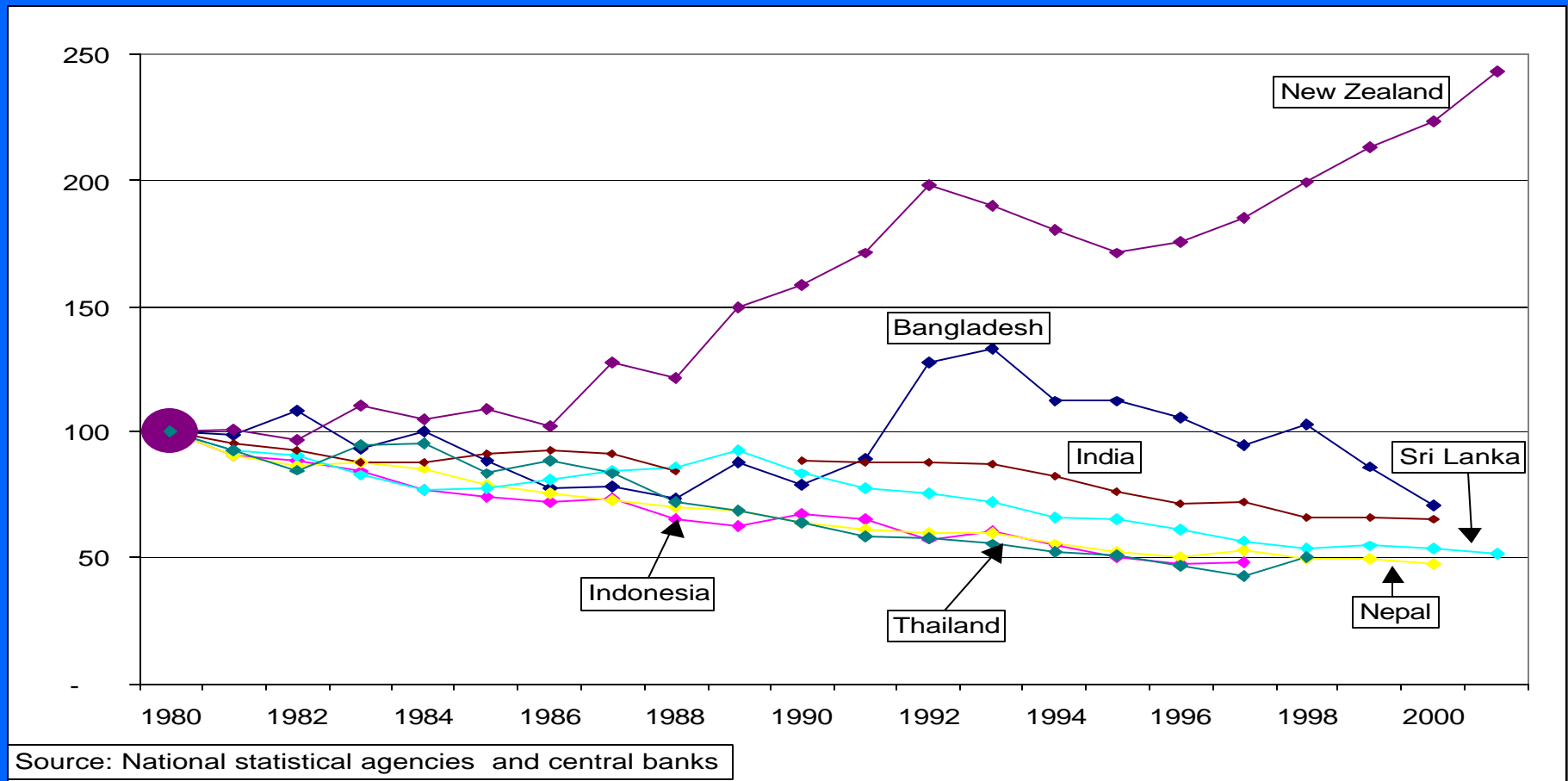


Retail Prices Per Pack and Taxes as Percentage of Prices for Selected EAP Countries, 1999



How Costly Are Tobacco Products?

Real Tobacco Prices divided by GDP 1980-2000
(Index 1980=100)



Should Tobacco Taxes be Earmarked?

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

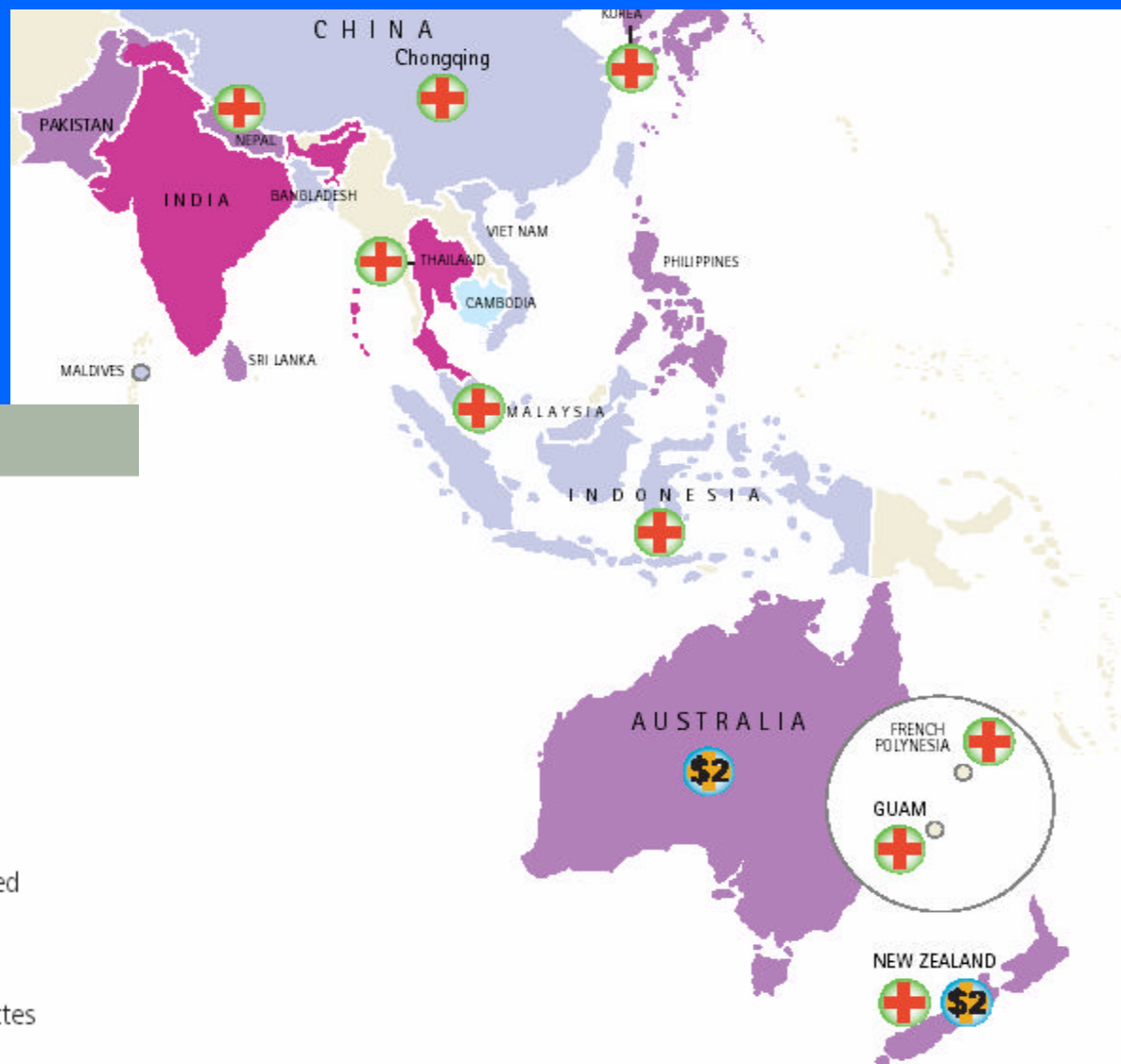
- establish Health promotion foundations
- pay for health care, help tob. farmers to switch to alternative products

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

SEA and Australian Region



Tax as a proportion of cigarette price

2000 or latest available data

75% or more

50% - 74%

25% - 49%

24% or less

no data

countries or states with tobacco taxes dedicated to tobacco control, health promotion or general health care

countries with tax of \$2 or more for 20 cigarettes

Source: Judith Mackay, Michael Eriksen : Tobacco Atlas

Summary

Tobacco consumption hurts the economy

Higher tobacco taxes will reduce smoking prevalence, increase tax collection and help to reduce poverty

Taxes in Laos and Cambodia are low compared to WB recommended standard

Taxes on other tobacco products are very low or non-existent

Taxes need to be increased periodically to account for inflation and income effect

Tobacco taxes can be earmarked to support tobacco control activities