

# Tobacco Taxation

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## Tobacco industry clearly understands the impact of tobacco taxation

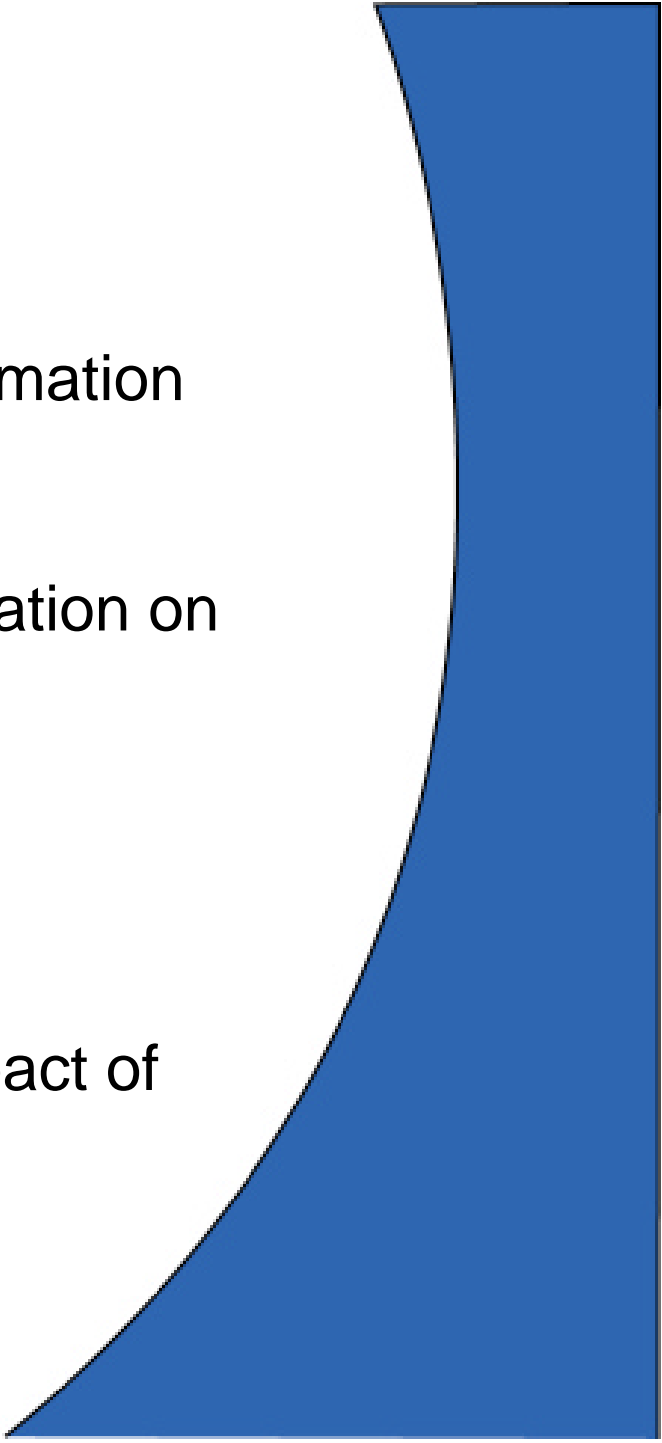
"With regard to taxation, it is clear that in the US, and in most countries in which we operate, tax is becoming a major threat to our existence."

"Of all the concerns, there is one - taxation - that alarms us the most. While marketing restrictions and public and passive smoking (restrictions) do depress volume, in our experience taxation depresses it much more severely. Our concern for taxation is, therefore, central to our thinking...."

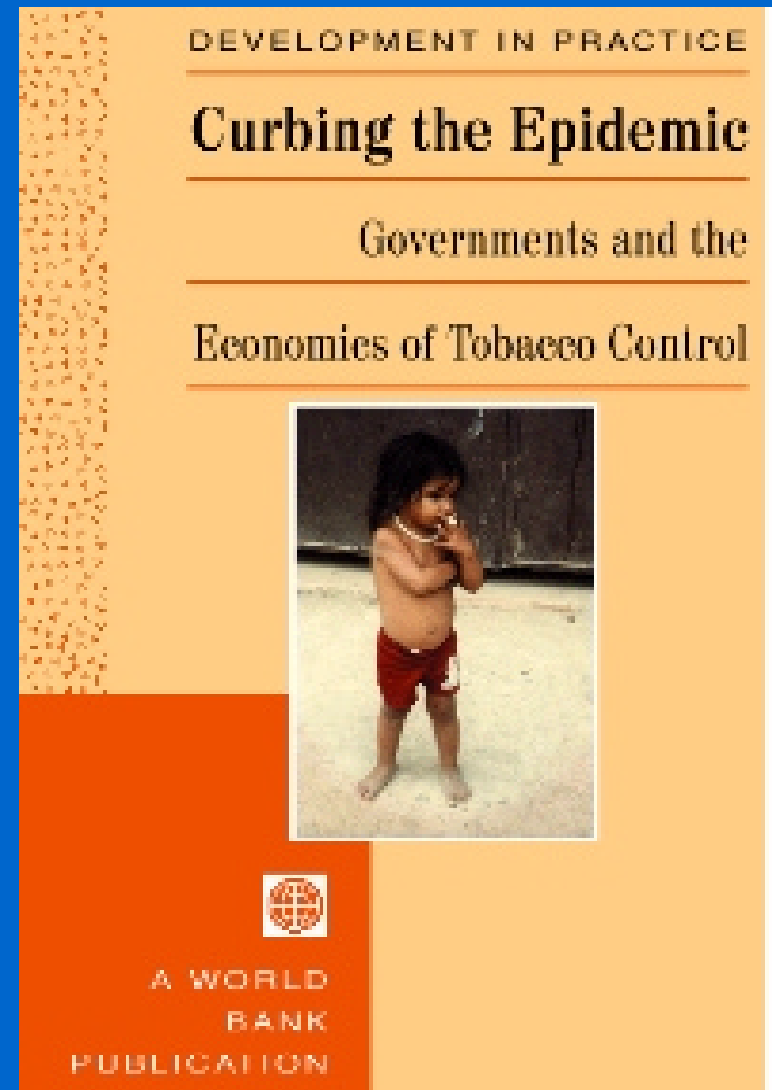
Philip Morris, "Smoking and Health Initiatives", 1985



# Overview

- Background/descriptive information on tobacco taxes and prices
  - Review of impact of tobacco taxation on tobacco use
    - Overall
    - Youth and young adults
    - Low income populations
  - Myths and realities about economic impact of increased tobacco taxation
- 

# Tobacco Control in Developing Countries and Curbing the Epidemic



# Tobacco Taxes

- Governments have taxed tobacco for centuries, primarily to generate revenues

- Adam Smith, in *The Wealth of Nations*:

*“Sugar, rum and tobacco are commodities which are no where necessities of life, which are become objects of almost universal consumption, and which are therefore extremely proper subjects of taxation”*

- More recently, some use tobacco taxation as means to improve public health

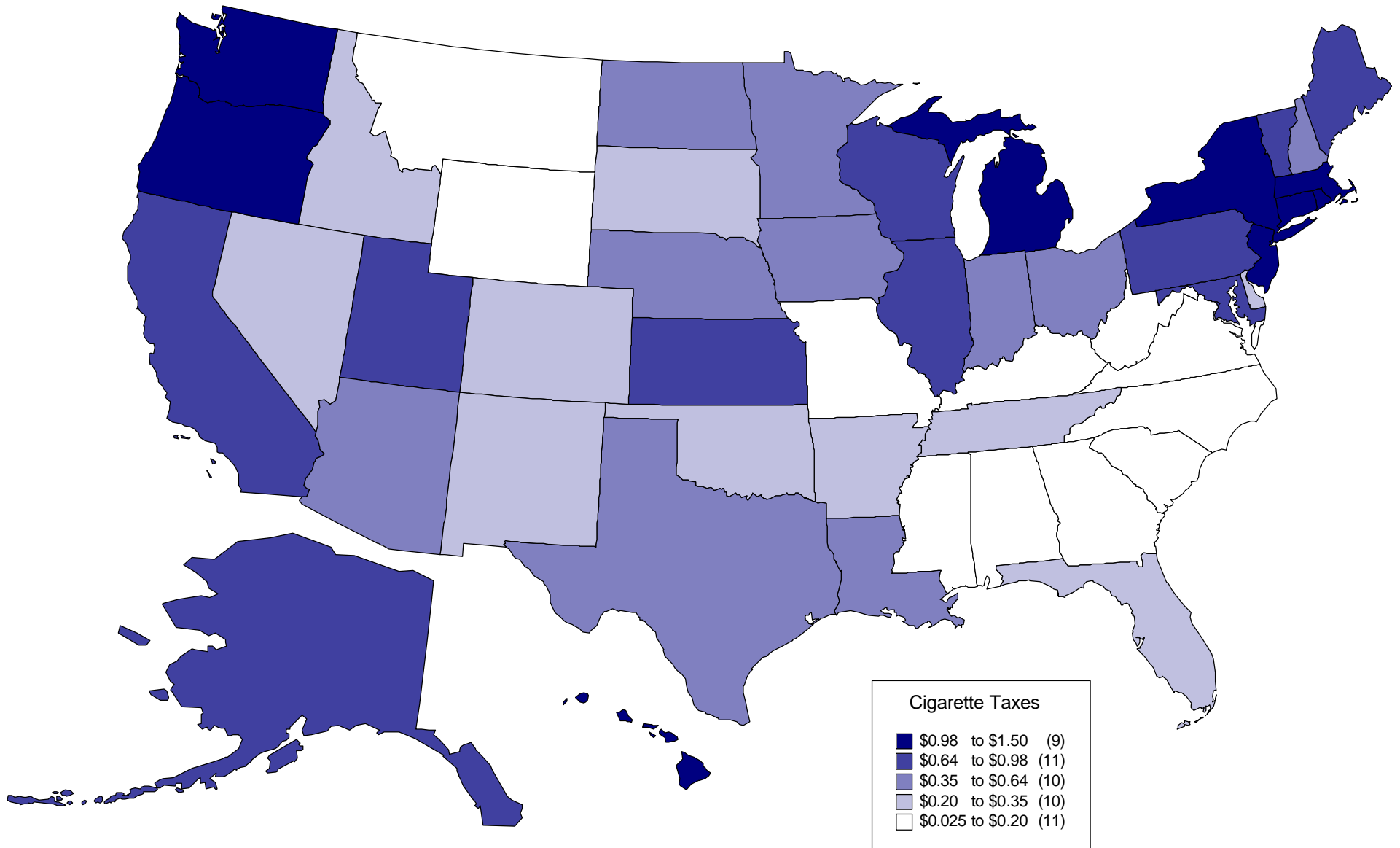
Source: Smith, 1776; Chaloupka et al., 2000

# Tobacco Taxes

- Mix of specific and *ad valorem* excise taxes
- Applied based on weight, number of cigarettes, packs, other product characteristics
- Choice has impact on product “quality”, product characteristics, industry pricing strategies, and impact of inflation on price
- Also subject to mix of import/export taxes, and sales taxes
- Higher taxes result in higher prices

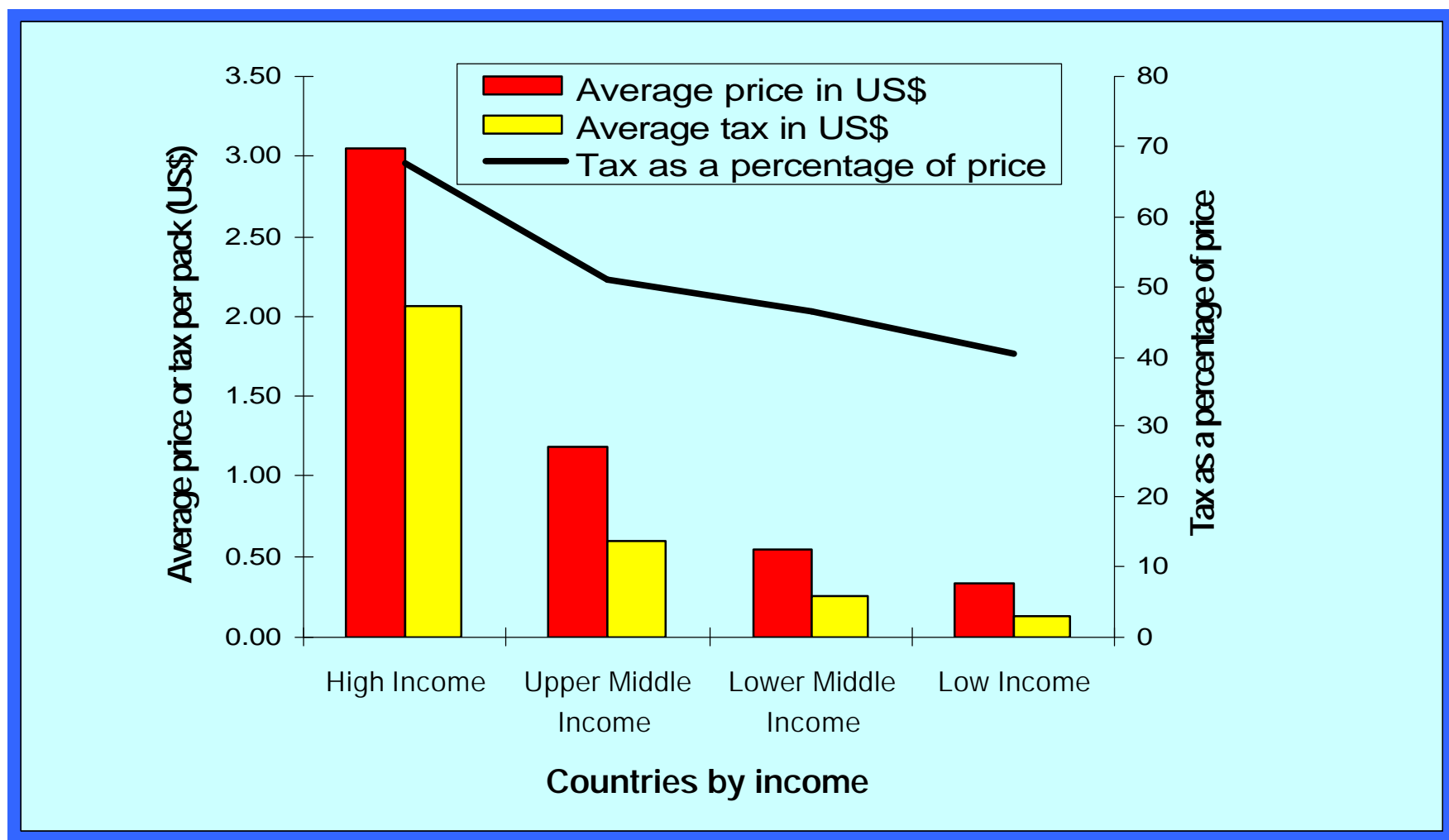
Source: Sunley, *et al*, 2000; Chaloupka *et al.*, 2000

## State Cigarette Excise Taxes



Tax rates currently in effect or scheduled to take effect in 2002

# Cigarette Taxes and Prices Across Countries, by Income Level



Source: Chaloupka *et al.*, 2000

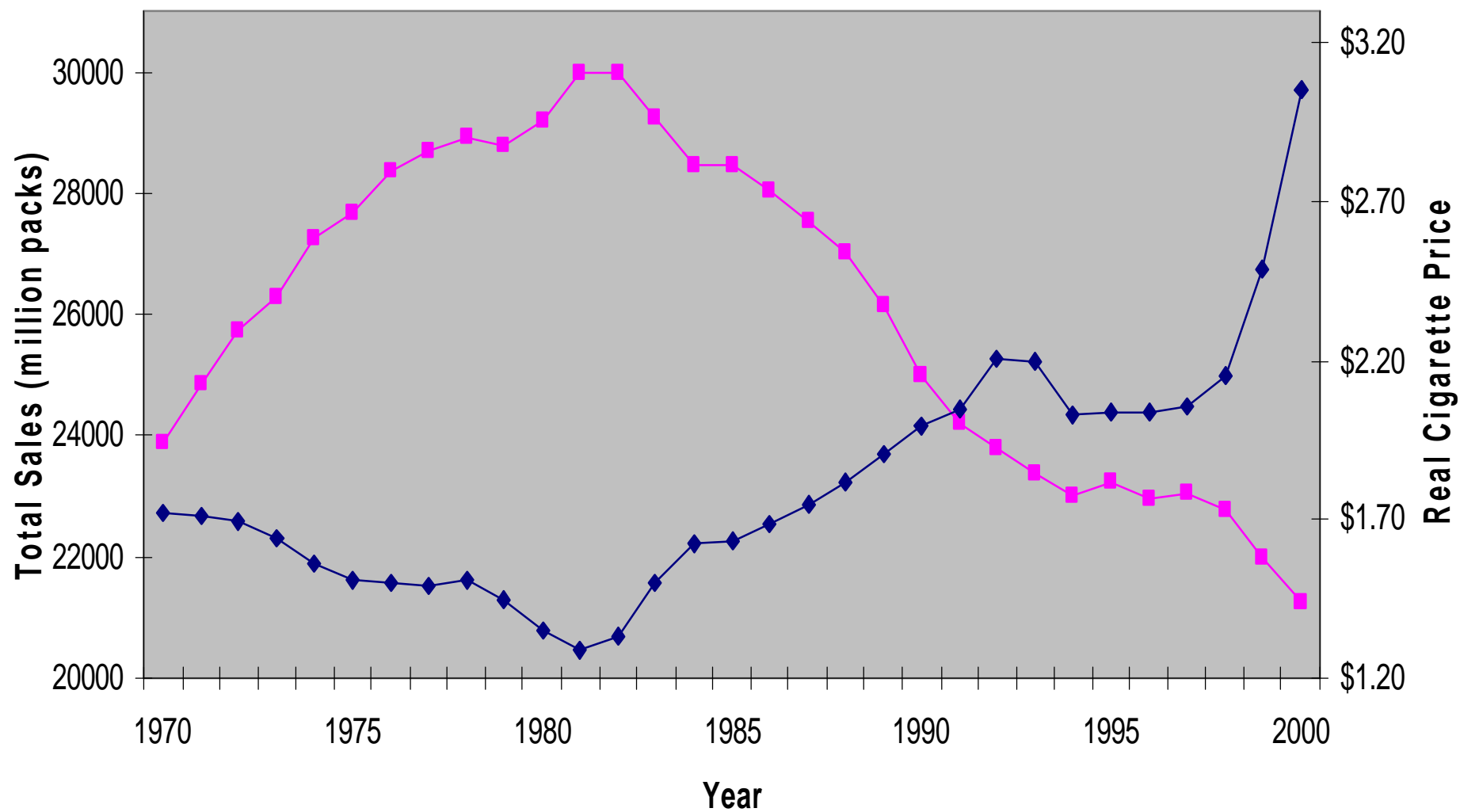


# Tobacco Taxes and Tobacco Use

- Higher taxes induce quitting, prevent relapse, reduce consumption and prevent starting.
- Estimates from high-income countries indicate that 10% rise in price reduces overall cigarette consumption by about 4%
- About half of impact of price increases is on smoking prevalence; remainder is on average cigarette consumption among smokers
- Some evidence of substitution among tobacco products in response to relative price changes

Source: Chaloupka *et al.*, 2000

## Total Cigarette Sales and Cigarette Prices, 1970-2000



# Cigarette Prices and Smoking Cessation

- Growing evidence that higher cigarette prices Induce smoking cessation
  - 10% price increase reduces duration of smoking by about 10%
  - 10% price increase raises probability of cessation attempt by 10-12%
  - 10% price increase raises probability of successful cessation by 1-2%

Sources: Douglas, 1999; Tauras and Chaloupka, 2001; Tauras, 2001

# Lower SES populations are more price responsive

- Growing international evidence shows that cigarette smoking is most price responsive in lowest income countries
- Evidence from U.S. and U.K. shows that cigarette price increases have greatest impact on smoking among lowest income and least educated populations
  - In U.S., for example, estimates indicate that smoking in households below median income level about 70% more responsive to price than those above median income level

Implies tax increases may be progressive

Sources: Farrelly, et al., 1999; Chaloupka et al., 2000



## Young People More Responsive To Price Increases

- Proportion of disposable income youth spends on cigarettes likely to exceed that for adults
- Peer influences much more important for young smokers than for adult smokers
- Young smokers less addicted than adult smokers
  - Young people tend to discount the future more heavily than adults

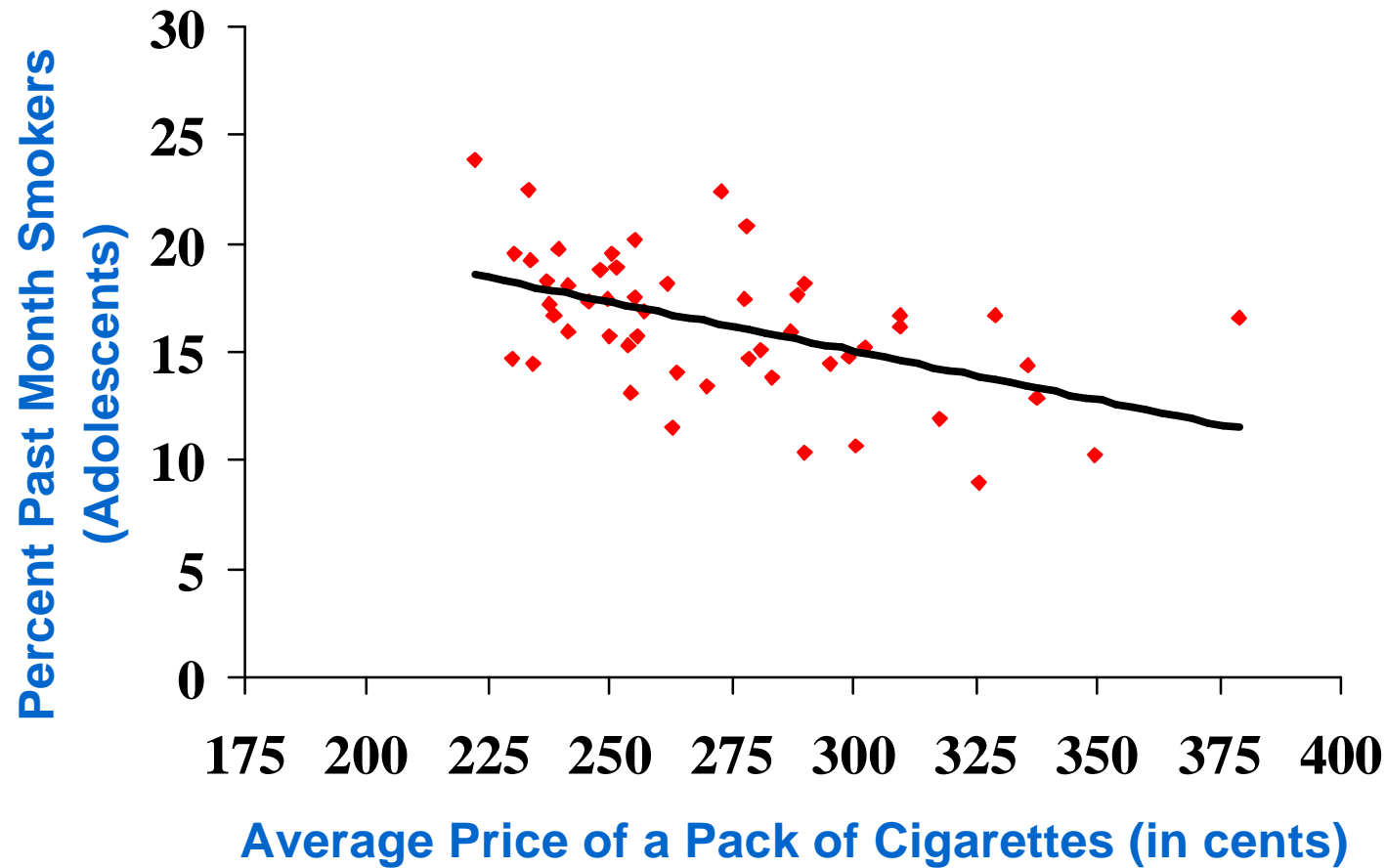
Sources: Grossman and Chaloupka, 1997

# Cigarette Prices And Kids

- A 10% increase in price reduces smoking prevalence among youth by nearly 7%
- A 10% increase in price reduces conditional demand among youth by over 6%
- Higher cigarette prices significantly reduce teens' probability of becoming daily, addicted smokers; prevent moving to later stages of uptake.
- 10% price increase reduces probability of any initiation by about 3%, but reduces probability of daily smoking by nearly 9% and reduces probability of heavy daily smoking by over 10%

Sources: Chaloupka and Grossman, 1996; Tauras, *et al.*, 2001; Ross, *et al.*, 2001

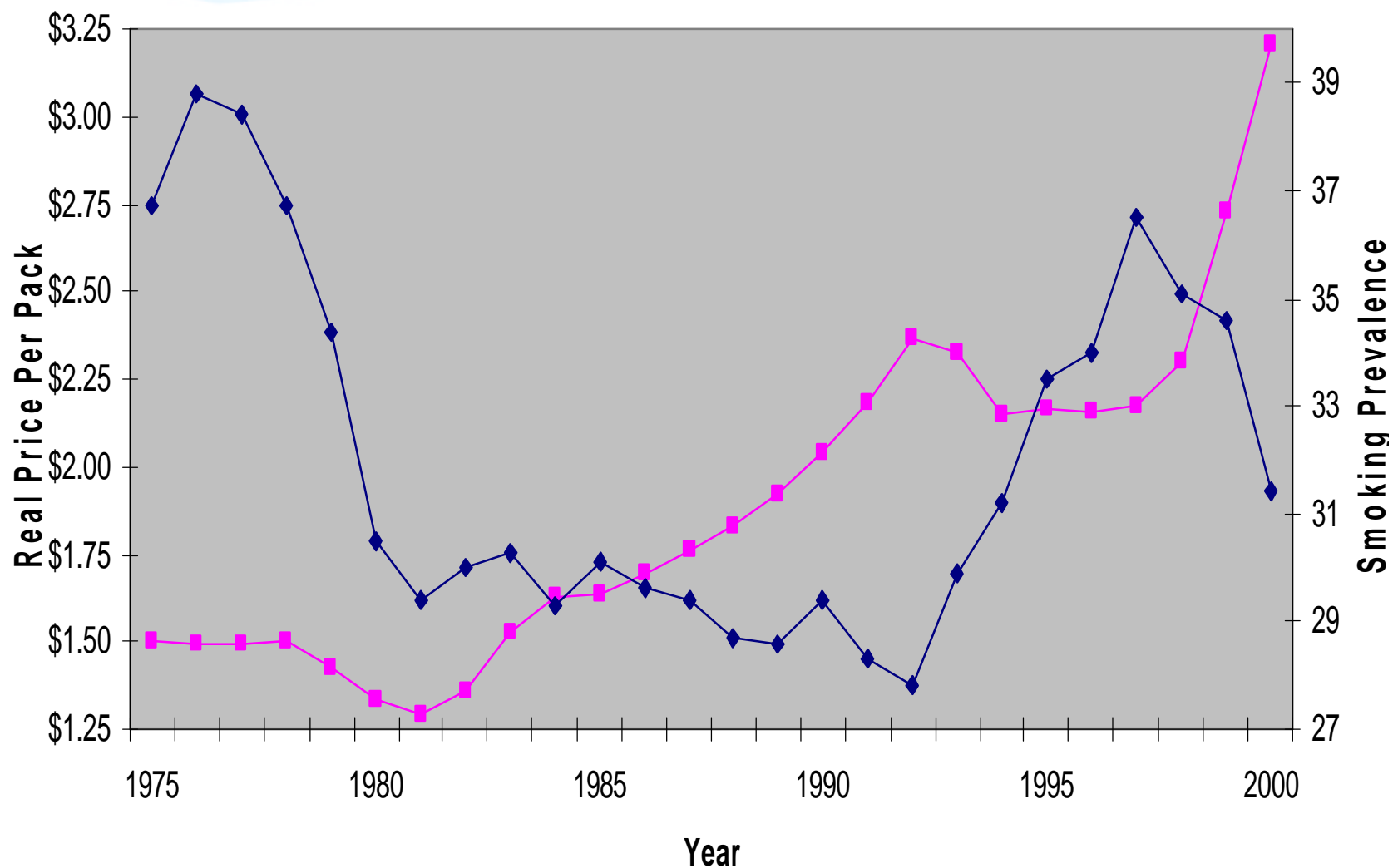
## Cigarette Smoking Among Youth by the Average Price of a Pack of Cigarettes in 50 States and the District of Columbia, 1999



Data: 1999 NHSDA (12-17 year olds); 1999 *Tax Burden On Tobacco*

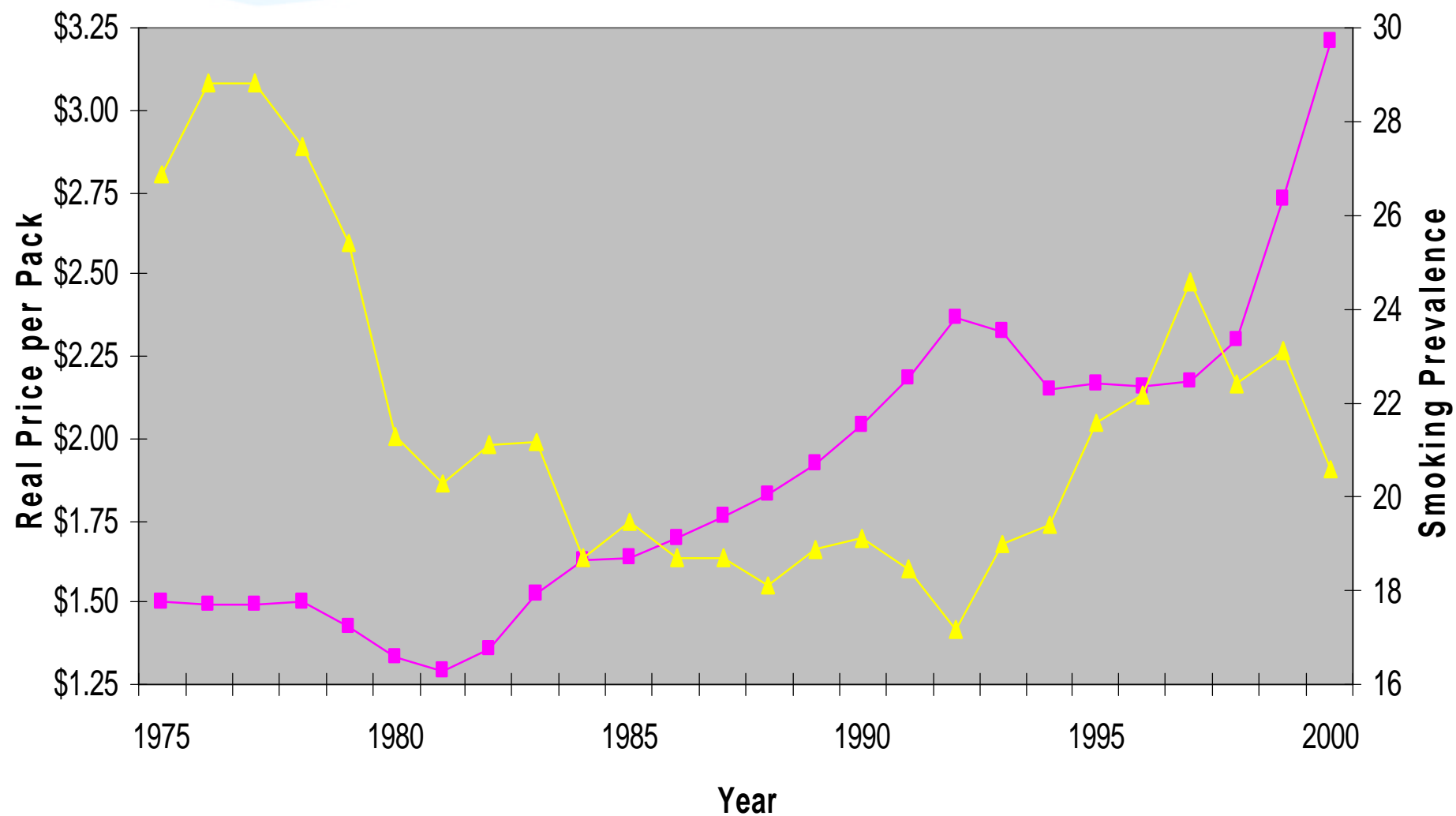
Source: *Giovino, et al., 2001*

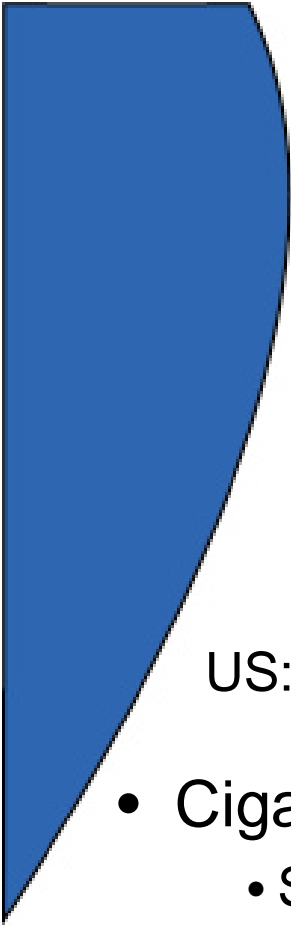
## 12th Grade 30 Day Smoking Prevalence and Price





## 12th Grade Daily Smoking Prevalence and Price





# NEW YORK: \$1.11 Per Pack

## Preliminary Findings on the Impact of March 2000 55-Cent Increase in Cigarette Excise Tax

- Cigarette Price Increases

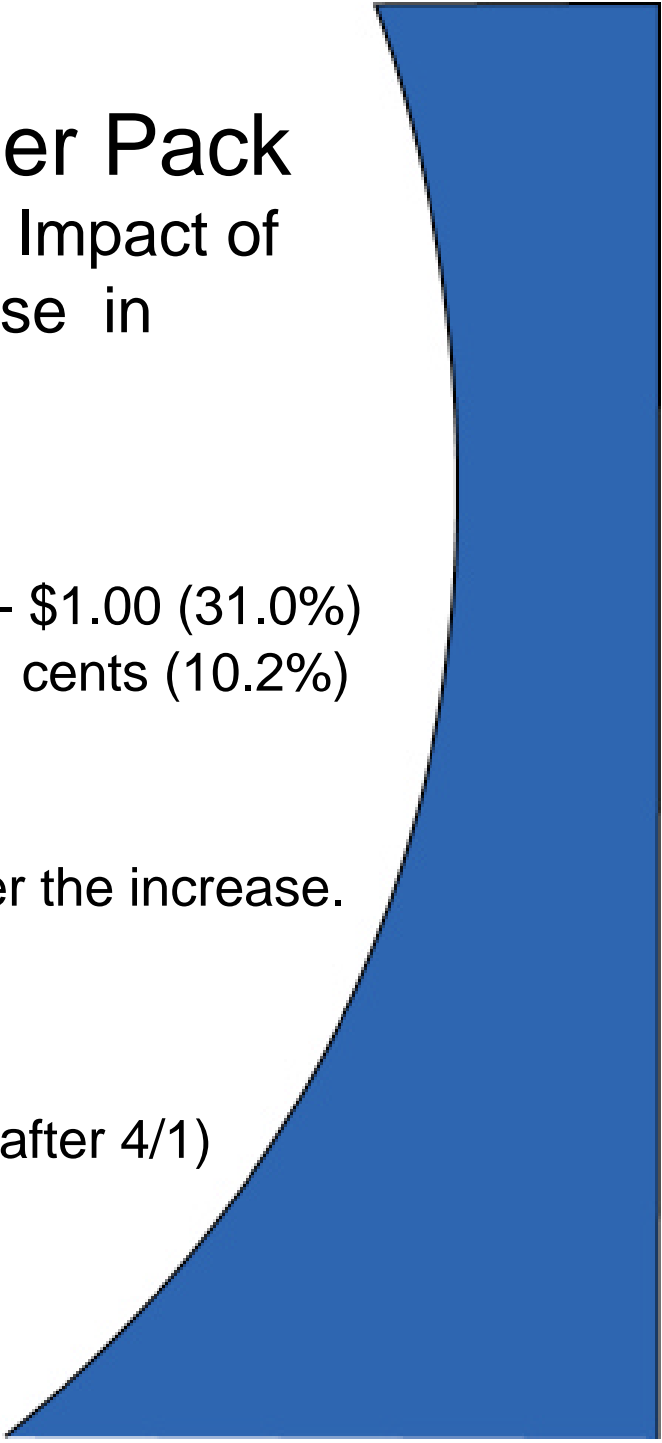
NY: Marlboro: \$1.00 (30.7%); Newport - \$1.00 (31.0%)

US: Marlboro: 33 cents (11.5%); Newport: 31 cents (10.2%)

- Cigarette Sales

- Sales have dropped about 20 percent after the increase.
- Cigarette tax revenues up sharply

- Youth Smoking Prevalence

- (NY matched schools, after 4/1; US all schools after 4/1)
  - 8th Grade - NY: -17.8%; US: - 11.2%
  - 10th Grade - NY: -18.9%; US: -1.0%
- 

## Potential impact of a price increase of 10% and a package of non-price measures

Region	Change in number of smokers (millions)		Change in number of deaths (millions)	
	Price increases	Non-price measures	Price increases	Non-price measures
Low/Middle Income	-38	-19	-9	-4
High Income	-4	-4	-1	-1
World	-42	-23	-10	-5

Source: Ranson *et al.*, 2000

# 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>
Low / middle income	4 to 34	68 to 272	276 to 297
High Income	165 to 1,370	1,347 to 5,388	746 to 1,160

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

Source: *Ranson et al.*, 2000



# Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Impact on Revenues?

*Myth: Government revenues will fall as cigarette taxes rise, since people buy fewer cigarettes*

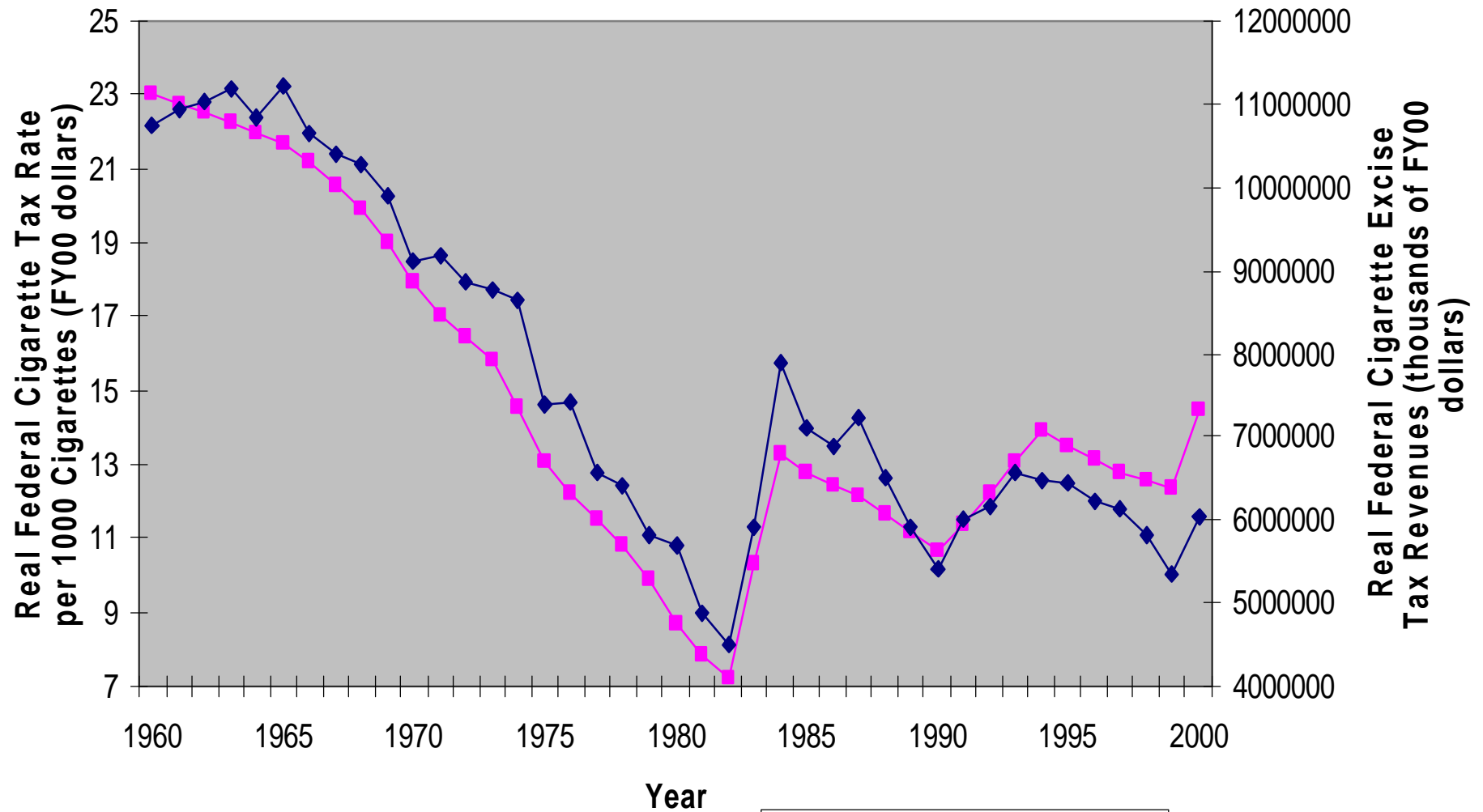
Truth: Cigarette tax revenues rise with cigarette tax rates, even as consumption declines

- World Bank estimates that 10% tax increase would generate average 7% increase in tax revenues

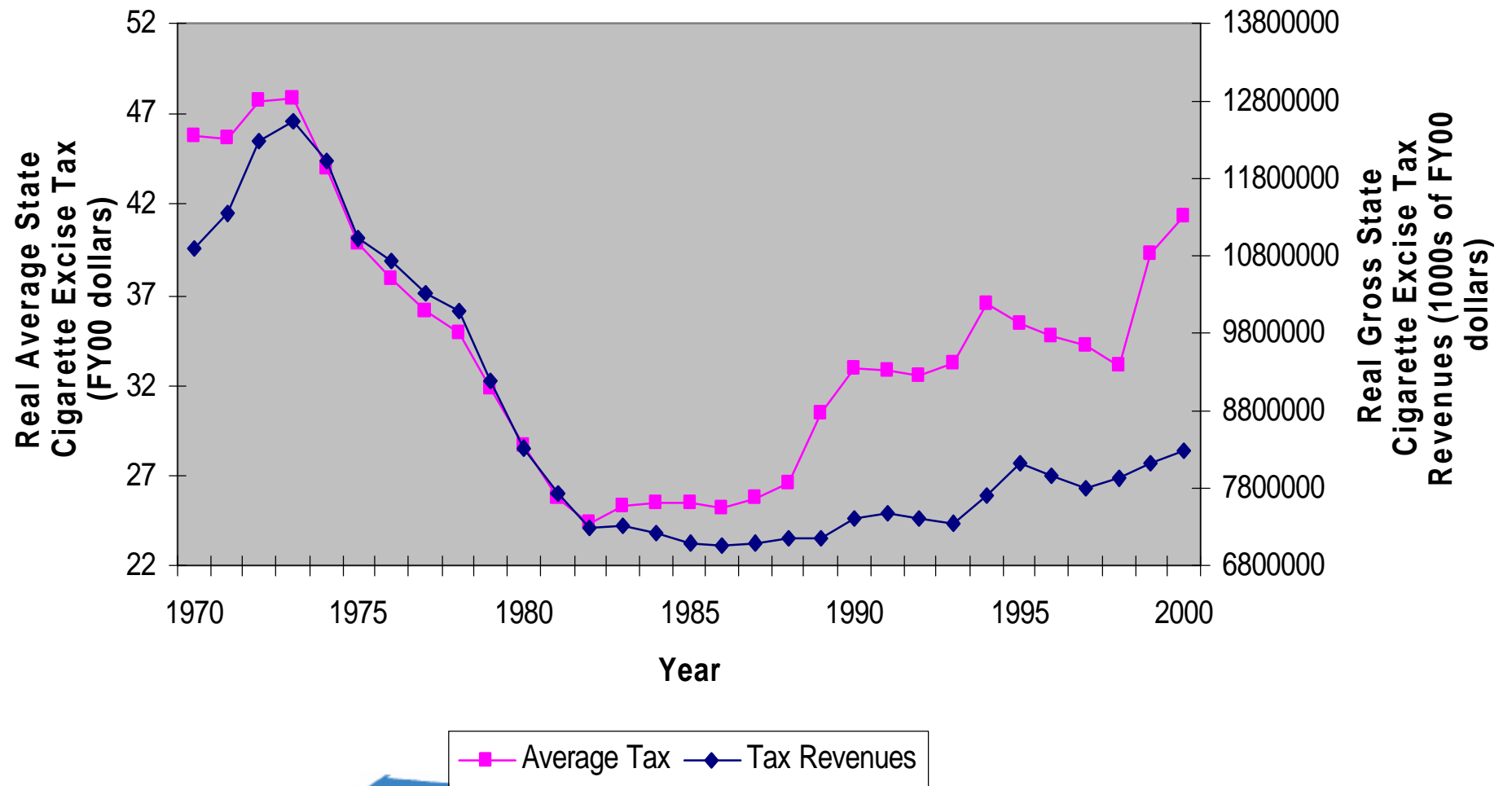
- Impact depends on tax as share of price and on price elasticity of demand

Sources: Sunley, et al., 2000; World Bank, 1999

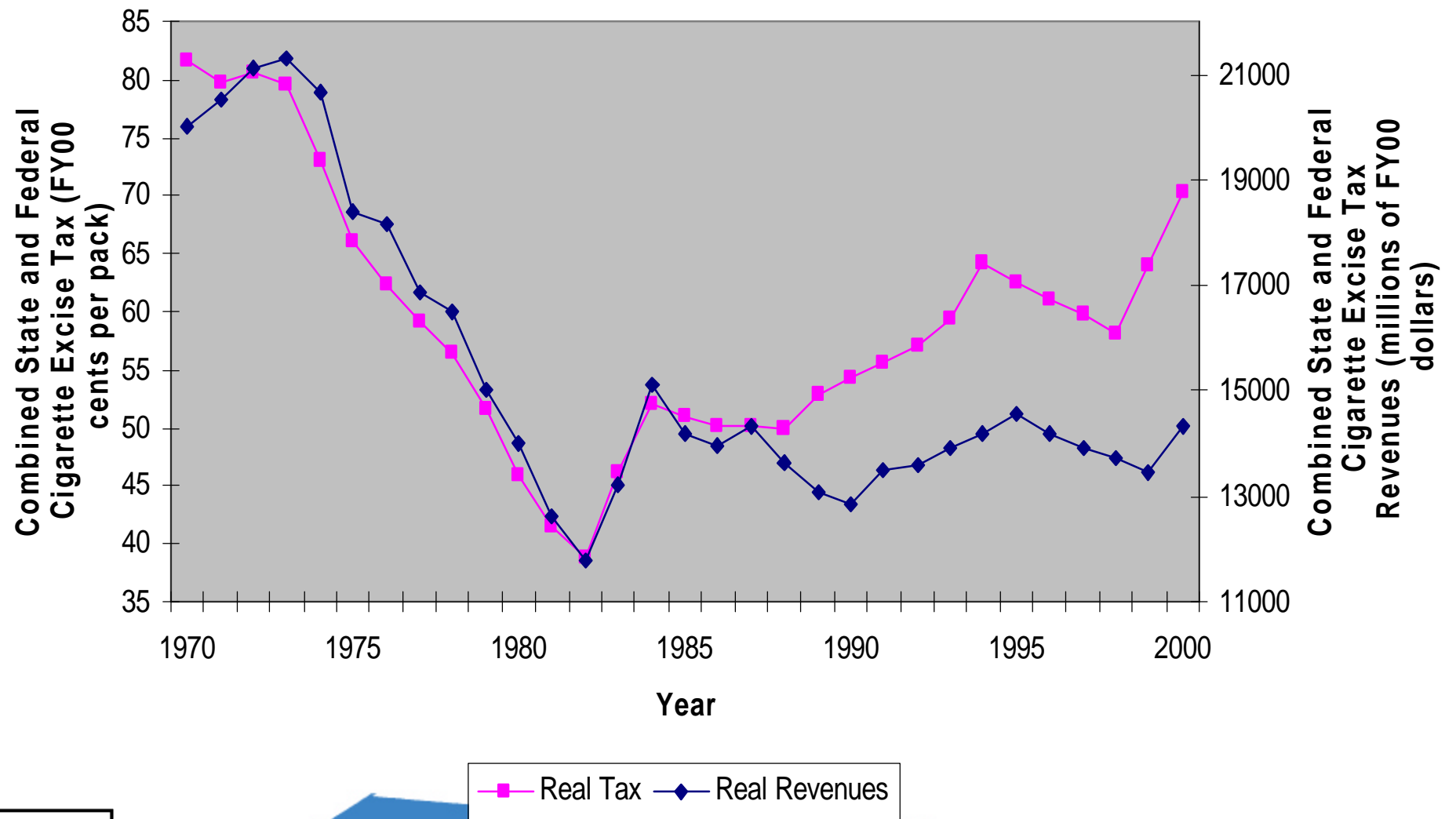
## Real Federal Cigarette Tax Rate and Tax Revenues



## Real Average State Cigarette Excise Tax Rate and Real State Cigarette Tax Revenues

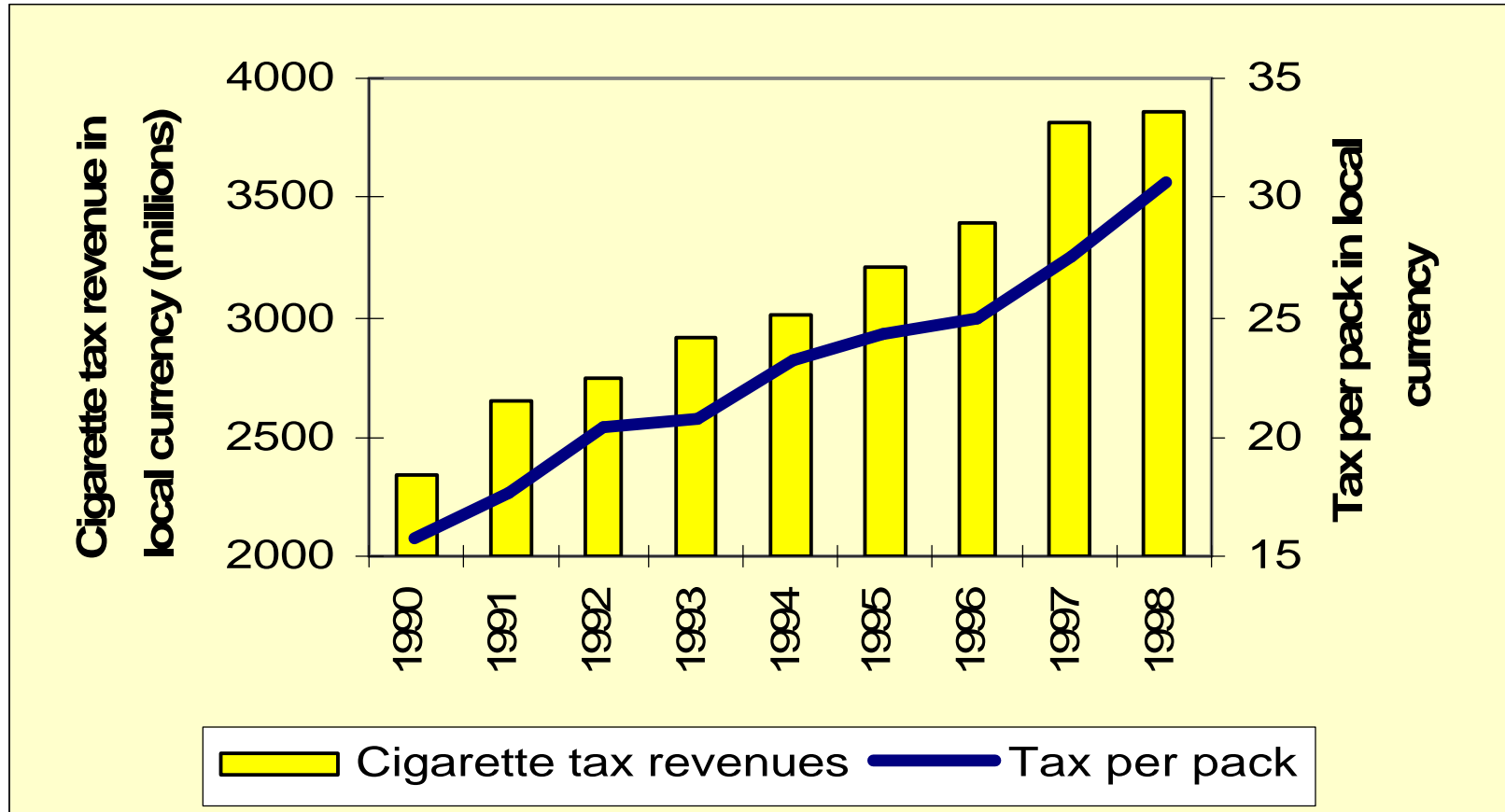


## Real Average Cigarette Excise Tax and Real Cigarette Tax Revenues



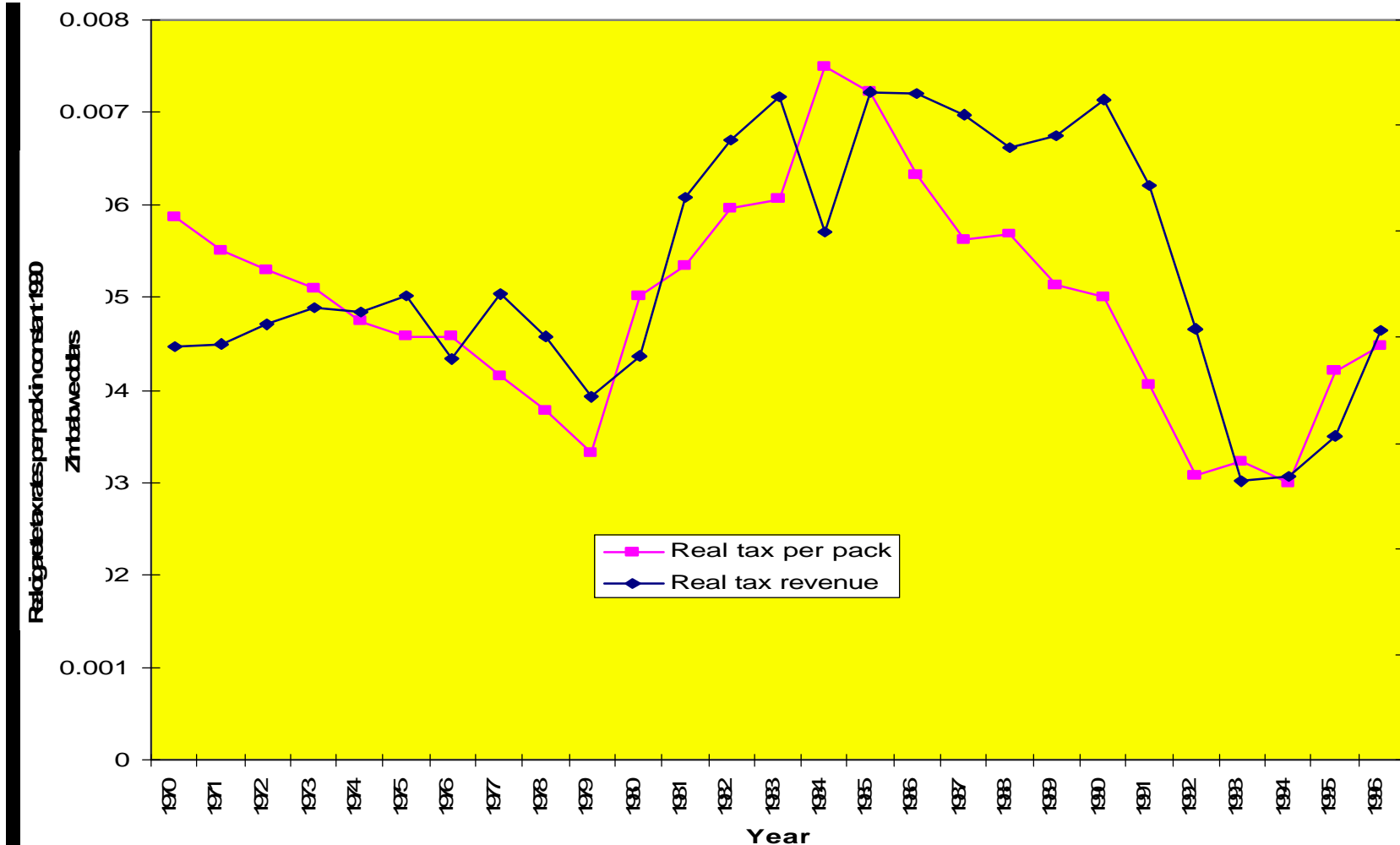


## Tax per pack and cigarette tax revenues in Norway, 1990-1998



Source: World bank 1999

# Real cigarette tax rate and real cigarette tax revenue in South Africa 1960-97



Source: Sunley *et al.*, 2000



# Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Impact on Jobs?

*Myth: Higher tobacco taxes and tobacco control generally will result in substantial job losses*

Truth: Money not spent on tobacco will be spent on other goods and services, creating alternative employment

- Globally, successful tobacco control activities will only slow projected growth in tobacco use
- Many countries/states will see net gains in employment as tobacco consumption falls

Source: Jacobs, *et al.*, 2000

# Studies on the employment effects of dramatically reduced or eliminated tobacco consumption

<i>Type of Country</i>	<i>Country and Year</i>	<i>Net Change in Employment</i>
Net exporter	US, 1993	0%
	UK, 1990	+0.6%
	Zimbabwe, 1980	-12.4%
Balanced Economy	South Africa, 1995	+0.4%
	Scotland, 1989	+0.3%
Net importer	Bangladesh, 1994	+18.7%

Source: Buck and others, 1995; Irvine and Sims, 1997; McNicoll and Boyle 1992; Warner and others 1996; Jacobs *et al.*, 2000



# Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Impact on Smuggling?

*Myth: Smuggling negates the effects of increases in tobacco taxes*

Truth: Even in the presence of smuggling, tax increases reduce consumption and raise revenues

- Other factors important in explaining level of smuggling
- Effective policies exist to deter smuggling

Sources: Joossens, *et al.*, 2000; Merriman, *et al.*, 2000



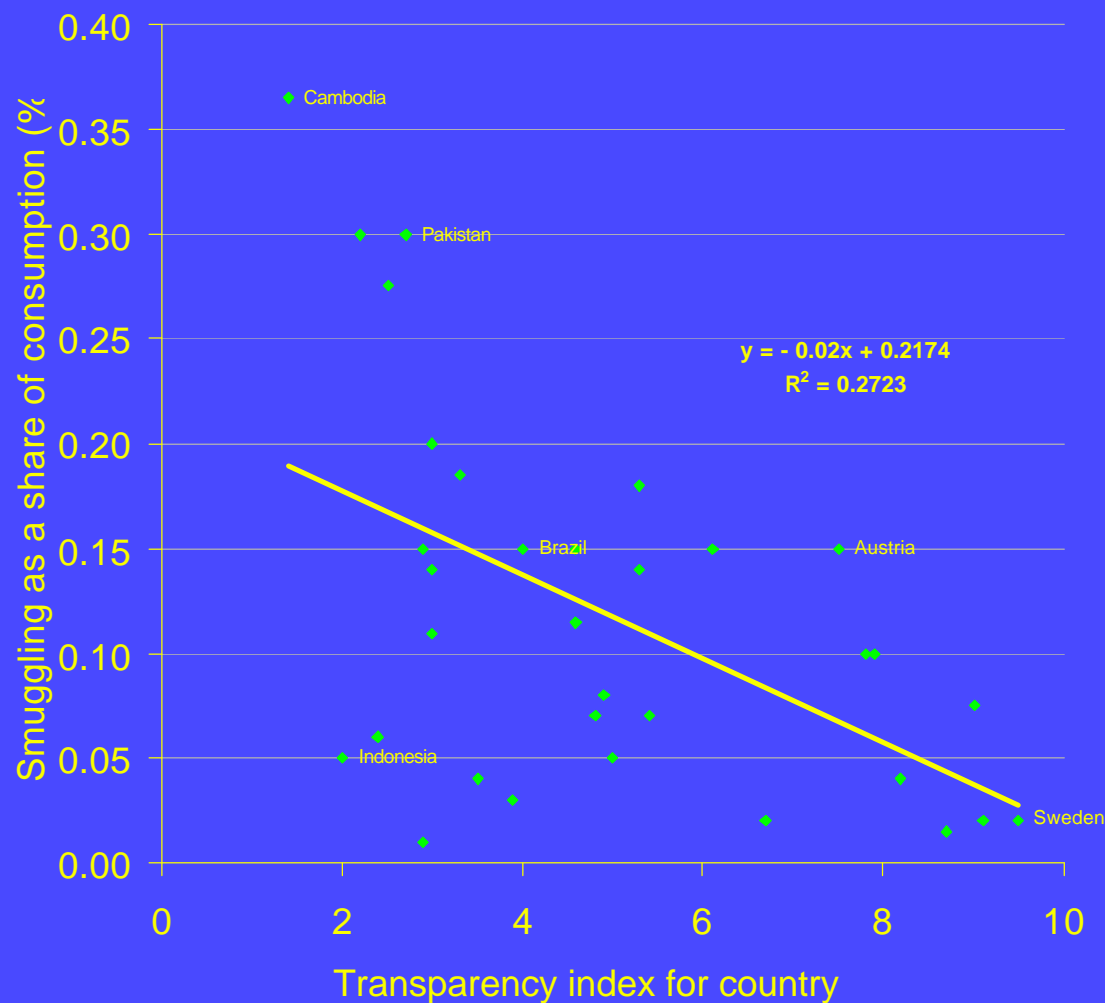
# Smuggling of Cigarettes

- Industry has economic incentive to smuggle
  - Increase market share and decrease tax rates
- Best estimate: 6 to 8.5% of total consumption
- Non-price variables important
  - Perceived level of corruption more important than cigarette prices
  - Nature of distribution system important

Sources: Joossens, *et al.*, 2000; Merriman, *et al.*, 2000

# Tobacco smuggling tends to rise in line with the degree of corruption

## Smuggling as a function of transparency index



Source: Merriman *et al.*, 2000



# Control of Smuggling

- Countries need not make a choice between higher cigarette tax revenues and lower cigarette consumption
  - Higher tax rates can achieve both
- Effective control measures of smuggling exist
  - Focus on large container smuggling
  - Prominent local language warnings and tax stamps
  - Increase penalties
  - Licensing and tracking of containers
  - Increase export duties or bonds
- Multilateral tax increases help combat smuggling

Sources: Joossens, *et al.*, 2000; Merriman, *et al.*, 2000





# Smuggling, Consumption, and Tax Revenues

## SOUTH AFRICA, 1990s

- Increased excise tax from 38 to 50% of retail price
  - Smuggling rose from 0 to 6%
  - Sales fell 20%
  - Revenue went up 2 fold

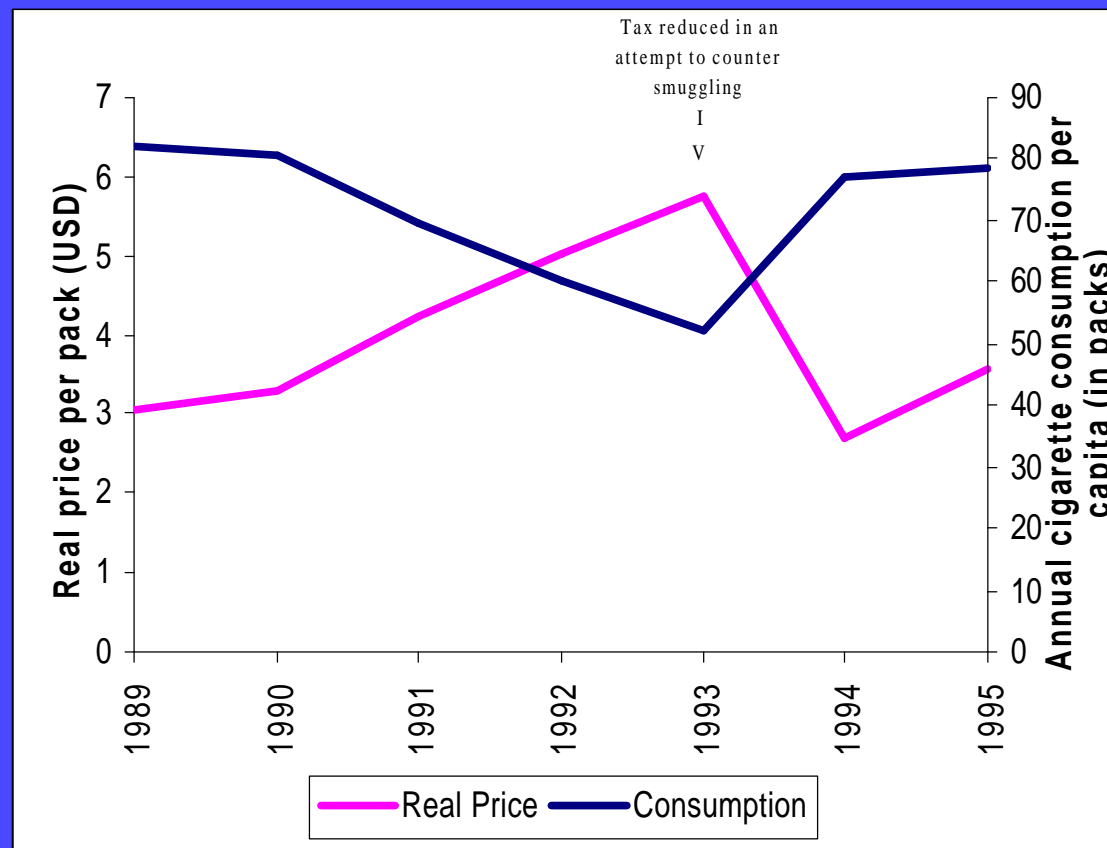
## CANADA, 1993-94

- Lowered tax in response to organized smuggling
  - Retail price fell by half
  - Total consumption rose 48%, more so in young
  - Average revenue per capita fell by 35%

Sources: Abedian, 1998; Sweanor, 1998

# Lower tax rates in Canada in response to smuggling

Real price of cigarettes and annual cigarette consumption per capita, Canada, 1989-1995



Source: World Bank, 1999



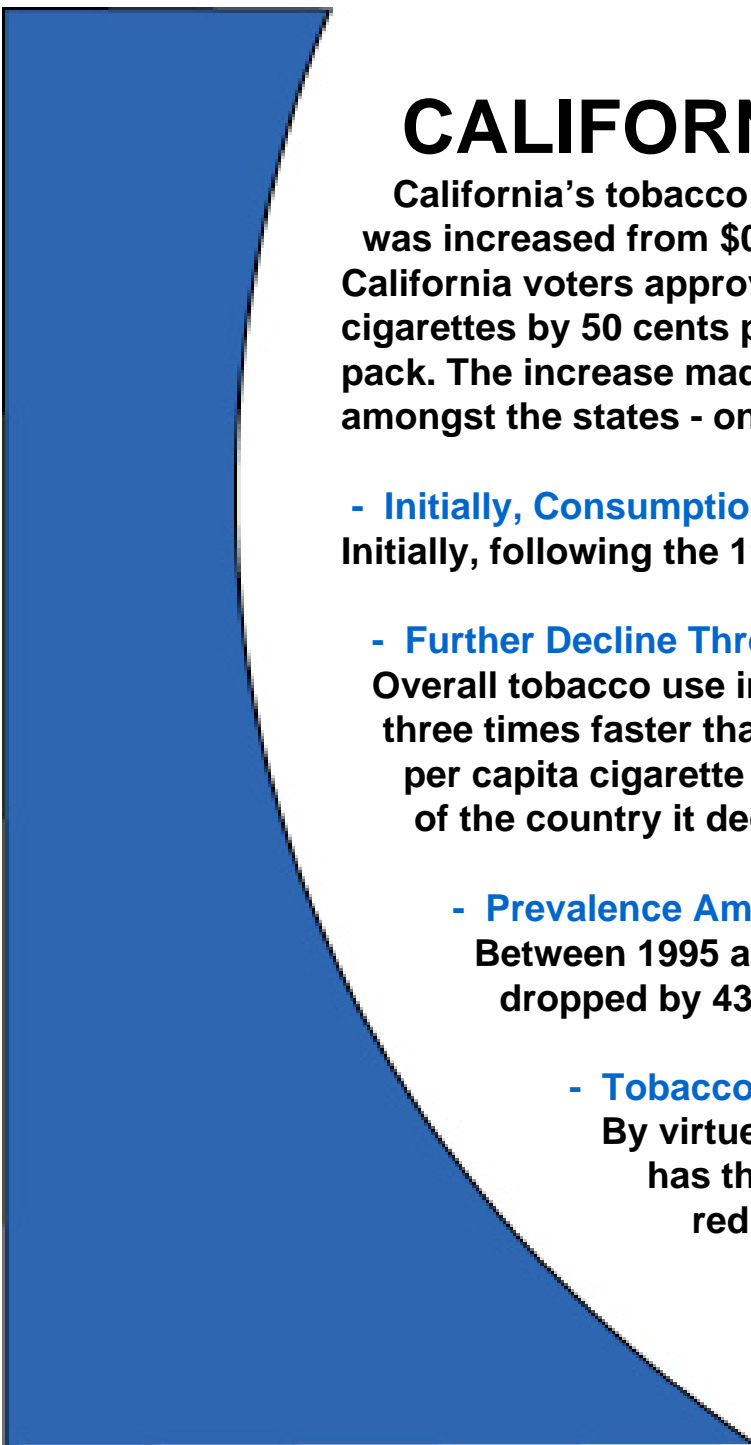
# Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Regressivity?

*Myth: Cigarette tax increases will negatively impact on the lowest income populations*

Truth: Poor consumers are more responsive to price increases

- Should consider progressivity or regressivity of overall fiscal system
- Any negative impact can be offset by use of new tax revenues to support programs targeting lowest income population



# CALIFORNIA: 87-Cents Per Pack

California's tobacco control program began in January 1989, when the excise tax was increased from \$0.10 to \$.35 per pack of cigarettes. On November 3, 1998 California voters approved Proposition 10, a measure that increased the state tax on cigarettes by 50 cents per pack starting January 1, 1999, to a total of 87 cents tax per pack. The increase made California's tax per pack of cigarettes the fourth highest amongst the states - only New York's, Hawaii's, and Alaska's taxes are greater.

- **Initially, Consumption Decreased Rapidly**

Initially, following the 1989 excise tax increase, consumption decreased rapidly.

- **Further Decline Throughout the 1990's**

Overall tobacco use in California declined throughout the 1990s at a rate two or three times faster than that in the rest of the country. Between 1988 and 1999, per capita cigarette use in California declined by almost 50%, while in the rest of the country it declined by only about 20%.

- **Prevalence Among Youth Declined**

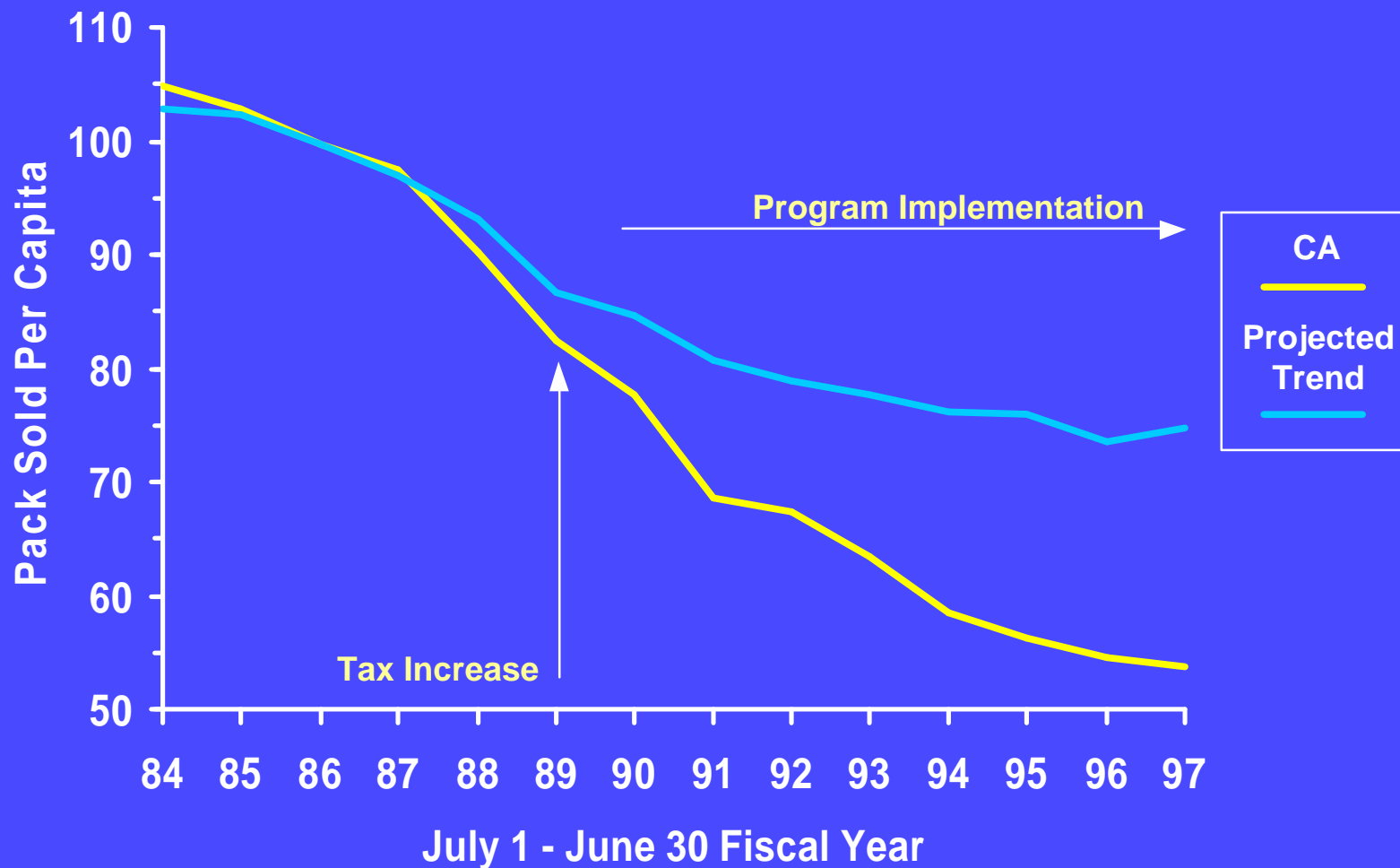
Between 1995 and 1999, the prevalence of cigarette use among youth dropped by 43% in California.

- **Tobacco-Related Deaths Reduced**

By virtue of its duration and intensity, the California program also has the distinction of being the first program to demonstrate a reduction in tobacco-related deaths.

Source: Investment in Tobacco Control: State Highlights 2001; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease prevention and health Promotion, Office on Smoking and Health.

# Per Capita Consumption Trends California versus Projected Trend, 1984-1997



Source: CDC

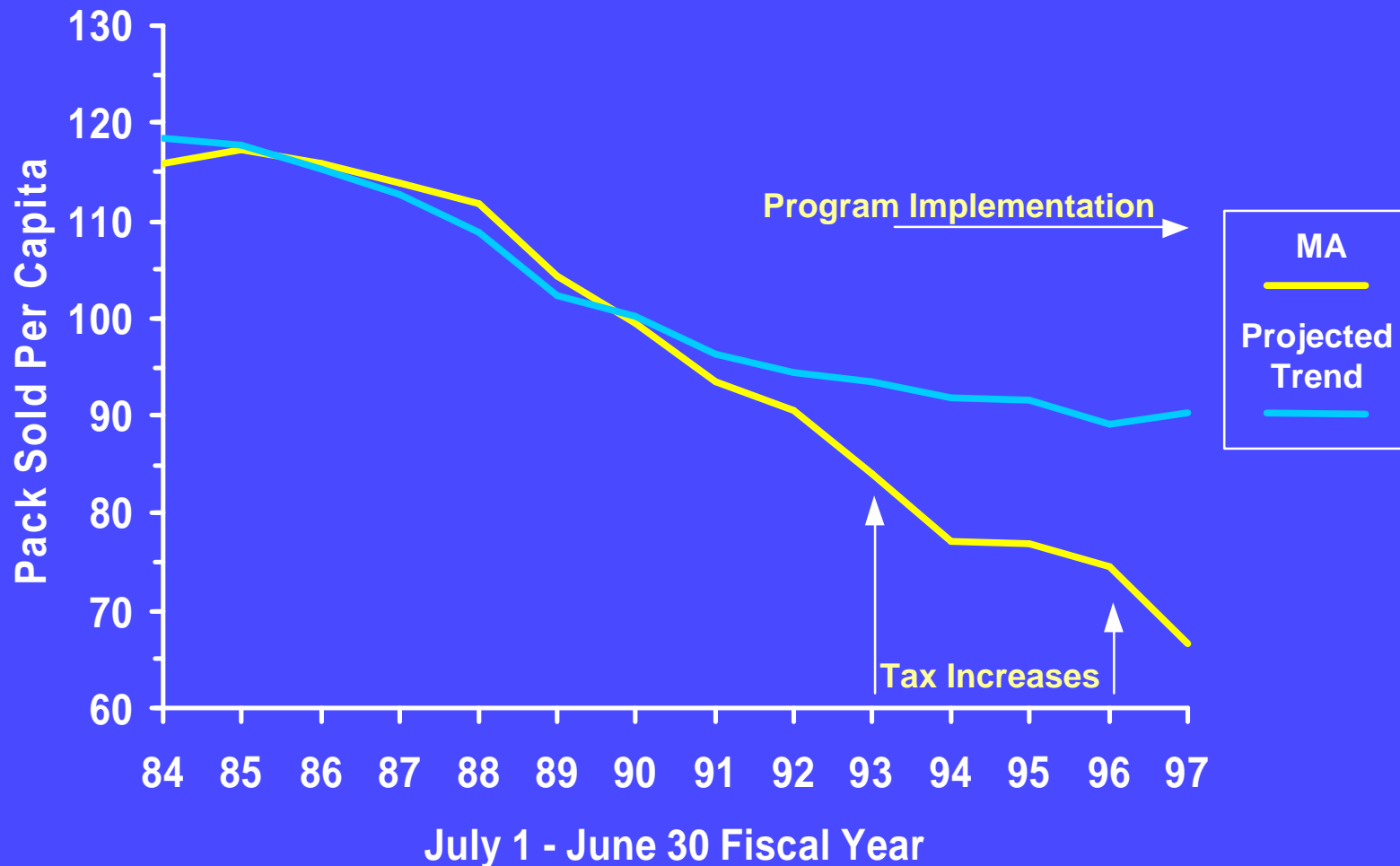
# MASSACHUSETTS: 76-Cents Per Pack

The Massachusetts Tobacco Control Program (MTCP) was created through a statewide referendum held in November 1992 and is entirely funded by a tax on cigarettes and smokeless tobacco products. Since its introduction through June 1999, program successes include:

- Massachusetts has seen more rapid declines than states without tobacco control programs in the overall prevalence of tobacco use among adults.
- Rates of smoking among Massachusetts youth have declined sharply, with current smoking dropping 70% among 6th graders from 1996 to 1999.
- Cigarette consumption has fallen by 33%, while consumption in the rest of the country declined just 10%
  - The number of adult smokers has declined
    - Smoking during pregnancy dropped sharply, from 25% to 13%
    - Youth smoking rates in Massachusetts from 1996-1999 have declined at a greater rate than the rest of the country
    - The number of smokers planning to quit has increased, and those who try to quit are more successful.

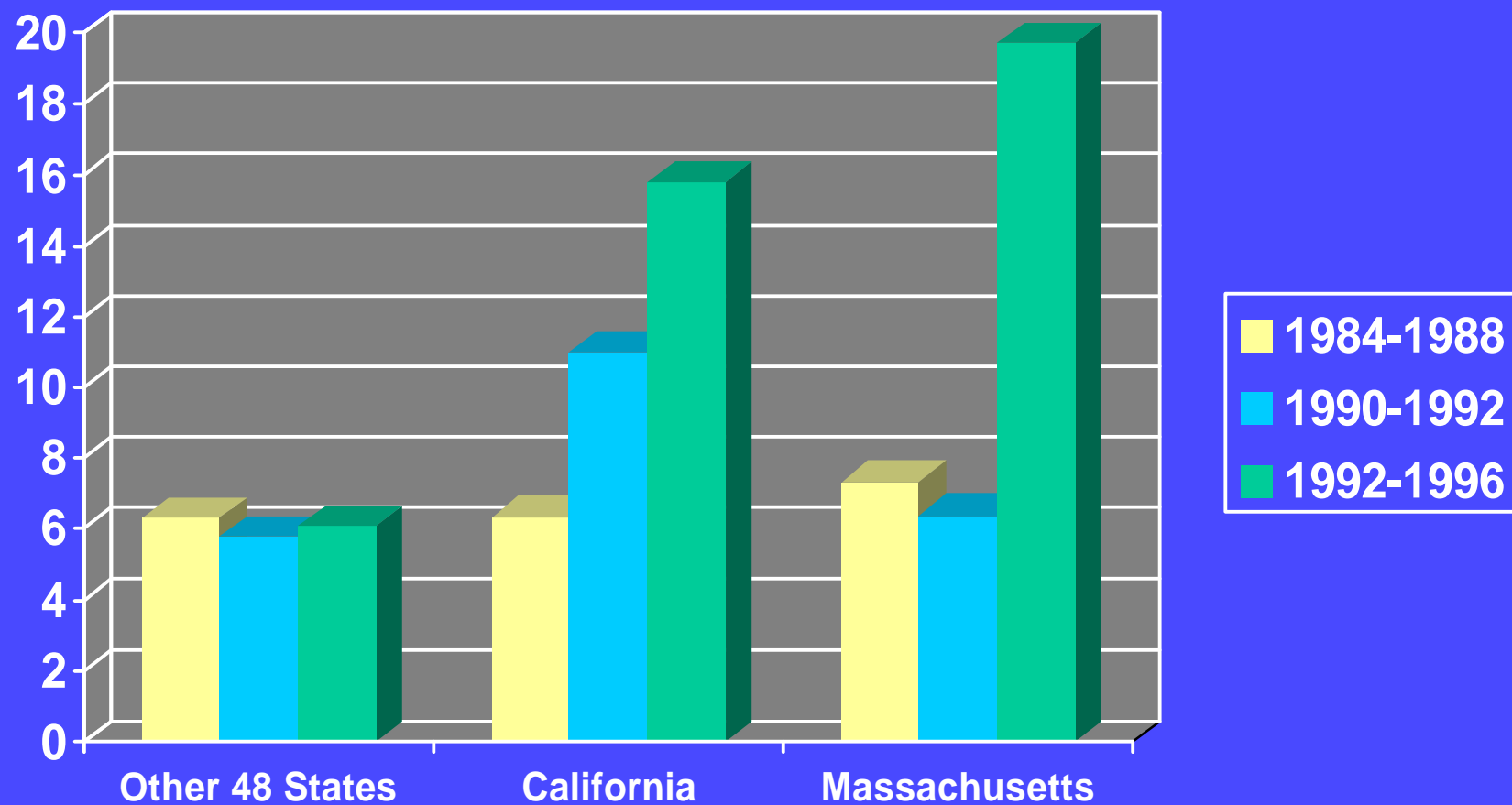
*Source: State of Massachusetts, Department of Public Health*

# Per Capita Consumption Trends Massachusetts versus Projected Trend, 1984-1997



Source: CDC

# Change in Per Capita Cigarette Consumption Before and After an Excise Tax Increase and an Antismoking Campaign California & Massachusetts versus Other 48 States, 1986 to 1996



*Source: CDC*



# Conclusions

- Increases in cigarette and other tobacco taxes lead some to quit , discourage others from starting, and reduce consumption among continuing users
- Impact of taxes on use can be increased by allocating portion of revenues generated by tax increase to tobacco control activities
- Arguments about negative economic impact of tax increases and other tobacco control activities are misleading and often false

[www.impactteen.org](http://www.impactteen.org); [www.uic.edu/~fjc](http://www.uic.edu/~fjc)  
[www.tobaccoevidence.net](http://www.tobaccoevidence.net); [fjc@uic.edu](mailto:fjc@uic.edu)