



*A Policy Research Partnership
to Reduce Youth Substance Use*

Supported by
The Robert Wood Johnson Foundation

Tobacco Taxation

Frank J. Chaloupka

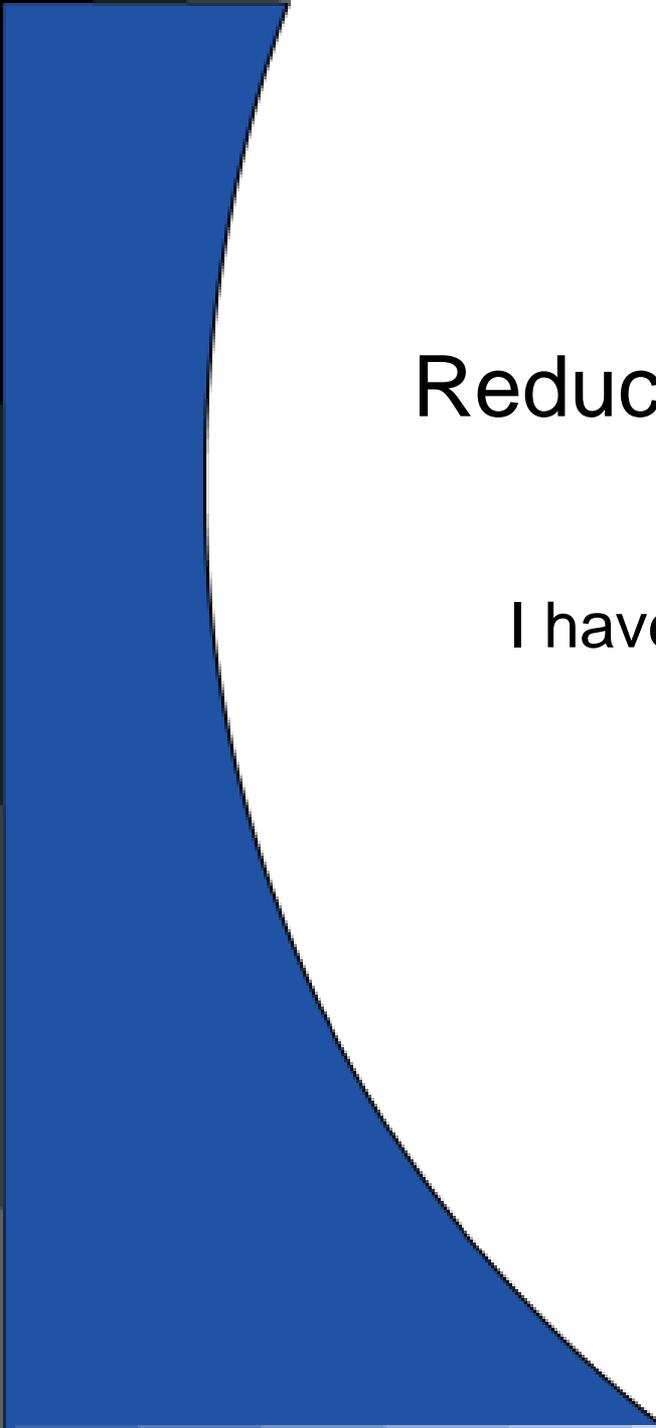
Director, ImpacTeen, University of Illinois at Chicago

www.uic.edu/~fjc

www.impacteen.org

www.tobaccoevidence.net

**Prepared for “Reducing Tobacco Use in Minnesota: Research Into Action
Brooklyn Park, Minnesota February 28, 2006**



Disclosure Information
Frank J. Chaloupka
Reducing Tobacco Use in Minnesota:
Research Into Action

I have no financial relationships to disclose

*Funding for my research described
in this presentation was provided by
The Robert Wood Johnson
Foundation, The Centers for Disease
Control and Prevention, the
National Cancer Institute, and the
American Cancer Society*

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...."

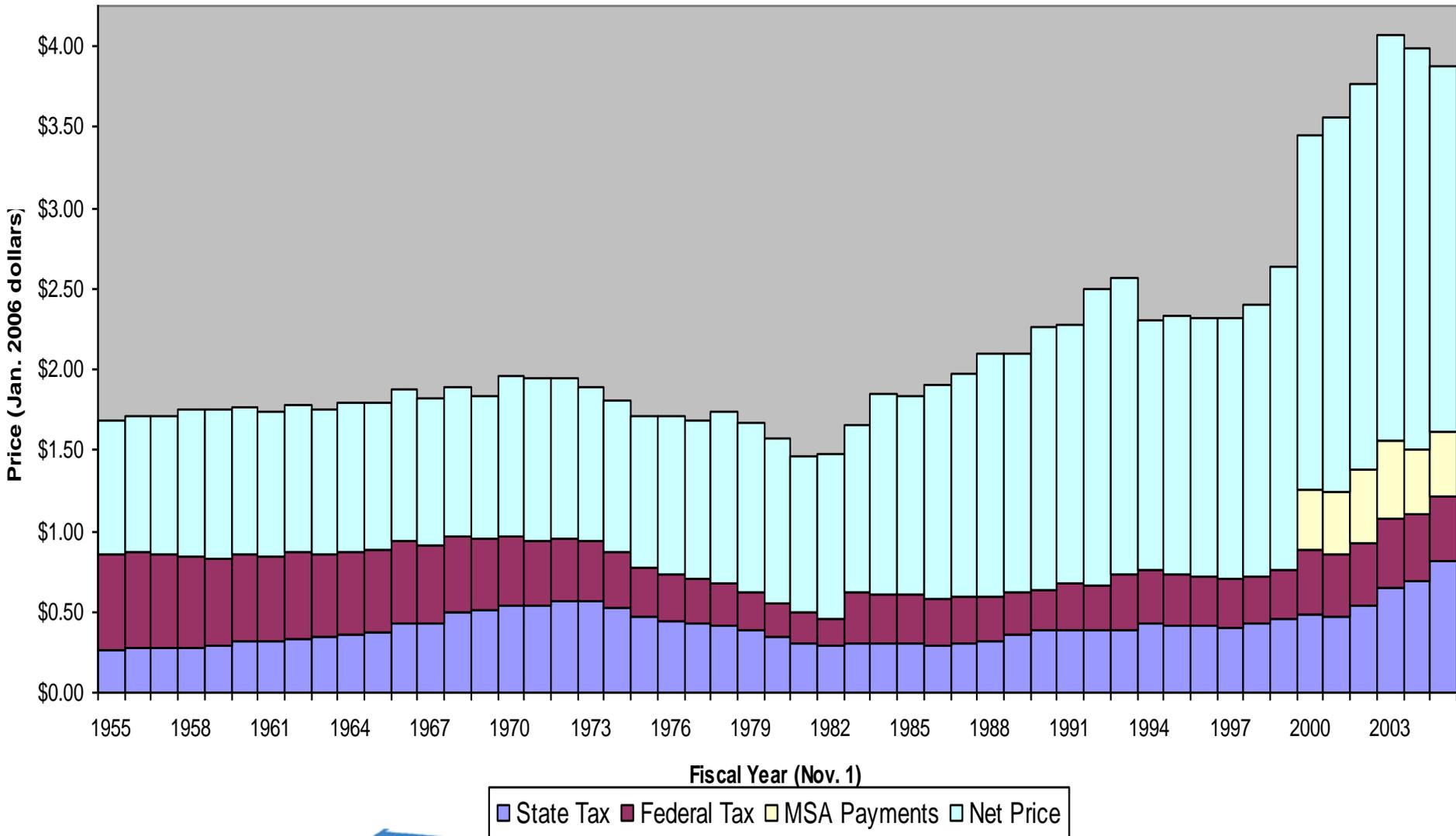
Tobacco Taxation in the U.S.

- Federal cigarette tax initially adopted in 1864
 - Raised during war time/lowered during peace time
 - Set at 8 cents per pack in 1951
 - Doubled to 16 cents per pack in 1983
 - Currently 39 cents per pack
 - About 60% of inflation adjusted value of 1951 tax
- State cigarette taxes
 - First adopted by IA in 1921; NC last to adopt in 1969
 - Currently: 7.0 cents/pack (SC) to \$2.46/pack (RI)
 - Average 91.7 cents per pack (25.7 cents in tobacco growing states; 100.5 cents in other states)
 - Most tax other tobacco products
 - Sales tax applied to tobacco products in most states

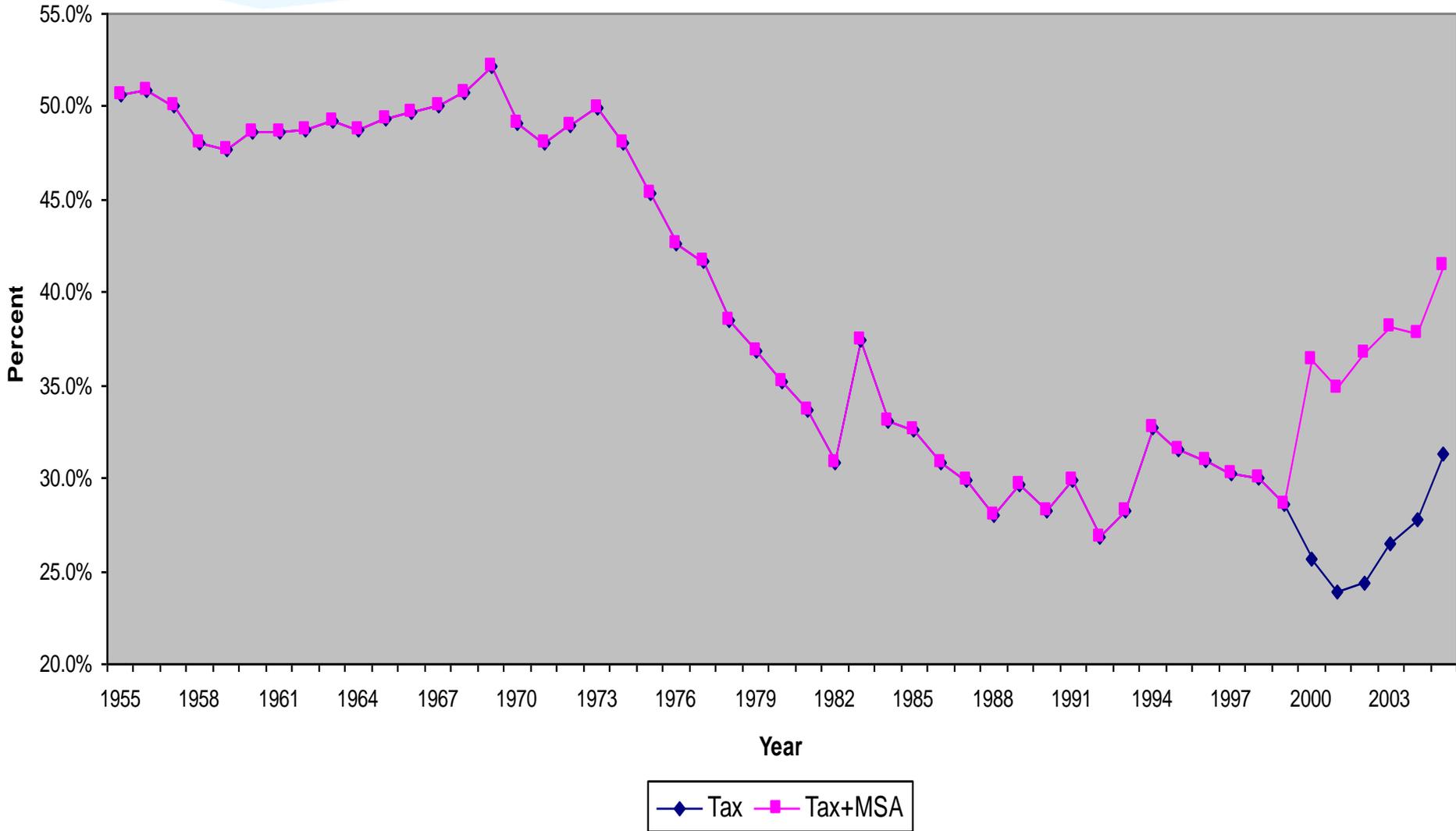
Local Taxes

- Many localities add additional, typically low, tax
 - \$1.50 in New York City
 - \$2.68 in Chicago/Cook county

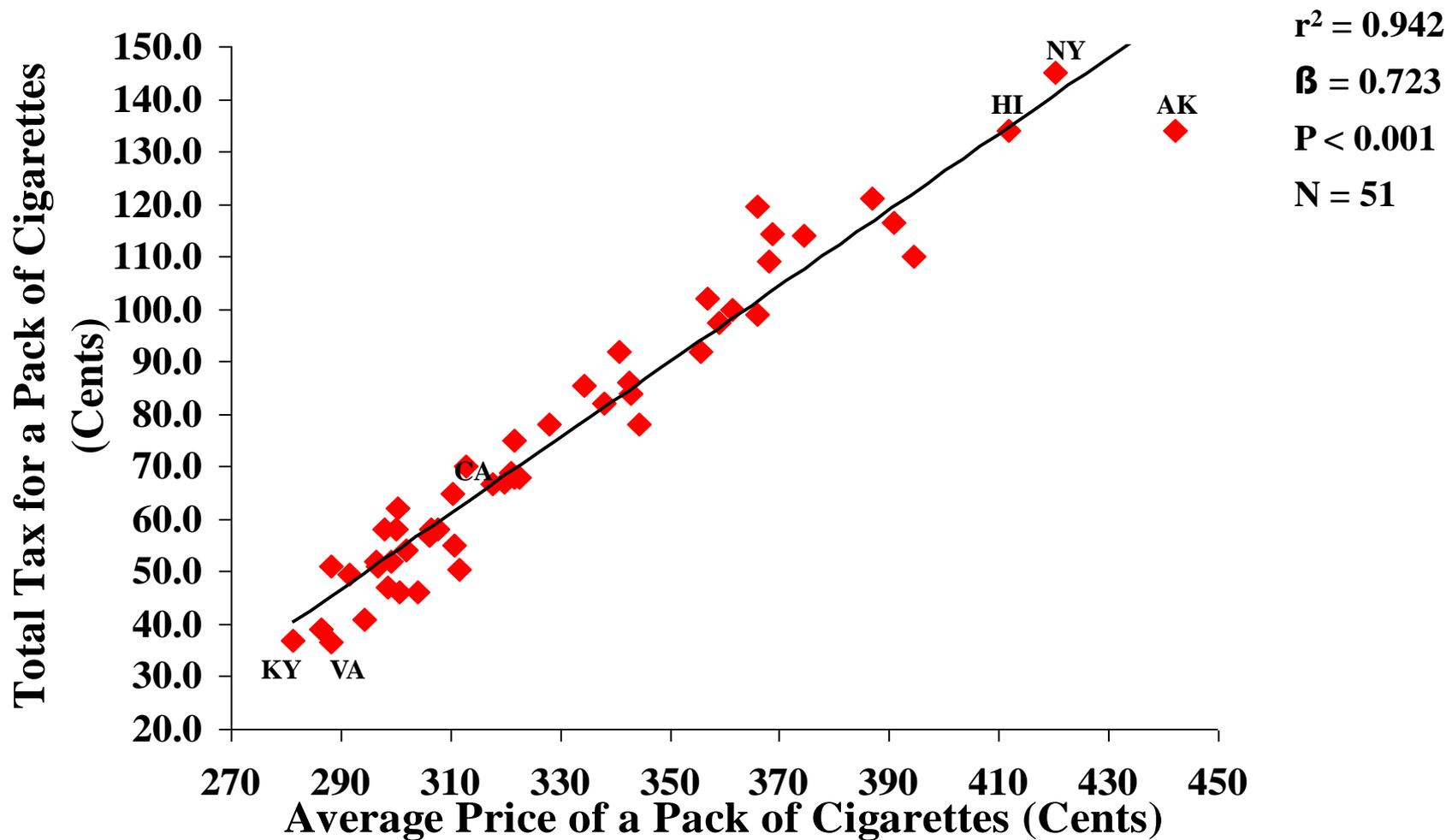
Inflation Adjusted Cigarette Prices, 1955-2005



Taxes as Percent of Cigarette Prices



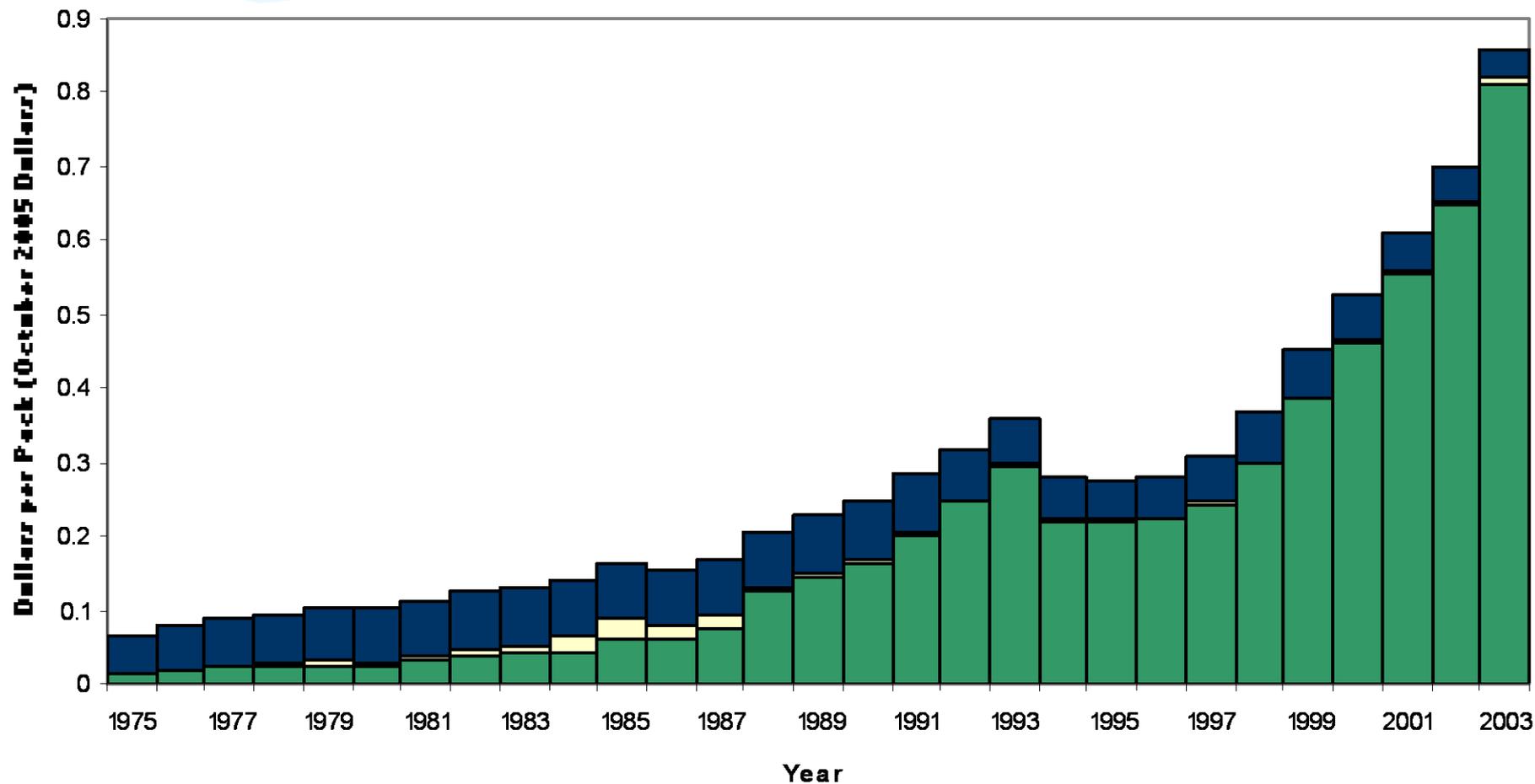
Total Tax for a Pack of Cigarettes ⁽¹⁾ and Average Price of a Pack of Cigarettes ⁽²⁾ in the United States, 2001



Note: Tax and price of cigarettes were adjusted for inflation;
Price of cigarettes included generic cigarettes.

Source: Gary Giovino, RPCI

Cigarette Company Marketing Expenditures, Inflation Adjusted, 1975-2003



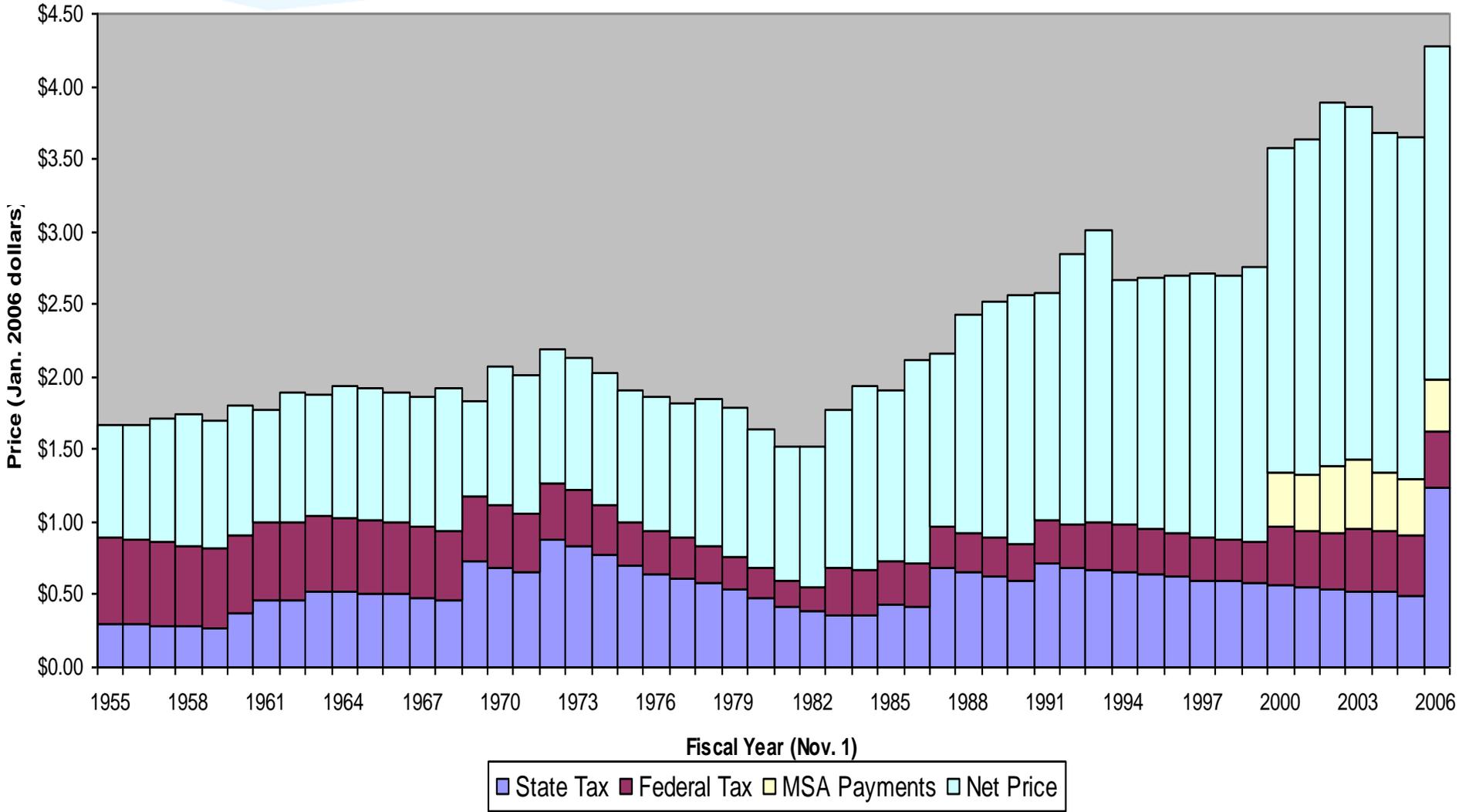
■ Price-Related

■ Other

Tobacco Taxation in Minnesota

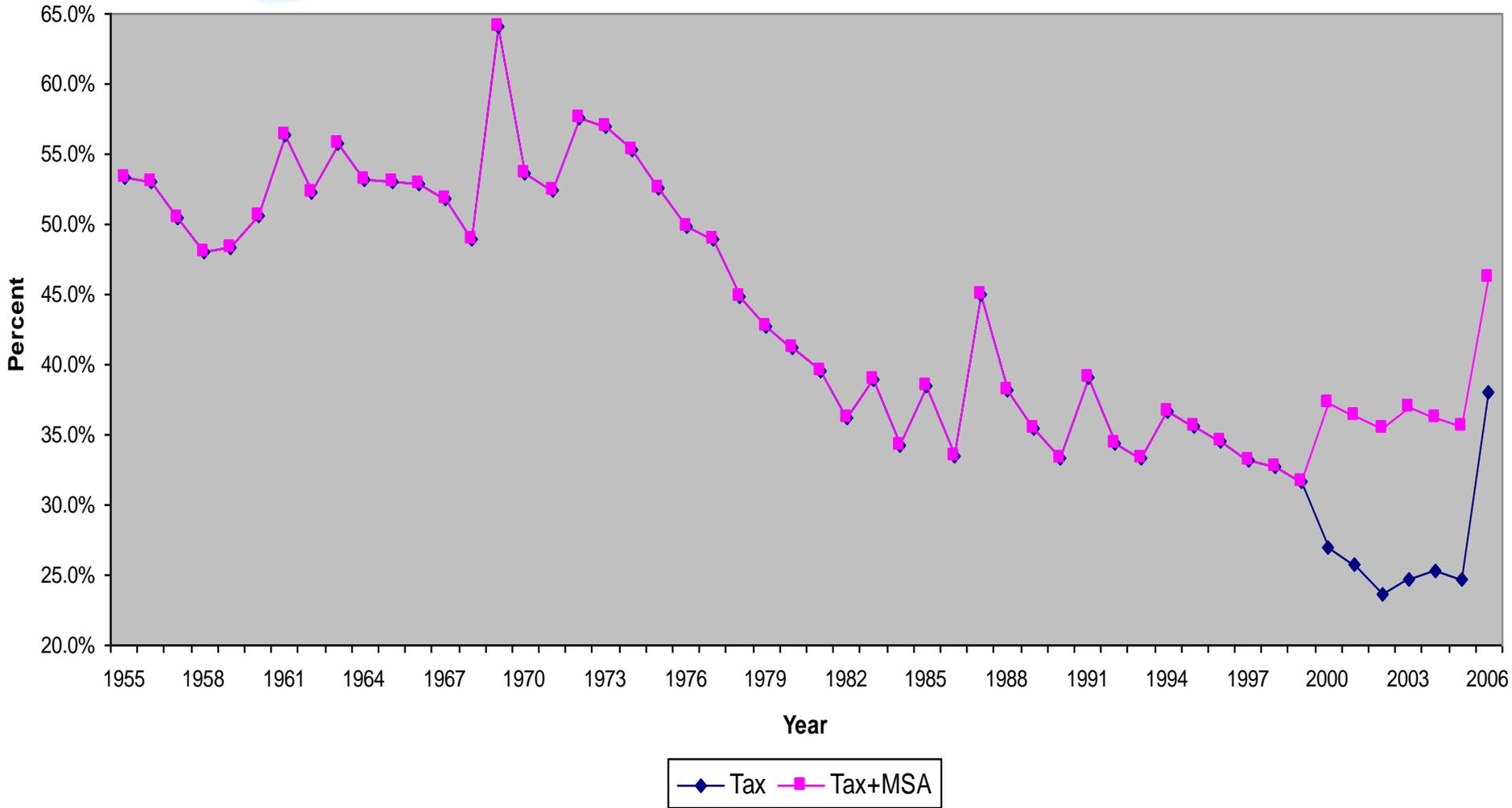
- Cigarette excise tax initially adopted in 1947
 - 4 cents per pack
- Raised infrequently over time
 - Most recent “tax” increase was from 43 cents to 48 cents per pack on July 1, 1992
 - 75 cent “fee” added 8/1/05
 - Currently 14th among state cigarette taxes
 - Additional 35 cents per pack “equity fee” for non-participating manufacturers
- Tax on other tobacco products: 35% of manufacturers’ price
 - Higher than the almost 20% share of state cigarette taxes in wholesale cigarette price

Inflation Adjusted Cigarette Prices, Minnesota 1955-2006



FY2006 average price estimated

Taxes as Percent of Cigarette Prices, Minnesota

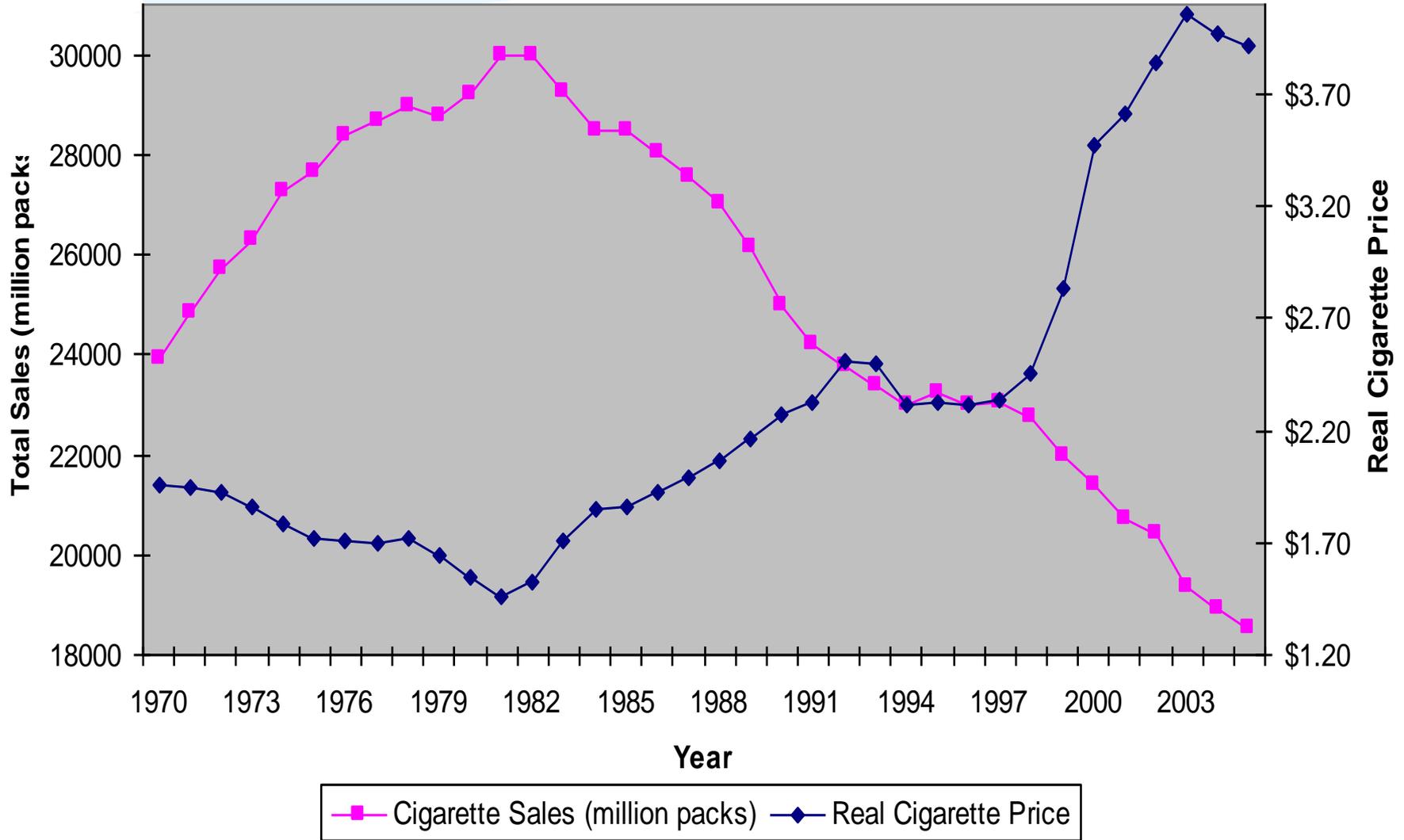


FY2006 average price estimated

Tobacco Taxes and Tobacco Use

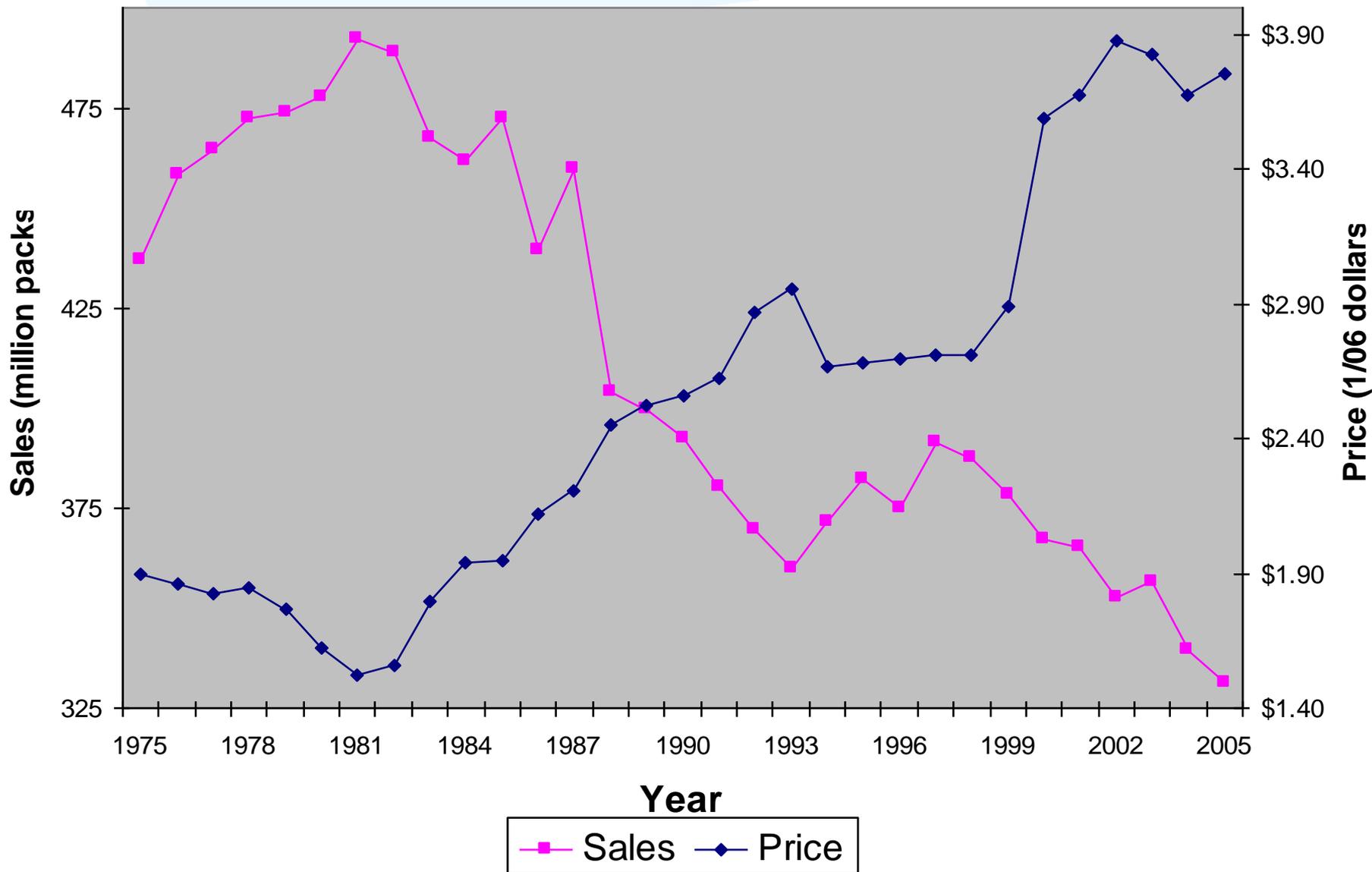
- Higher taxes induce quitting, prevent relapse, reduce consumption and prevent starting.
- Estimates from high-income countries indicate that 10% rise in price reduces overall cigarette consumption by about 4%
 - price elasticity of demand: percentage reduction in consumption resulting from one percent increase in price

Total Cigarette Sales and Cigarette Prices, US, 1970-2005



2005 data preliminary

Cigarette Sales and Cigarette Prices, Minnesota, 1975-2005

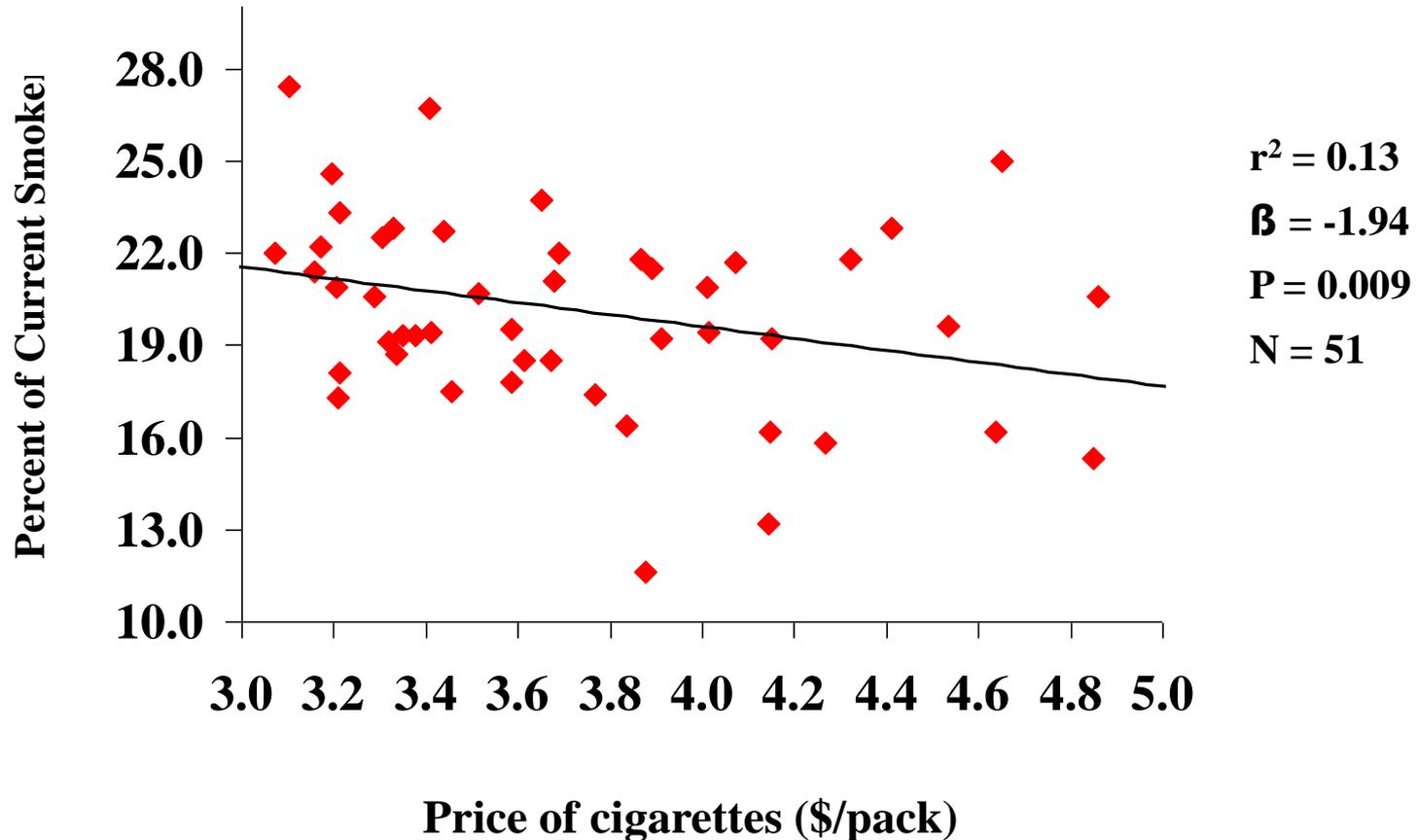


2005 data preliminary

Tobacco Taxes and Tobacco Use

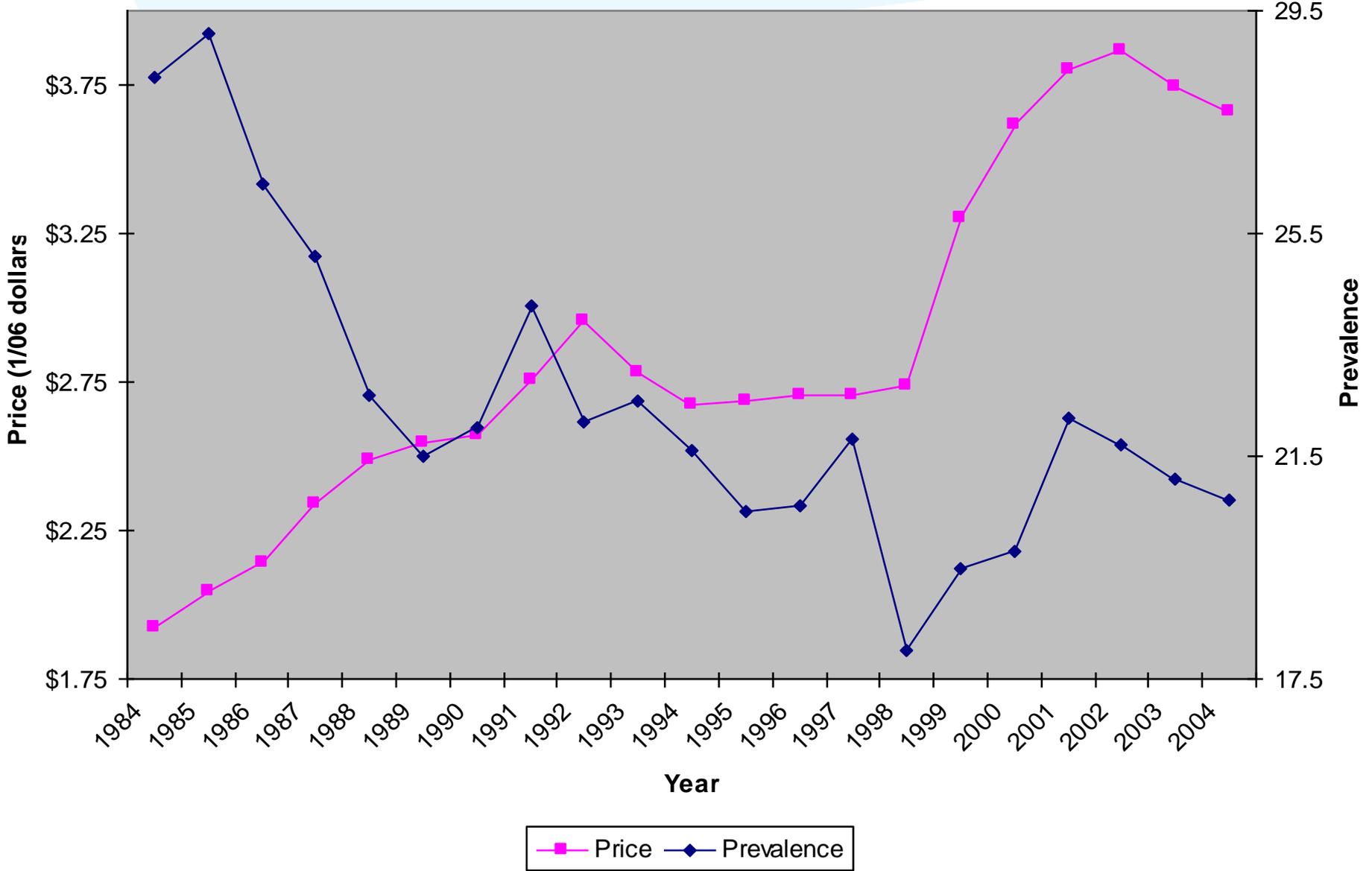
- Higher taxes induce quitting, prevent relapse, reduce consumption and prevent starting.
- Estimates from high-income countries indicate that 10% rise in price reduces overall cigarette consumption by about 4%
 - price elasticity of demand: percentage reduction in consumption resulting from one percent increase in price
- About half of impact of price increases is on smoking prevalence; remainder is on average cigarette consumption among smokers

Current Smoking Prevalence Among Persons ≥ 18 Years Old by Cigarette Price -- 50 US States and the District of Columbia, 2003



Sources: 2003 Tobacco Use Supplement to the Current Population Survey; Tax Burden on Tobacco; compiled by Gary Giovino, RPCI

Cigarette Price and Smoking Prevalence, Minnesota, 1984-2004



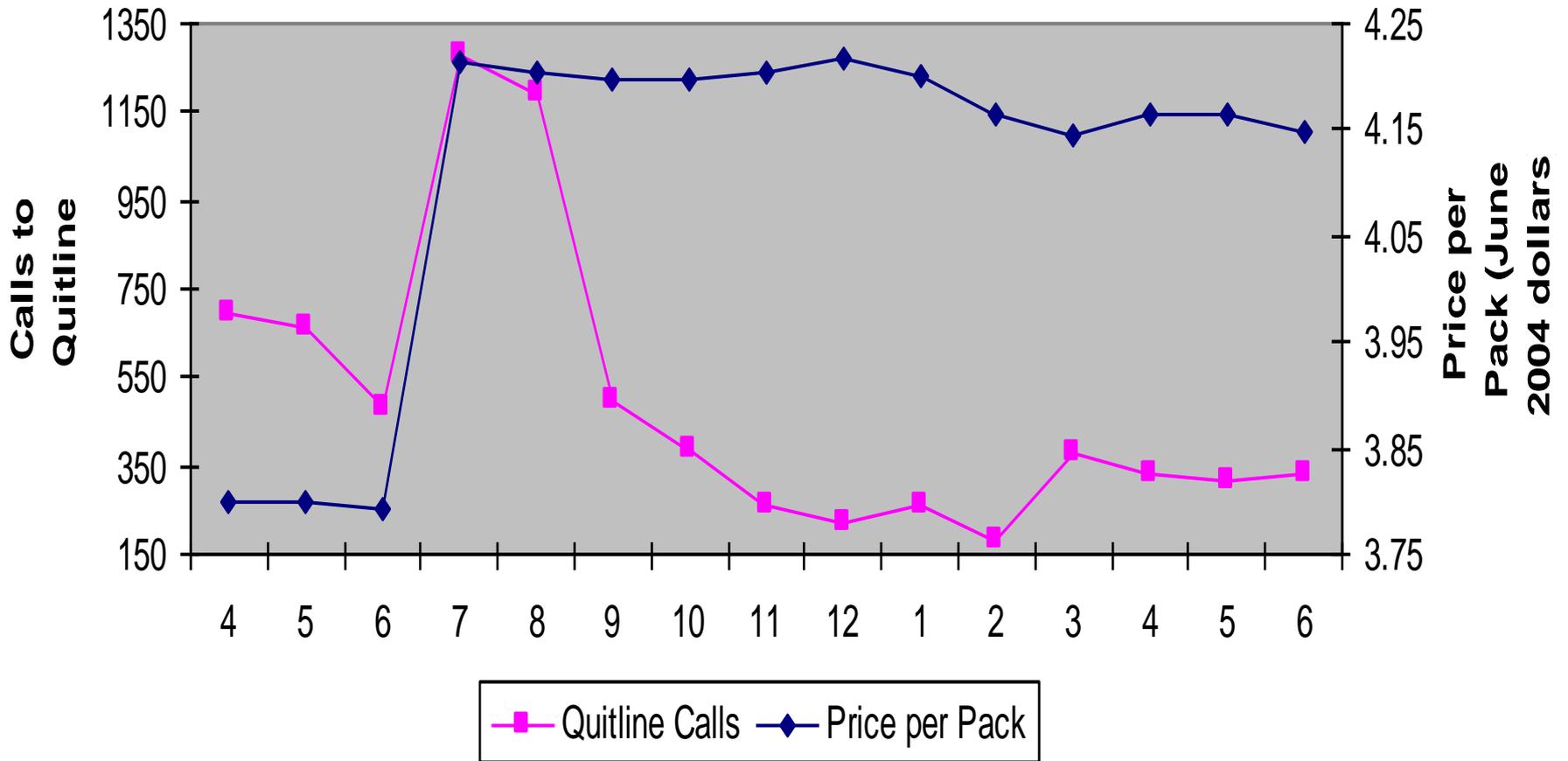
Tobacco Taxes and Tobacco Use

- 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%
 - price elasticity of demand: percentage reduction in consumption resulting from one percent increase in price
- 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

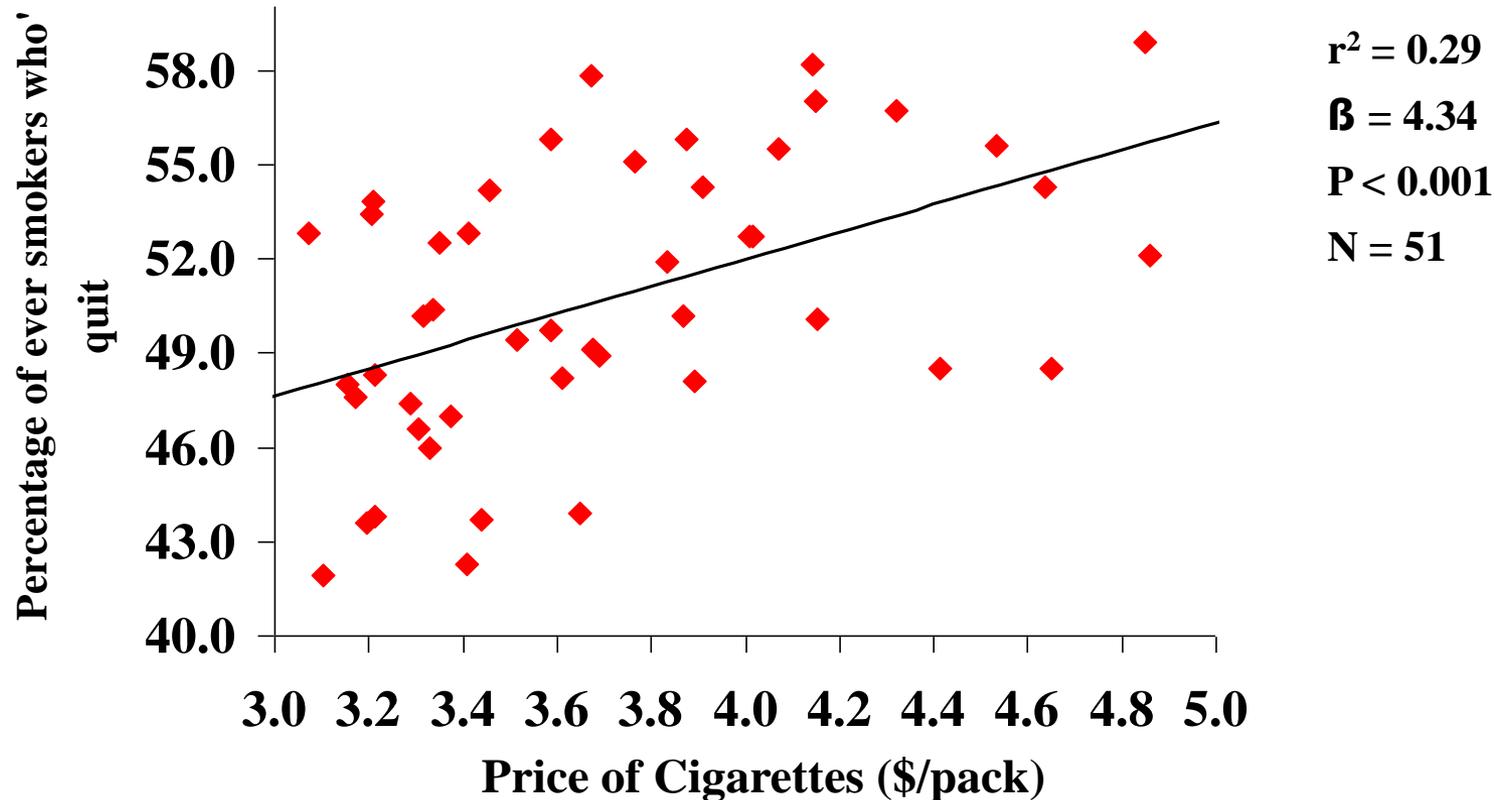
Cigarette Prices and Smoking Cessation

- 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%
 - Higher cigarette taxes/prices increase Demand for NRT and cessation services

Cigarette Price and Quitline Calls - Illinois, 2002-2003



Percent of Ever Smokers Who've Quit among Persons \geq 18 Years Old, by Cigarette Price -- 50 US States and the District of Columbia, 2003

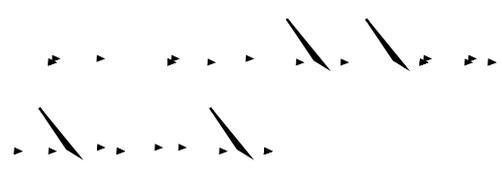


Sources: 2003 Tobacco Use Supplement to the Current Population Survey; Tax Burden on Tobacco; compiled by Gary Giovino, RPCI

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 four times more responsive to price than those above median income level

Implies tax increases may be progressive

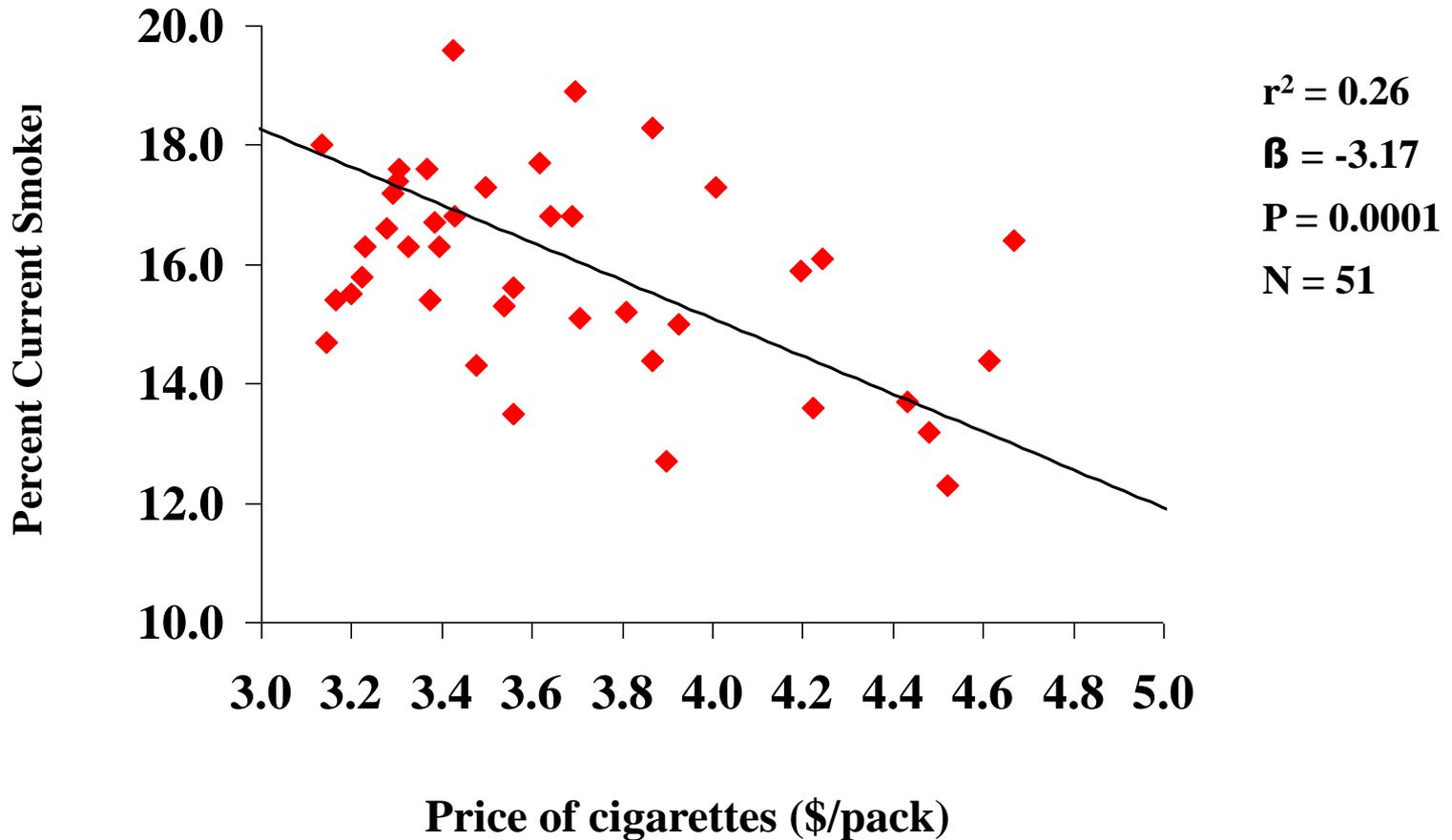
- 
- Proportion of disposable income youth spends on cigarettes likely to exceed that for adults
 - Peer influences much more important for young smokers than for adult smokers
 - Young smokers less addicted than adult smokers
 - Young people tend to discount the future more heavily than adults

Because kids are highly sensitive to price, and given that 90 percent of smokers start when they are 18 or younger, an increase in excise taxes is one of the best ways to achieve long run reductions in overall smoking

Cigarette Prices And Kids

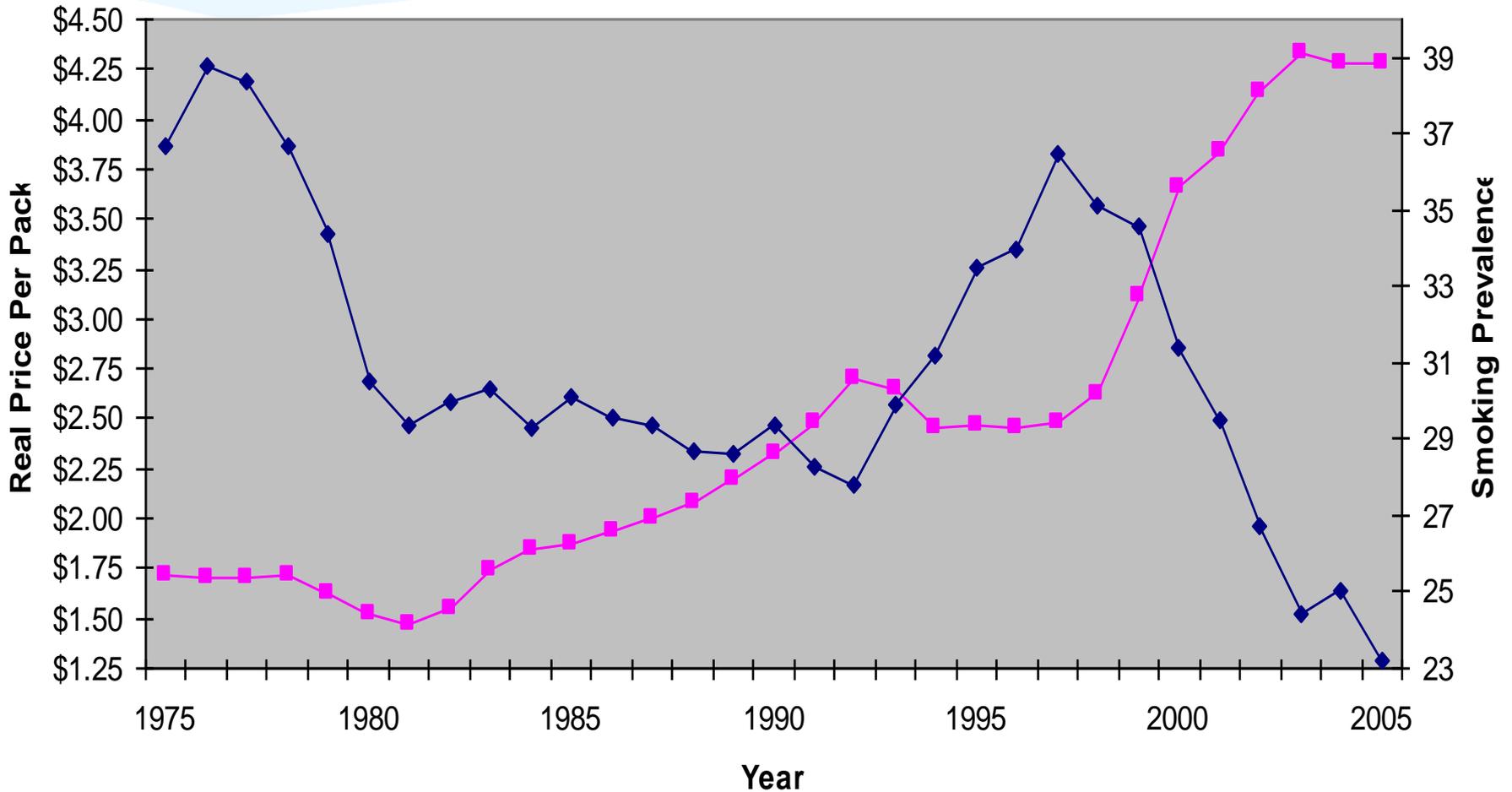
- A 10% increase in price reduces smoking prevalence among youth by nearly 7%
- A 10% increase in price reduces average cigarette consumption among young smokers by over 6%
- Higher cigarette prices significantly reduce teens' probability of becoming daily, addicted smokers; prevent moving to later stages 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%

State-specific Estimates of Current Smoking Prevalence Among Persons 12-17 Years Old by Cigarette Price – 2002/2003



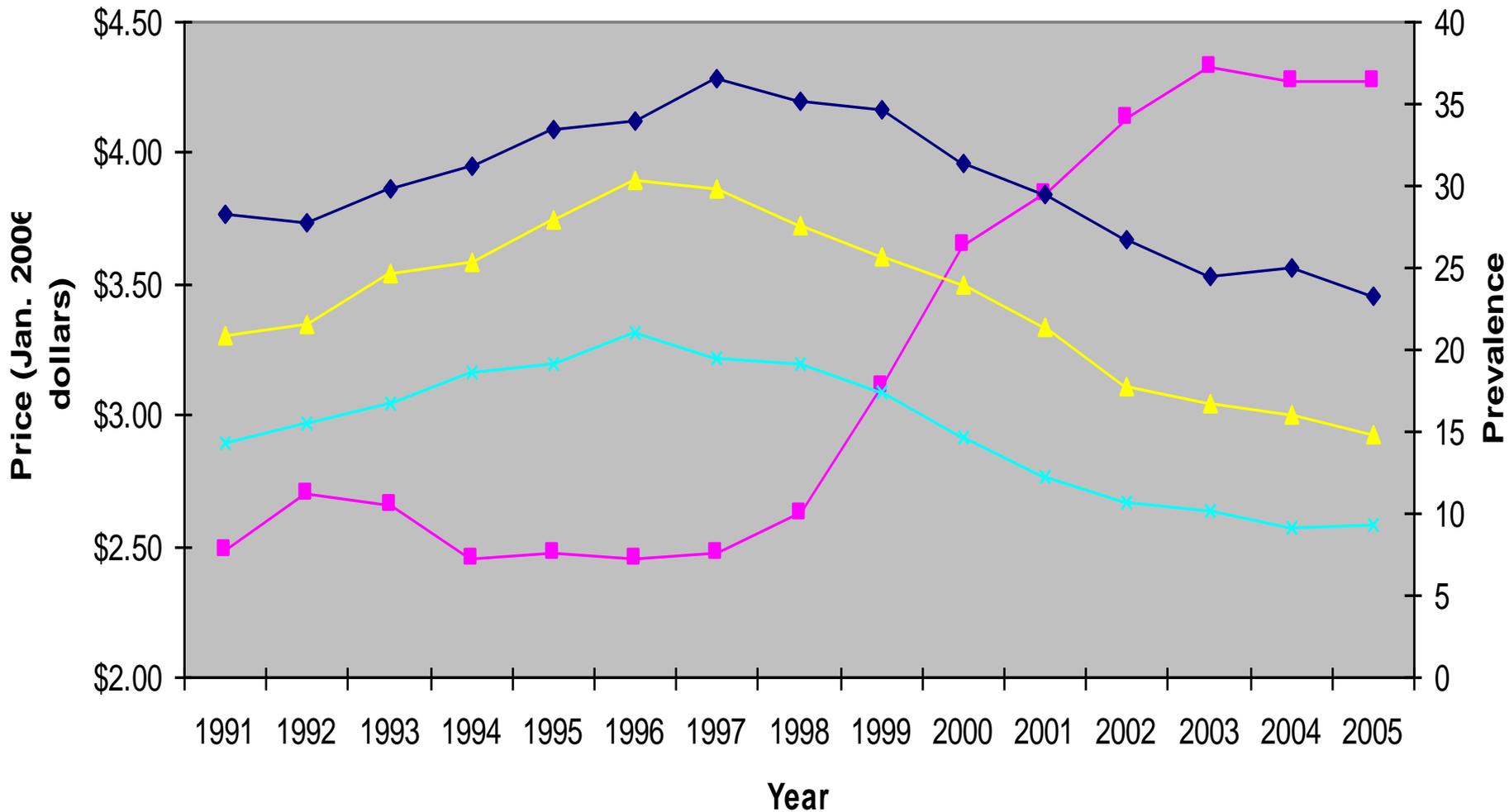
Sources: 2002/2003 National Survey on Drug Use and Health; Tax Burden on Tobacco; compiled by Gary Giovino, RPCI

12th Grade 30 Day Smoking Prevalence and Price



—■— Cigarette Price —◆— 30 Day Smoking Prevalence

8th, 10th, and 12th Grade Smoking Prevalence and Cigarette Price



■ Price ◆ 12th grade ▲ 10th grade × 8th grade

Impact of a Federal Cigarette Tax Increase

Based on these estimate, a \$0.61 per pack increase in the Federal cigarette tax (to \$1.00 per pack) would:

- Reduce cigarette sales by over 1.1 billion packs
- Generate over \$10 billion in new revenues
- Lead over 1.4 million current smokers to quit
 - Prevent almost 1.9 million youth from taking up smoking
 - Prevent over 900 premature deaths caused by smoking
 - Generate significant reductions in spending on health care to treat diseases caused by smoking
 - Reduce most state tobacco-related revenues

Tax Increases and Minnesota

Based on these estimate, a \$0.50 per pack increase in the Minnesota cigarette tax would:

- Reduce cigarette sales by 13.8 million packs
- Generate over \$128 million in new revenues
- Lead almost 18,000 adult smokers to quit
 - Prevent almost 23,000 youth from taking up smoking
 - Prevent over 11,200 premature deaths caused by smoking
 - Generate significant reductions in spending on health care to treat smoking attributable diseases

A reduction in the tax (e.g. elimination of the 75 cent 'fee' would have the opposite impact

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

- Every significant increase in federal and state cigarette taxes has resulted in significant increase in revenues

Positive Effect of Tax Increases on Revenues Results from:

Low share of tax in price:

- state taxes account for less than 20% of price
- total taxes account for just over 25% of price
- *Implies that large tax increase will have much smaller impact on price*

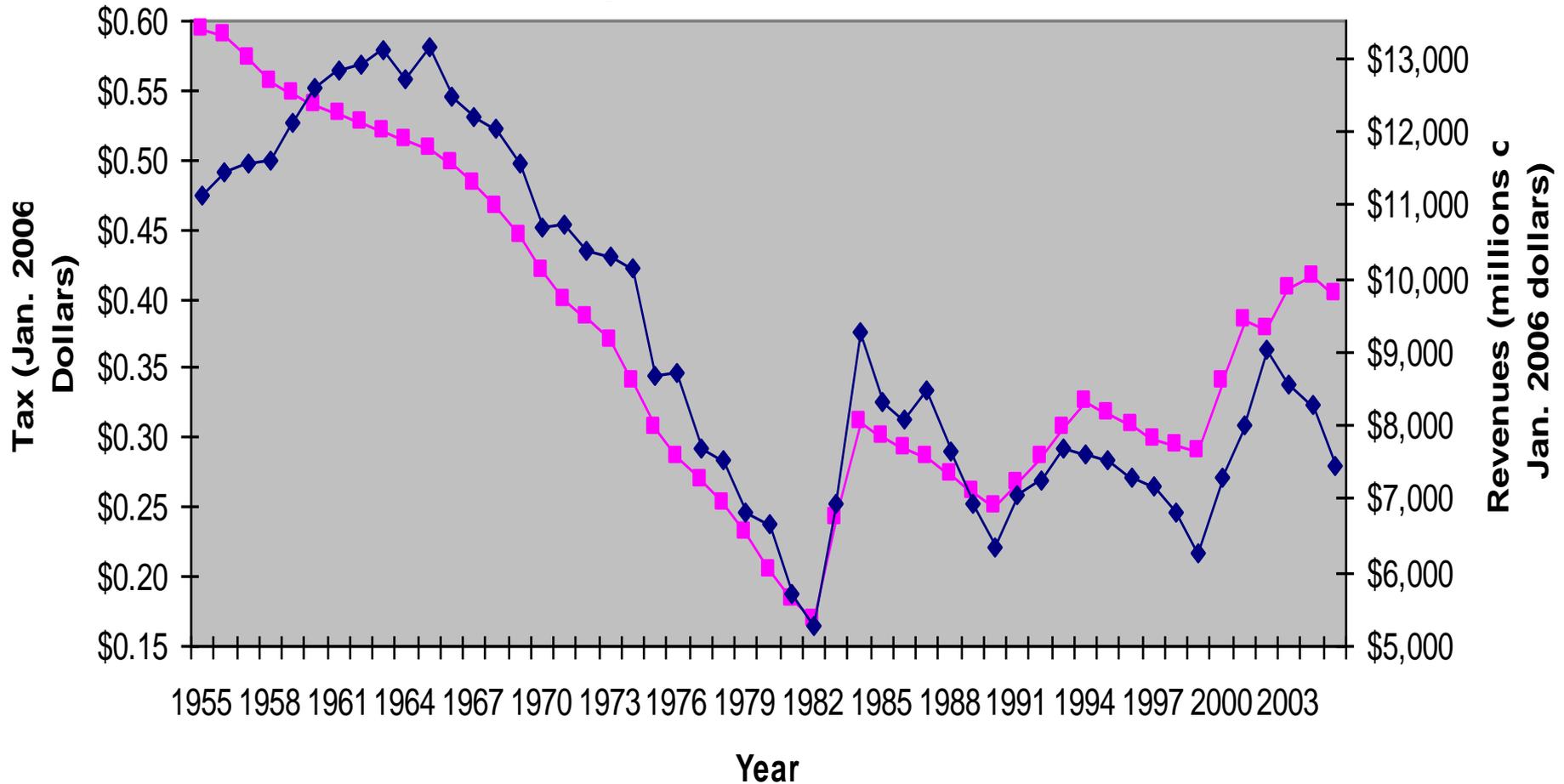
Less than proportionate decline in consumption:

- 10% price increase reduces consumption by 4%

• *Example:*

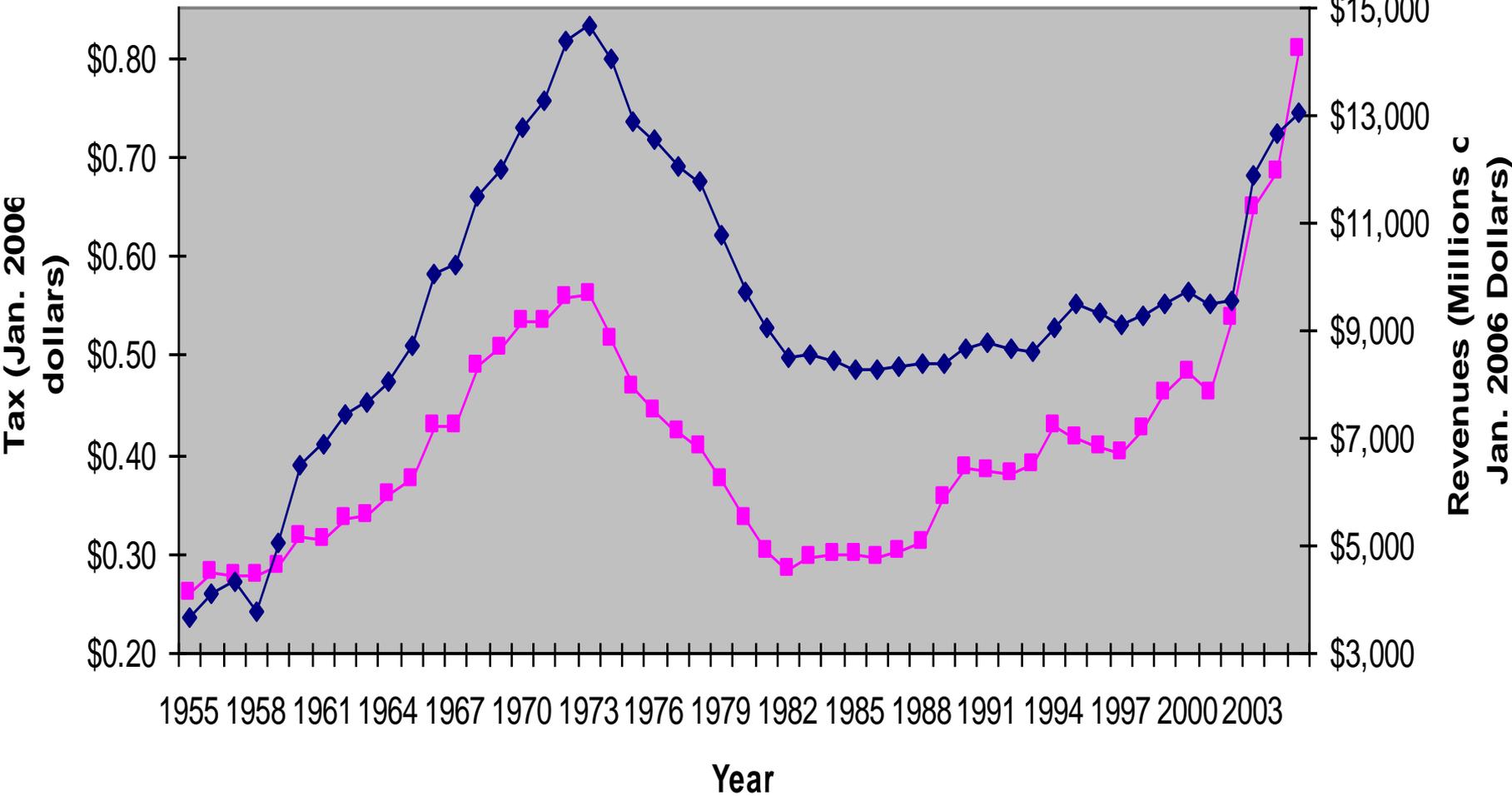
- Price \$4.00, State tax \$1.00
 - Doubling of tax raises price to \$5.00 – 25% increase
 - 25% price increase reduces sales by 10%
 - *90% of original sales at higher tax increases revenues by 80%*

Federal Cigarette Tax and Tax Revenues, Inflation Adjusted, 1955-2005

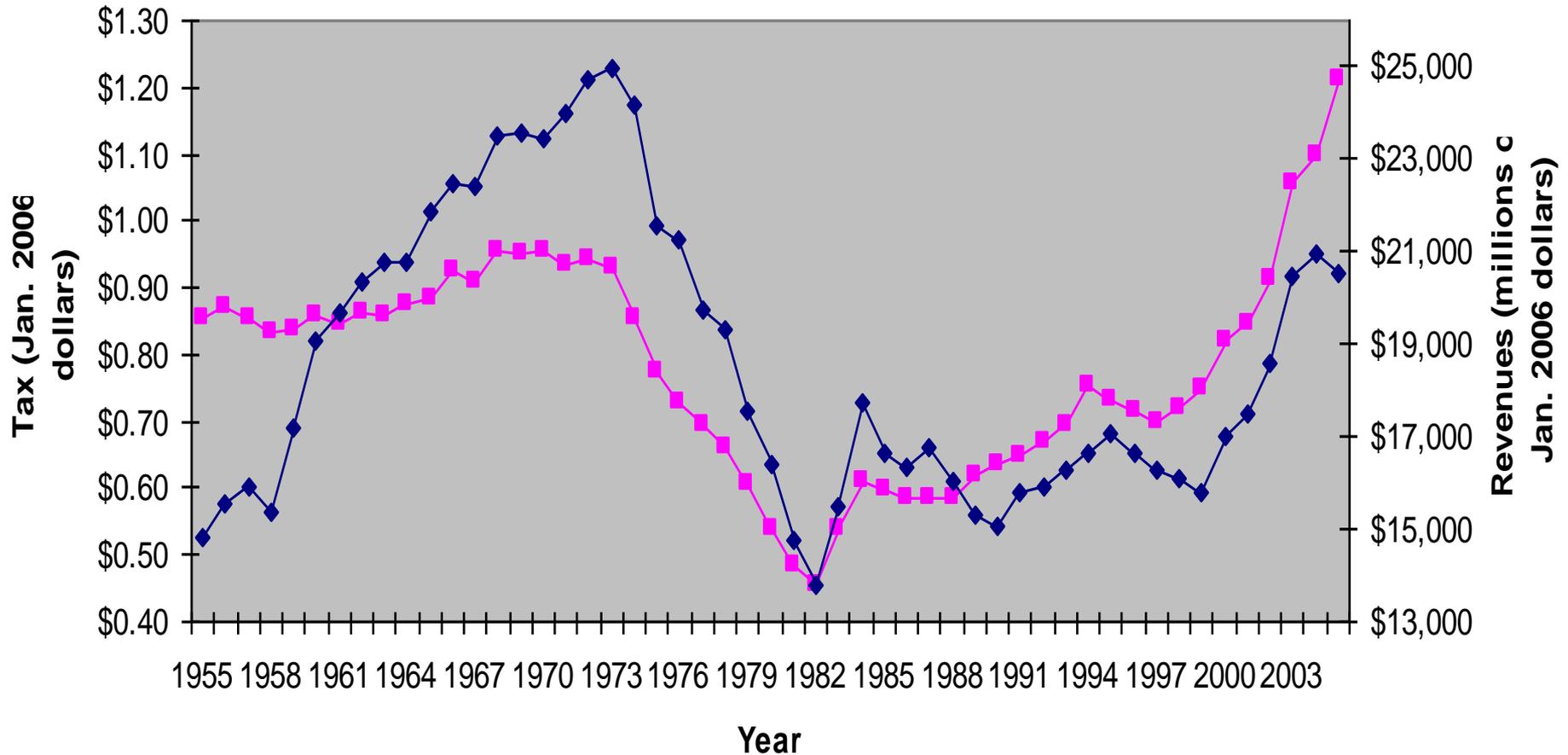


—■— Tax —◆— Revenues

State Cigarette Taxes and Tax Revenues, Inflation Adjusted, 1955-2005

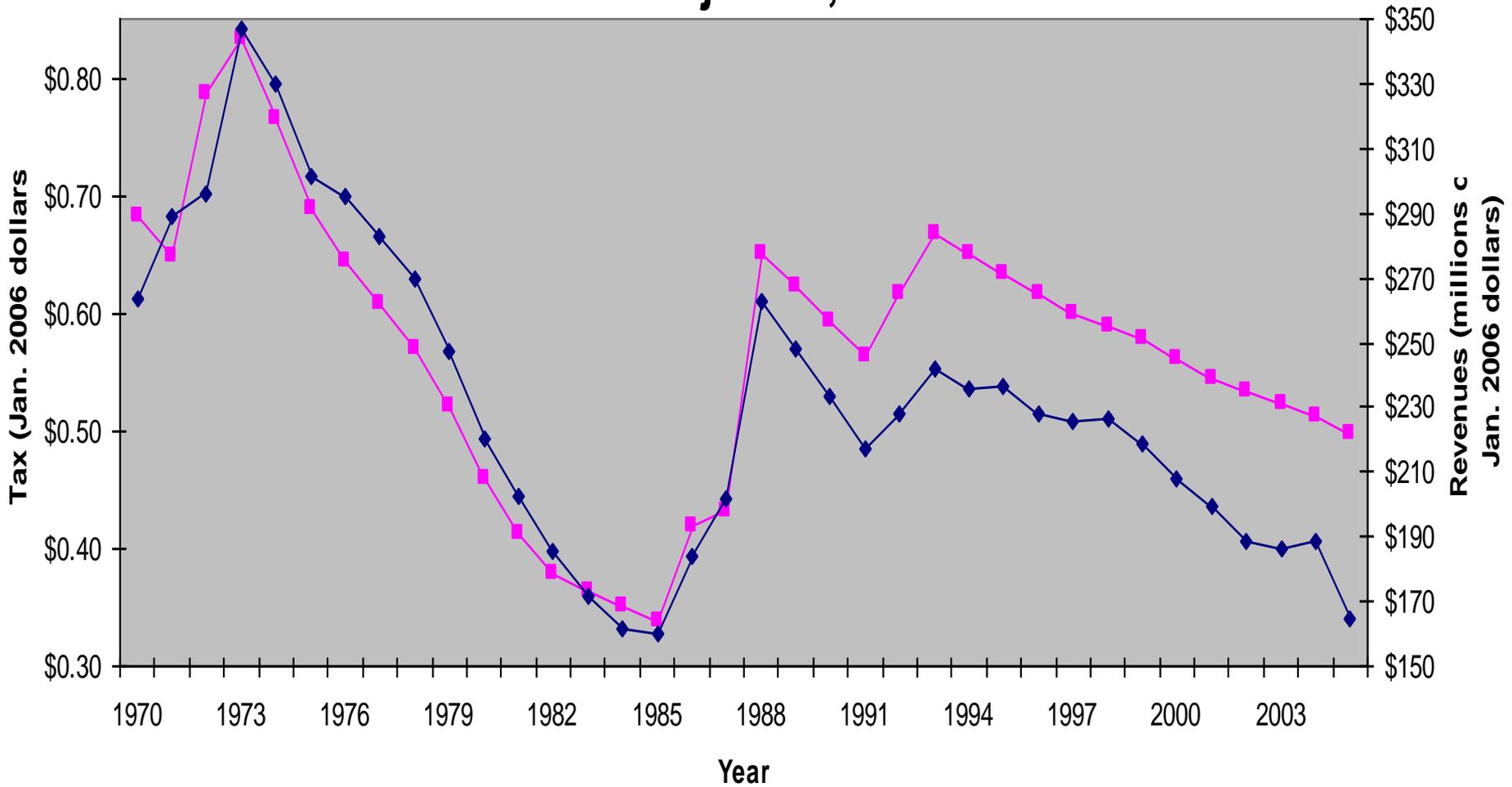


Combined State and Federal Cigarette Taxes and Revenues, Inflation Adjusted, 1955-2005



■ Tax ◆ Revenues

Minnesota Cigarette Tax and Tax Revenues, Inflation Adjusted, 1970-2005



—■— Tax —◆— Revenues

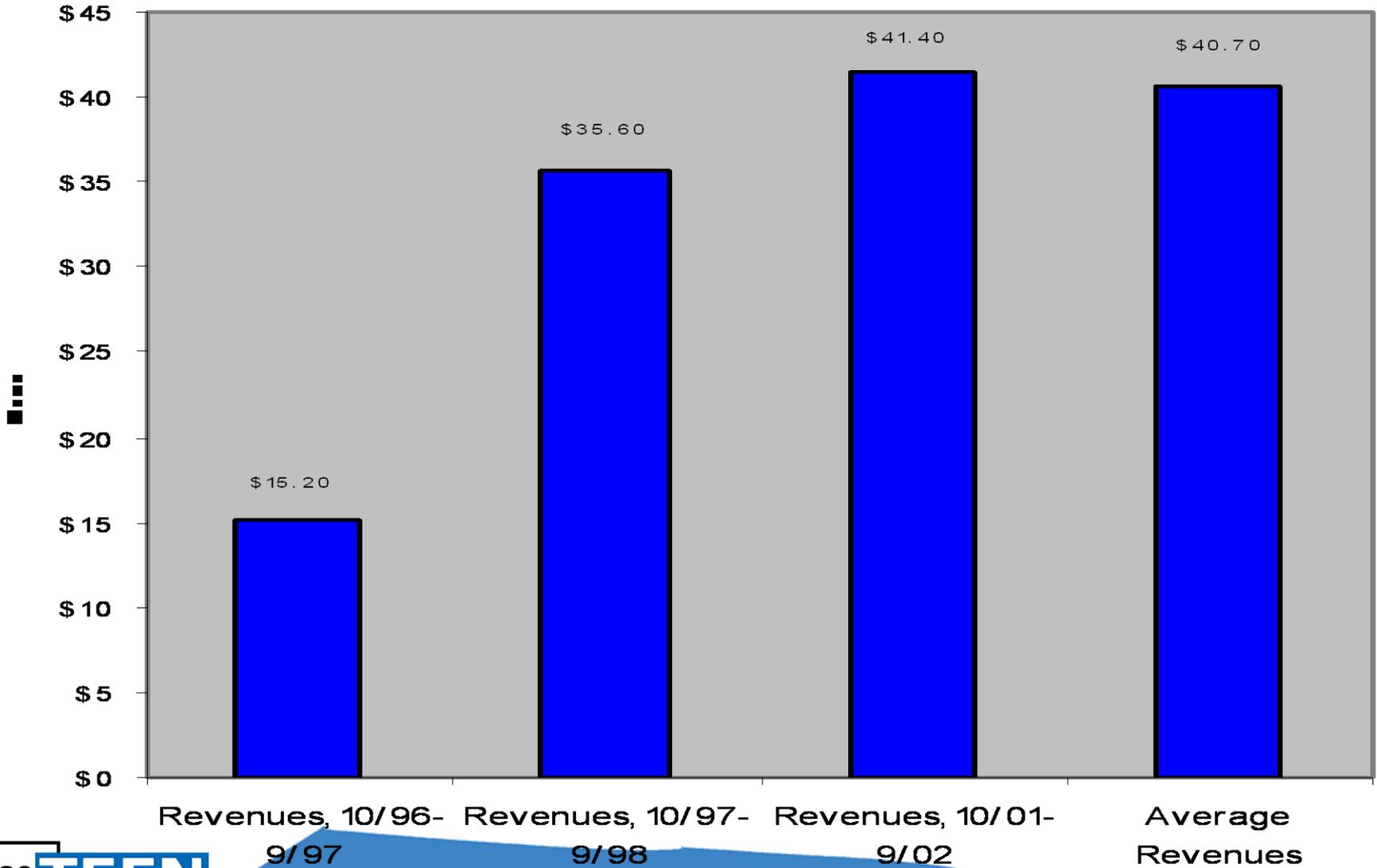
Sustainability of Cigarette Tax Revenues

Some suggest that increases in revenues will not be sustained over time as consumption declines, tax evasion increases

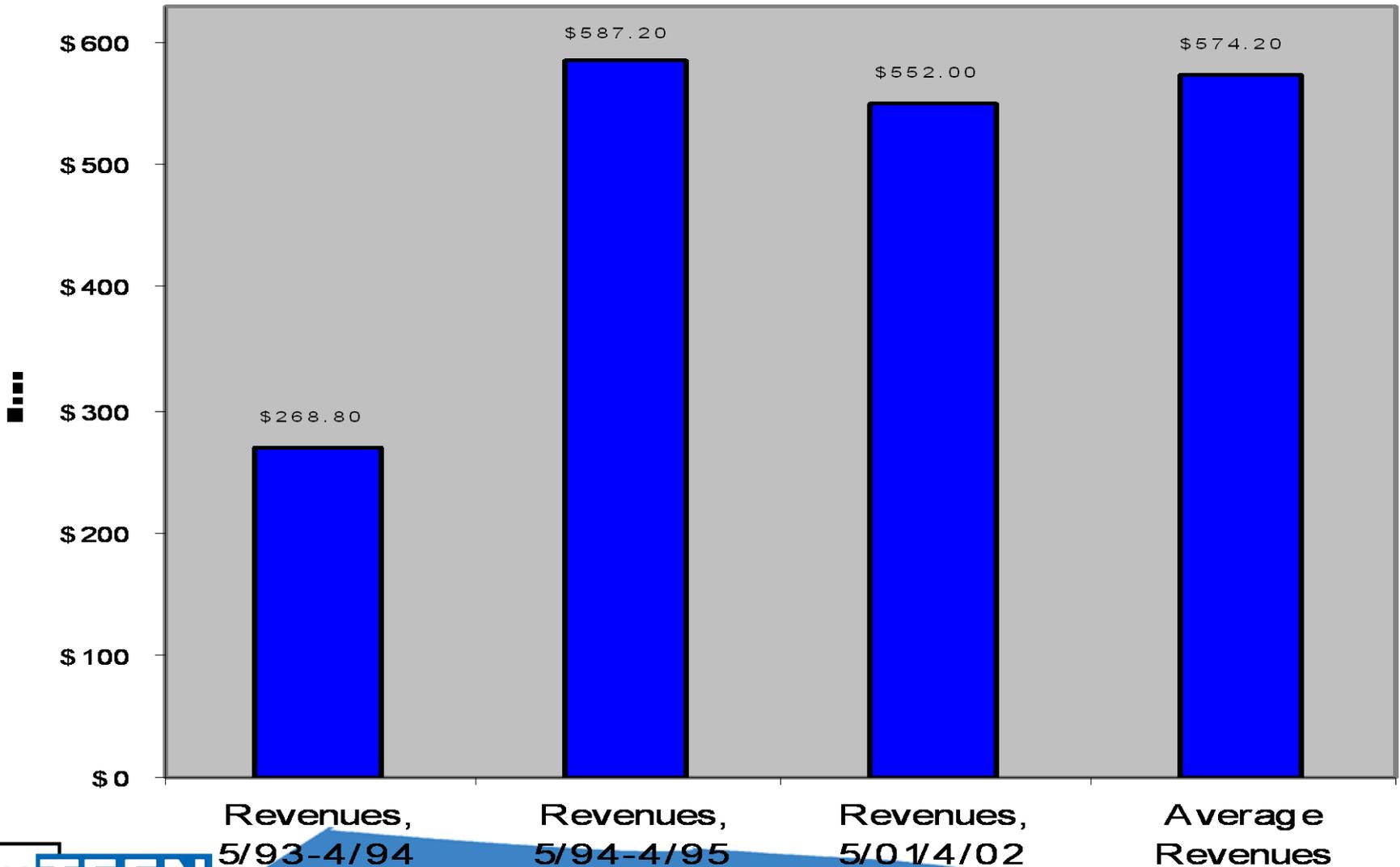
- Looked at significant state tax increases over past 15 years where increase was maintained for at least 5 years
 - Separately for states with major tobacco control programs
- *Conclusions:*
 - All significant state tax increases resulted in significant increases in state tax revenues
 - Nominal increases in revenues sustained over time in states without tobacco control programs
 - Nominal revenues decline over time in states with tobacco control programs, but are significantly higher many years later than prior to tax increase

Cigarette Excise Tax Revenues, Alaska

29 cents to \$ 1.00, 10/1/97

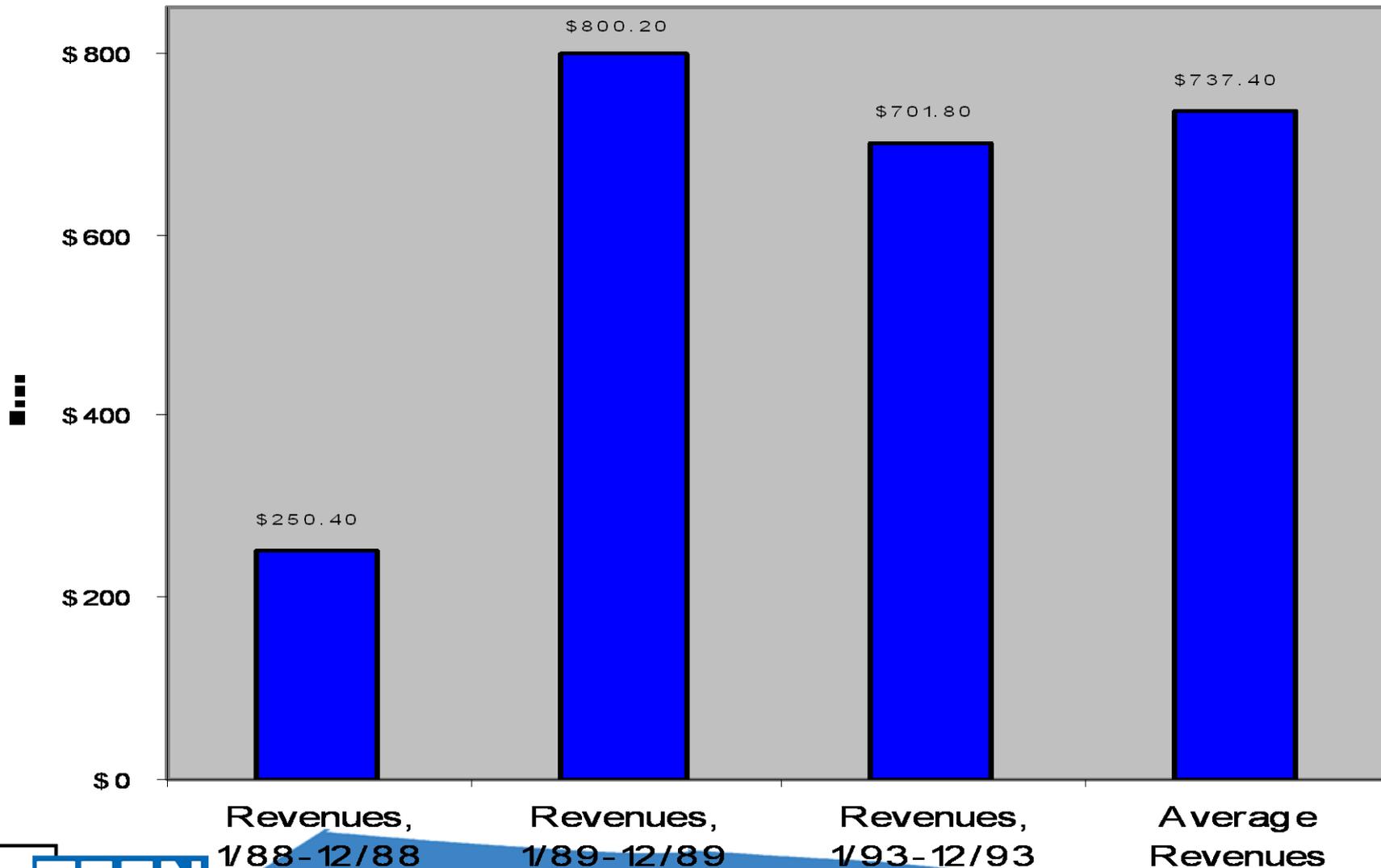


Cigarette Excise Tax Revenues, Michigan 25 cents to 75 cents, 5/1/94



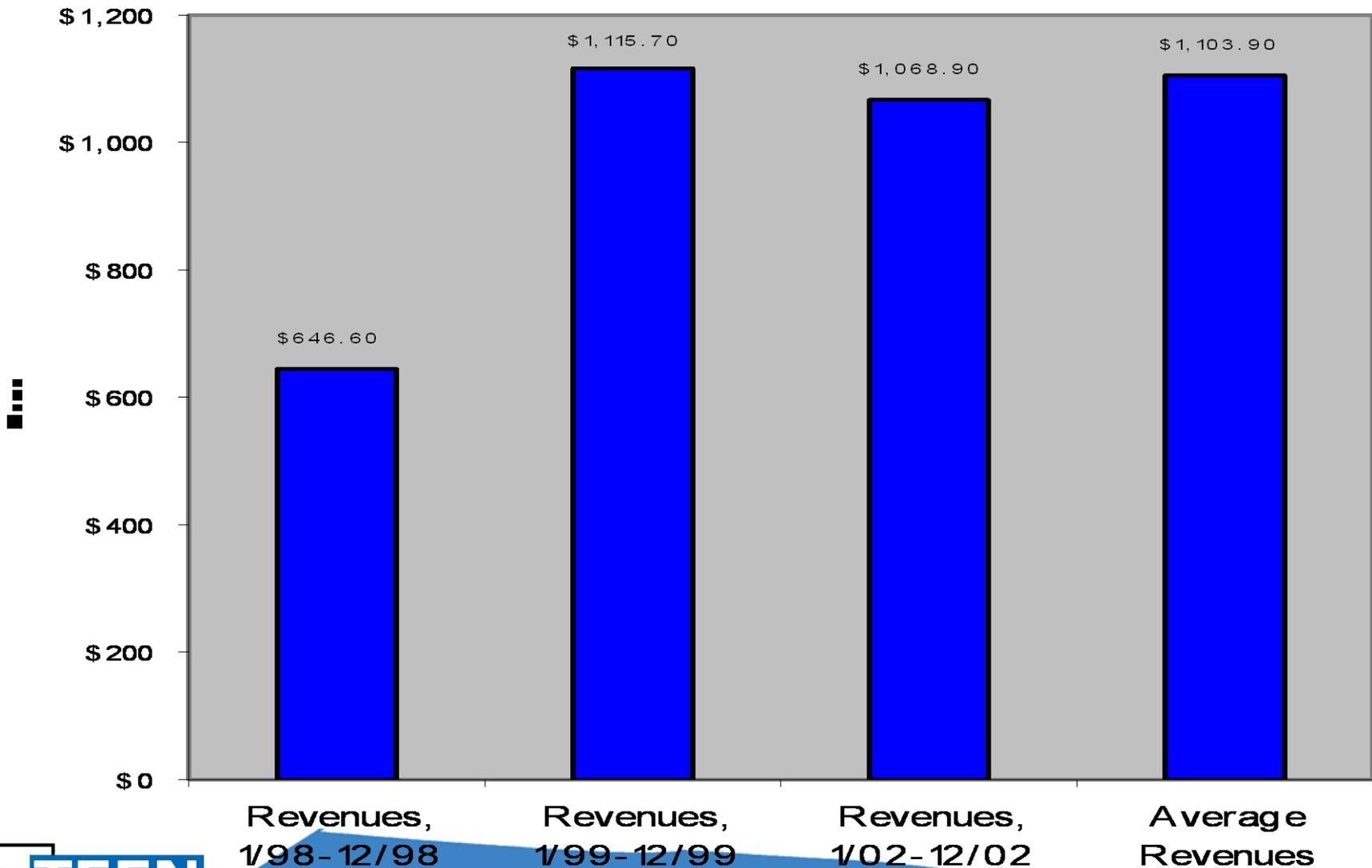
Cigarette Excise Tax Revenues, California

10 cents to 35 cents, 1/1/89



Cigarette Excise Tax Revenues, California

37 cents to 87 cents, 1/1/99



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

- Many countries/states will see net gains in employment as tobacco consumption falls

Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Impact on Tax Evasion?

Myth: Tax evasion negates the effects of increases in tobacco taxes

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

- Extent of tax evasion often overstated
- Other factors important in explaining level of tax evasion
- Effective policies exist to deter tax evasion

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

Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Extent of Tax Evasion?

International tobacco control policy valuation study

- longitudinal cohort study of smokers in many countries

- original -country study focused on , , Canada and Australia

- added Ireland, Malaysia, Thailand, Korea; others in preparation/planning

- approximately , smokers surveyed in each country in each wave

- detailed information collected on smoking behavior and variety of related issues

- cigarette purchase patterns/sources

Extent of Tax Evasion?

Last Purchase:

Source	Wave 1	Wave 2
Reservation	3.0%	3.4%
Duty Free	0.5%	0.1%
Other State	0.4%	0.2%
Military Base	0.7%	1.1%
Toll-Free	0.0%	0.2%
Internet	0.6%	1.3%
Independent	0.1%	0.0%
Any	5.3%	6.3%

Source: Hyland et al., in press

Extent of Tax Evasion?

Any Purchase in past 6 months:

Source	Wave 1	Wave 2
Reservation	2.3%	2.5%
Duty Free	0.7%	0.2%
Other State	0.8%	0.9%
Military Base	0.4%	0.4%
Toll-Free	1.2%	1.8%
Mail	1.7%	2.3%
Internet	1.4%	3.7%
Independent	2.1%	2.3%
Any	8.4%	10.5%

Source: Hyland et al., in press

Efforts to Curb Tax Evasion

- many focused on internet, phone and mail order sales:
 - outright ban on direct sales (e.g. New York state policy)
 - major shipping companies (e.g. , Federal Express) agree not to ship cigarettes to consumers
 - hasn't established similar policy
 - major credit card companies agree to ban use of credit cards for direct cigarette purchases
 - states apply techniques to identify direct purchasers and to collect taxes due
 - promising approach based on early data
- reservation sales similar focus in some states
 - Minnesota imposes tax on reservation

Myths About Economic Impact of Tobacco Taxation and Tobacco Control

- Regressivity?

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

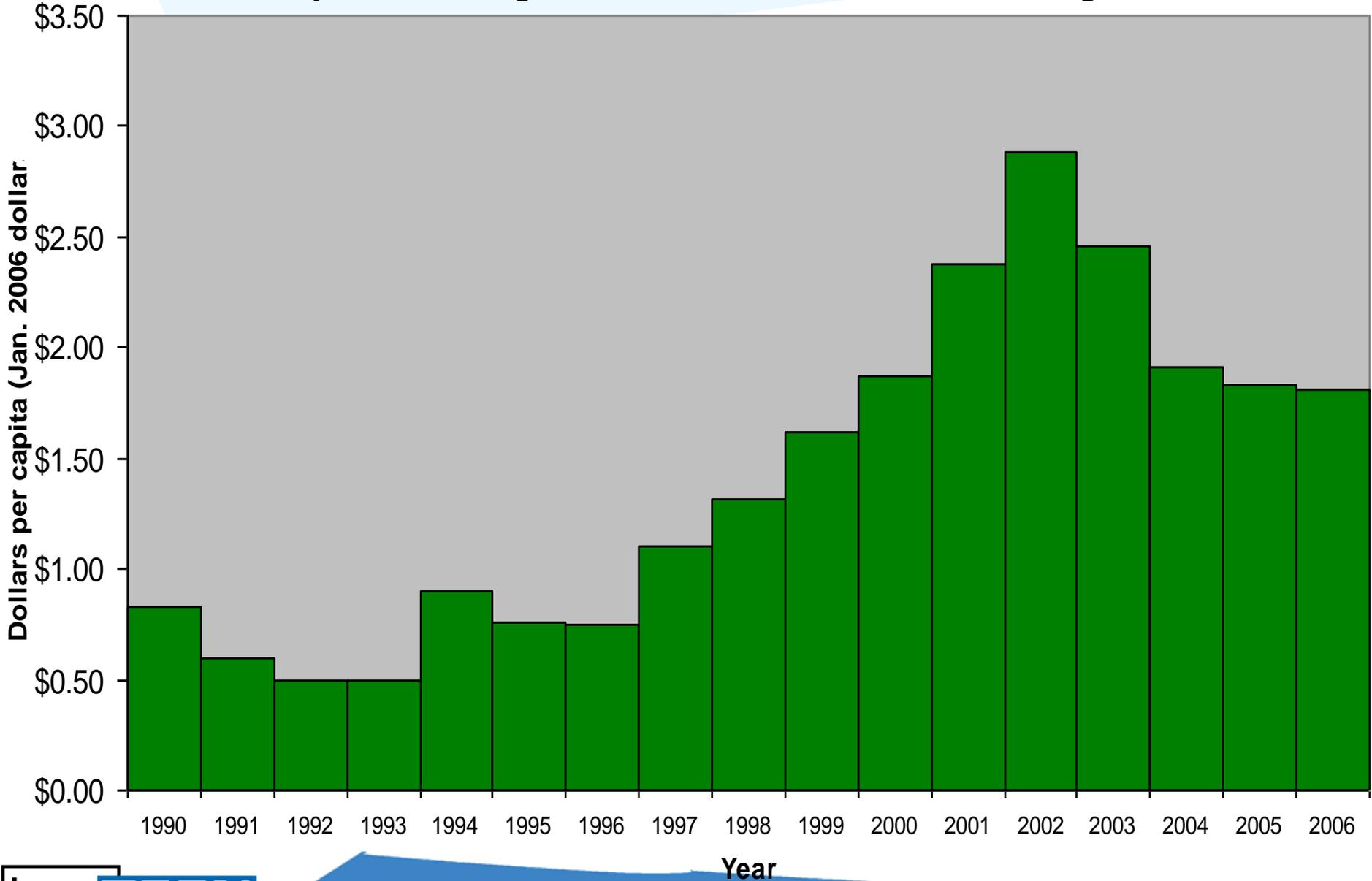
Truth: Poor consumers are more responsive to price increases

- 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 or protect funding for current programs

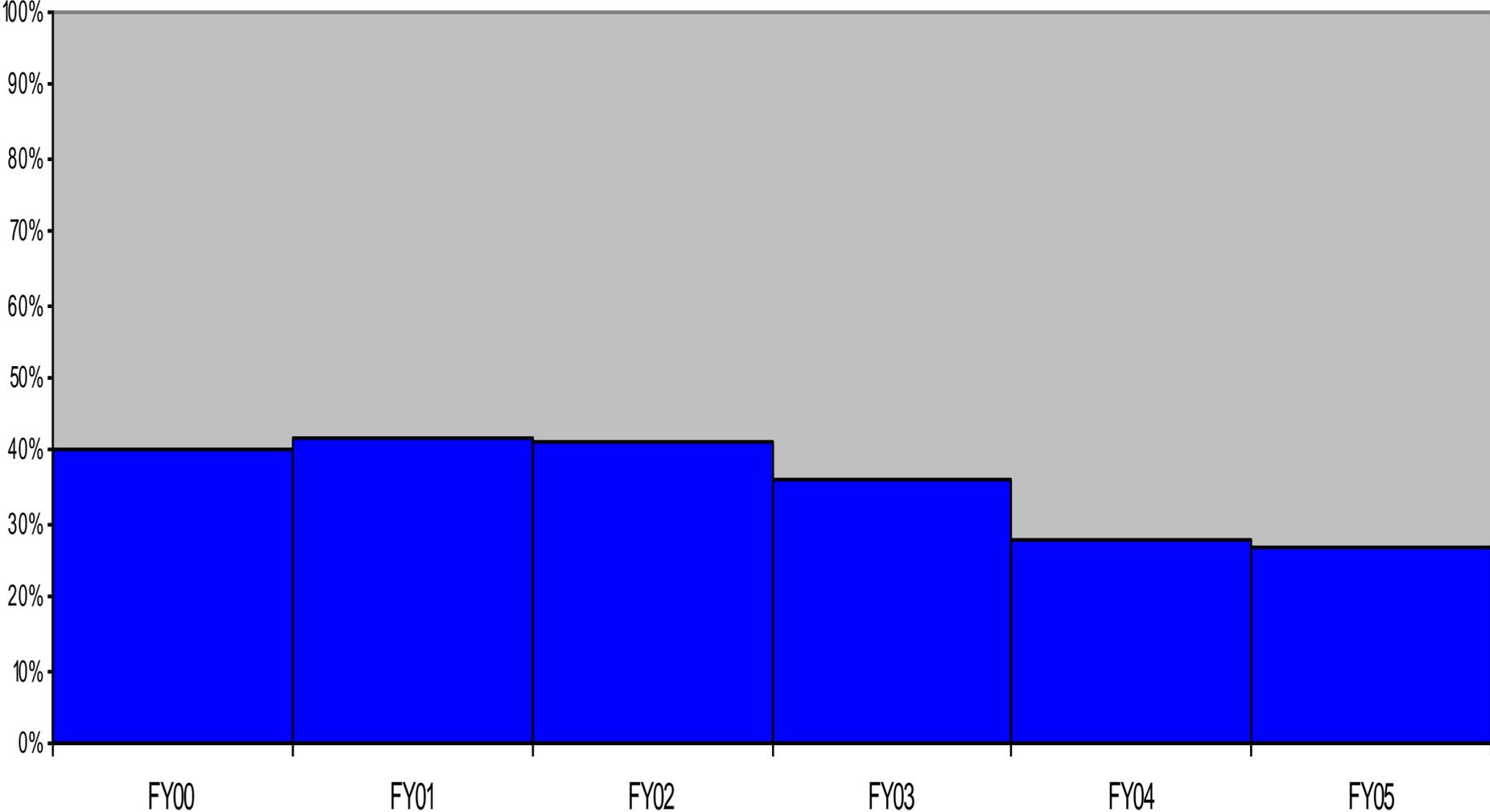
earmarked tobacco taxes

- Many states earmark tobacco tax revenues for comprehensive tobacco control programs
 - CA – 1989 and 1999 ballot initiatives
 - MA – 1993 ballot initiative
 - Several others since
- Others devote portion of MSA or other settlement revenues to comprehensive programs
- Comprehensive programs support a variety of activities:
 - Anti-smoking advertising
 - Quitlines and other cessation support
 - School based prevention programs
 - Community-based cessation and prevention efforts
 - Much more
- These activities can add to the impact of tax increases in promoting cessation and preventing initiation

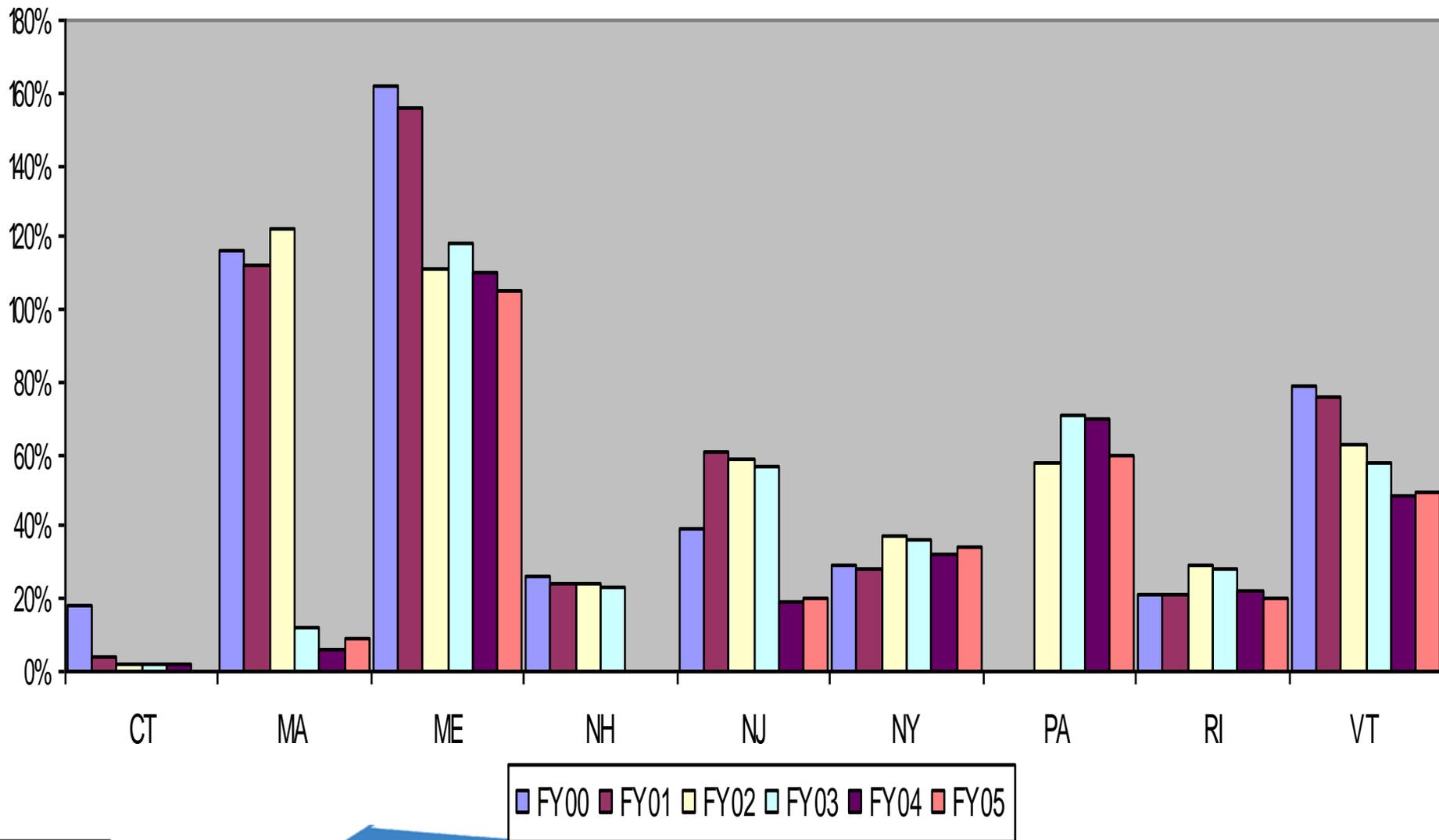
Per Capita Funding for State Tobacco Control Programs



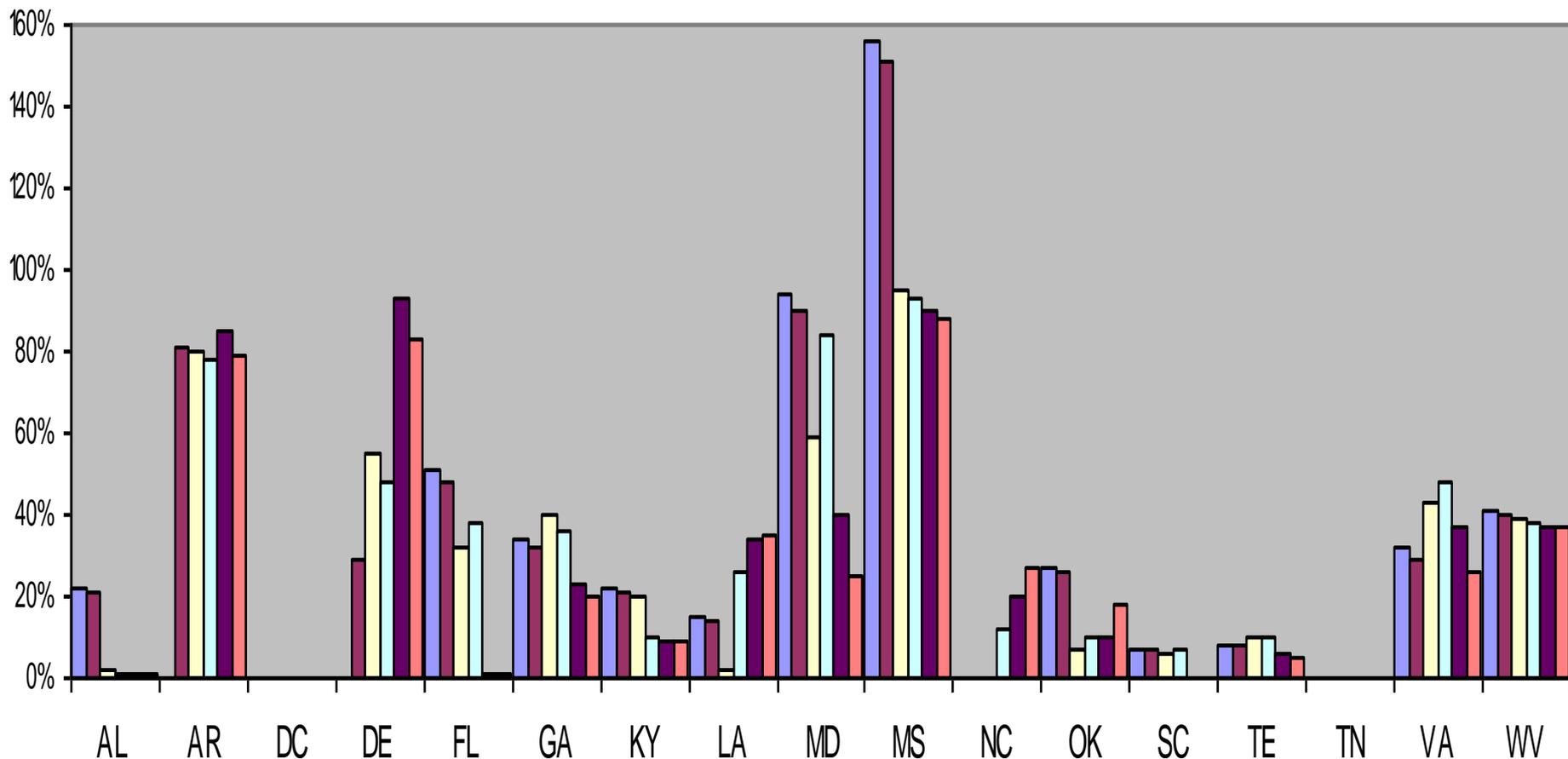
State Tobacco Control Funding as Percentage of CDC Recommended Minimum, FY00-FY05



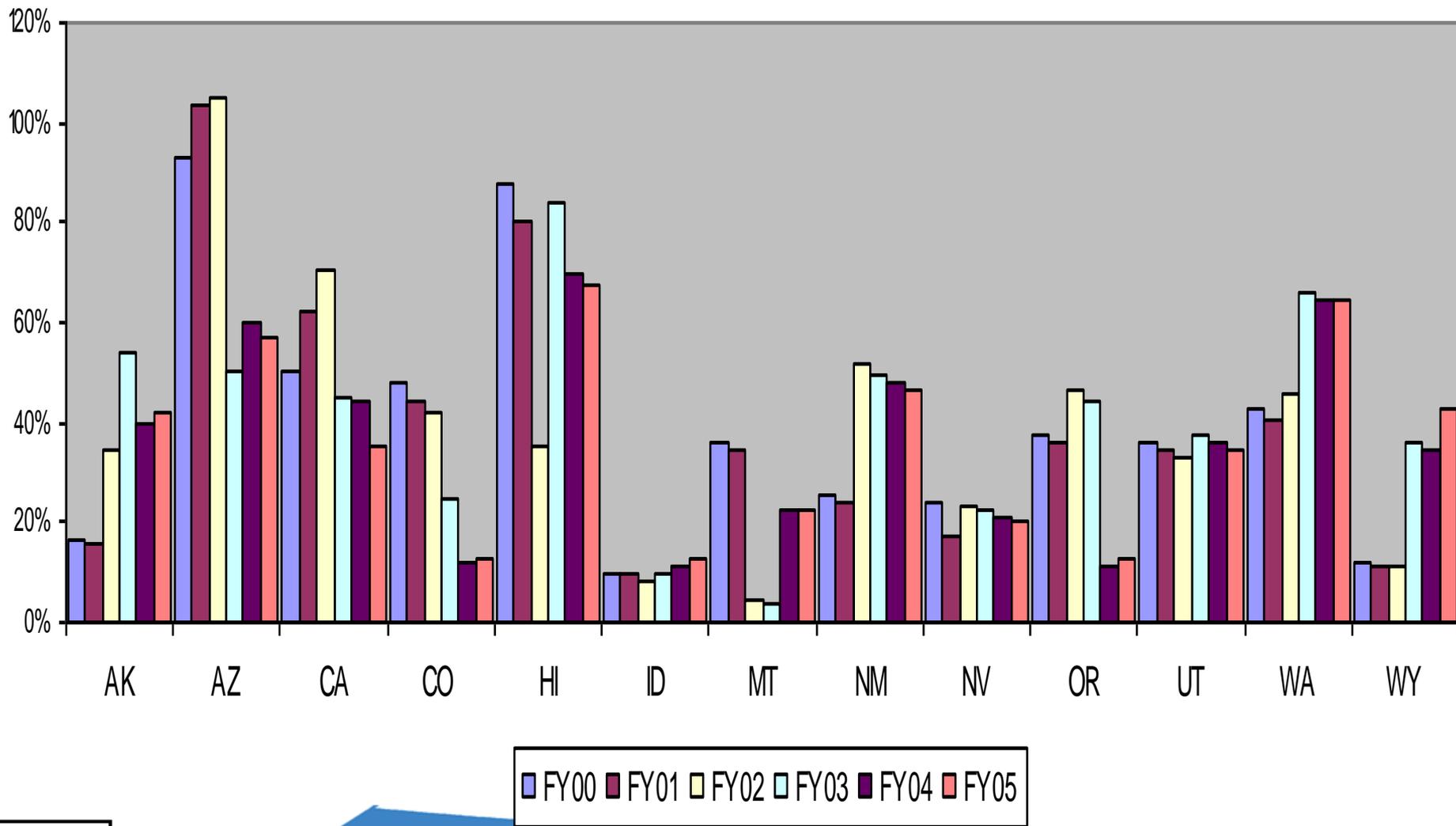
State Tobacco Control Program Funding as Percentage of CDC Minimum Recommended Level, FY00-FY05, Northeast Region



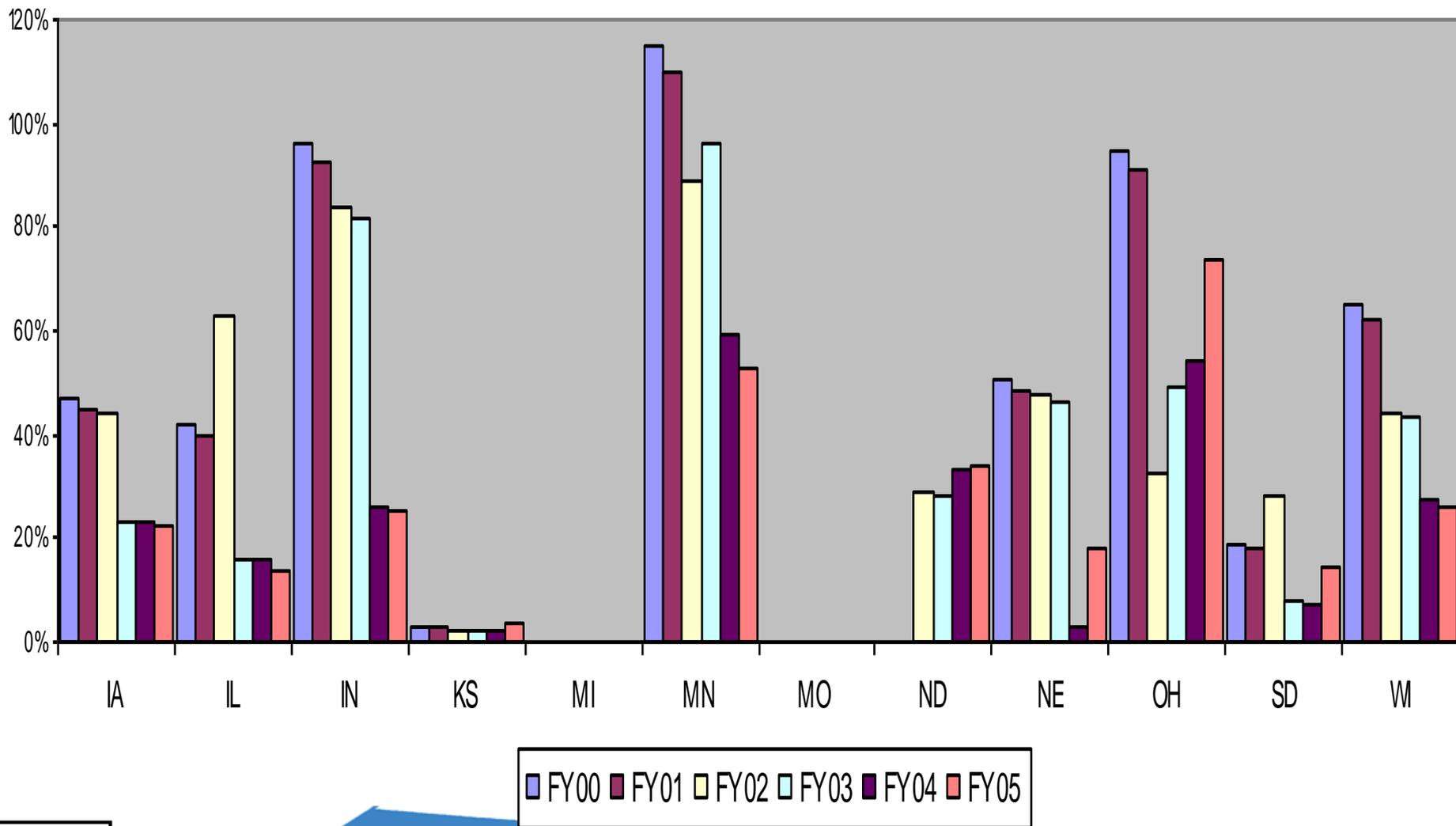
State Tobacco Control Program Funding as a Percentage of CDC Minimum Recommended Level FY00-FY05, Southern Region



State Tobacco Control Program Funding as a Percentage of CDC Minimum Recommended Level FY00-FY05, Western Region



State Tobacco Control Program Funding as a Percentage of CDC Minimum Recommended Level FY00-FY05, Midwest Region



Research Findings – Comprehensive Programs and State Cigarette Sales

- Higher spending on tobacco control efforts significantly reduces cigarette consumption
- Marginal impact of tobacco control spending greater in states with higher levels of cigarette sales per capita; average impact significantly higher in states with larger programs
 - Disaggregated program spending suggests that impact of programs focusing on policy change is greater than spending on other programs

Research Findings – Comprehensive Programs and Youth Smoking

- Higher spending on tobacco control efforts significantly reduces youth smoking prevalence and cigarette consumption among young smokers
 - estimated effects about 3 times those for adults
- Estimated impact of spending at CDC recommended levels: minimum: 8-9% reduction in youth smoking prevalence; maximum: over 20% reduction
- Estimates suggest that greatest impact is on earlier stages of youth smoking uptake



Supported by
The Robert Wood Johnson Foundation



*A Policy Research Partnership
to Reduce Youth Substance Use*

oncl usi ons

Substantial increases in cigarette and other tobacco product prices, including those resulting from significant increases in tobacco excise taxes, lead to large reductions in tobacco use and, in the long run, reduce the public health toll caused by tobacco use.

Additional reductions in overall smoking and in the prevalence of youth smoking result when tax increases are coupled with comprehensive tobacco control efforts.

<http://www.impactteen.org>

<http://www.tobaccoevidence.net>

<http://www.uic.edu/~fjc>

fjc@uic.edu