

# The Economics of Tobacco and Tobacco Control

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# Overview

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- **Economic Costs of Tobacco**
- **Cigarette Taxes and Prices**
- **Smoke-Free Air Policies**
- **Youth Access, Purchase, Use, and Possession**
- **Comprehensive Tobacco Control Programs**
- **Myths & Facts about Economic Impact of Tobacco Control Policies and Programs**
- **Conclusions**

# Economic Cost of Tobacco

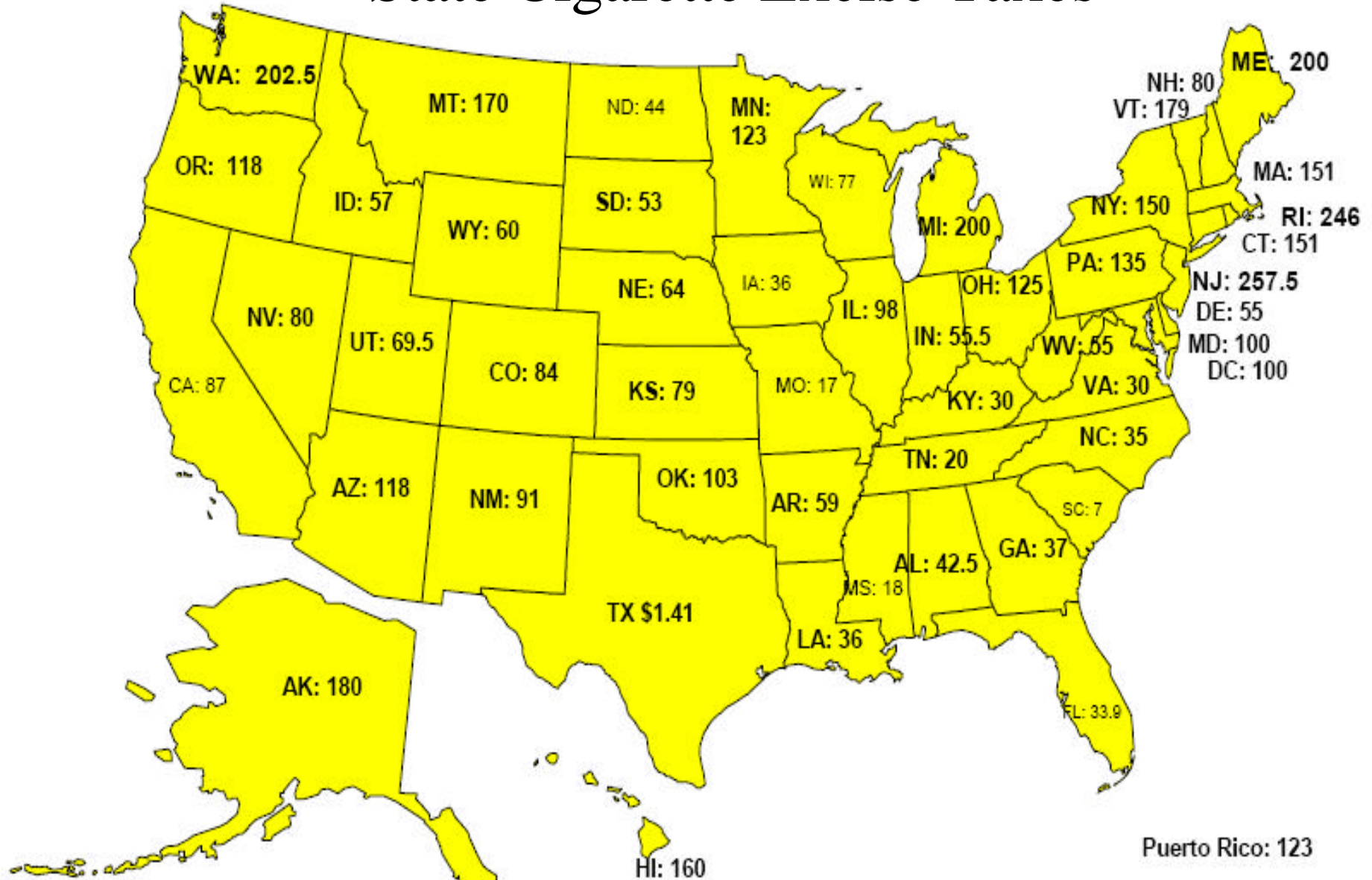
- **Death and disease caused by cigarette smoking and other tobacco use result in significant economic consequences**
- **CDC estimates that annual costs for 1997-2001 were:**
  - **Direct health care costs:\$75.5 billion per year**  
somewhat, but not fully, offset by reduced expenditures  
among smokers who die prematurely from smoking
  - **Lost Productivity: \$92 billion per year**
- **Market failures create economic rationale for government intervention**
  - **Imperfect information, addiction, and externalities**

Sources: CDC, 2005; Jha et al., 2000

# Cigarette Taxes and Prices

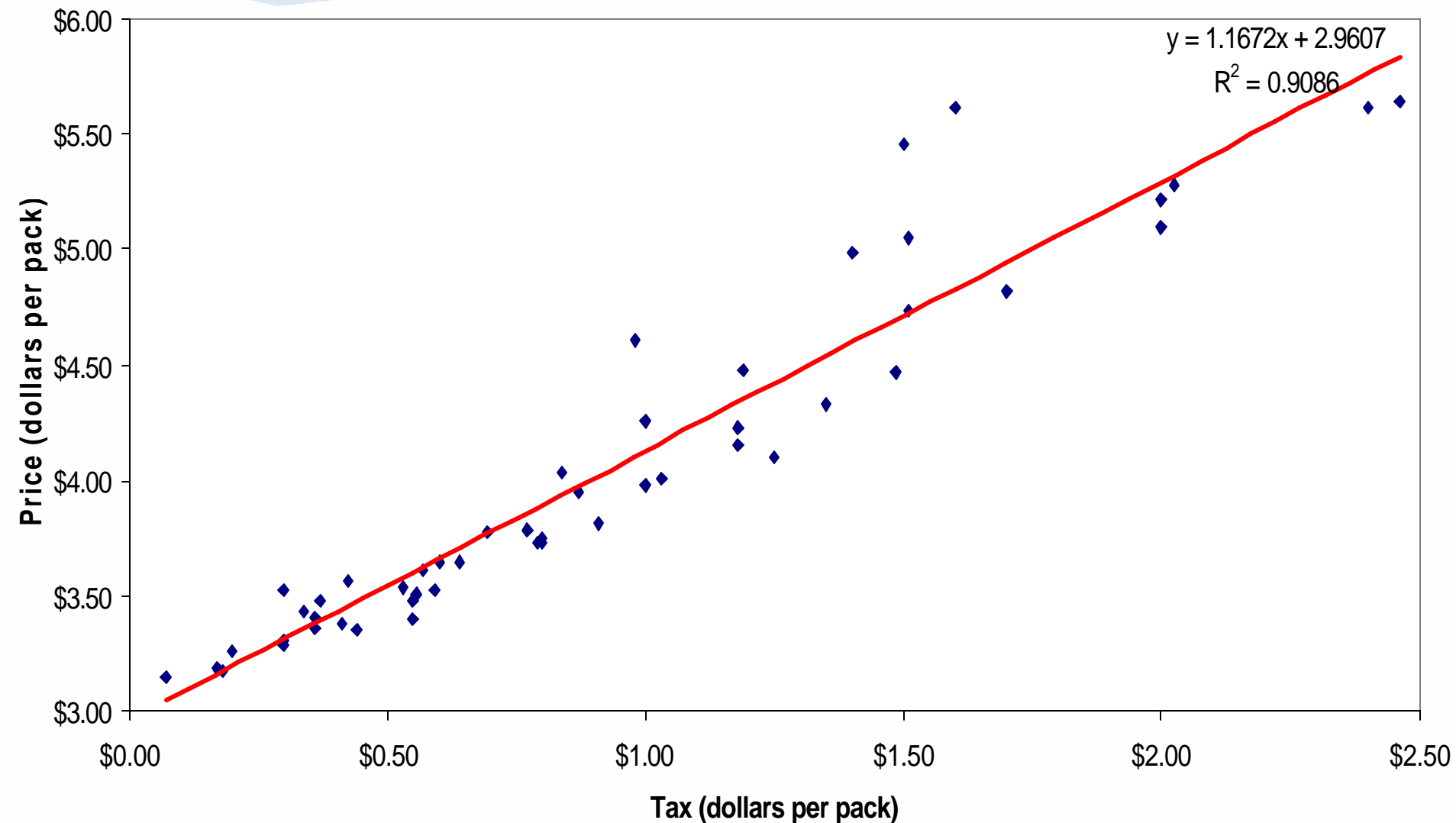
- **Cigarette taxes applied at federal, state and local levels**
  - **Federal: 39 cents per pack**
  - **State average: 96.1 cents per pack**
  - **Some significant local taxes (e.g. NYC, Chicago/Cook County)**
- **Higher cigarette taxes result in increases in cigarette prices**
- **Cigarette taxes generate significant revenues**
- **Higher taxes and prices effective in reducing cigarette smoking and its consequences**

# State Cigarette Excise Taxes



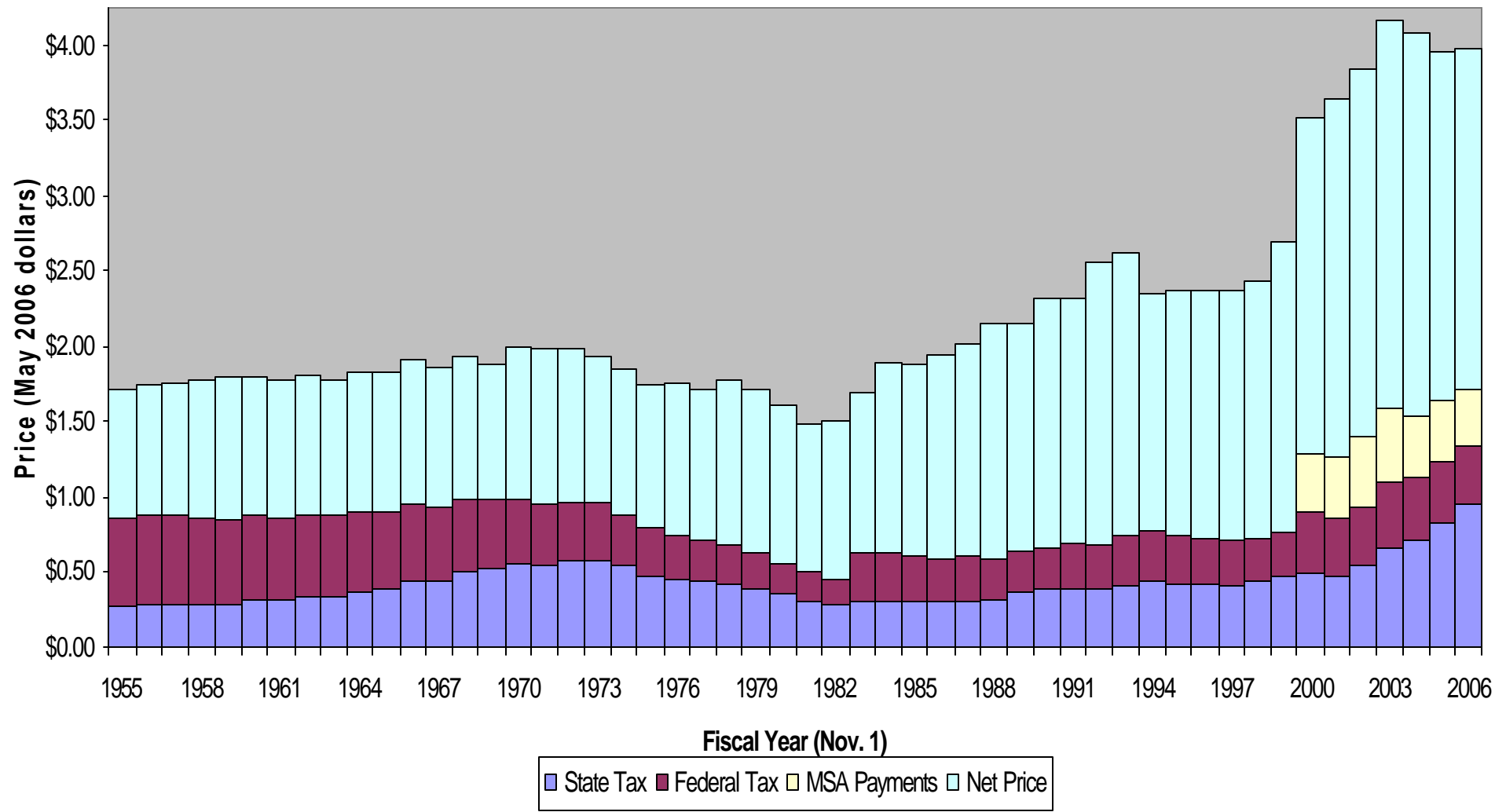
Source: Campaign for Tobacco-Free Kids

# State Cigarette Taxes and Prices, November 1, 2005



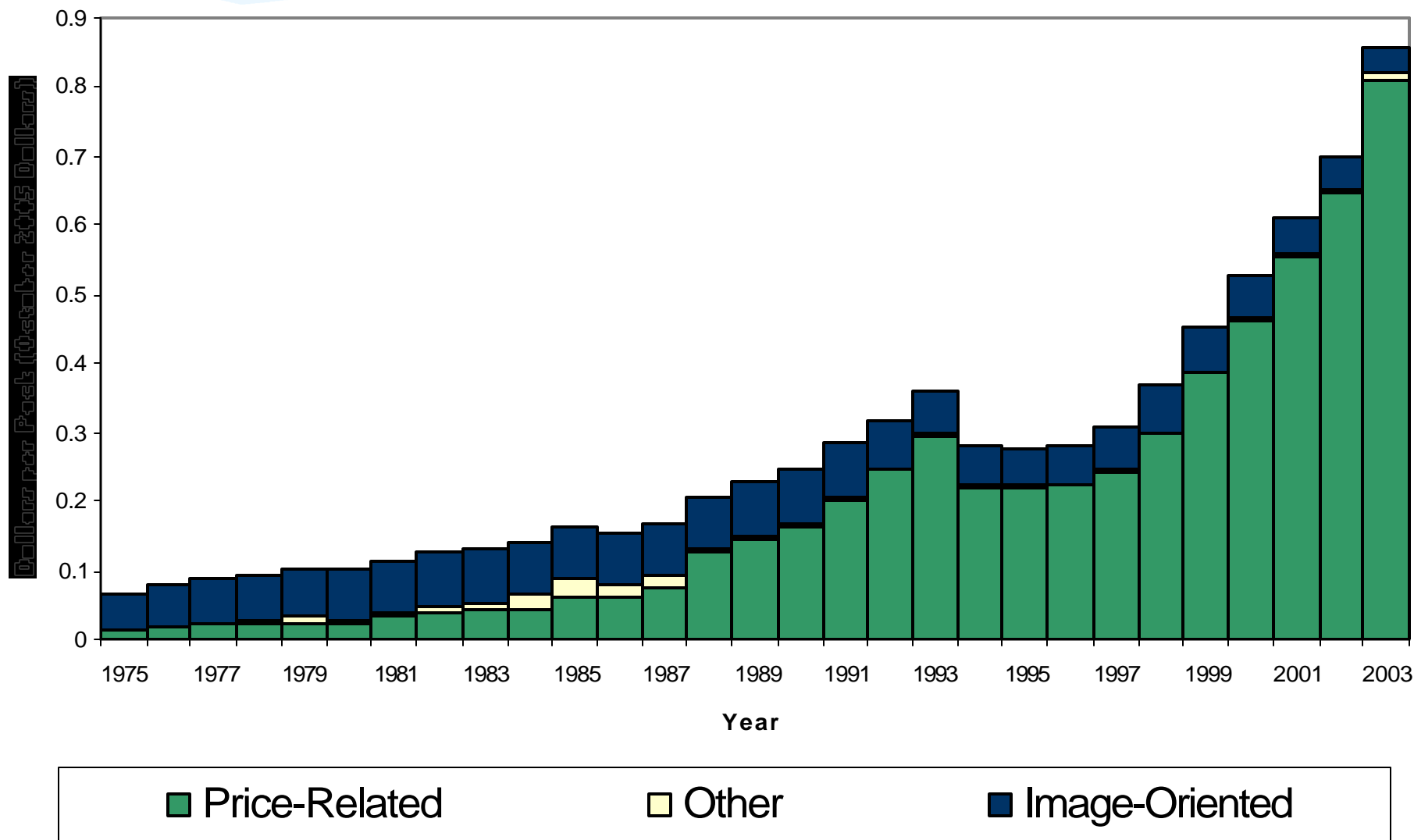
Source: *Tax Burden on Tobacco*, 2006, and author's calculations

## Inflation Adjusted Cigarette Prices, 1955-2006



Source: *Tax Burden on Tobacco*, 2006, and author's calculations

# Cigarette Company Marketing Expenditures, Inflation Adjusted, 1975-2003



Source: Federal Trade Commission, 2005, and author's calculations

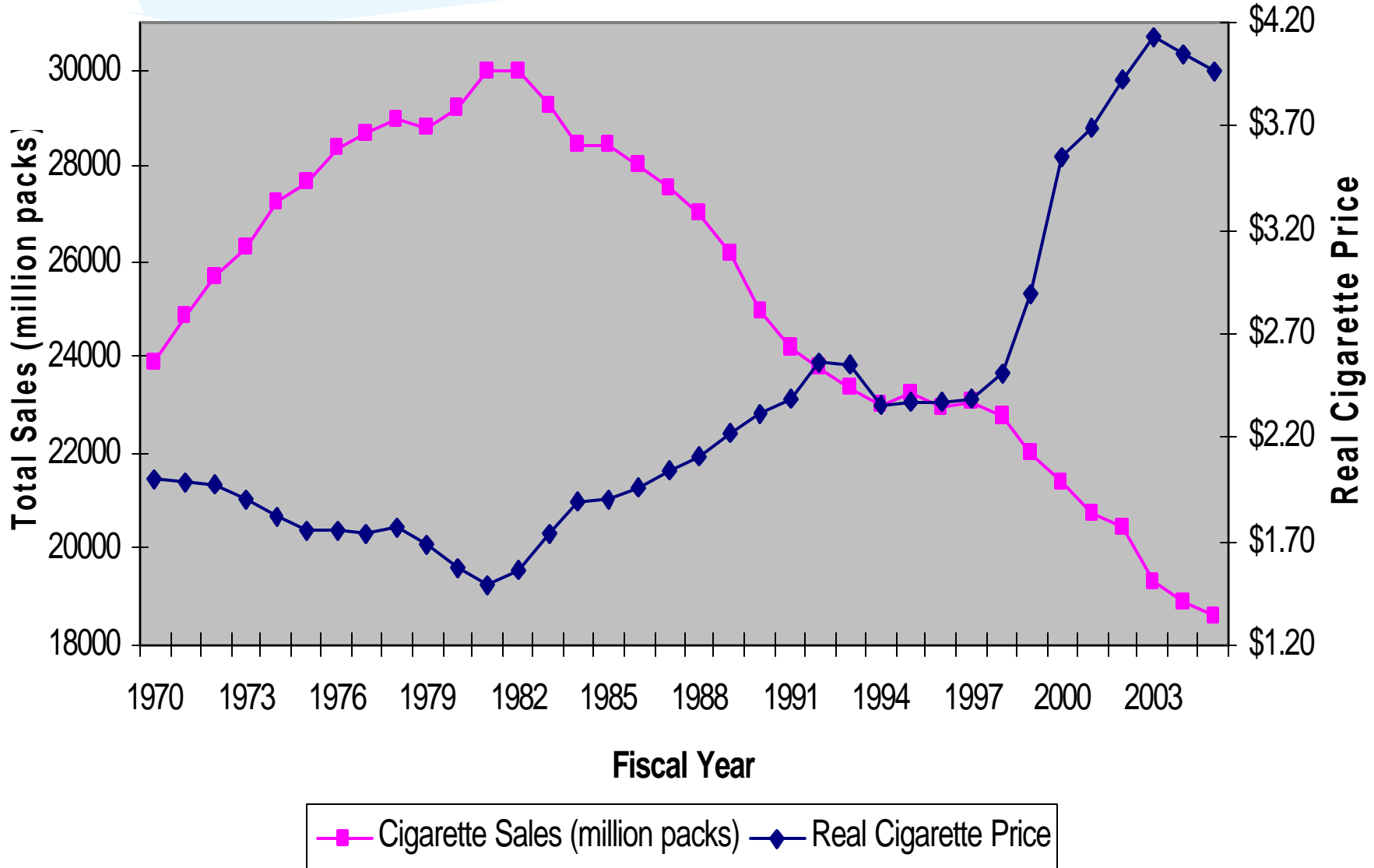


# Cigarette Prices, Taxes, and Smoking

- Higher prices induce quitting, prevent relapse, reduce consumption and prevent starting.
- Estimates indicate that 10% rise in price reduces overall smoking by about 4%
- About half of impact of price increases is on smoking prevalence
  - 10% price increase reduces prevalence by about 2%
- Higher prices encourage smoking cessation
  - Among 10% price increase raises likelihood of a quit attempt by 6-9% and of successful cessation by about 3.5%
  - Higher prices stimulate demand for cessation products and services

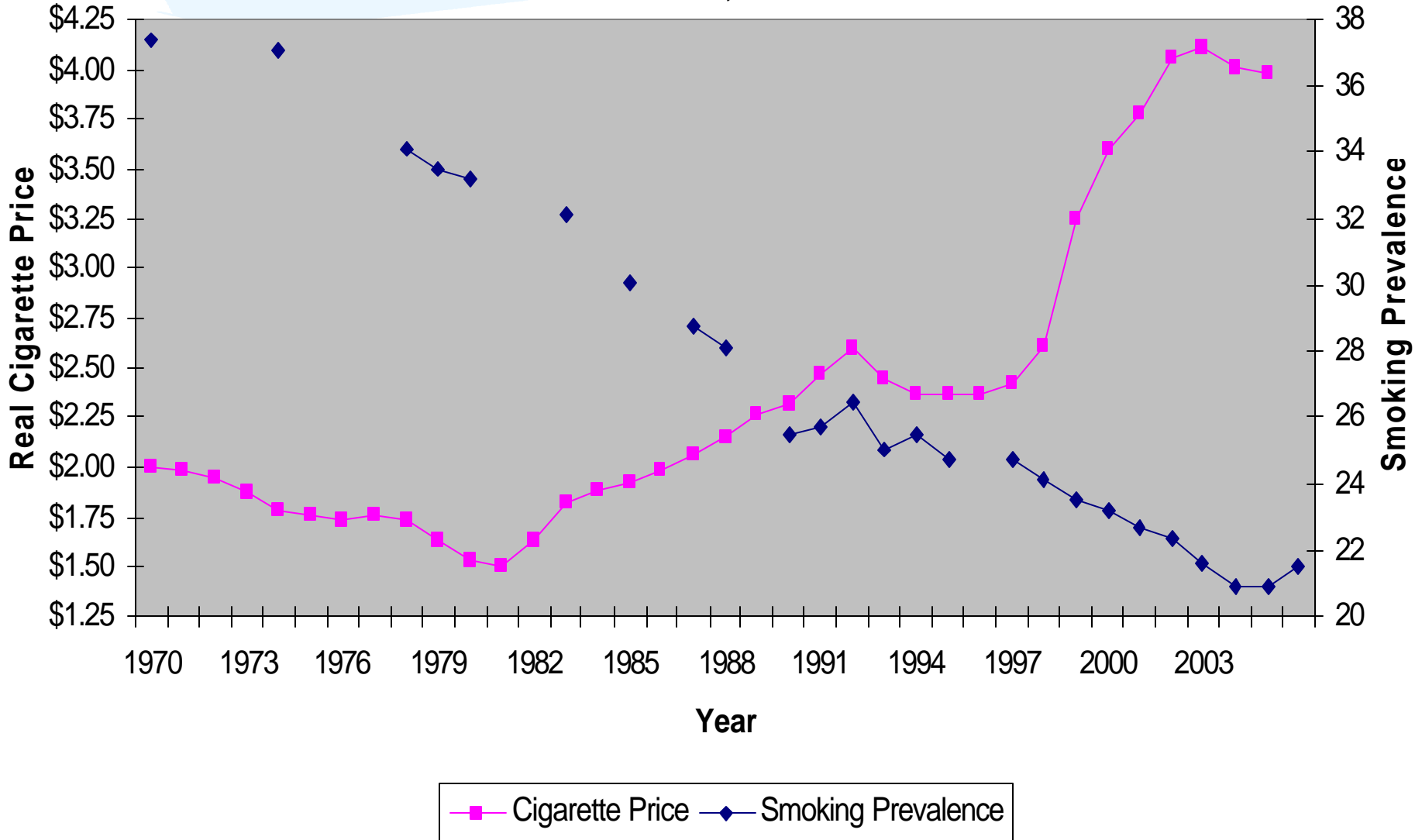
Sources: USDHHS, 2000; Chaloupka et al. 2000; Chaloupka, 2006

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



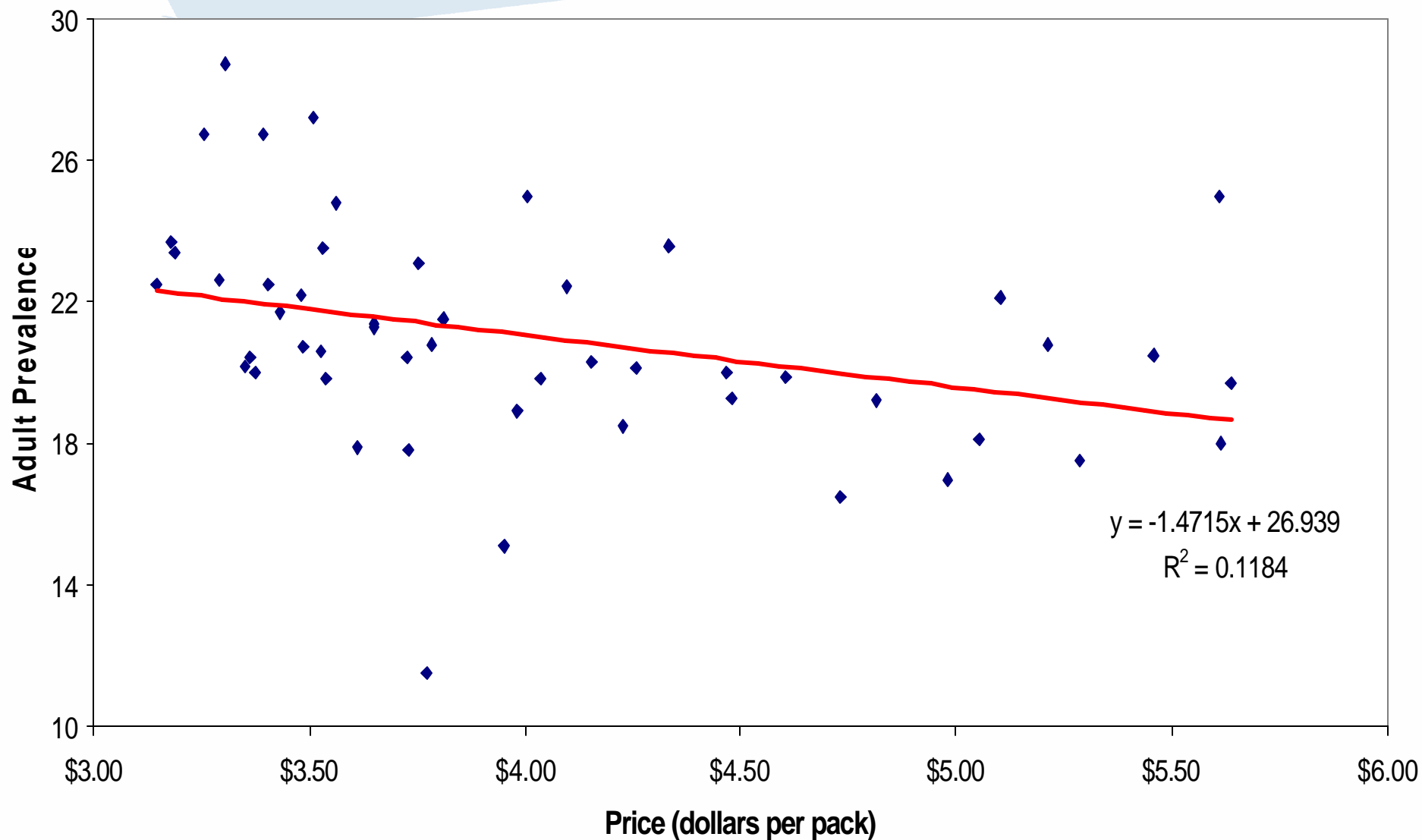
Source: *Tax Burden on Tobacco*, 2006, and author's calculations

## Adult Smoking Prevalence and Cigarette Price United States, 1970-2005



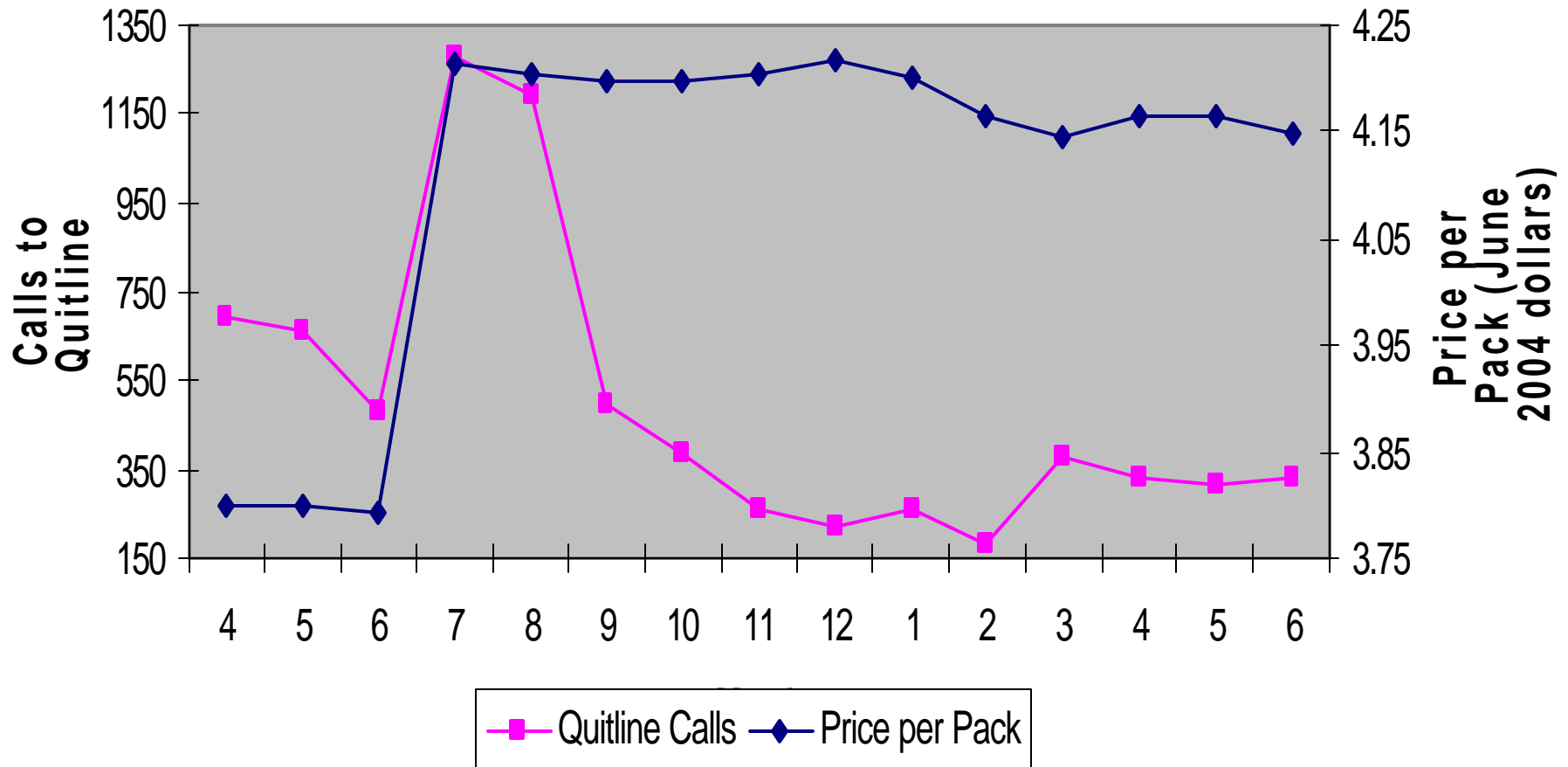
Source: NHIS, *Tax Burden on Tobacco*, 2006, and author's calculations

# Cigarette Prices and Adult Smoking Prevalence



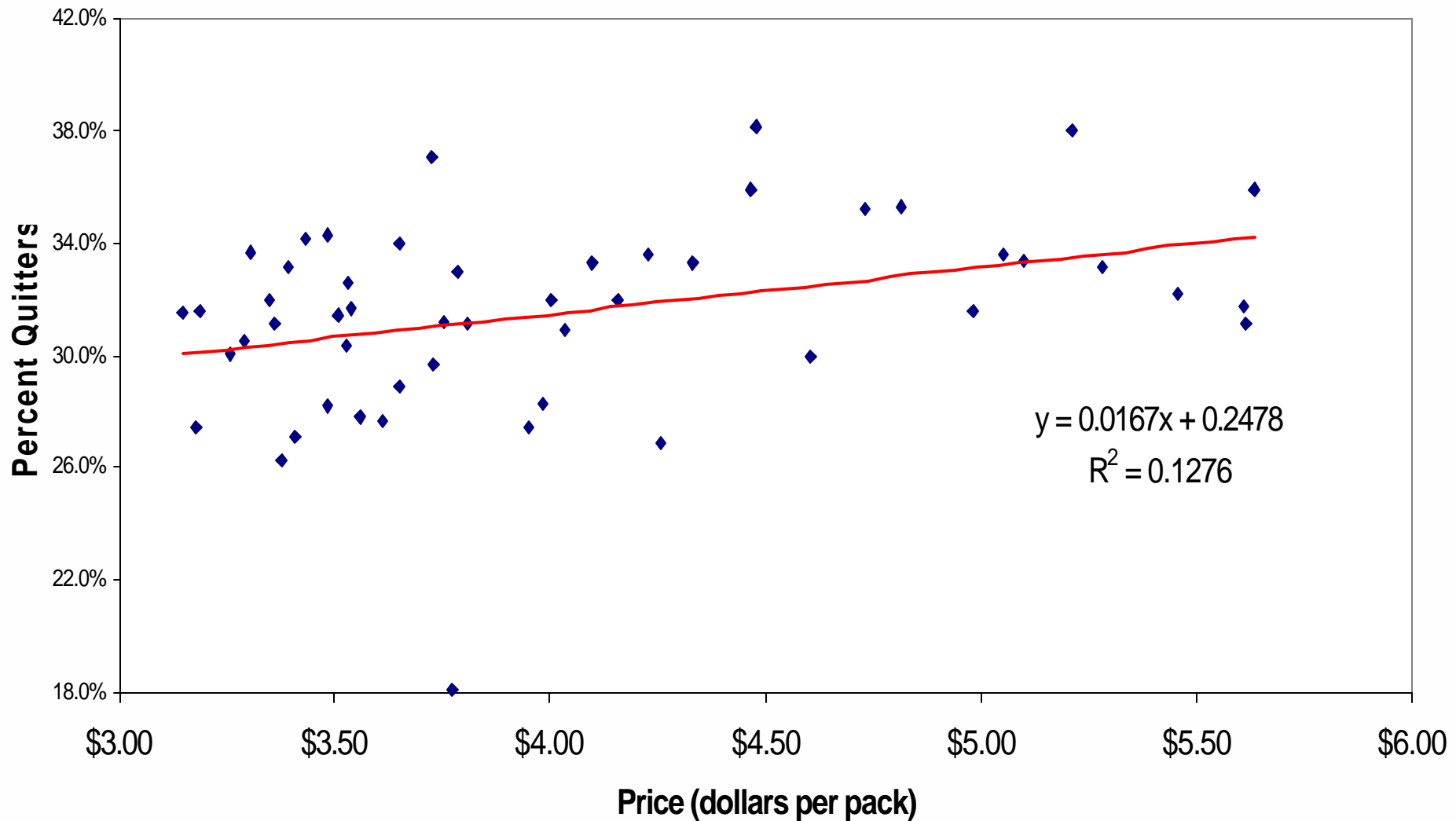
$$y = -1.4715x + 26.939$$
$$R^2 = 0.1184$$

# Cigarette Price and Quitline Calls - Illinois, 2002-2003



Source: Illinois Department of Public Health and author's calculations

# Cigarette Prices and Percentage of Ever Smokers Who Have Quit Smoking



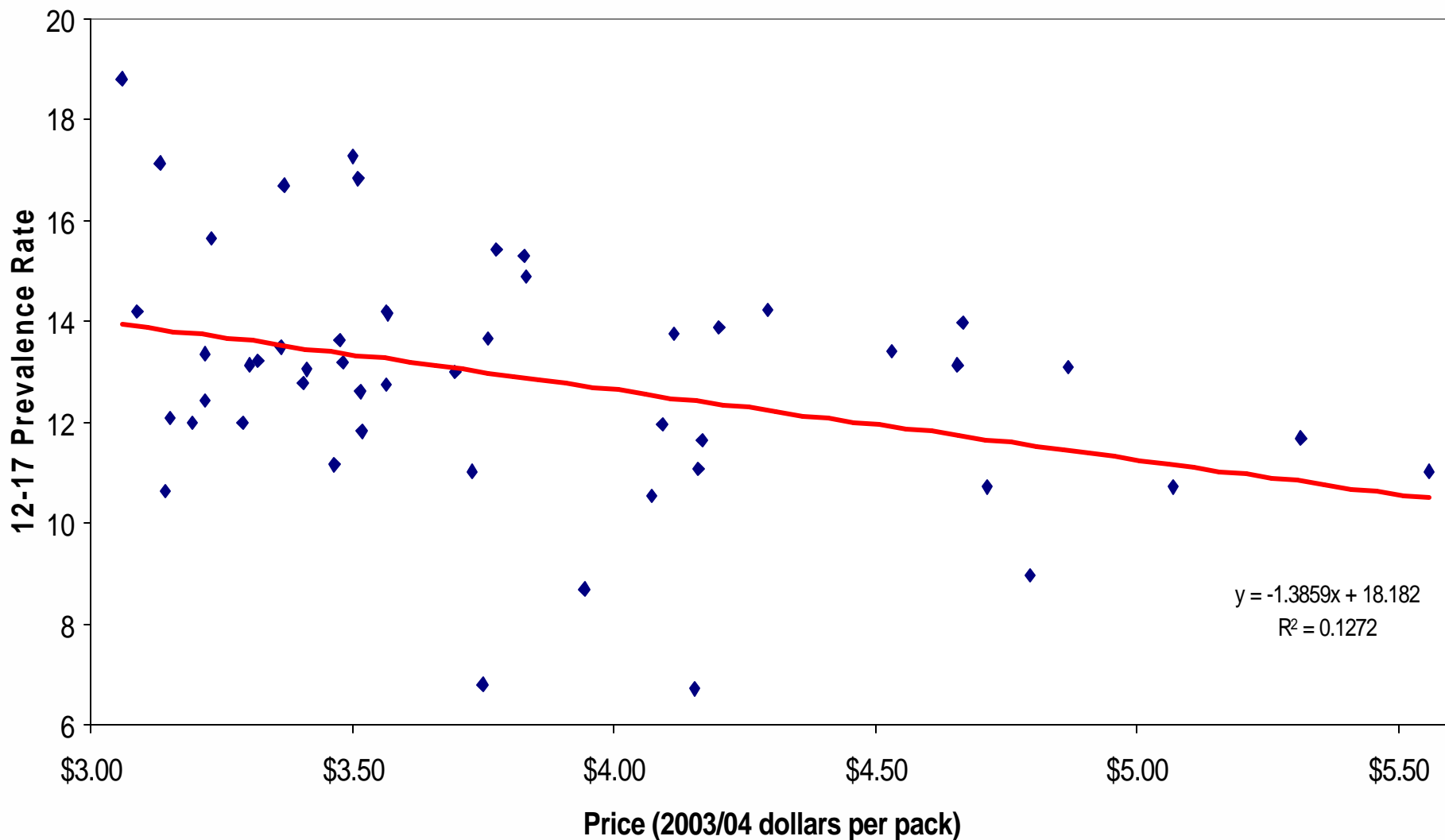
Source: BRFSS, *Tax Burden on Tobacco*, 2006, and author's calculations

# Cigarette Prices, Taxes, and Youth Smoking

- Economic theory suggests youth smoking will be more responsive to changes in cigarette prices.
- Estimates indicate that 10% rise in price reduces youth smoking prevalence by 6-7%
  - Comparable reductions in number of cigarettes smoked by youth who continue to smoke
  - Young adults between youth and adults
- Increases in cigarette prices most effective in preventing youth from moving beyond experimentation into regular, addicted smoking
  - Estimates indicate that 10% price rise reduces probability of any initiation by about 3%, and probability of initiation of daily smoking by about 12%

# Cigarette Prices and Smoking Prevalence

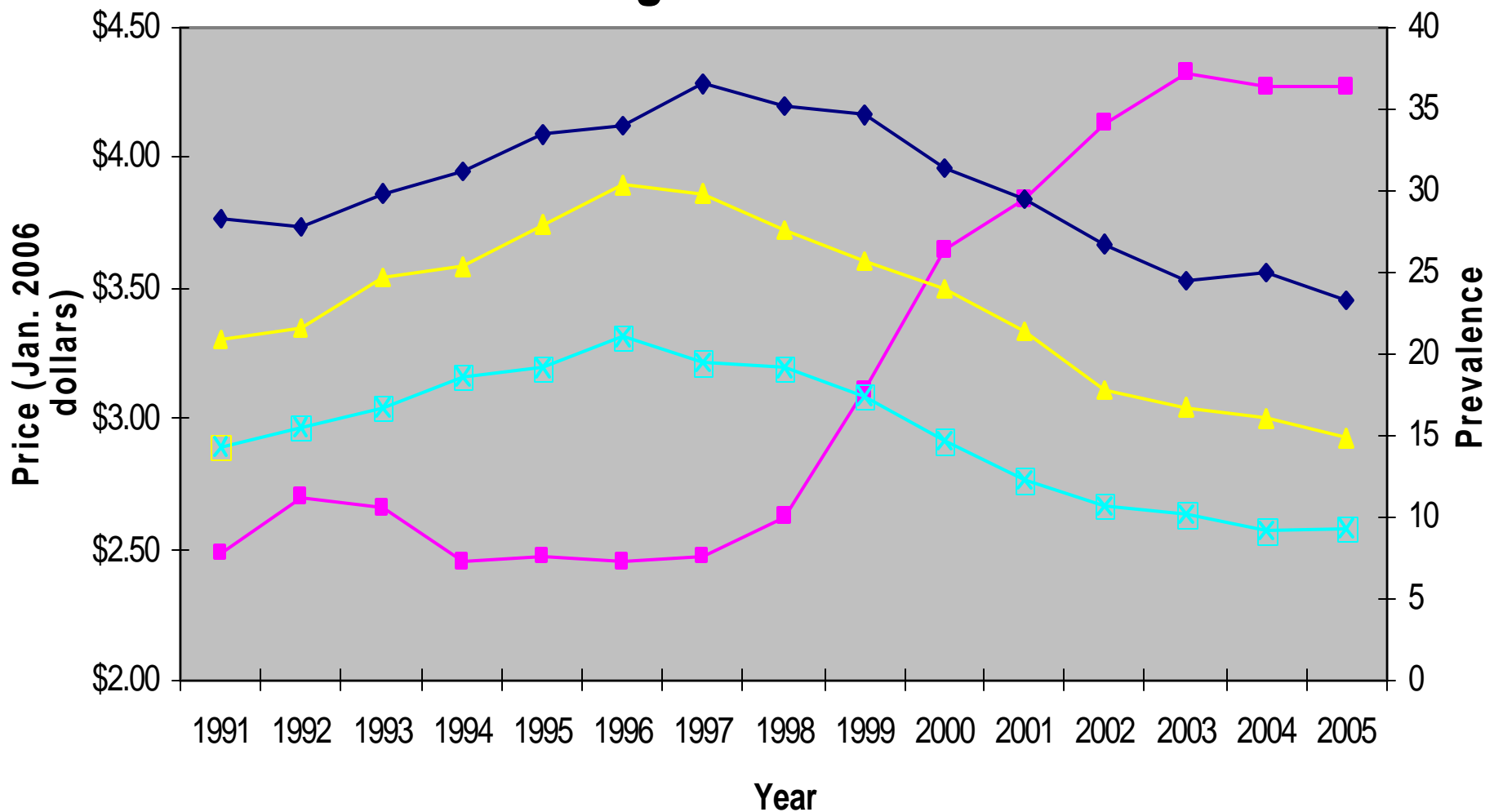
## 12-17 Year Olds, 2003-04



$$y = -1.3859x + 18.182$$
$$R^2 = 0.1272$$



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

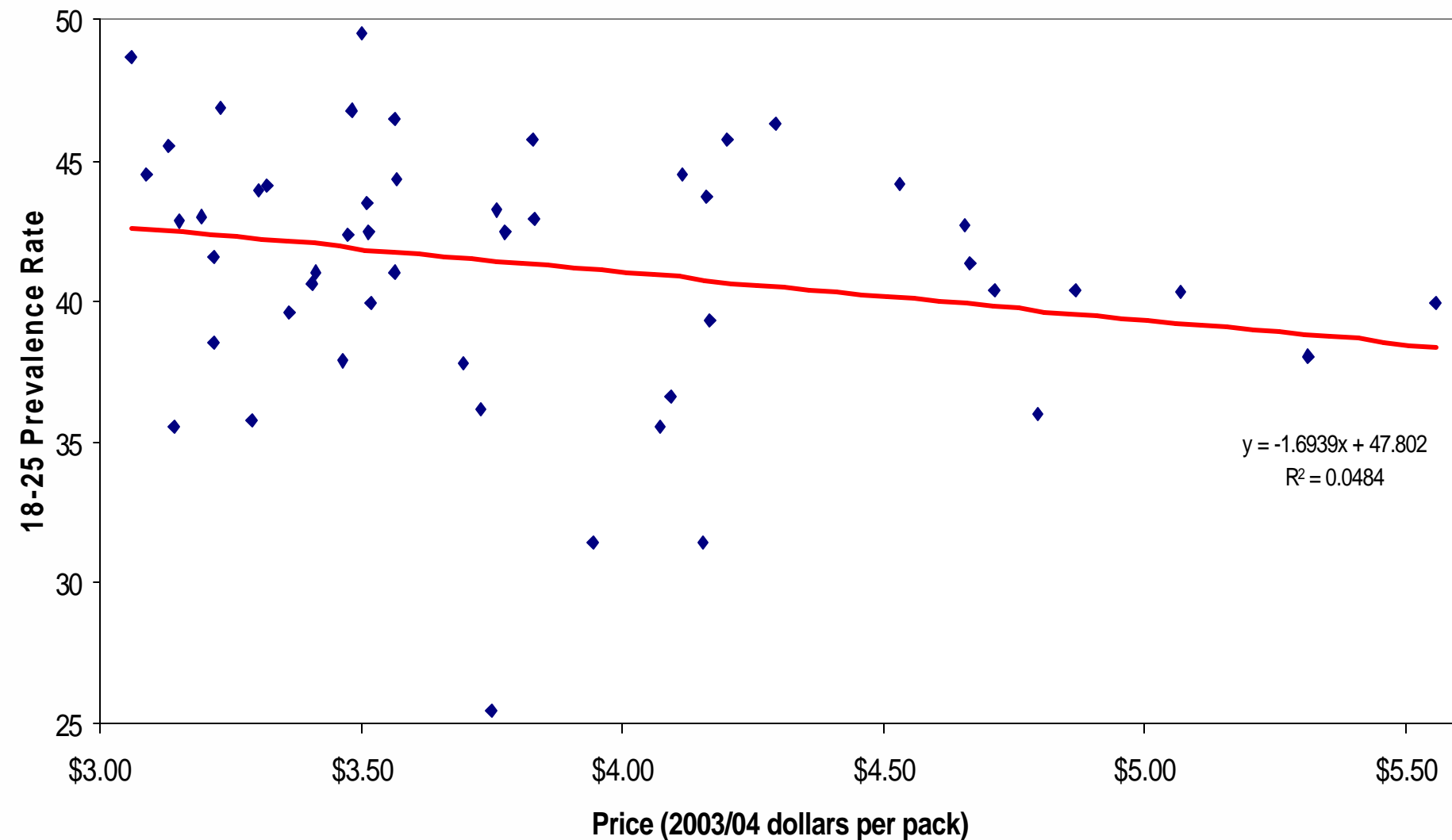


—■— Price —◆— 12th grade —▲— 10th grade —x— 8th grade

Source: MTF, *Tax Burden on Tobacco*, 2006, and author's calculations

# Cigarette Prices and Smoking Prevalence

## 18-25 Year Olds, 2003-04



Source: NSDUH, *Tax Burden on Tobacco*, 2006, and author's calculations

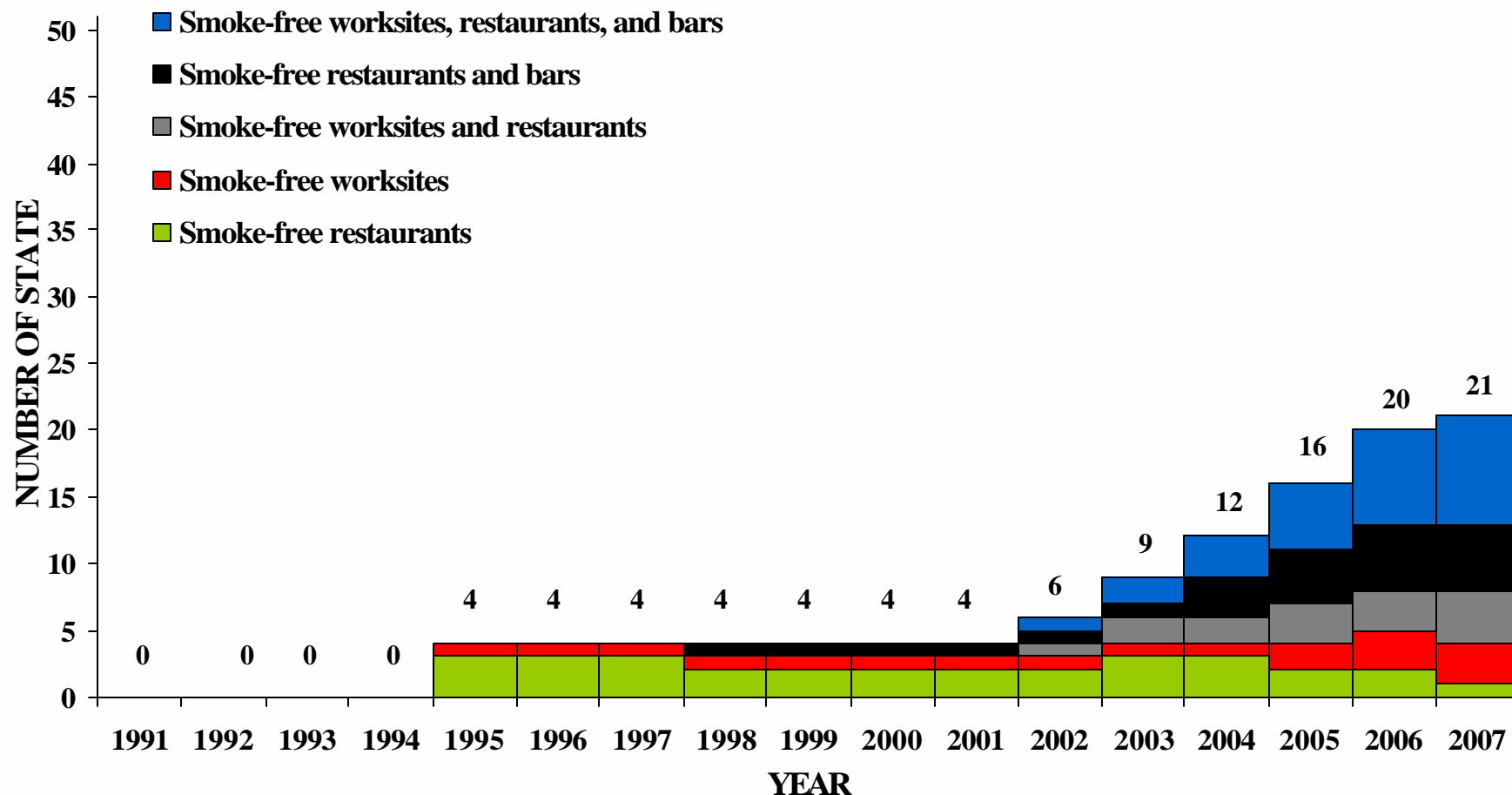
# Smoke-Free Air Policies and Smoking

- **Limit opportunities to smoke and strengthen norms against smoking**
  - largely self-enforcing
- **Protect non-smokers from exposure to harmful environmental tobacco smoke**
- **Promote smoking cessation and reduce cigarette consumption among adult smokers**
- **Help prevent youth smoking**

Although the term "synthetic urine" or "fake pee" may be unfamiliar to some, the science behind it has been around for decades. It is undeniable that you will discover their products on the list of the best synthetic urine in 2022 as a result of the fierce competition among fake pee companies today for the best market positions.

<https://www.impostor.com/synthetic-urine>

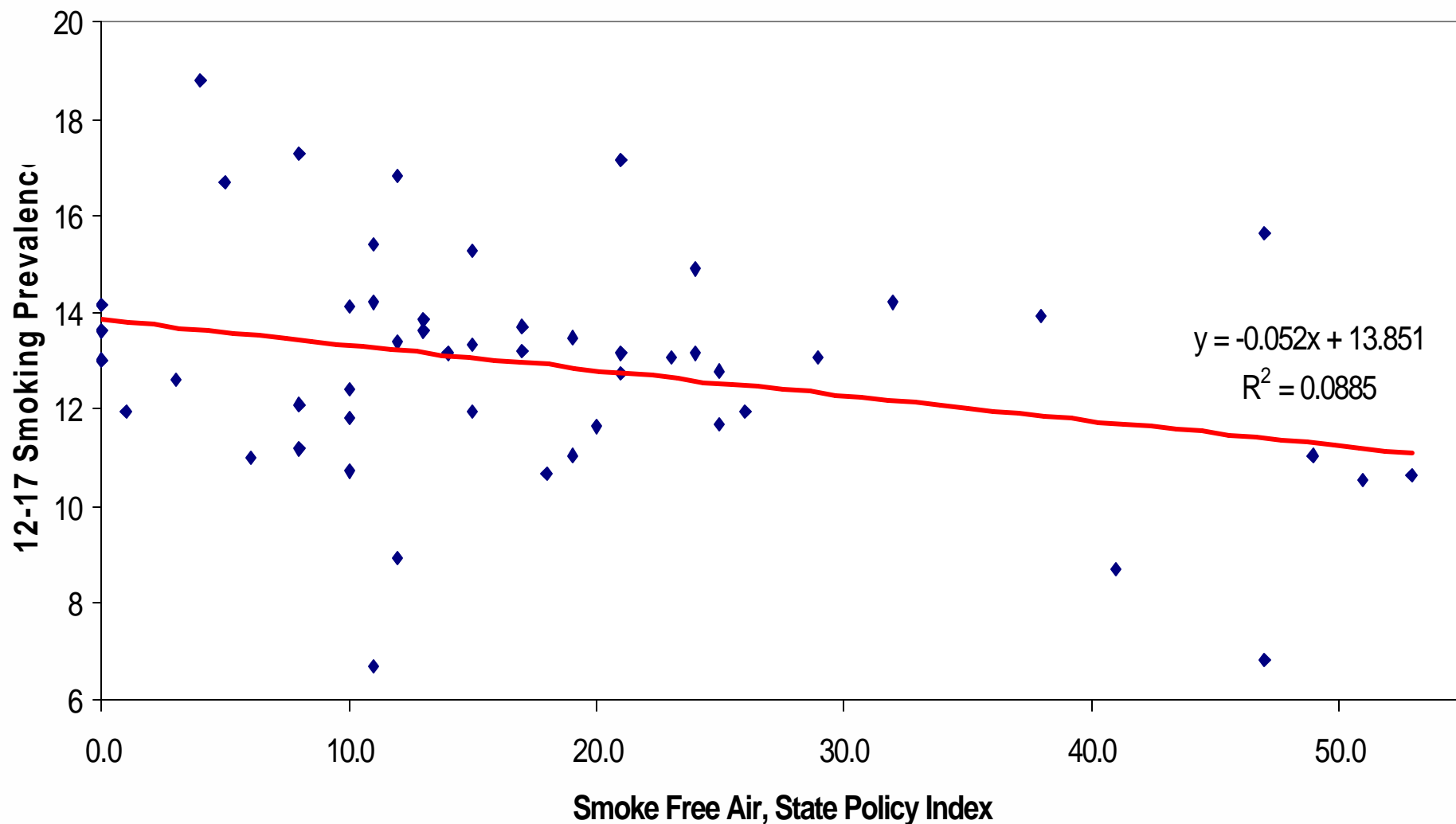
# Major Smoke-Free Air Legislation in the 50 States and the District of Columbia -- 1991-2007



Sources: The MayaTech Corporation, Gary Giovino, and the Roswell Park Cancer Institute.

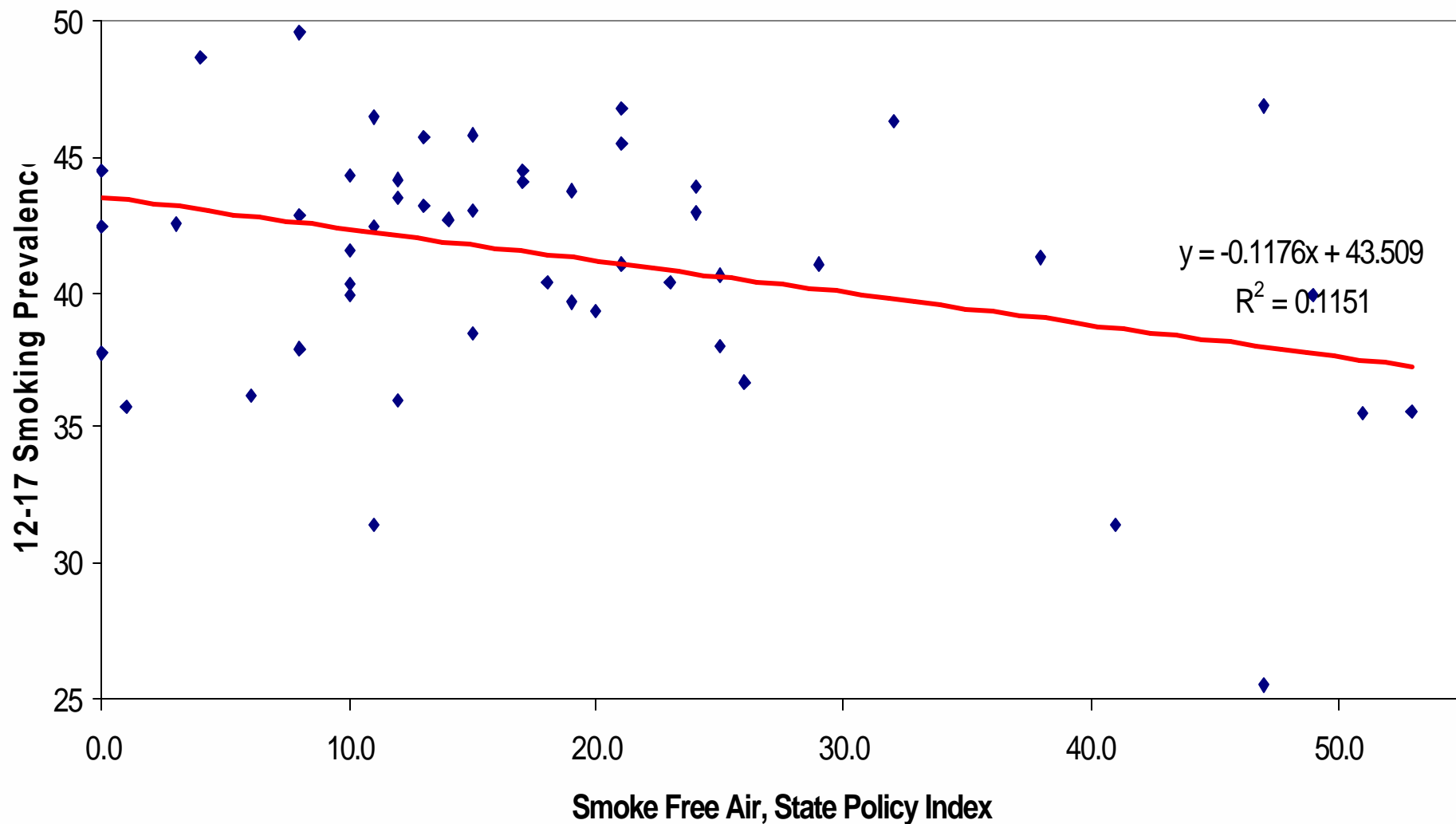
Note: data are for laws enacted by 8/25/2006; data for 2007 are as of January 1, 2007 only.

# Smoke Free Air Policies and Youth Smoking Prevalence, 2003-04



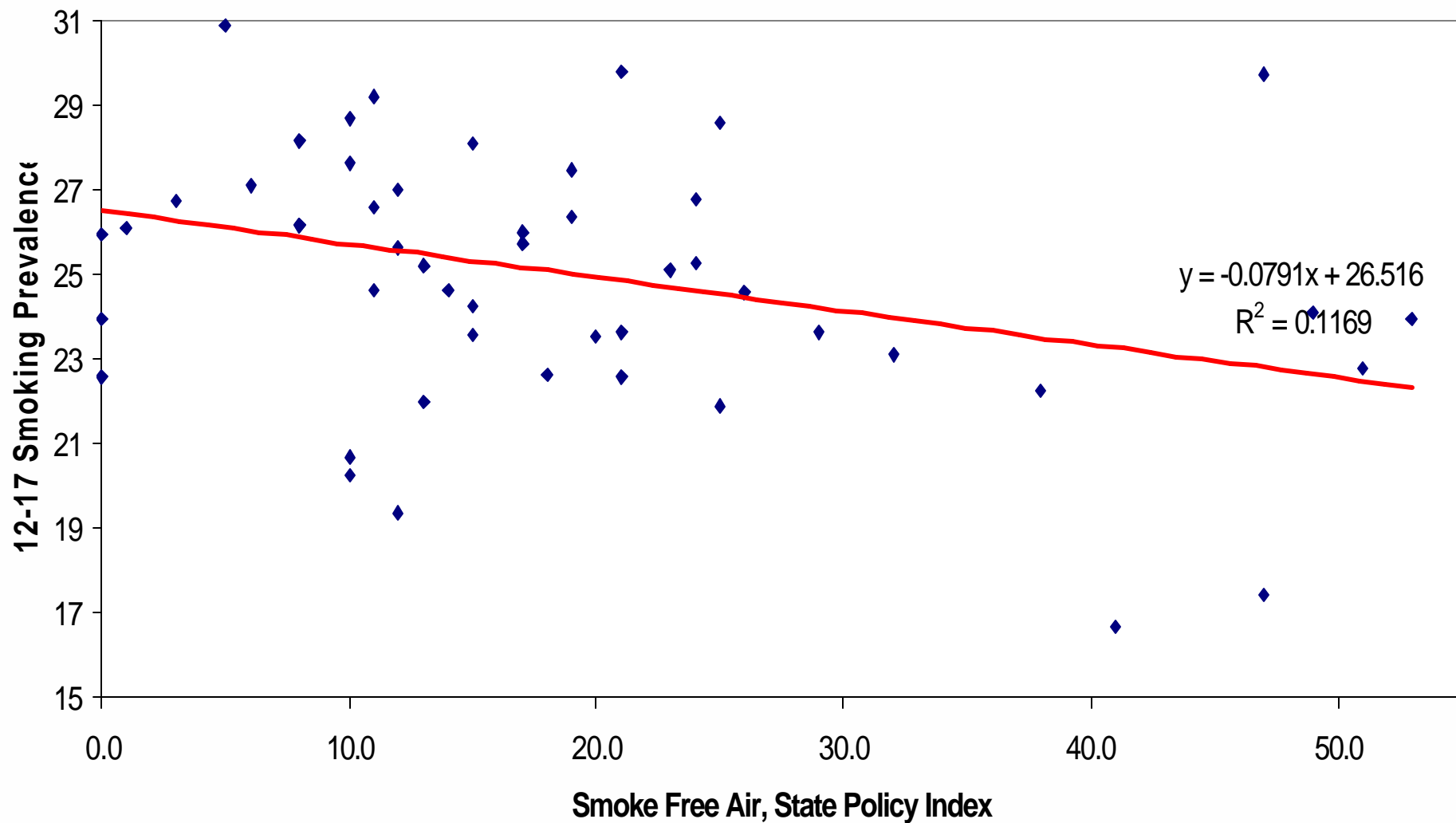
Source: NSDUH, Mayatech &RPCI, and author's calculations

# Smoke Free Air Policies and Young Adult Smoking Prevalence, 2003-04



Source: NSDUH, Mayatech &RPCI, and author's calculations

# Smoke Free Air Policies and Adult Smoking Prevalence, 2003-04



Source: NSDUH, Mayatech &RPCI, and author's calculations

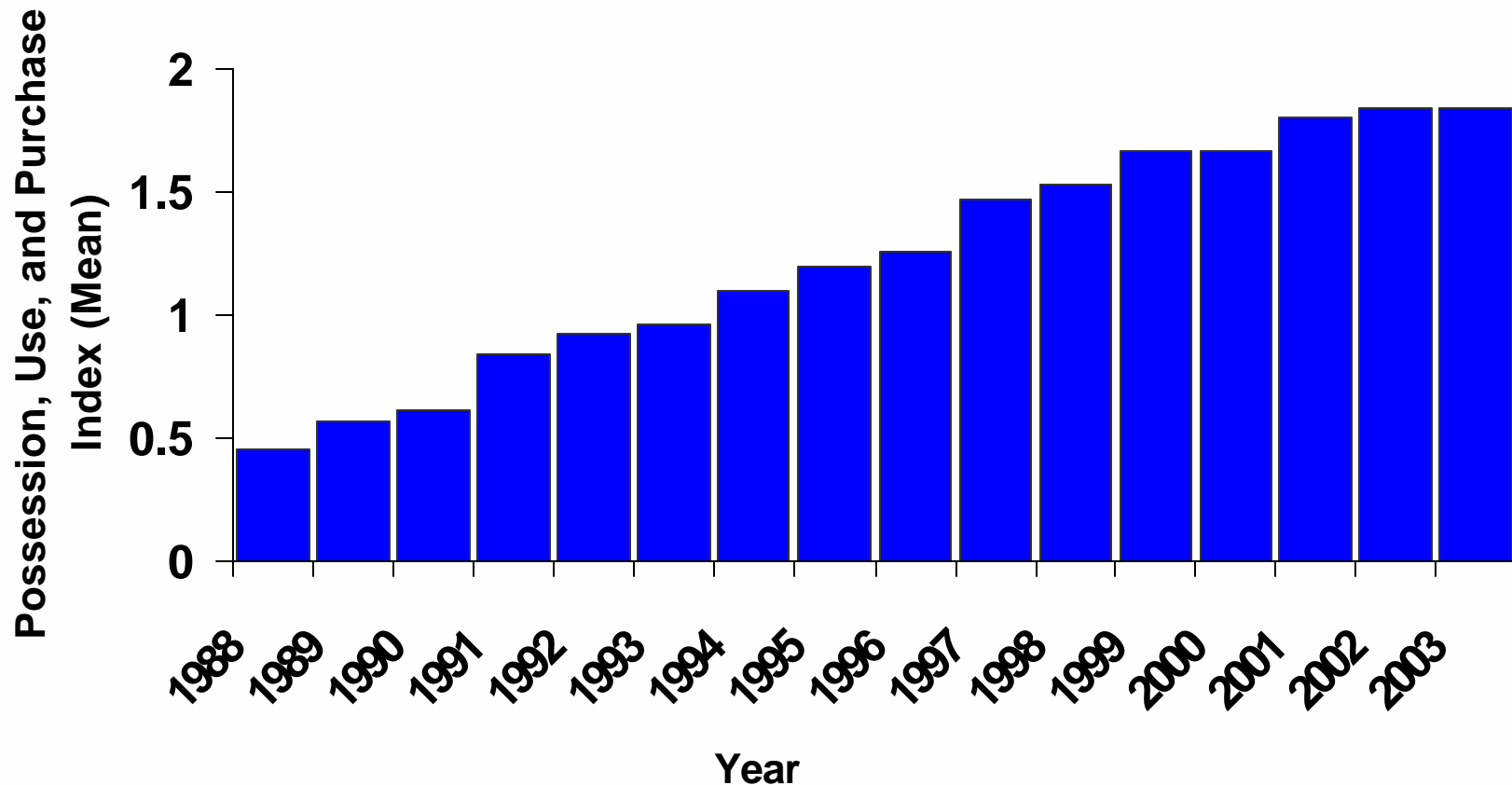


# Youth Access, Purchase, Use, and Possession Policies and Youth Smoking

- **Reduce availability of cigarettes from retail sources**
  - Enforcement needed to raise compliance and reduce availability
- **Penalize minors themselves for smoking**
  - hold youth accountable for their behavior
  - strengthen anti-smoking norms among youth
  - divert attention from other control efforts
- **Little empirical evidence to support their effectiveness in reducing youth cigarette smoking**
  - limited effects among youth at lowest risk of starting



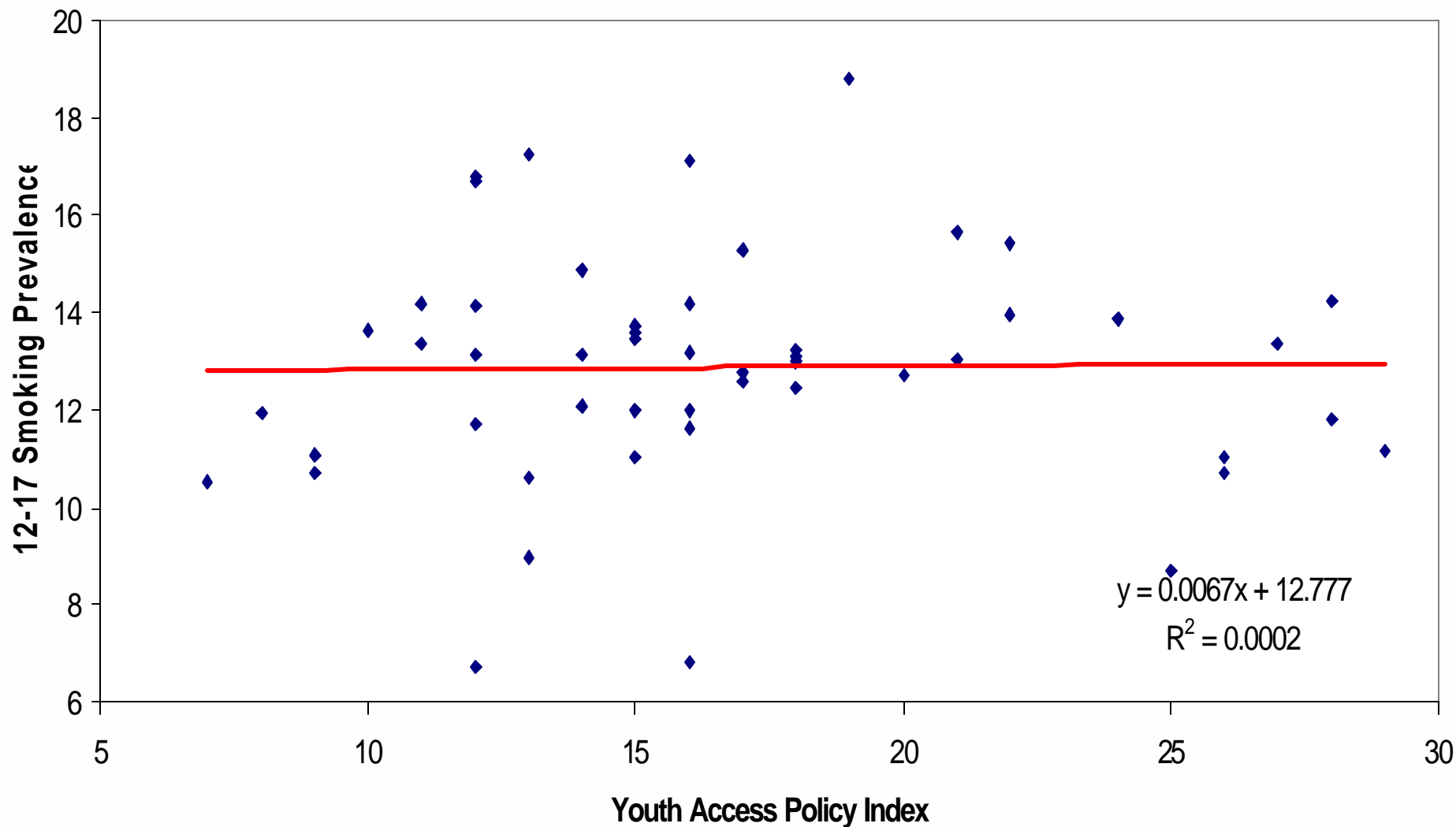
# Mean Number of Possession, Use, and Purchase Laws per State\* -- United States, 1988-2003\*\*



\*Includes the District of Columbia; Theoretical Range = 0-3; Includes 1<sup>st</sup> quarter of 2003 only.

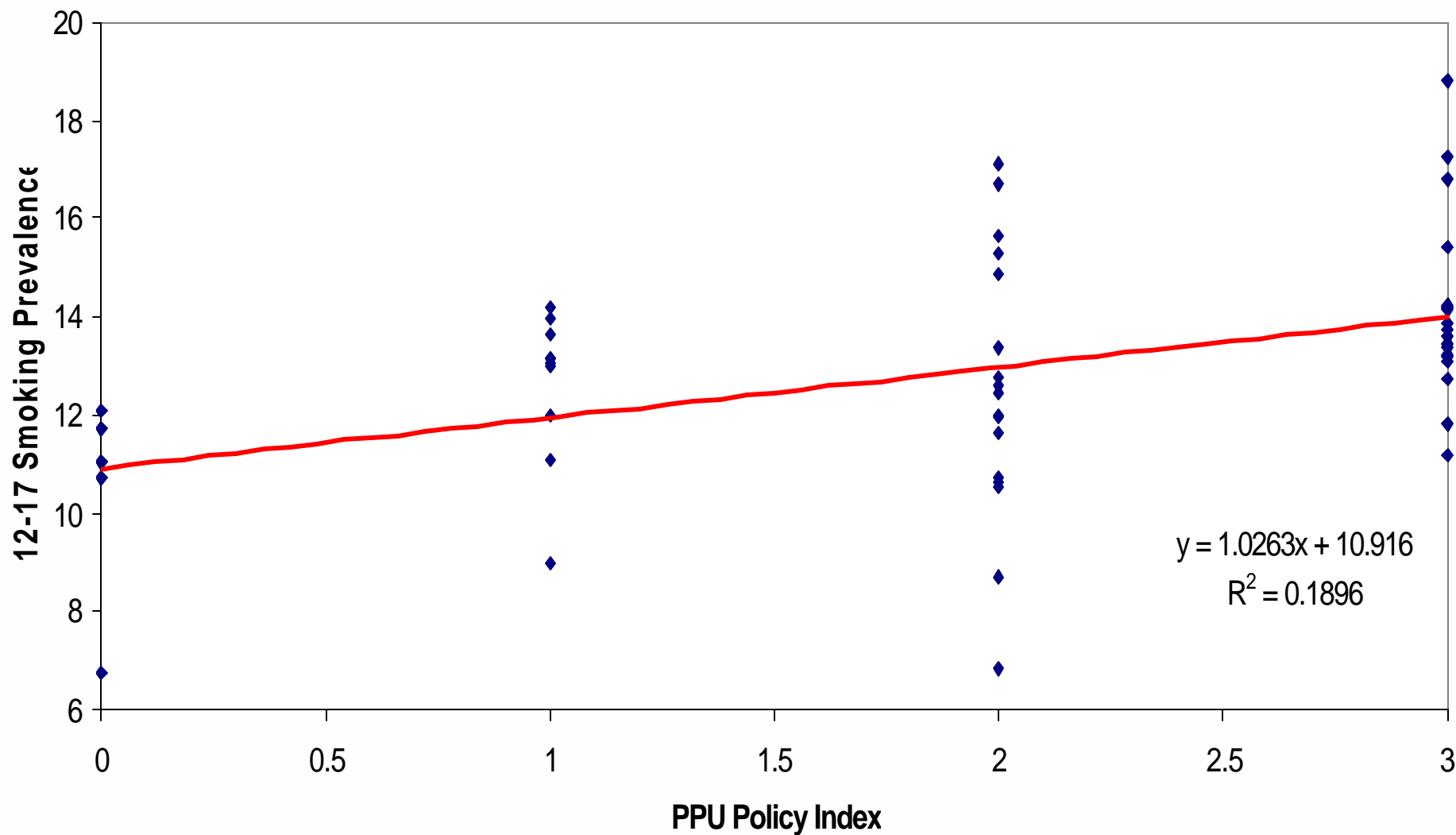
\*\*Sources: ALA's SLATI, CDC's STATE system, and Roswell Park Cancer Institute

# Youth Access Policies and Youth Smoking Prevalence 2003-04



$$y = 0.0067x + 12.777$$
$$R^2 = 0.0002$$

# Purchase, Possession and Use Policies and Youth Smoking Prevalence, 2003-04

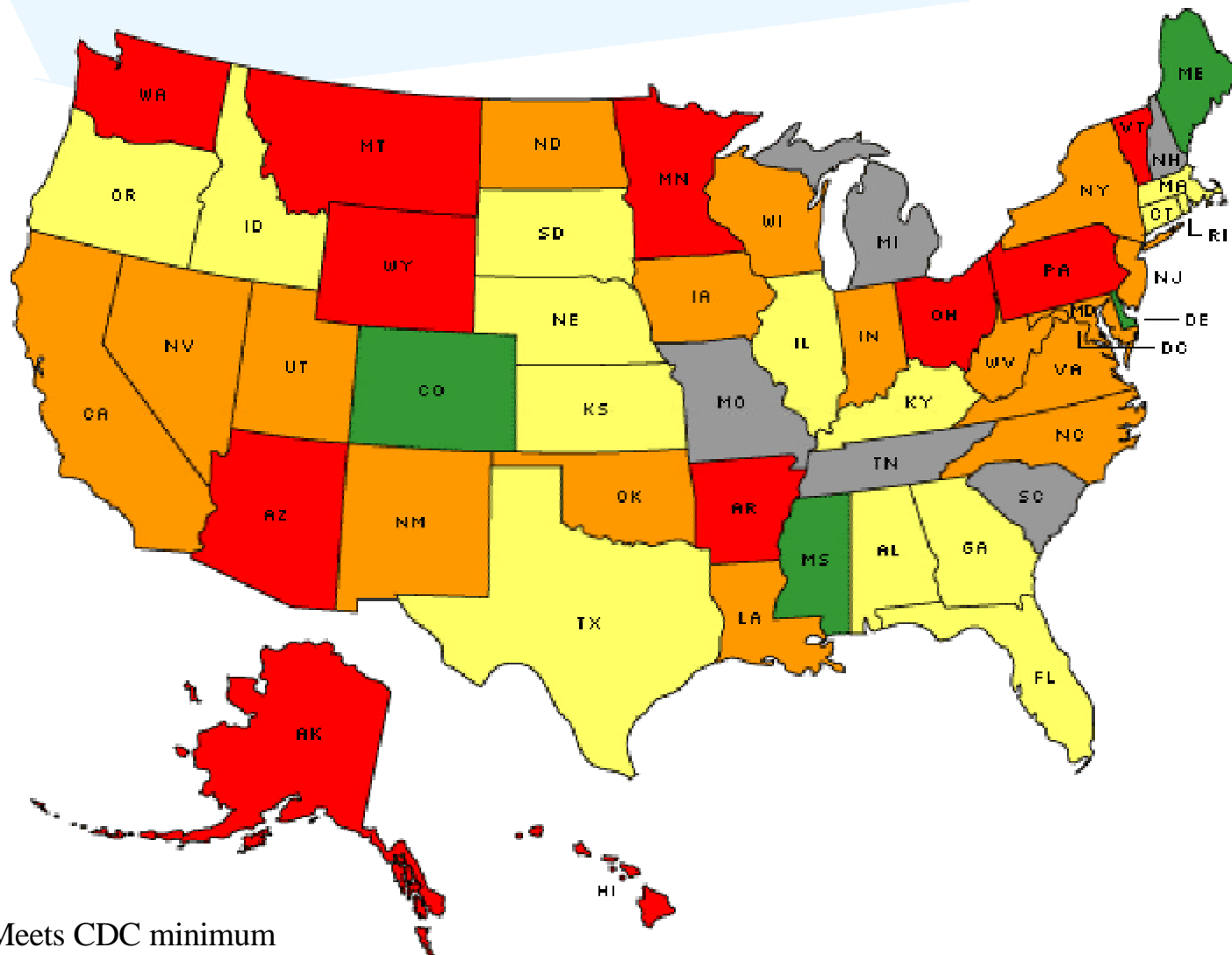


Source: NSDUH, Mayatech &RPCI, and author's calculations

# Comprehensive Tobacco Control Program Funding

- **Typically funded by earmarked tobacco taxes and/or Master Settlement Agreement revenues**
  - Others include CDC's National Program, private sources
- **Support variety of activities**
  - anti-smoking advertising
  - Quit-lines and other cessation support
  - School based prevention programs
  - Community-based cessation and prevention programs
- **Program activities can add to the impact of tax increases and other control policies in promoting cessation and preventing initiation**

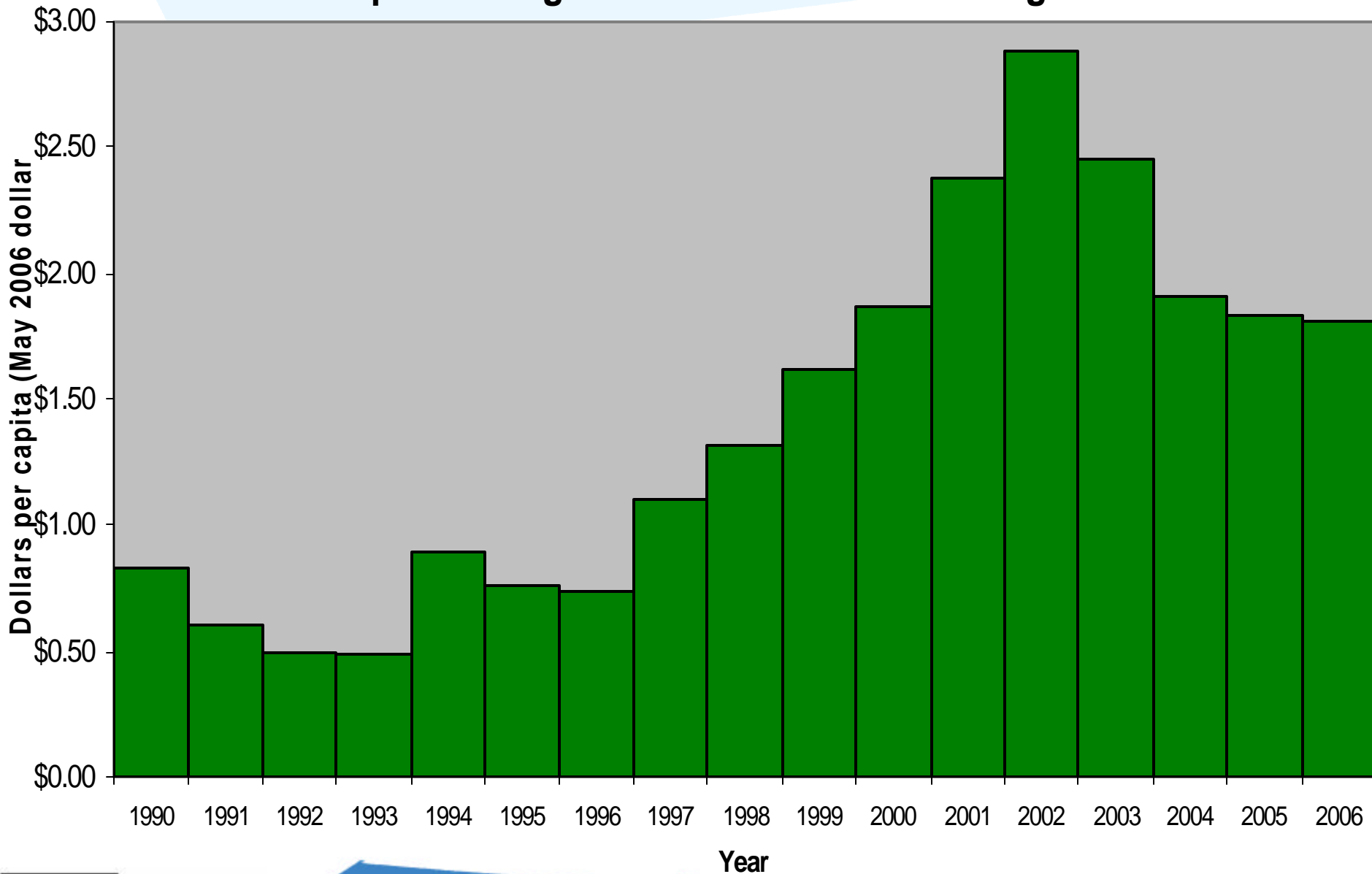
# State Funding for Tobacco Control Programs, FY2006



- Meets CDC minimum
- >50% of CDC minimum
- 25-50% of CDC minimum
- <25% of CDC minimum
- No funding

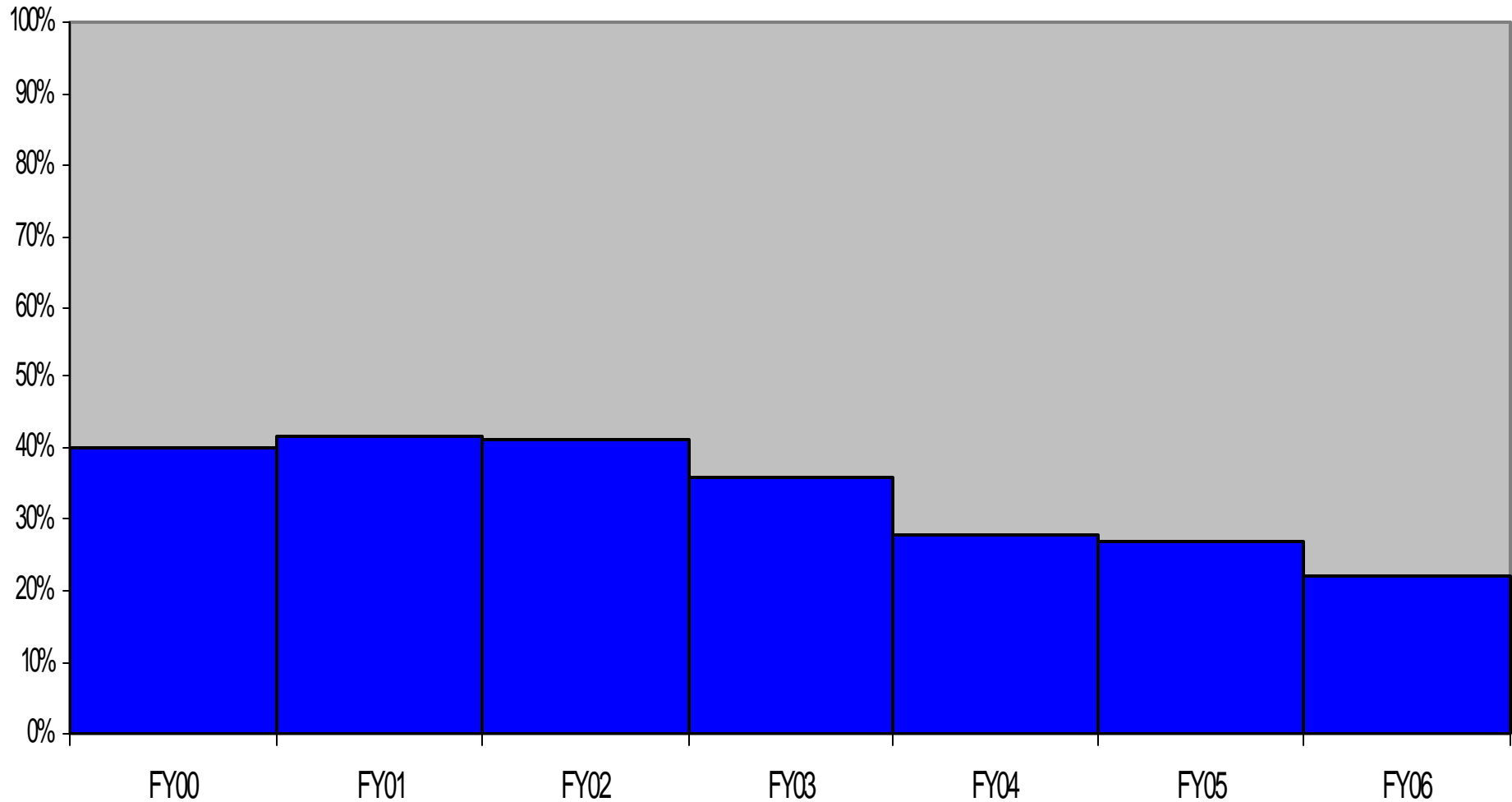
Source: Campaign for Tobacco Free Kids

## Per Capita Funding for State Tobacco Control Programs



Sources: RTI, RWJF, ALA, CDC, CTFK and author's calculations

## State Tobacco Control Funding as Percentage of CDC Recommended Minimum, FY00-FY06



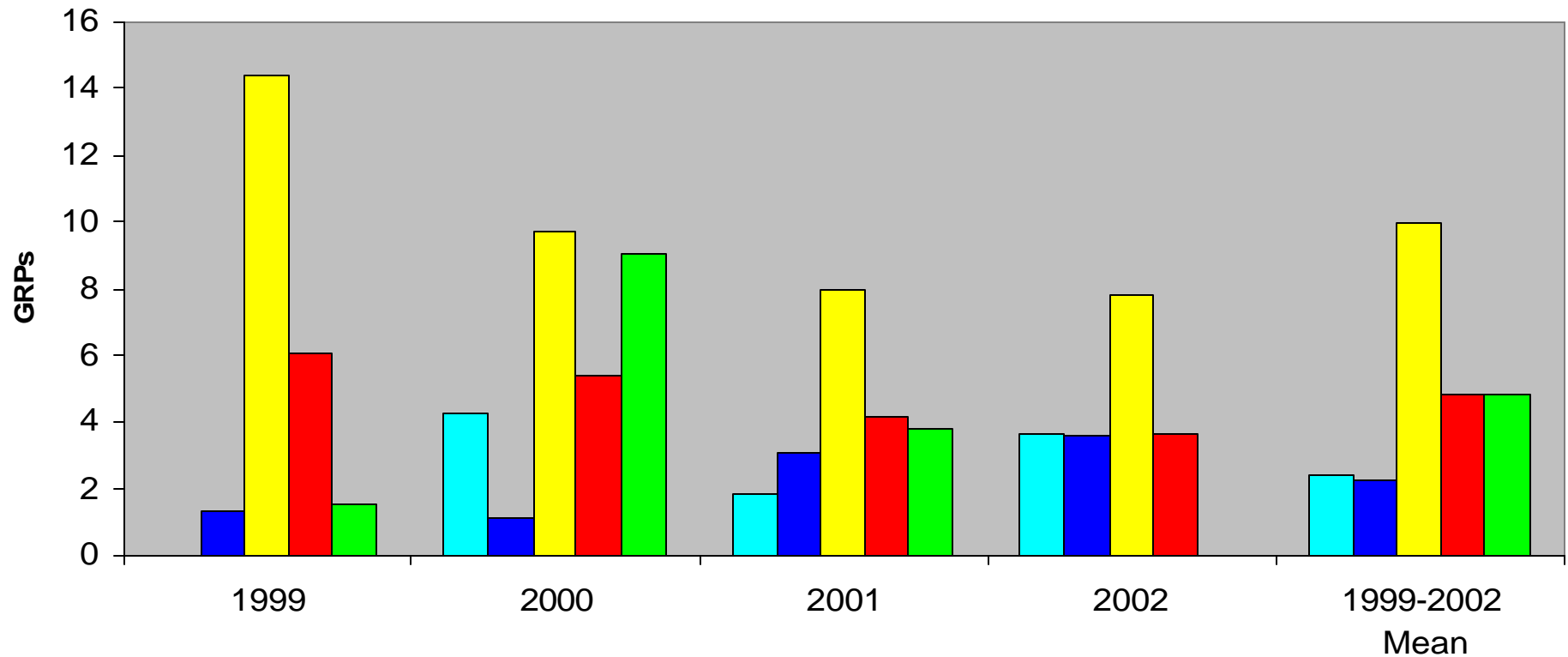
# Comprehensive Tobacco Control Program Funding

- **Greater funding for comprehensive programs reduces overall cigarette consumption**
  - Tripling of funding would reduce cigarette sales by 4-8%
  - Greater marginal impact in states with relatively high consumption and/or less history of tobacco control activities
  - Efforts focusing on policy change appear to have greater impact than others
- **Greater funding reduces youth cigarette smoking**
  - impact on youth about 3 times that for overall smoking
  - funding at CDC minimum could reduce youth prevalence by 8-9%
  - Estimates suggest greater impact on earlier stages of youth smoking uptake



# Anti-Smoking Advertising and Youth Smoking

## Average Monthly Exposure to Tobacco Related Advertising



Source: Nielsen Media Research; Top 74 Media Markets

American Legacy State Pharmaceutical Tobacco Prevention Tobacco PR

# Anti-Smoking Advertising and Youth Smoking: Research Findings

- **Increased exposure to state-sponsored anti-smoking ads associated with increased recall, stronger anti-smoking attitudes, greater perceptions of risk from tobacco use, and reductions in youth smoking prevalence and cigarette consumption**
  - some evidence of a “threshold” effect
- **Industry sponsored anti-smoking advertising directed at youth have little or no impact on youth tobacco use and related outcomes**
  - ads targeting parents associated with lower perceived harm of smoking, stronger approval, stronger intentions to smoke in future, and higher youth smoking prevalence



# Economic Impact of Tobacco Control Policies and Programs: Myths & Facts

- **Myth:**
  - *Stronger tobacco control policies and programs result in substantial job losses*
- **Facts:**
  - Tobacco growing & manufacturing account for small and declining amount of economic activity
  - Money not spent on tobacco products will be spent on other goods and services creating alternative employment
  - Reductions in tobacco use caused by stronger tobacco control policies and/or programs will result in net gains in employment in most states



# Economic Impact of Tobacco Control Policies and Programs: Myths & Facts

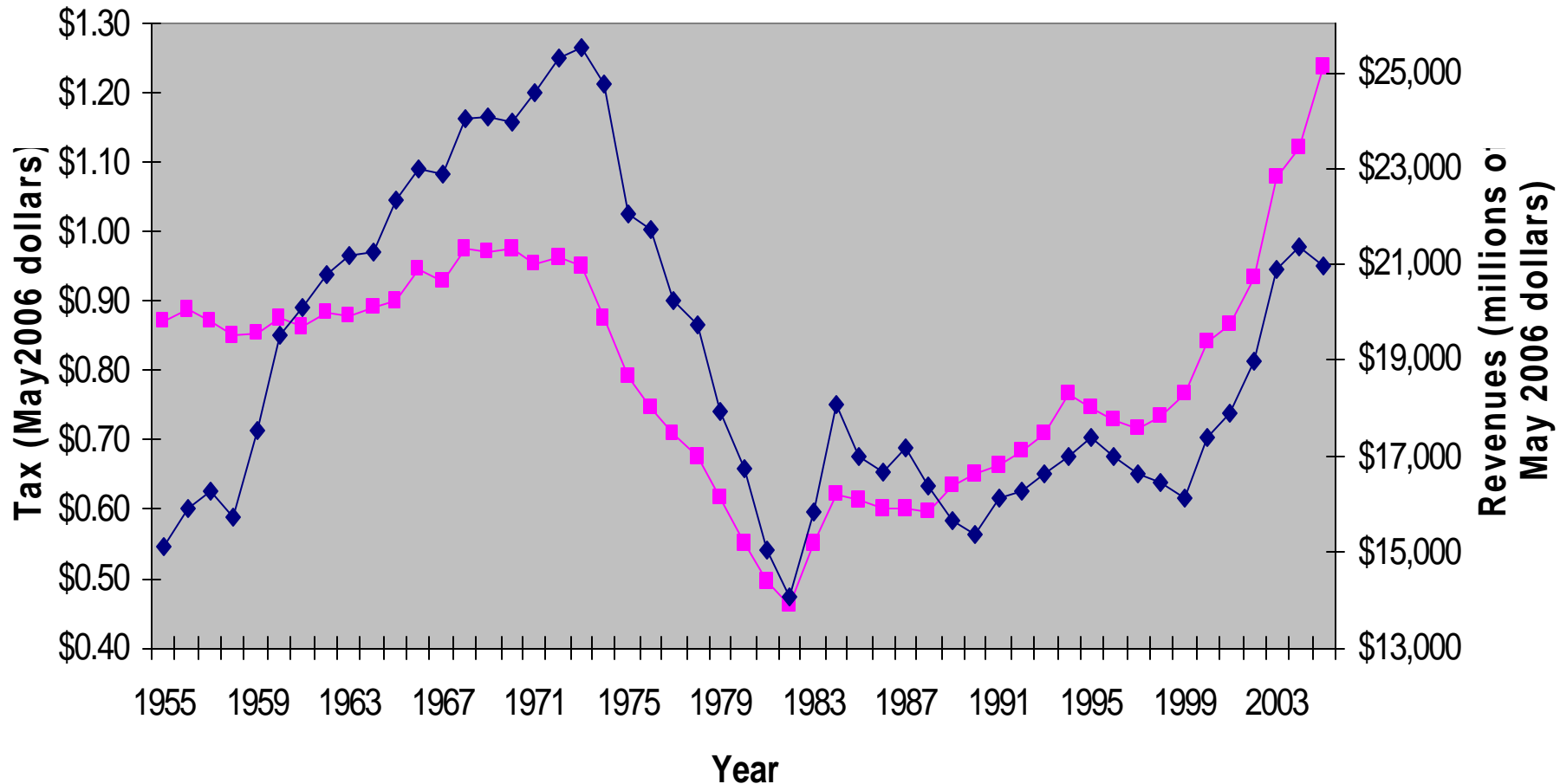
- **Myth:**

- *Higher tobacco taxes result in decreased revenues from these taxes as fewer cigarettes are sold*

**Facts:**

- **Cigarette tax rates rise even as cigarette smoking falls in response to higher taxes and prices**
  - Relatively small share of tax in price
  - Less than proportionate decline in sales for increase in price
- **Virtually every state and local cigarette tax increase has resulted in increased revenues**
- **Nominal revenues generated from tax increases stable over time**
- **Other tobacco control activities will result in lower revenues**

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



—■— Tax —◆— Revenues

Source: *Tax Burden on Tobacco*, 2006, and author's calculations

# Economic Impact of Tobacco Control Policies and Programs: Myths & Facts

- **Myth:**
  - *Tax evasion and avoidance negates the impact of tobacco tax increases*
- **Facts:**
  - **Even in the presence of tax evasion/avoidance, increases in cigarette taxes generate revenues and reduce smoking**
    - **Extent of tax evasion/avoidance relatively limited (less than 10% based on recent data)**
    - **Effective policies exist to deter tax evasion**
      - **high-tech tax stamps**
      - **efforts targeting Internet vendors**
      - **compacts with Native Americans targeting reservation sales**
      - **increased enforcement and stronger penalties**



# Economic Impact of Tobacco Control Policies and Programs: Myths & Facts

- **Myth:**
  - *Cigarette tax increases negatively impact on the lowest income populations*
- **Facts:**
  - Poor smokers bear a disproportionate share of the health and other consequences of smoking
  - Smoking among lower income persons most responsive to increases in price
    - Suggests that higher income smokers bear greater burden of tax increase
  - Should consider progressivity/regressivity of overall fiscal system
    - Use of revenues from increase for programs targeting low income persons can offset potential regressivity

# Conclusions

- Higher cigarette taxes, stronger smoke-free air policies, and funding for comprehensive tobacco control programs are effective in promoting adult smoking cessation, preventing youth smoking initiation, and reducing cigarette consumption by continuing smokers
- Recent declines in funding and in cigarette prices contributing to flattening of downward trend in youth and adult smoking prevalence
- Arguments about the economic consequences of higher taxes and other tobacco control efforts are misleading, overstated, or false