

**tobaccoeconomics**

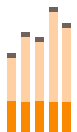
Economic Research Informing Tobacco Control Policy

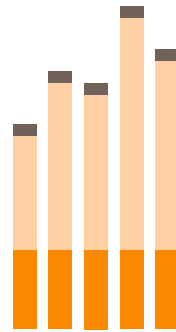
# The Economics of Tobacco Taxation in Oklahoma

Frank J. Chaloupka, University of Illinois at Chicago  
Stephenson Cancer Center, University of Oklahoma  
Oklahoma City, Oklahoma, January 29, 2016

# Overview

- Overview of tobacco taxation
  - Why tax?
  - Types/evolution of tobacco taxes in U.S.
- Impact of taxes/prices on tobacco use
- Industry price marketing
- Counterarguments – Myths & Facts



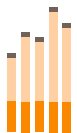


# Why Tax Tobacco?

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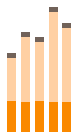
*"Sugar, rum, and **tobacco**, are commodities which are no where necessaries of life, which are become objects of almost universal consumption, and which are therefore extremely proper subjects of taxation."*

Adam Smith, *An Inquiry into the Nature and Causes of The Wealth of Nations*, 1776

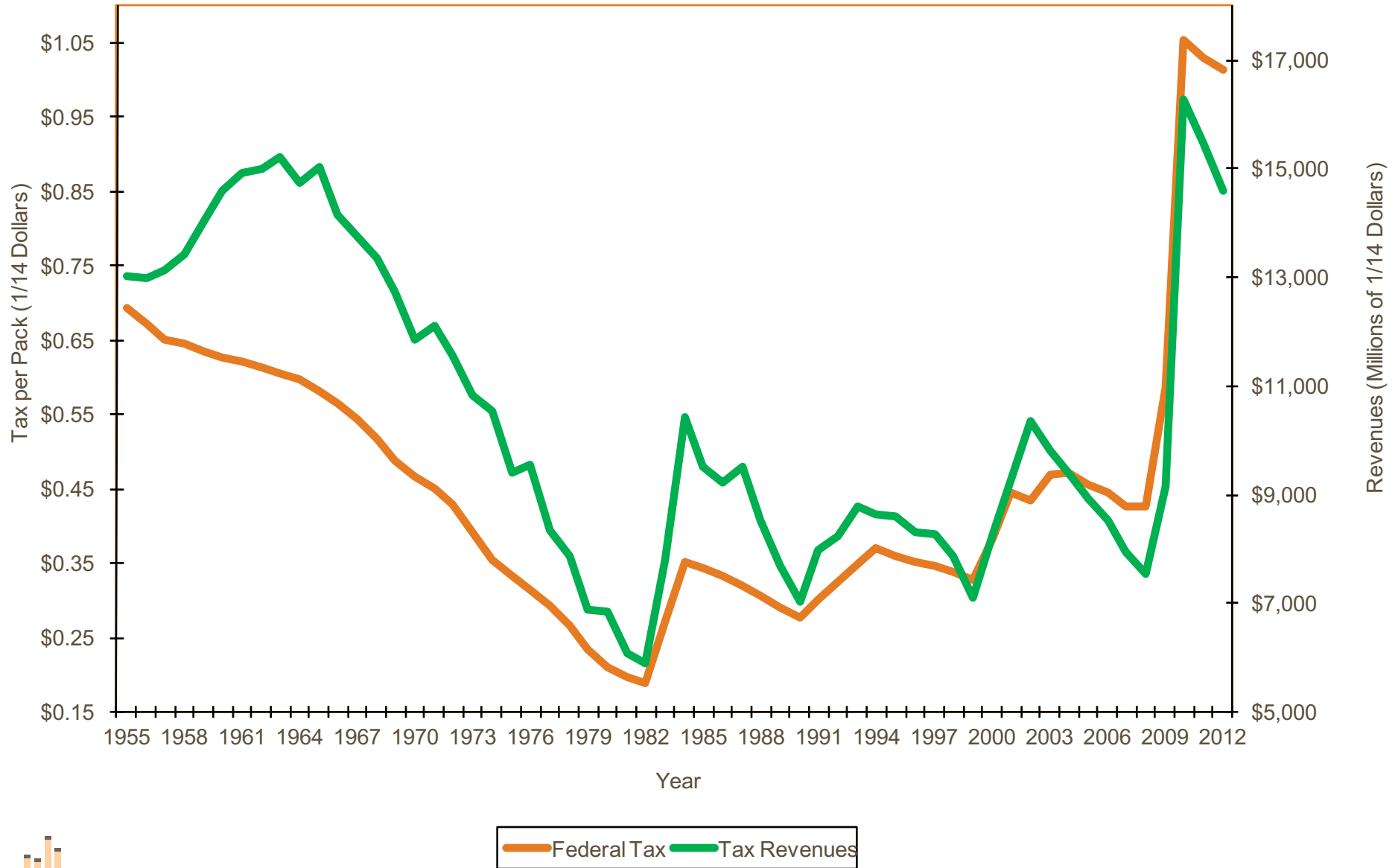


# Why Tax Tobacco?

- **Efficient revenue generation**
  - Primary motive historically and still true in many countries today
  - Very efficient source of revenue given:
    - Historically low share of tax in price in many countries
    - Relatively inelastic demand for tobacco products
    - Few producers and few close substitutes
  - Makes tobacco one of many goods and services that satisfies the “Ramsey Rule”

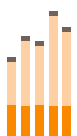
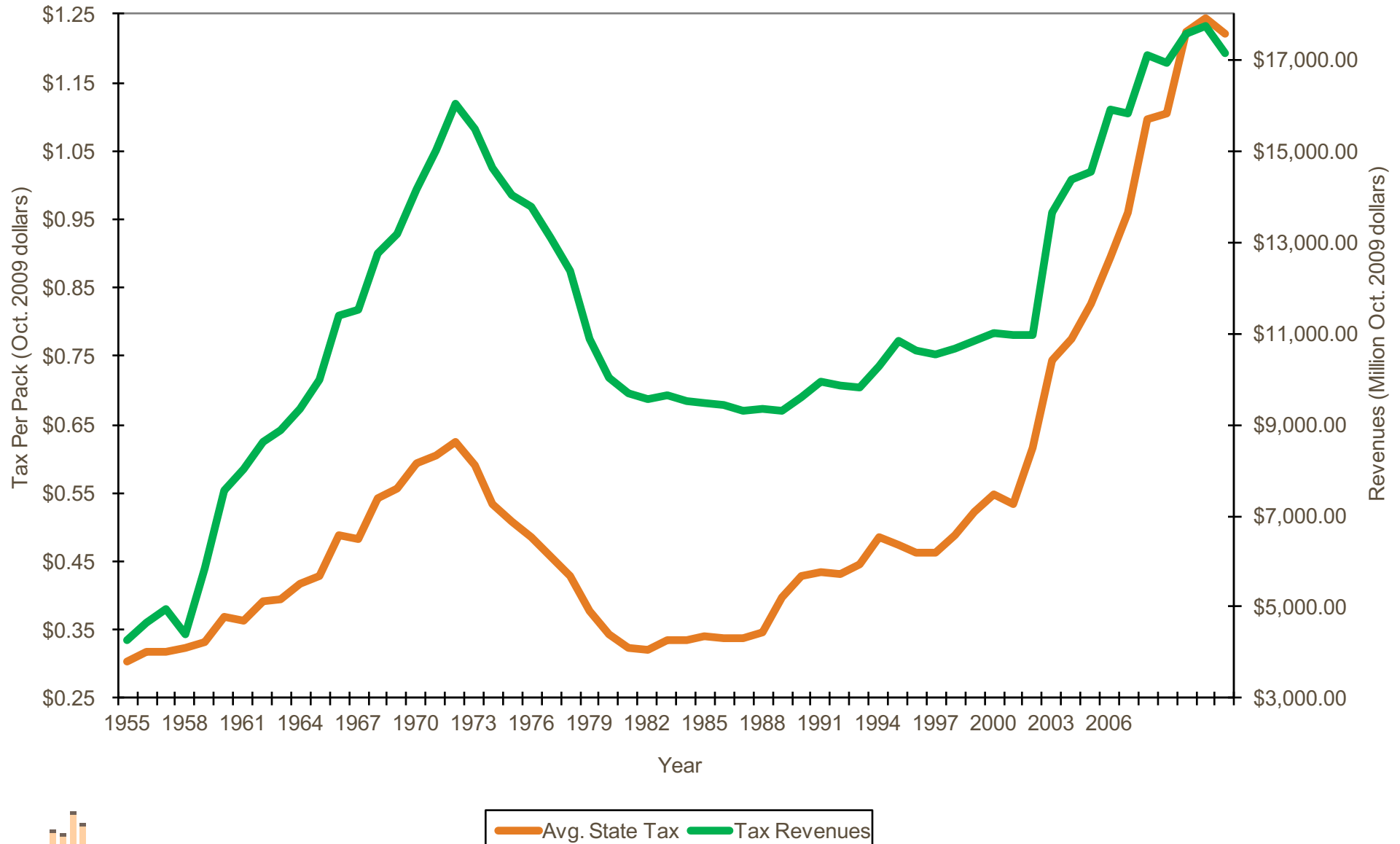


# Federal Cigarette Tax and Tax Revenues Inflation Adjusted, 1955-2012



Source: *Tax Burden on Tobacco*, 2013, and author's calculations

# State Cigarette Taxes and Tax Revenues Inflation Adjusted, 1955-2012



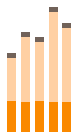
Source: *Tax Burden on Tobacco*, 2013, and author's calculations

# Why Tax Tobacco?

- **Efficient revenue generation**

“This vice brings in one hundred million francs in taxes every year. I will certainly forbid it at once – as soon as you can name a virtue that brings in as much revenue”

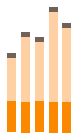
Napoleon III



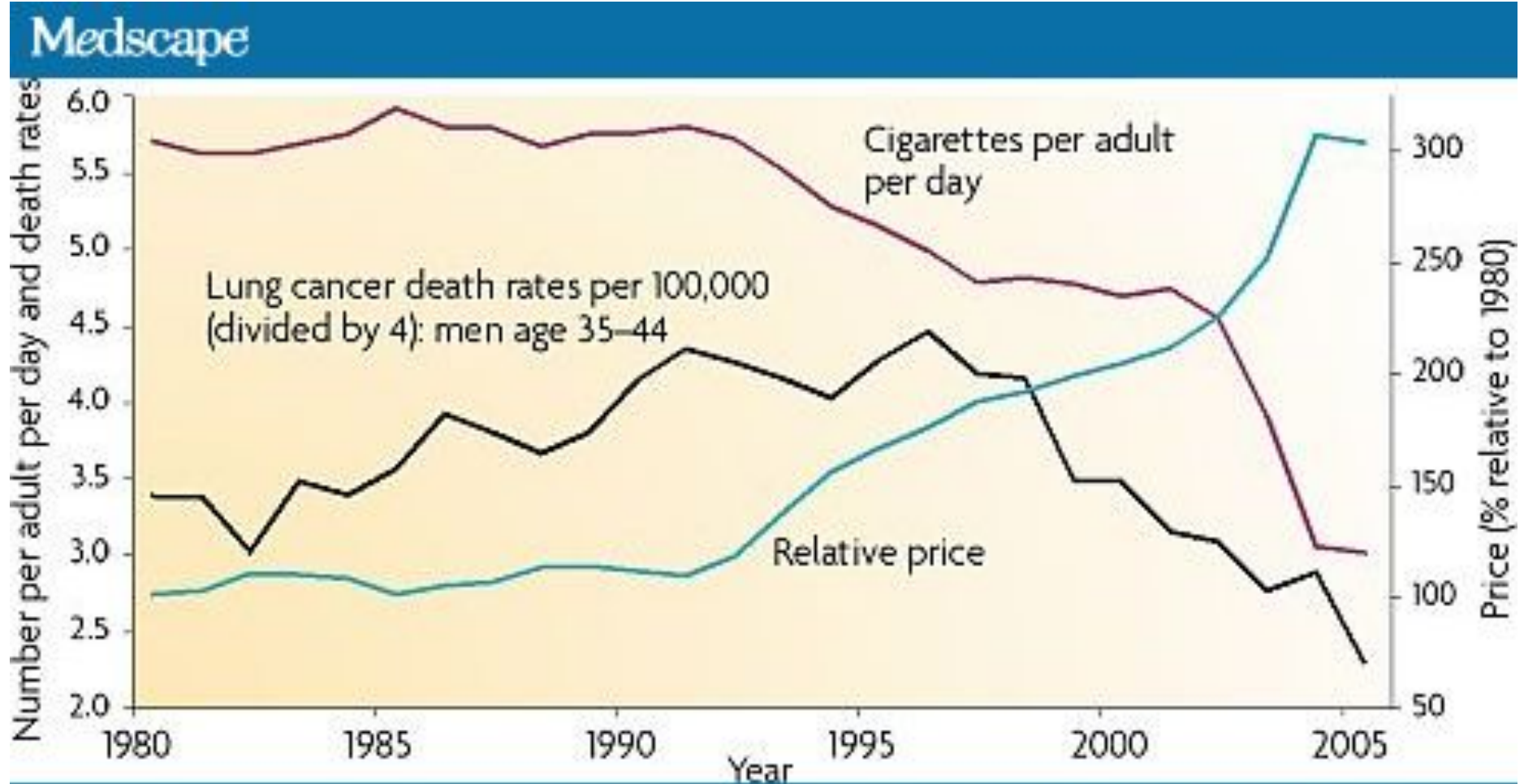


# Why Tax Tobacco?

- **Promote public health**
  - Increasingly important motive for higher tobacco taxes in many high income countries
    - Emerging as important factor in some low and middle income countries
  - Based on substantial and growing evidence on the effects of tobacco taxes and prices on tobacco use
    - Particularly among young, less educated, and low income populations



# Taxes, Prices and Health United States, 1980-2005



Source: Nat Rev Cancer © 2009 Nature Publishing Group

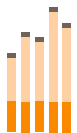


# Why Tax Tobacco?

- **Promote public health**

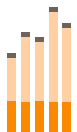
*“... We [] have a package of six policy measures, known as MPOWER, that can help countries implement the provisions in the Convention. All six measures have a proven ability to reduce tobacco use in any resource setting. **But tobacco taxes are by far the most effective.**”*

Director General Dr. Margaret Chan, WHO, 2008

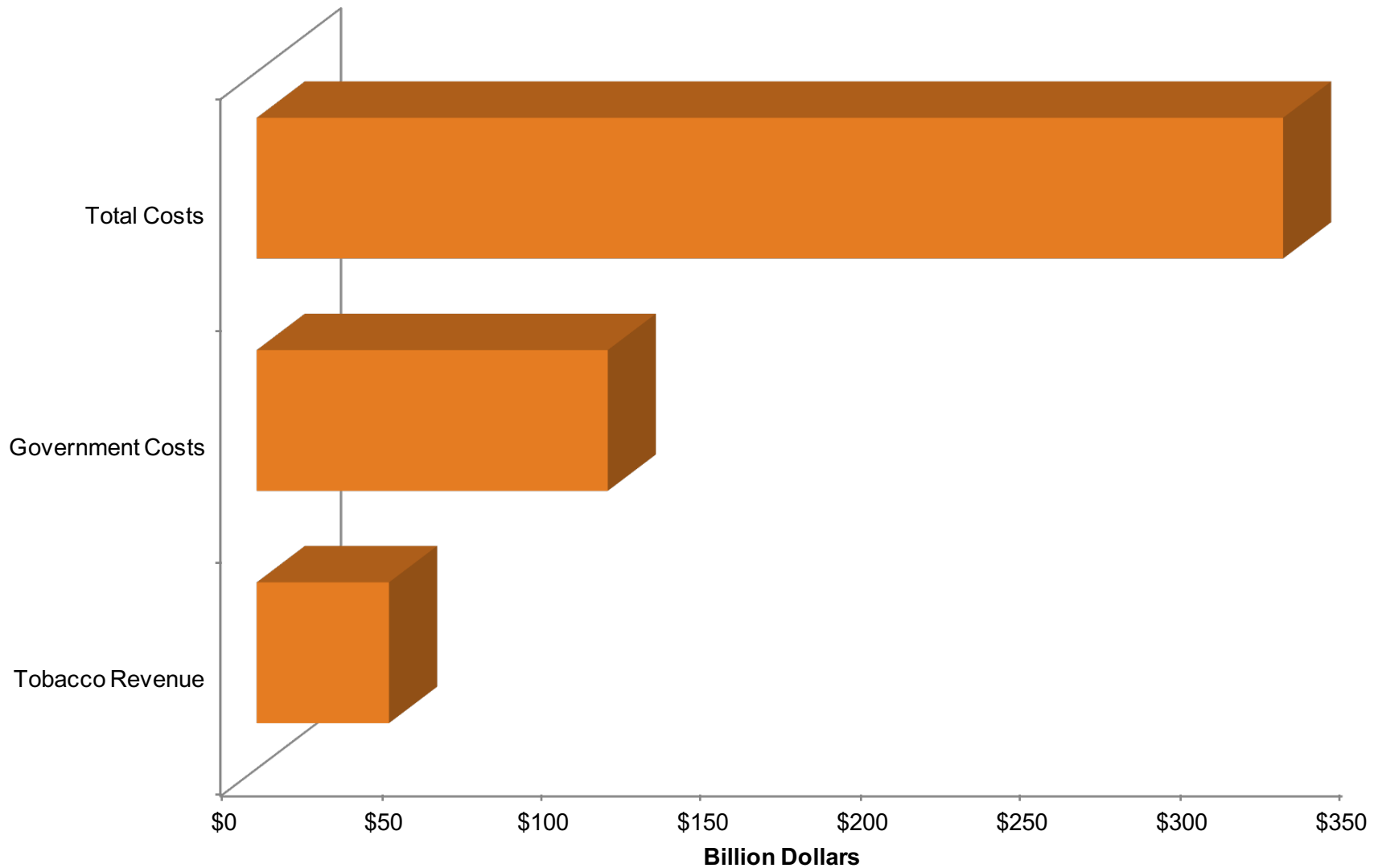


# Why Tax Tobacco?

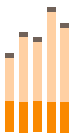
- **Cover the external costs of tobacco**
  - “Pigouvian” tax
  - Less frequently used motive
  - Account for costs resulting from tobacco use imposed on non-users
    - Increased health care costs, lost productivity from diseases/death caused by exposure to tobacco smoke
    - Increased financial costs from publicly financed health care to treat diseases caused by tobacco use

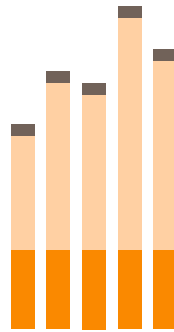


# Economic Costs of Tobacco Use



Sources: 2014 SGR; Tax Burden on Tobacco, 2014

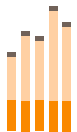




# **Brief Overview of Tobacco Taxation in the United States**

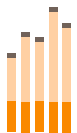
# Types of Tobacco Taxes

- **Variety of tobacco taxes**
  - Taxes on value of tobacco crop
  - Customs duties on tobacco leaf, tobacco products imports and/or exports
  - Sales taxes/Value added taxes
  - Implicit taxes when government monopolizes production and/or distribution
  - Excise Taxes
    - Excise taxes are of most interest given specificity to tobacco products
    - Specific (per unit, volume, weight) and *ad valorem* (based on price) excises



# Federal Tobacco Taxes

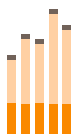
- Federal cigarette tax
  - Specific (per unit) excise tax
  - initially adopted in 1864
  - Raised during war time/lowered during peace time
  - Set at 8 cents per pack in 1951
  - Doubled to 16 cents per pack in 1983
  - Eventually raised to 39 cents per pack in 2002
    - Less than 60% of inflation adjusted value of 1951 tax
  - Significant increase – 61.66 cents – April 1, 2009
    - Earmarked for S-CHIP expansion



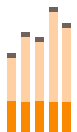
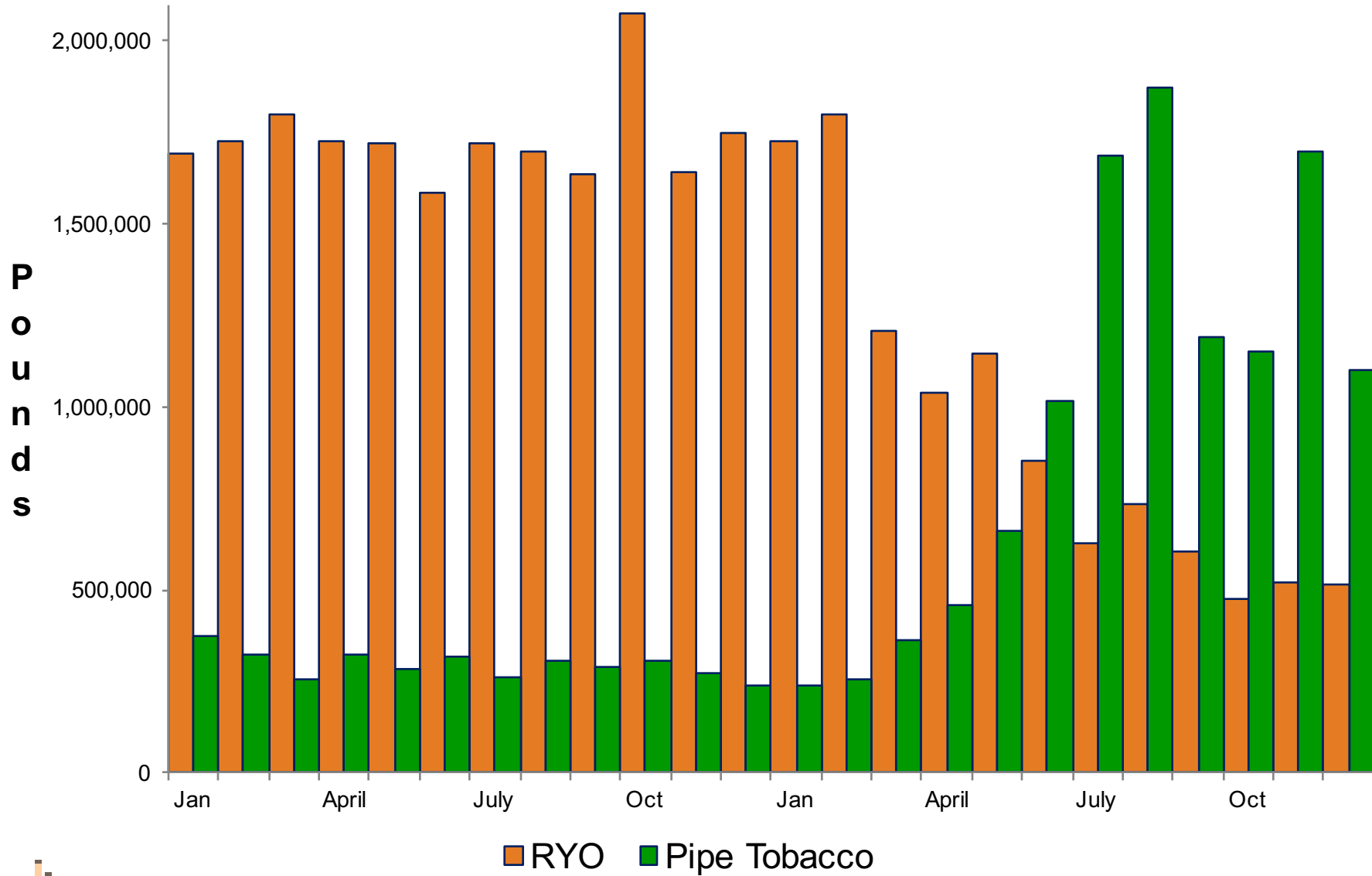


# Federal Tobacco Taxes

- Specific federal excise taxes on most other tobacco products, including
  - Small cigars: \$1.0066 per pack of 20
  - 52.75% of price for low priced cigars; cap of 40.26 cents per cigar for high priced cigars
  - chewing tobacco: 3.1 cents per ounce
  - moist snuff: \$1.51 per pound
  - roll-your-own tobacco \$24.78 per pound
  - pipe tobacco: \$2.83 per pound
  - rolling papers: 1.26 cents per pack
- Until latest increases, most were lower than cigarette tax; more equivalent now
- Similarly infrequent increases in taxes



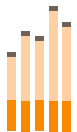
# Taxable RYO and Pipe Tobacco US, 2008-2009



Source: US Treasury Department, Alcohol and Tobacco Tax and Trade Bureau

# State Tobacco Taxes

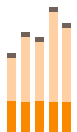
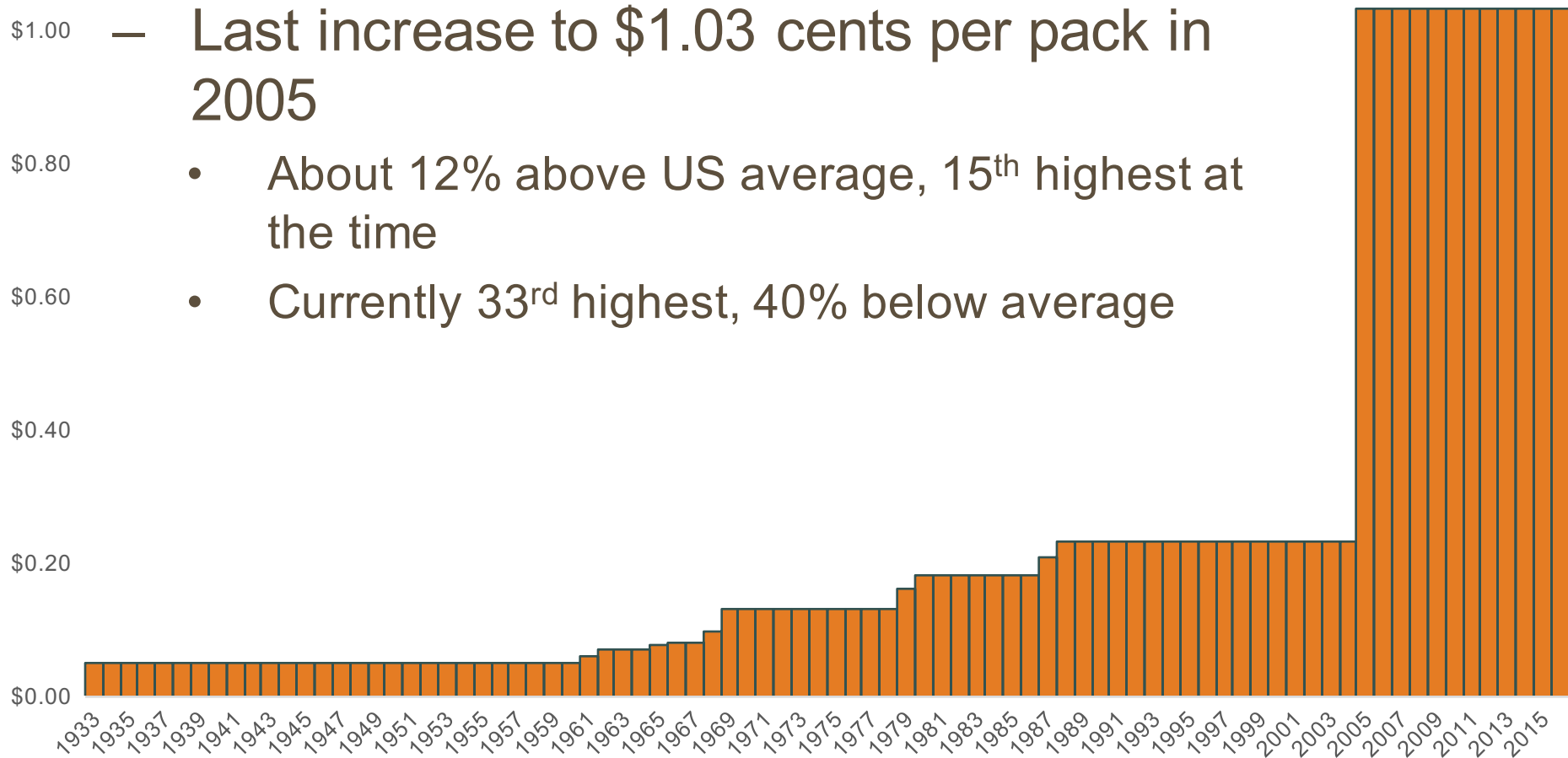
- State cigarette taxes
  - First adopted by IA in 1921; NC last to adopt in 1969
  - Currently: 17.0 cents/pack (MO) to \$4.35/pack (NY)
  - Average \$1.61 per pack (48.5 cents in tobacco growing states; \$1.76 in other states)
  - Many states considering increases



# Cigarette Taxation in OK

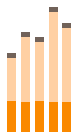
- Oklahoma first adopted cigarette tax in 1933 - 5 cents per pack
- Last increase to \$1.03 cents per pack in 2005

- About 12% above US average, 15<sup>th</sup> highest at the time
- Currently 33<sup>rd</sup> highest, 40% below average



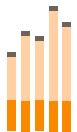
# State Tobacco Taxes

- State taxes on other tobacco products
  - All but PA tax other tobacco products
  - Mostly *ad valorem* taxes
    - Typically applied to wholesaler/distributor price
    - Highest taxes include:
      - Wisconsin – 100%; Washington - 95%
    - Lowest taxes include:
      - South Carolina – 5%; Tennessee 6.6%
    - Average about 35%
    - Generally below equivalent rate on cigarettes

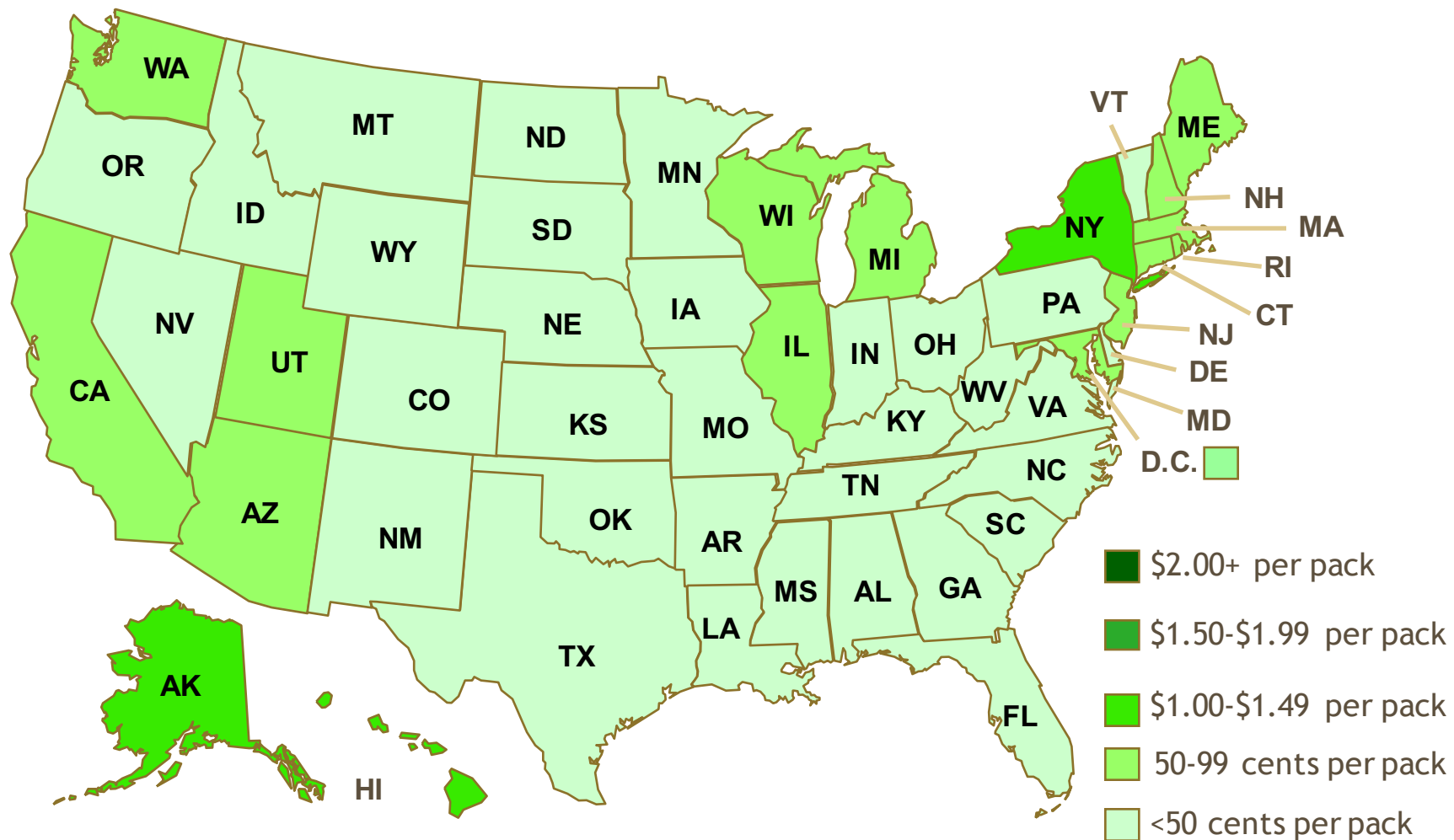


# Tobacco Taxation in OK

- Other tobacco product taxes
  - Generally lower tax burden than for cigarette tax
    - \$0.72 per pack for little cigars
    - \$0.12 per stick for cigars/cigarillos
    - 80% of factory list price for RYO, pipe tobacco
    - 60% of factory list price for smokeless products
    - No tax on vaping products

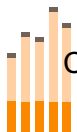
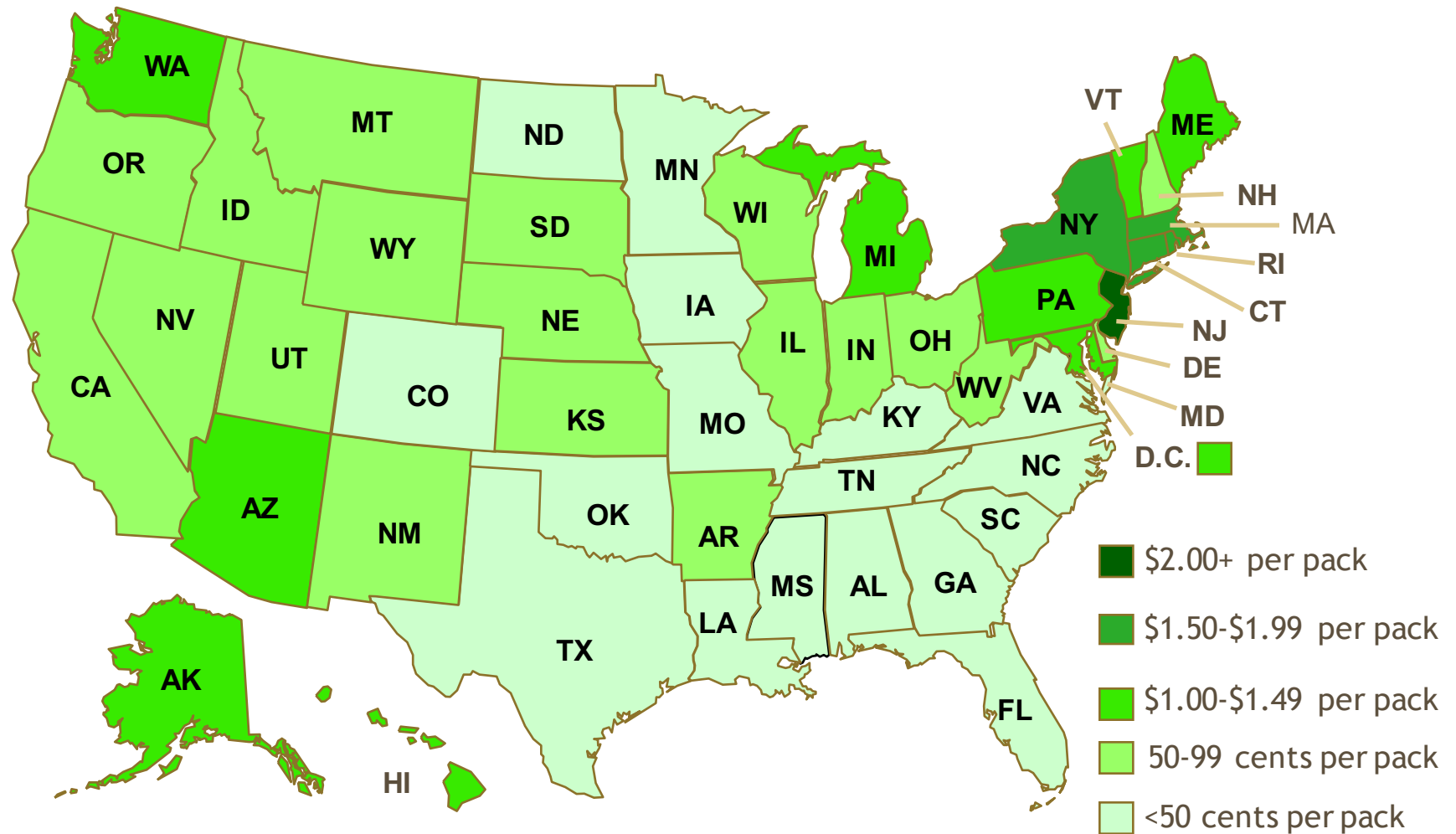


# State Cigarette Excise Tax Rates – 2000



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

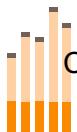
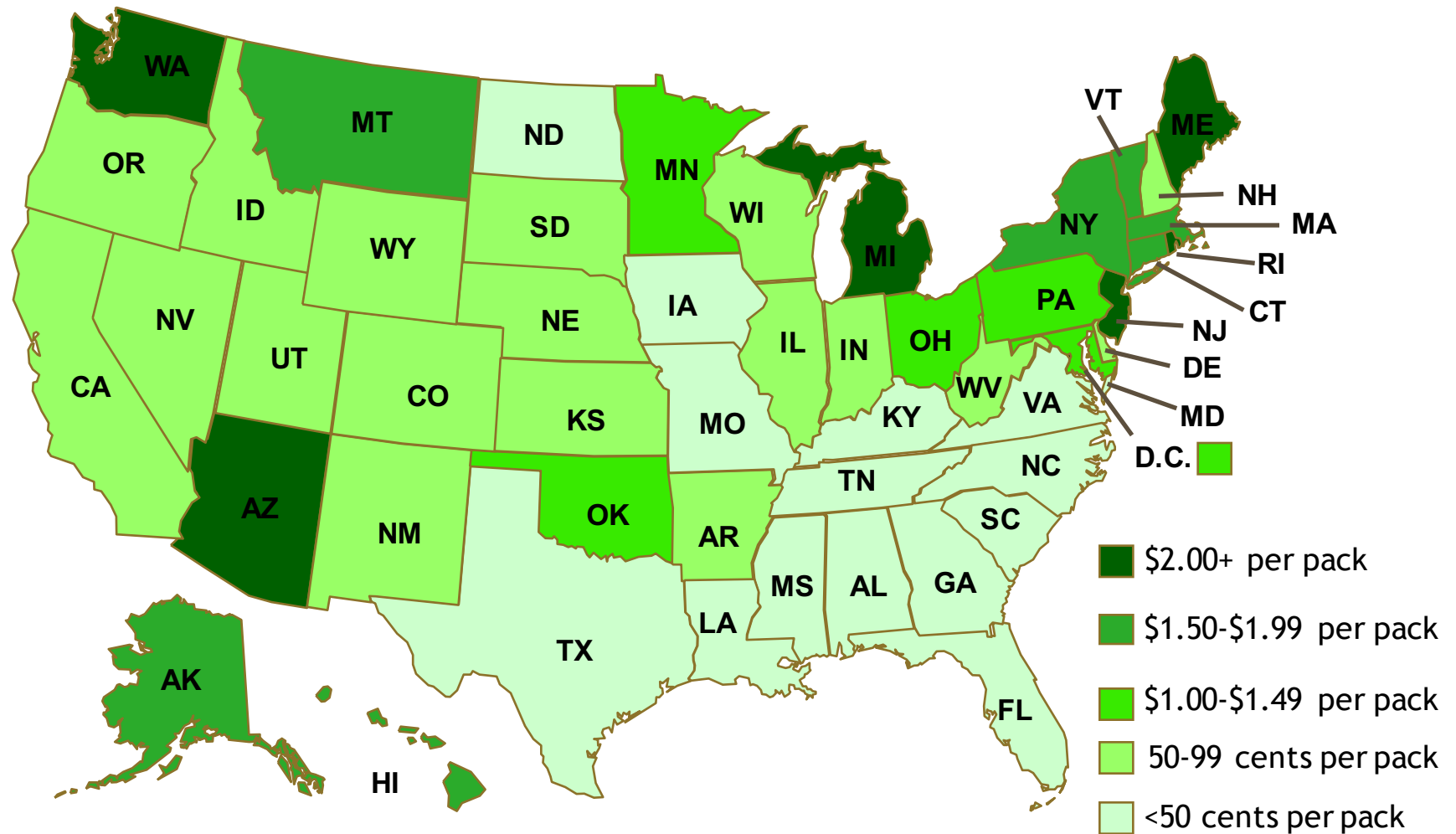
# State Cigarette Excise Tax Rates – 2003



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

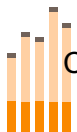
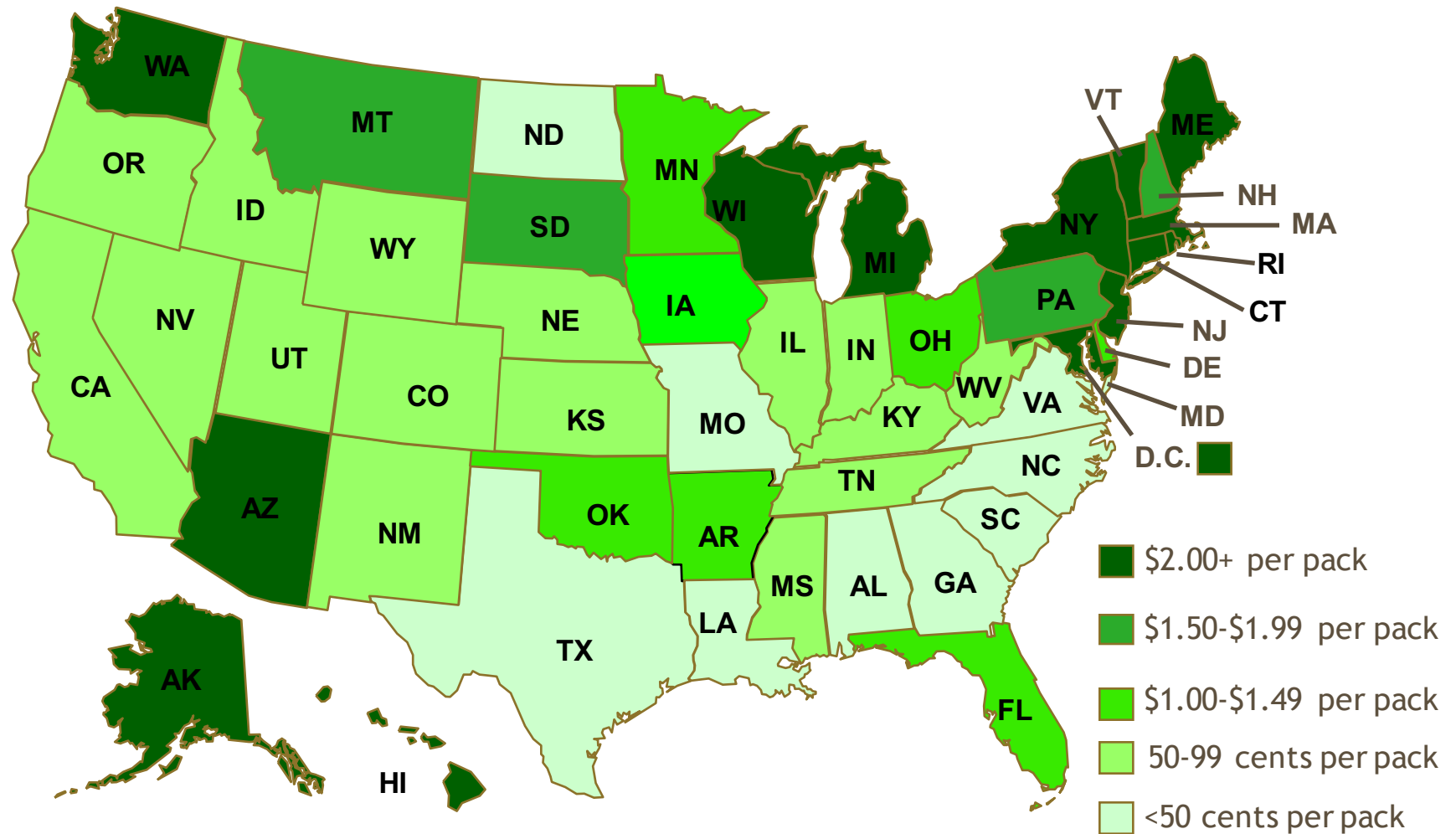


# State Cigarette Excise Tax Rates – 2006



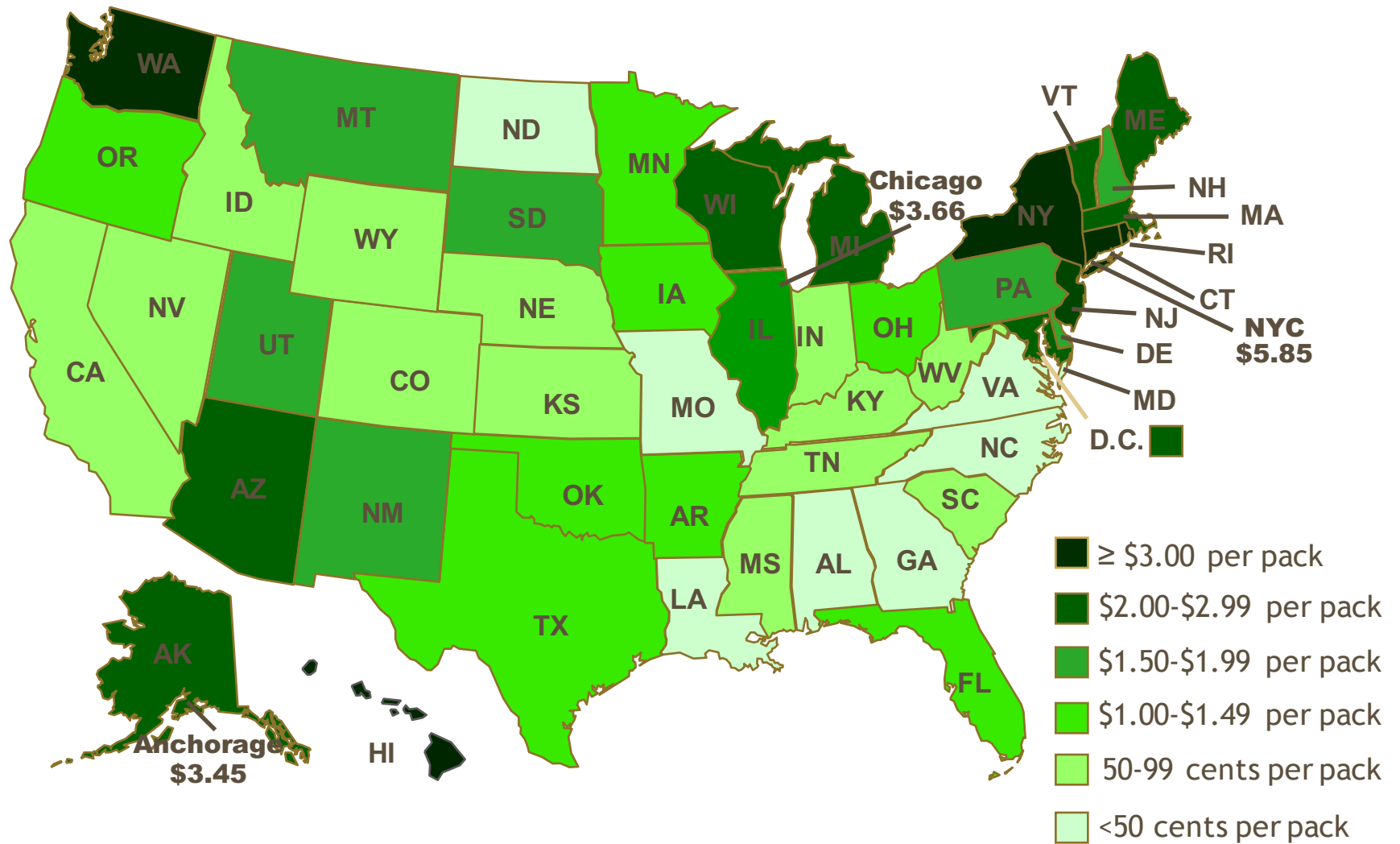
CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

# State Cigarette Excise Tax Rates – 2009



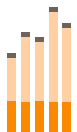
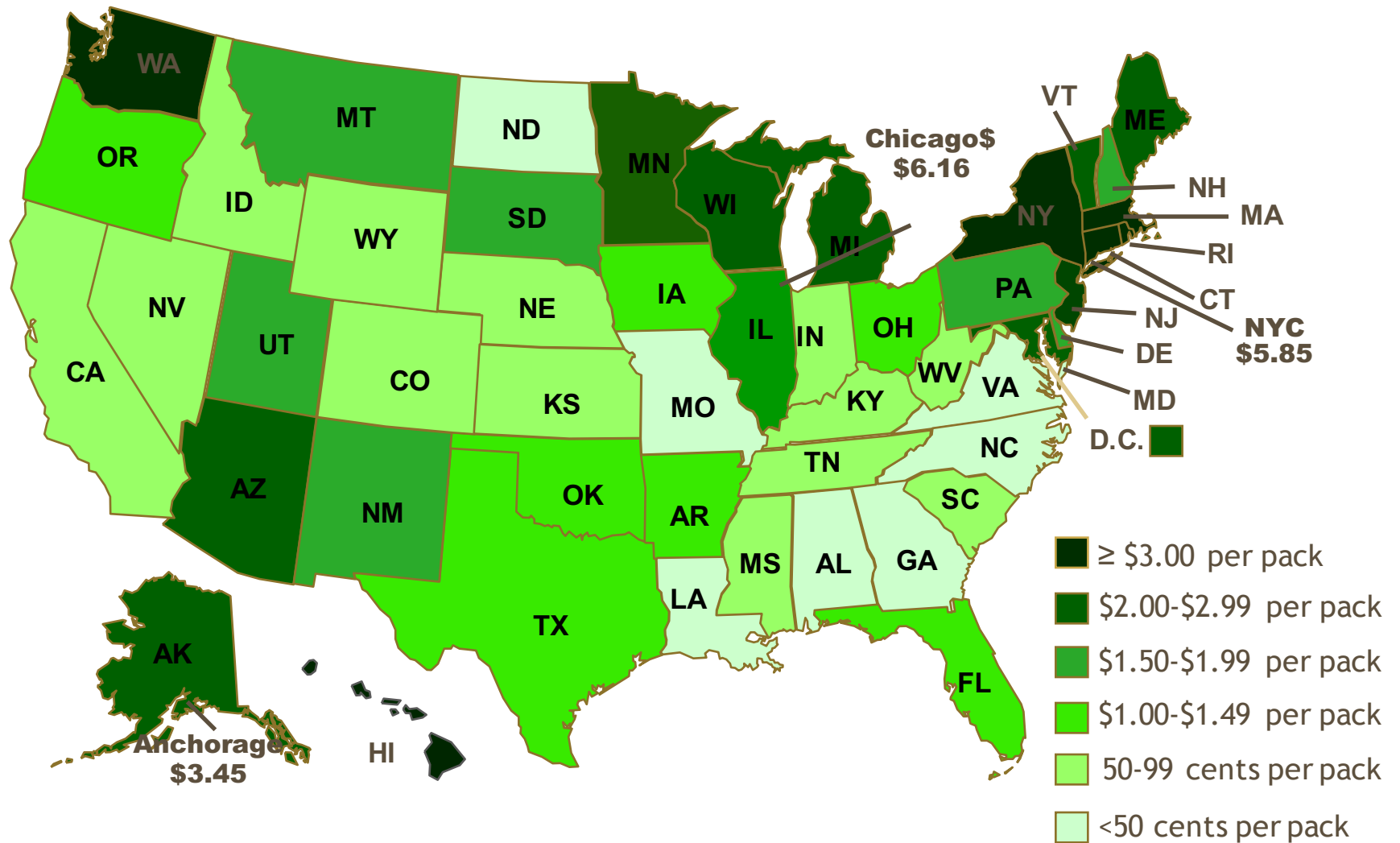
CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

# State Cigarette Excise Tax Rates – 2012

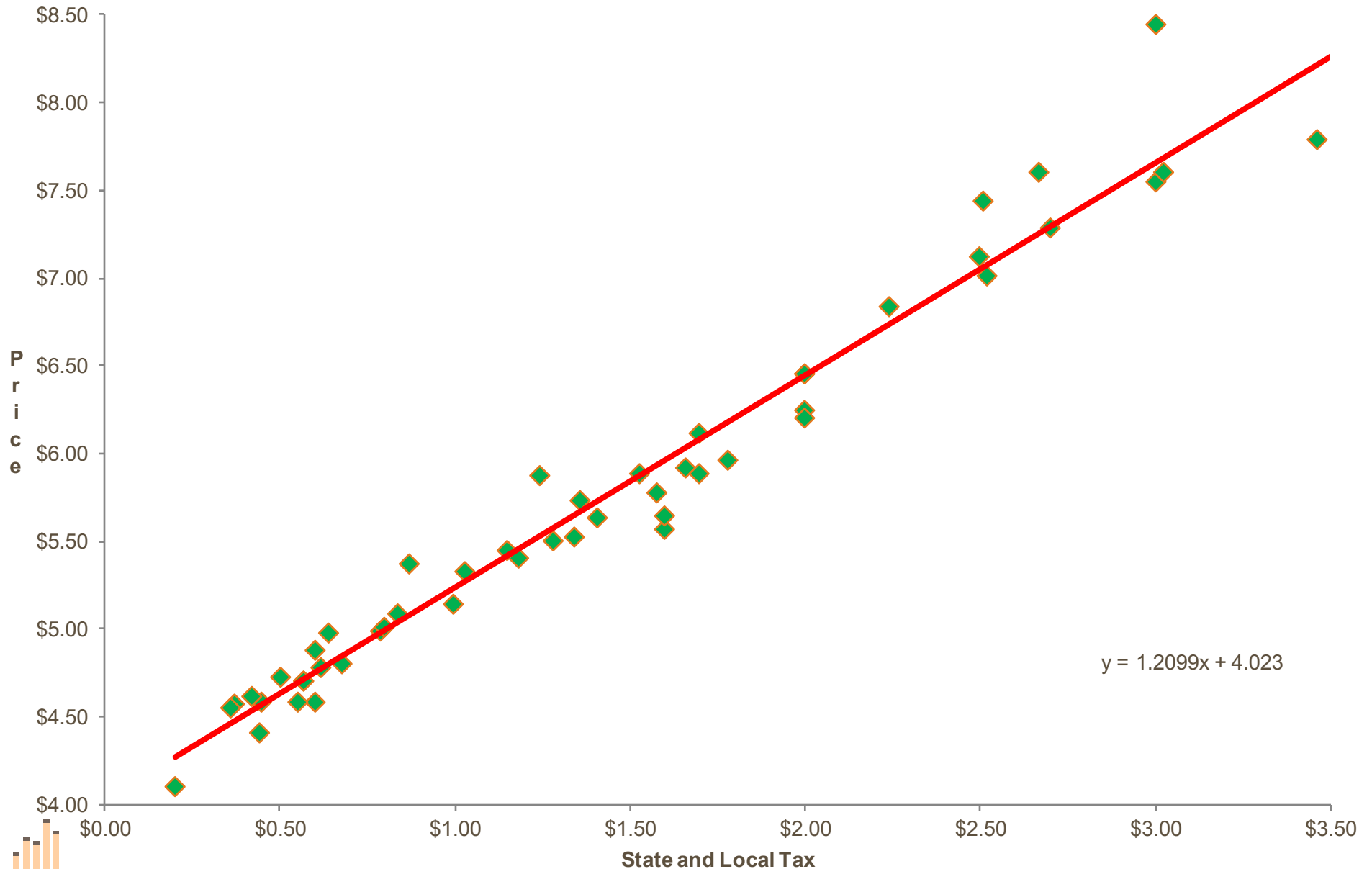


CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

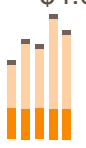
# State Cigarette Excise Tax Rates – Feb. 2015



# State and Local Cigarette Taxes and Average Price per Pack, November 1, 2010

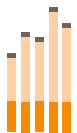


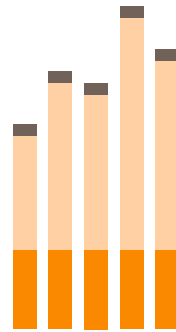
Source: *Tax Burden on Tobacco, 2011*, and author's calculations



# Relative Taxation on Different Tobacco Products

- Adopt equivalent taxes on combustible tobacco products
  - Minimize substitution to other products in response to cigarette tax increase
  - Maximize revenue and health impact of tax increases
- Differential taxation for other tobacco products
  - Harm reduction

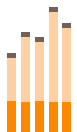




# Impact of Tax and Price on Tobacco Use

# Prices and Tobacco Use

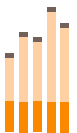
- **Increases in tobacco product prices:**
  - Induce current users to try to quit
    - Many will be successful in long term
  - Keep former users from restarting
  - Prevent potential users from starting
    - Particularly effective in preventing transition from experimentation to regular use
  - Reduce consumption among those who continue to use
  - Lead to other changes in tobacco use behavior, including substitution to cheaper products or brands, changes in buying behavior, and compensation



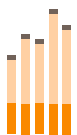
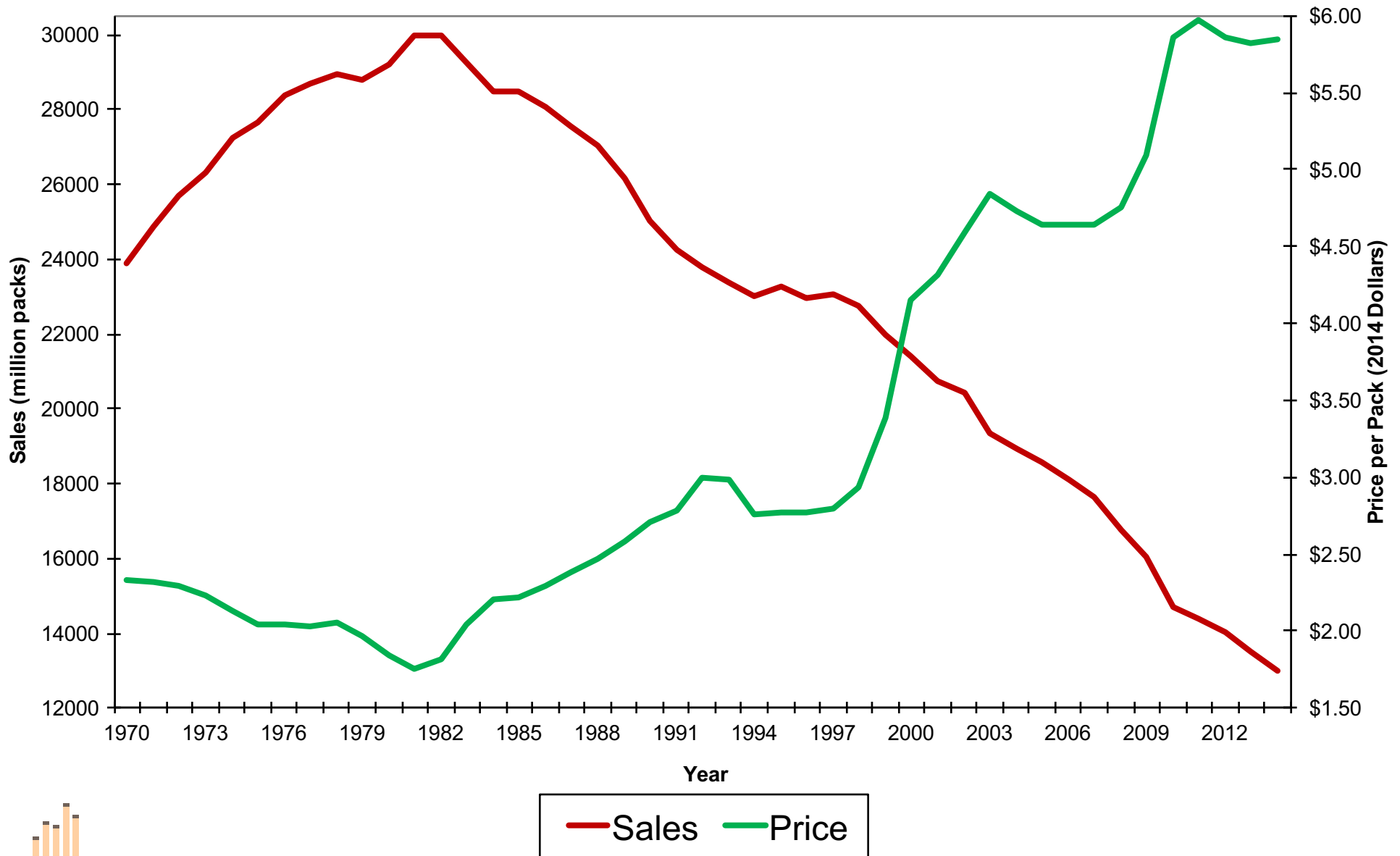


# Tobacco Taxes & Tobacco Use

Increases in tobacco excise taxes that increase prices result in a decline in overall tobacco use.



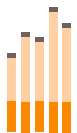
# Cigarette Prices and Cigarette Sales United States, 1970-2014



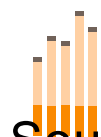
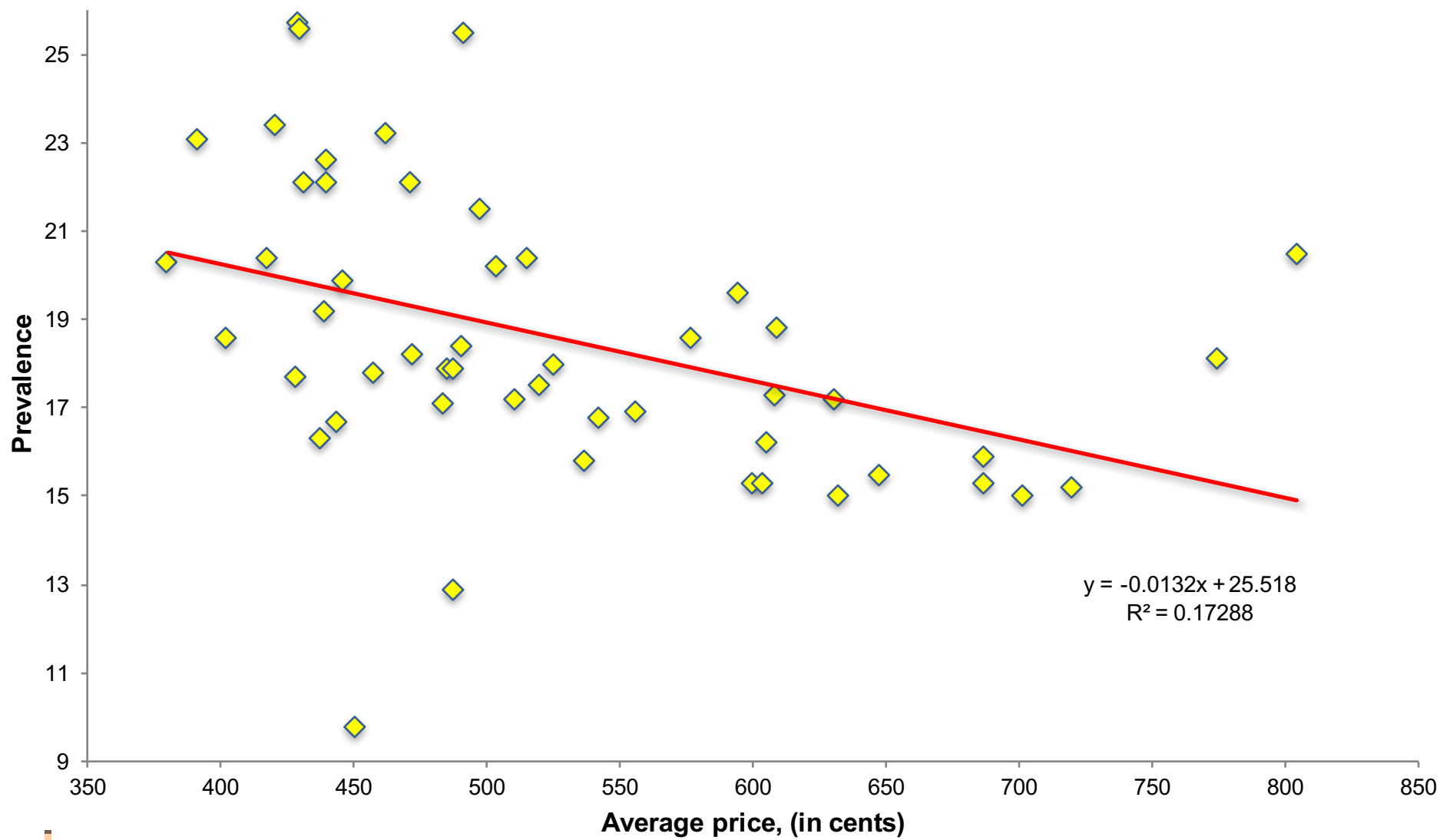
Source: *Tax Burden on Tobacco*, 2015, and author's calculations

# Tobacco Taxes and Prevalence of Tobacco Use

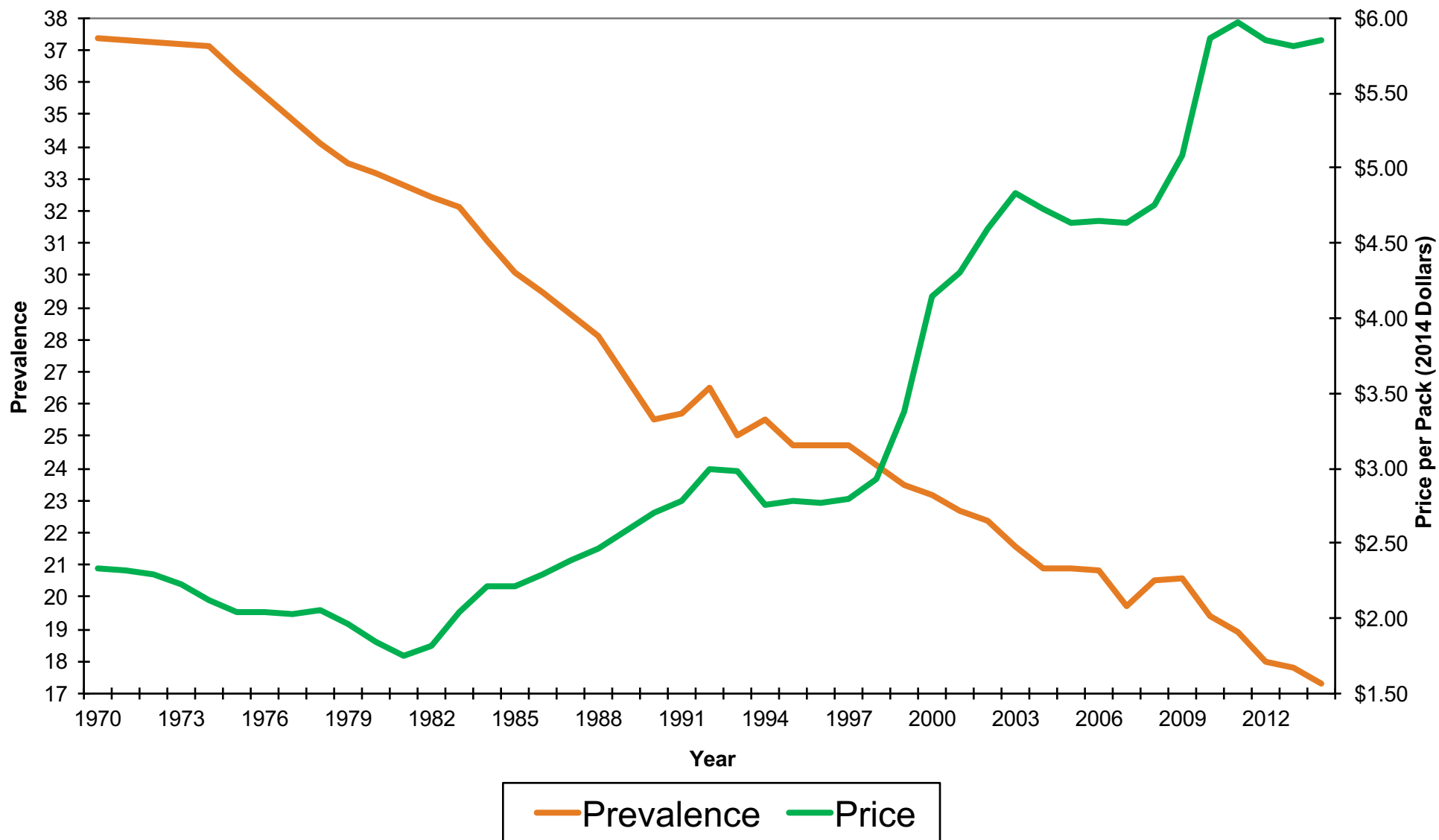
Increases in tobacco excise taxes that increase prices reduce the prevalence of adult tobacco use.



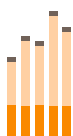
# Cigarette and Adult Smoking Prevalence US States & DC, 2009



# Cigarette Prices and Adult Smoking Prevalence United States, 1970-2014

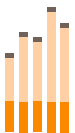


Source: NHIS, *Tax Burden on Tobacco*, 2015, and author's calculations  
 Note: green data points for prevalence are interpolated assuming linear trend

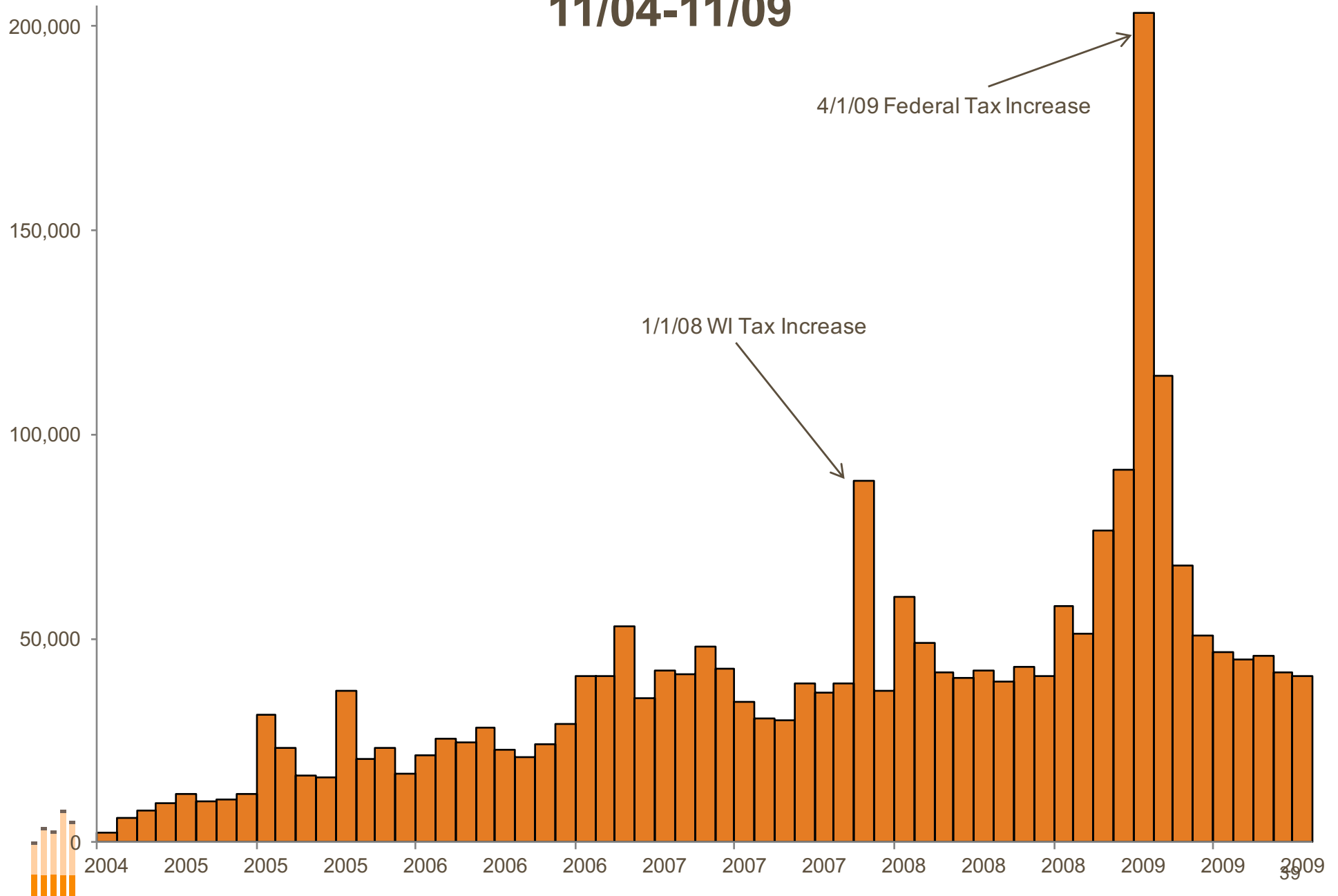


# Tobacco Taxes and Cessation

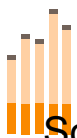
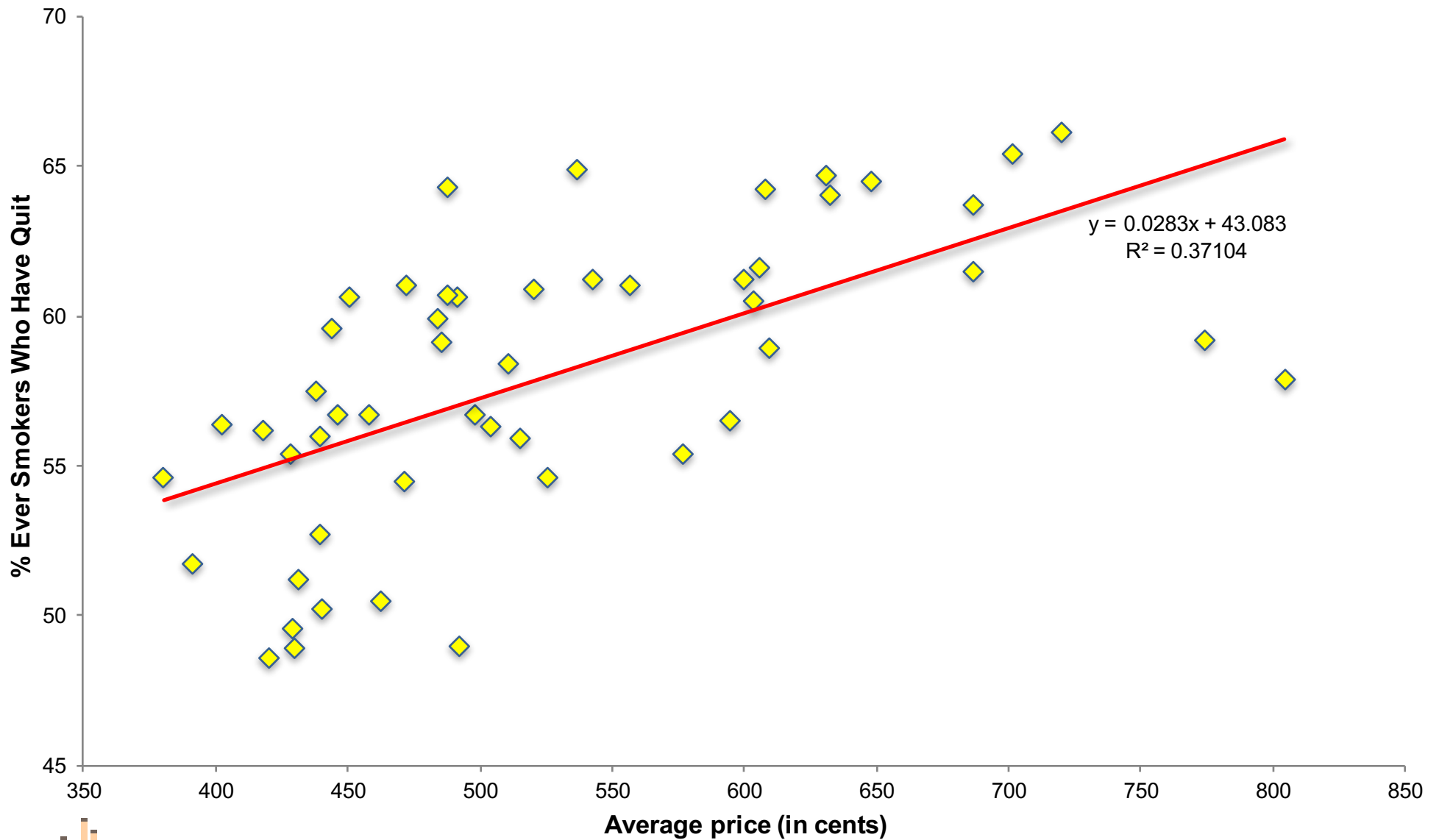
Increases in tobacco excise taxes that increase prices induce current tobacco users to quit.



# Monthly Quit Line Calls, United States 11/04-11/09



# Cigarette Prices and Cessation US States & DC, 2009

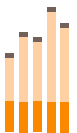


Source: BRFSS, *Tax Burden on Tobacco*, 2010, and author's calculations



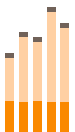
# Tobacco Taxes and Youth Tobacco Use

Increases in tobacco excise taxes that increase prices reduce the initiation and uptake of tobacco use among young people, with a greater impact on the transition to regular use.

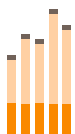
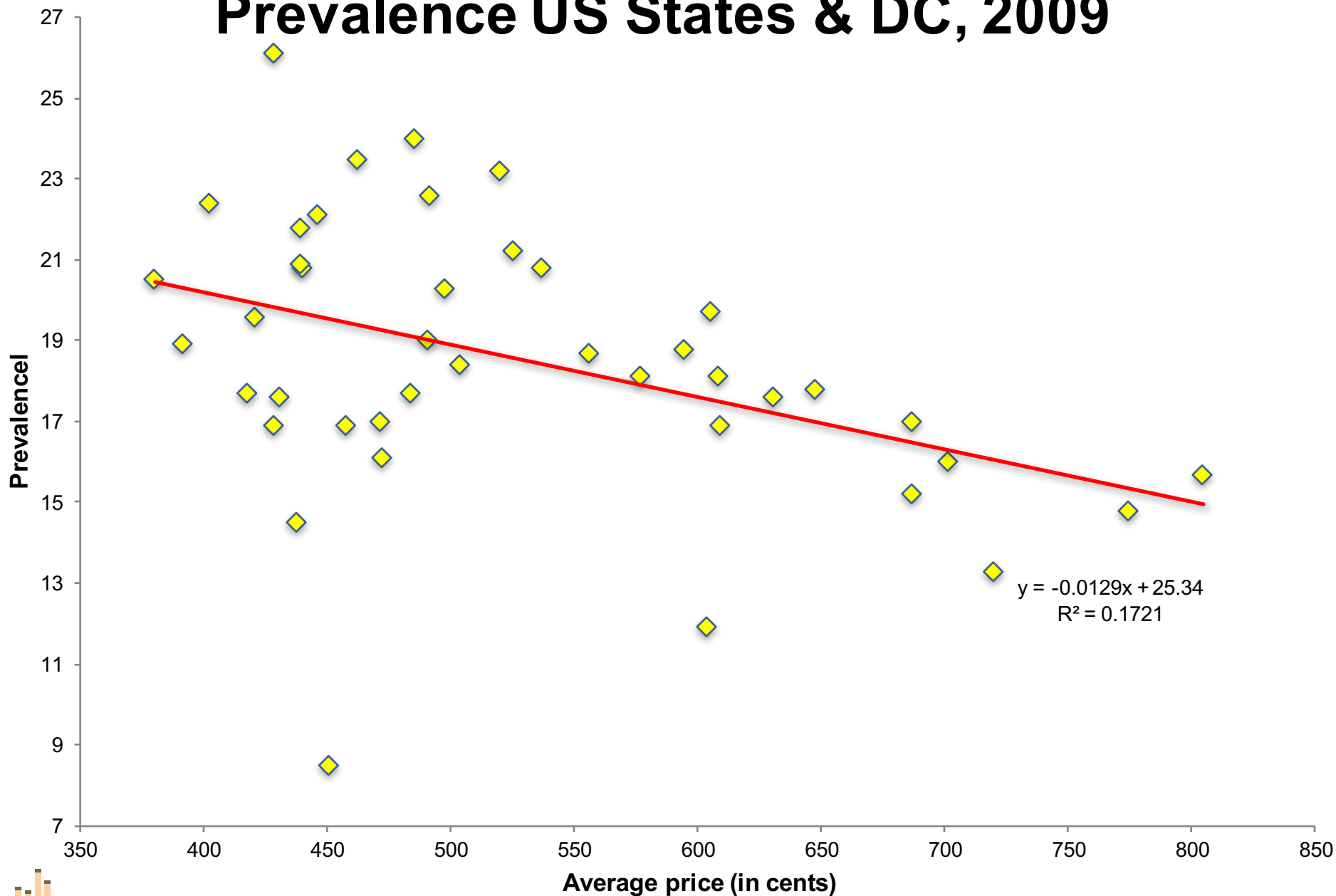


# Tobacco Taxes and Youth Tobacco Use

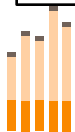
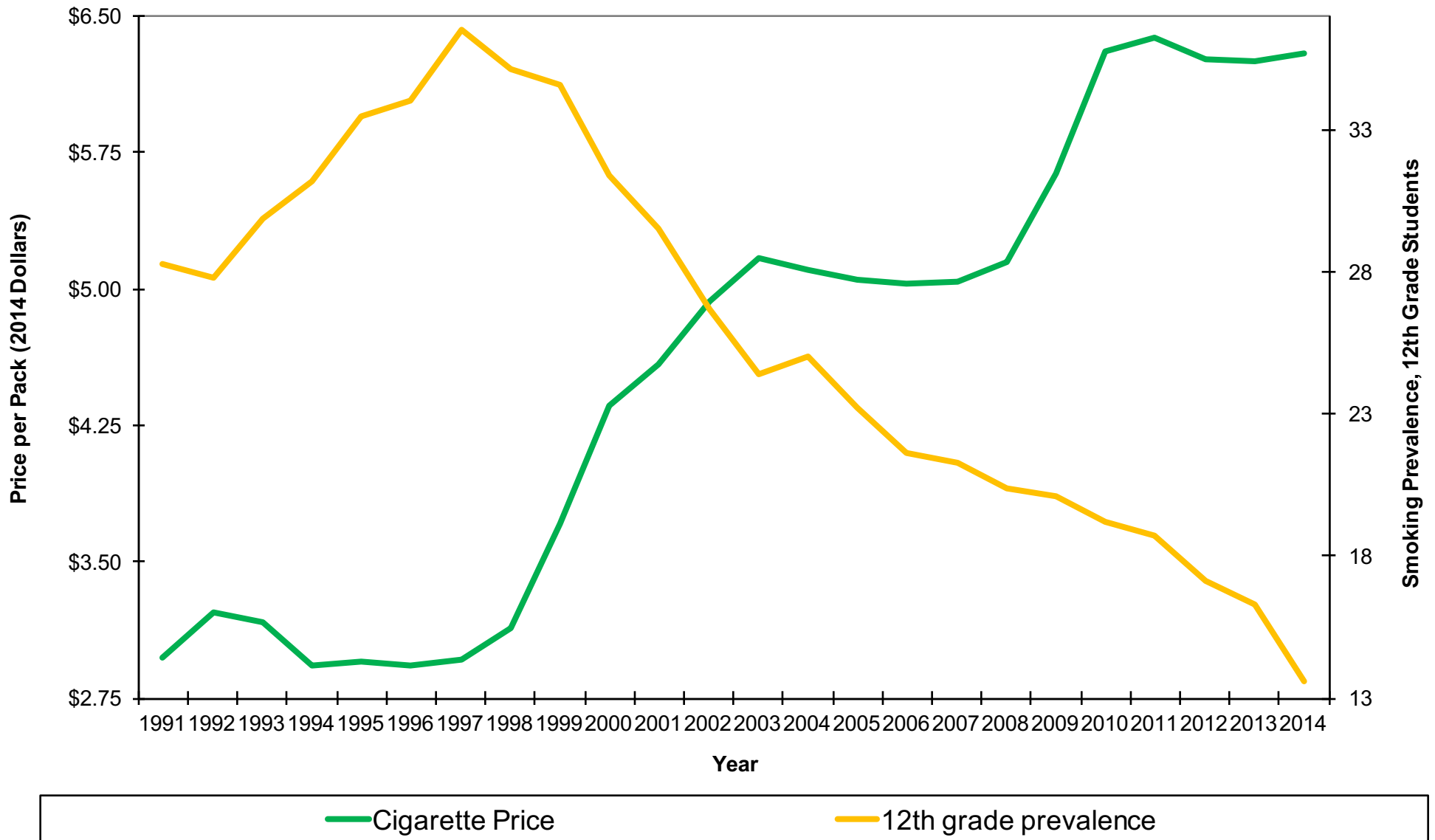
Tobacco use among young people responds more to changes in tobacco product taxes and prices than does tobacco use among adults.



# Cigarette Prices and Youth Smoking Prevalence US States & DC, 2009



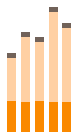
# Cigarette Price and Youth Smoking Prevalence Seniors, United States, 1991-2014



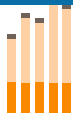
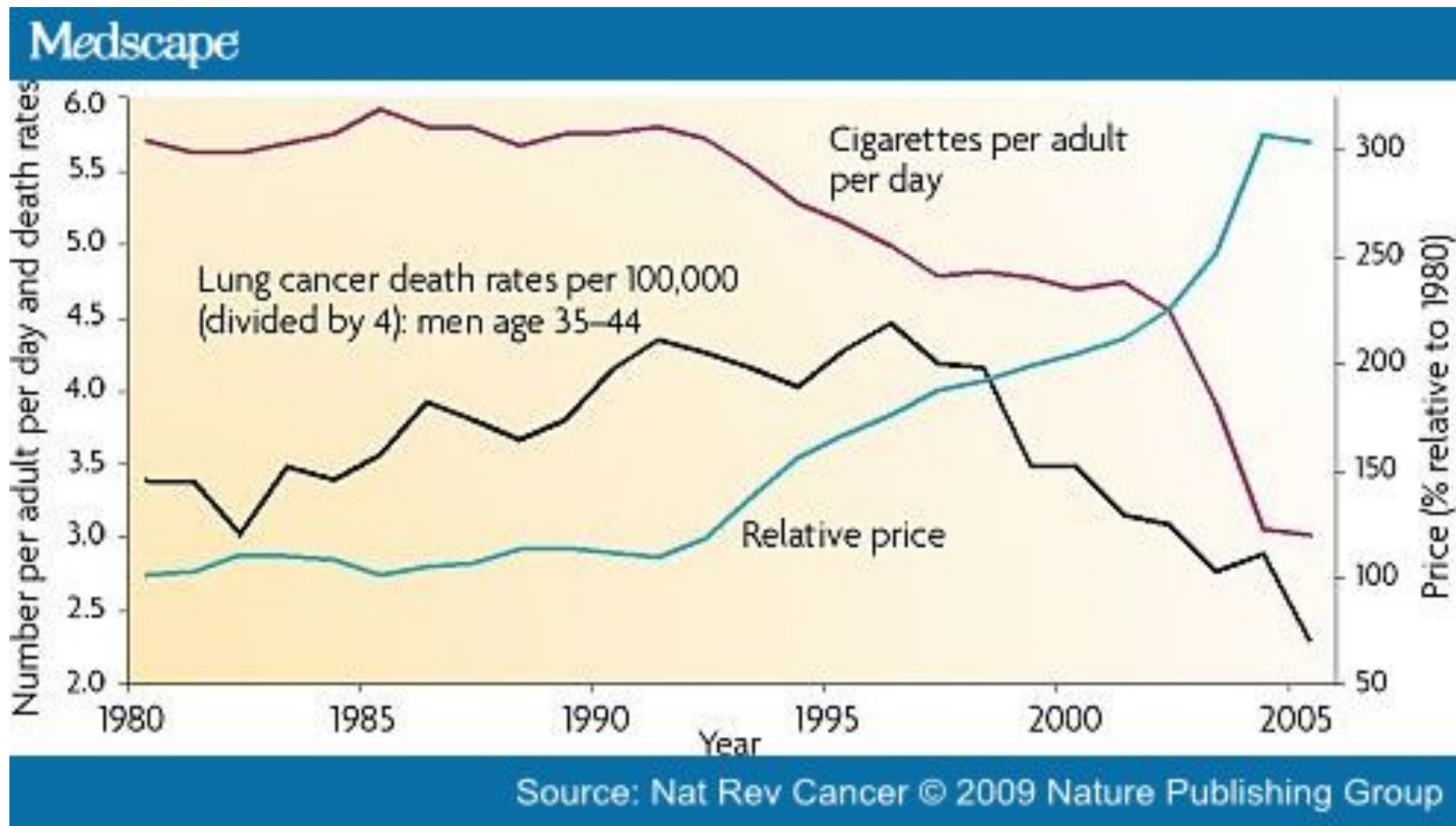
Source: MTF, *Tax Burden on Tobacco*, 2015, and author's calculations

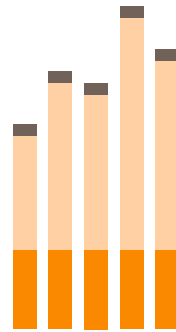
# Tobacco Taxes and Health

Increases in tobacco excise taxes that increase prices result in improvements in population health



# Taxes, Prices and Health: US, 1980-2005

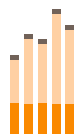




# Public Support for Tobacco Taxes

# Tobacco Taxes Popular with Voters

- Tobacco Excise Tax Increases:
  - *Generally supported by voters*
  - *Supported by those likely to vote for either party*
  - *More support when framed in terms of impact on youth tobacco use*
  - *More support when some of new revenues are used to support tobacco control and/or other health-related activities*
  - *Greater support than for other revenue sources*



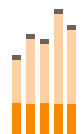
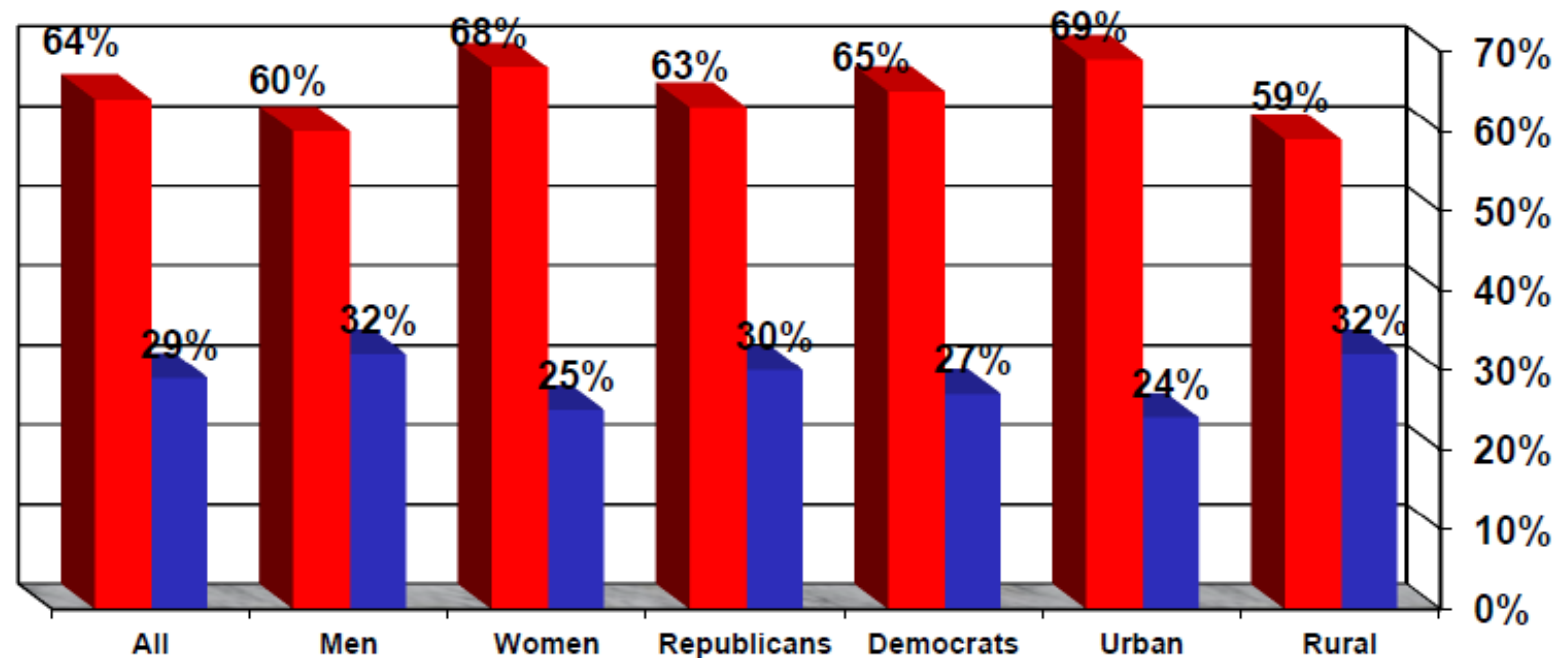


# Favor Increase in Cigarette Taxes?

**51% Strongly Favor; 13% Somewhat Favor;  
8% Somewhat Oppose; 21% Strongly Oppose; 8% Undecided**

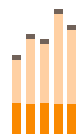
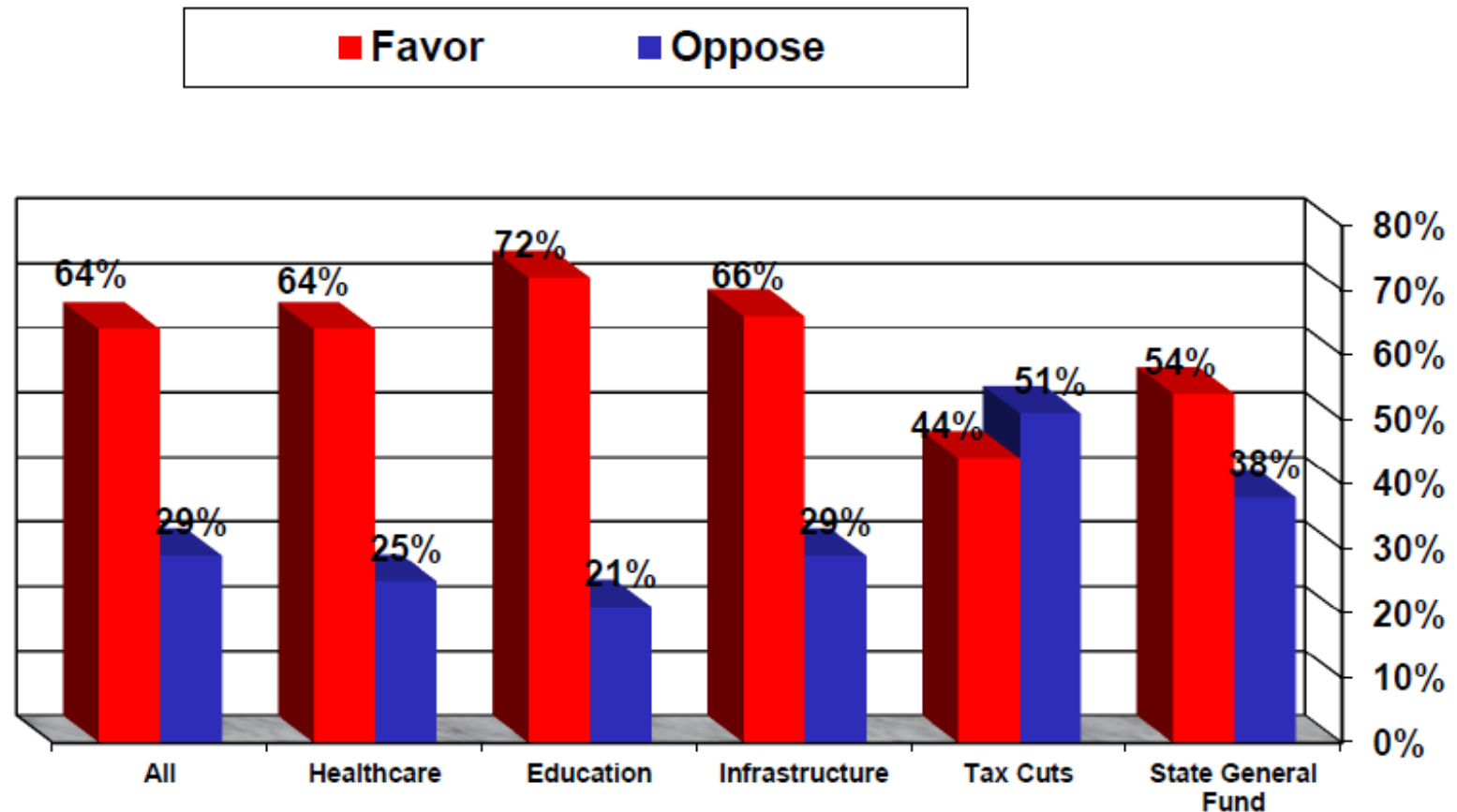
A tobacco tax increase does not have a partisan edge. While women are more supportive, male support is still almost two-to-one. We also see urbanites more supportive than are those in rural areas.

■ Favor      ■ Oppose

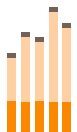
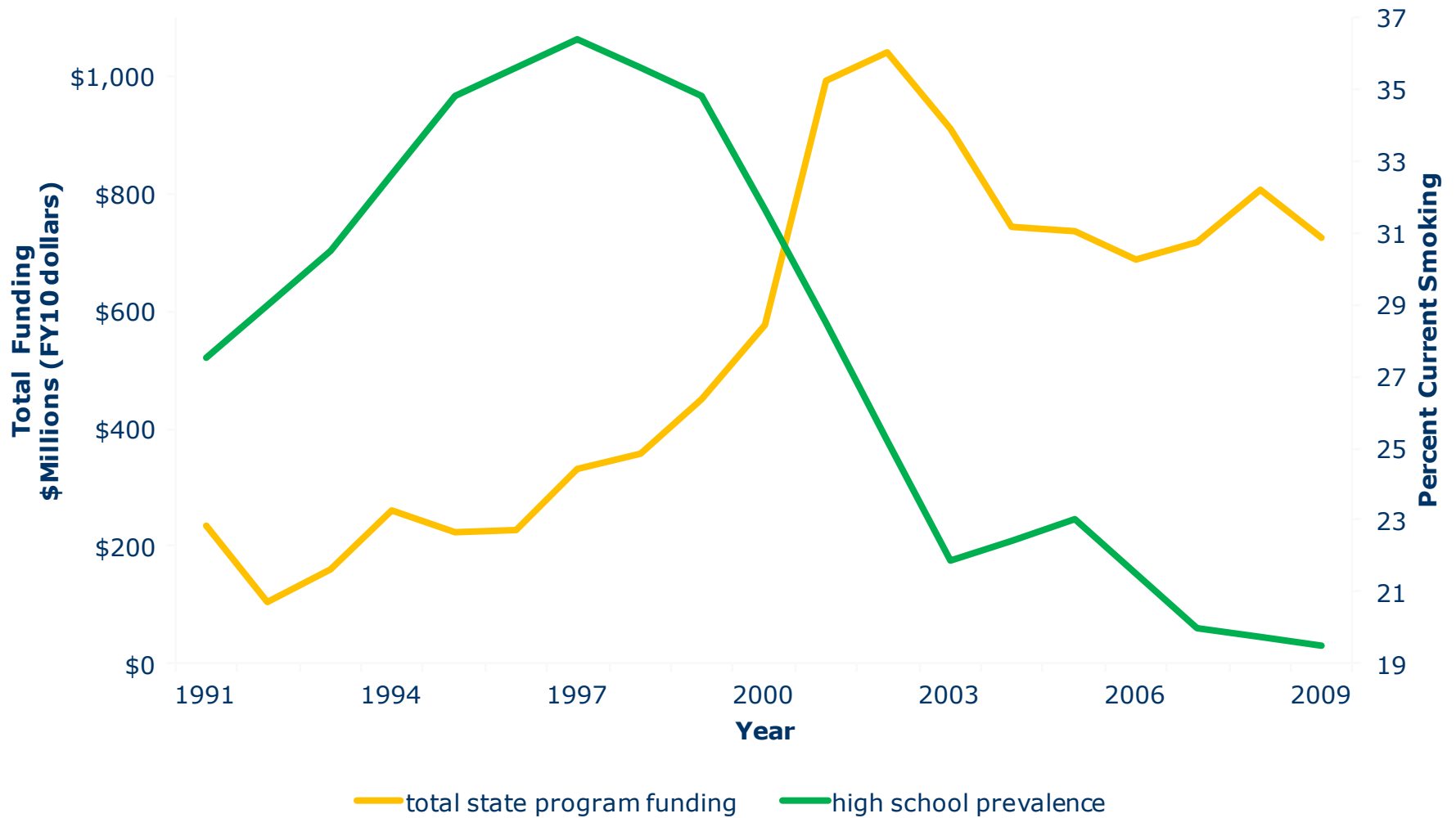


## Favor Increase in Cigarette Taxes By Preferred Revenue Use

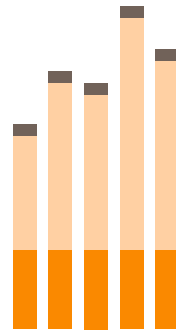
The only group opposed to this increase – and then only narrowly – are those who would want to use the proceeds for a tax cut – and that's only 7% of the population.



# State Tobacco Control Program Funding and Youth Smoking Prevalence, United States, 1991-2009



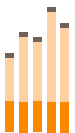
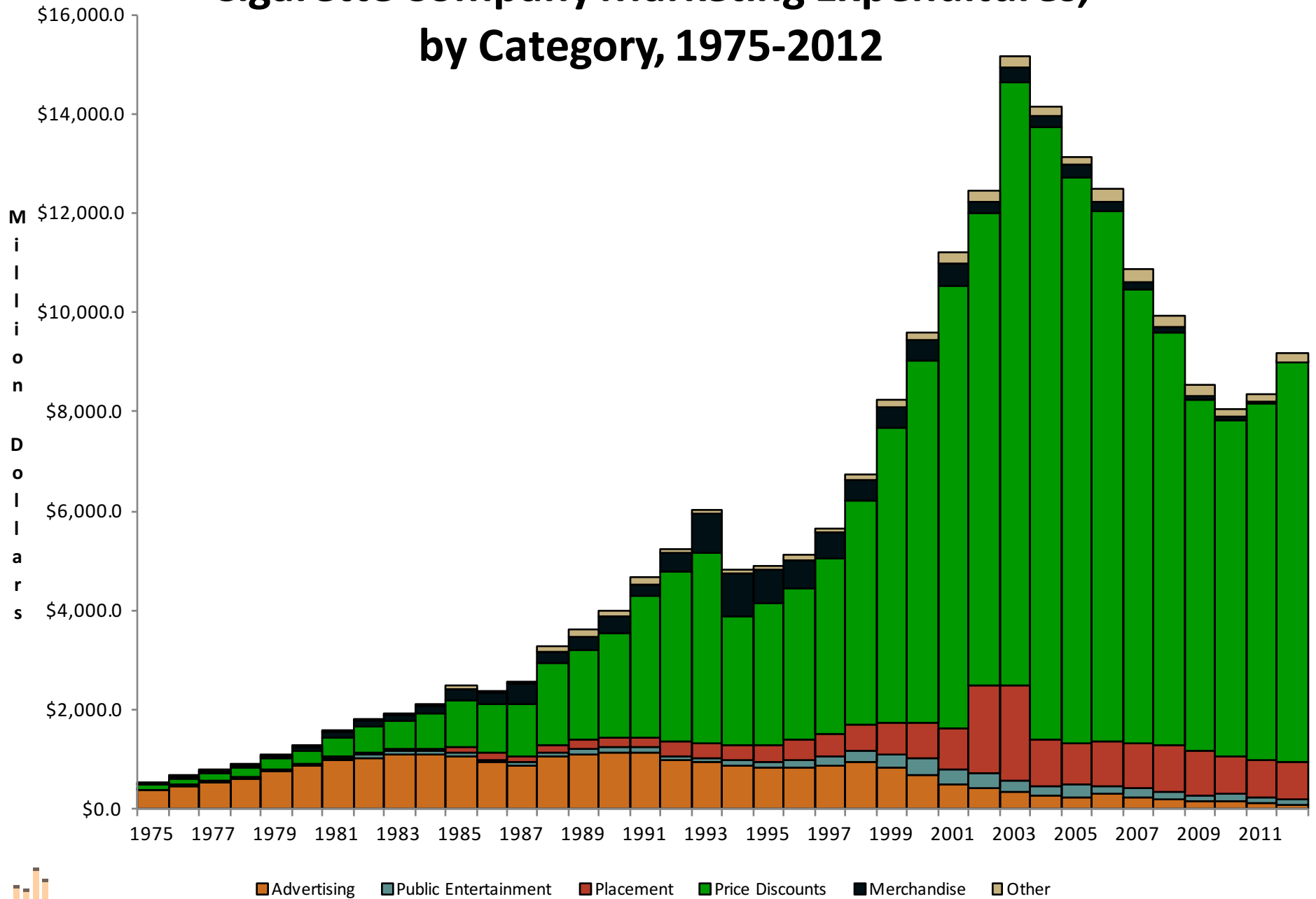
Source: ImpacTeen Project, UIC; YRBS



# Tobacco Industry

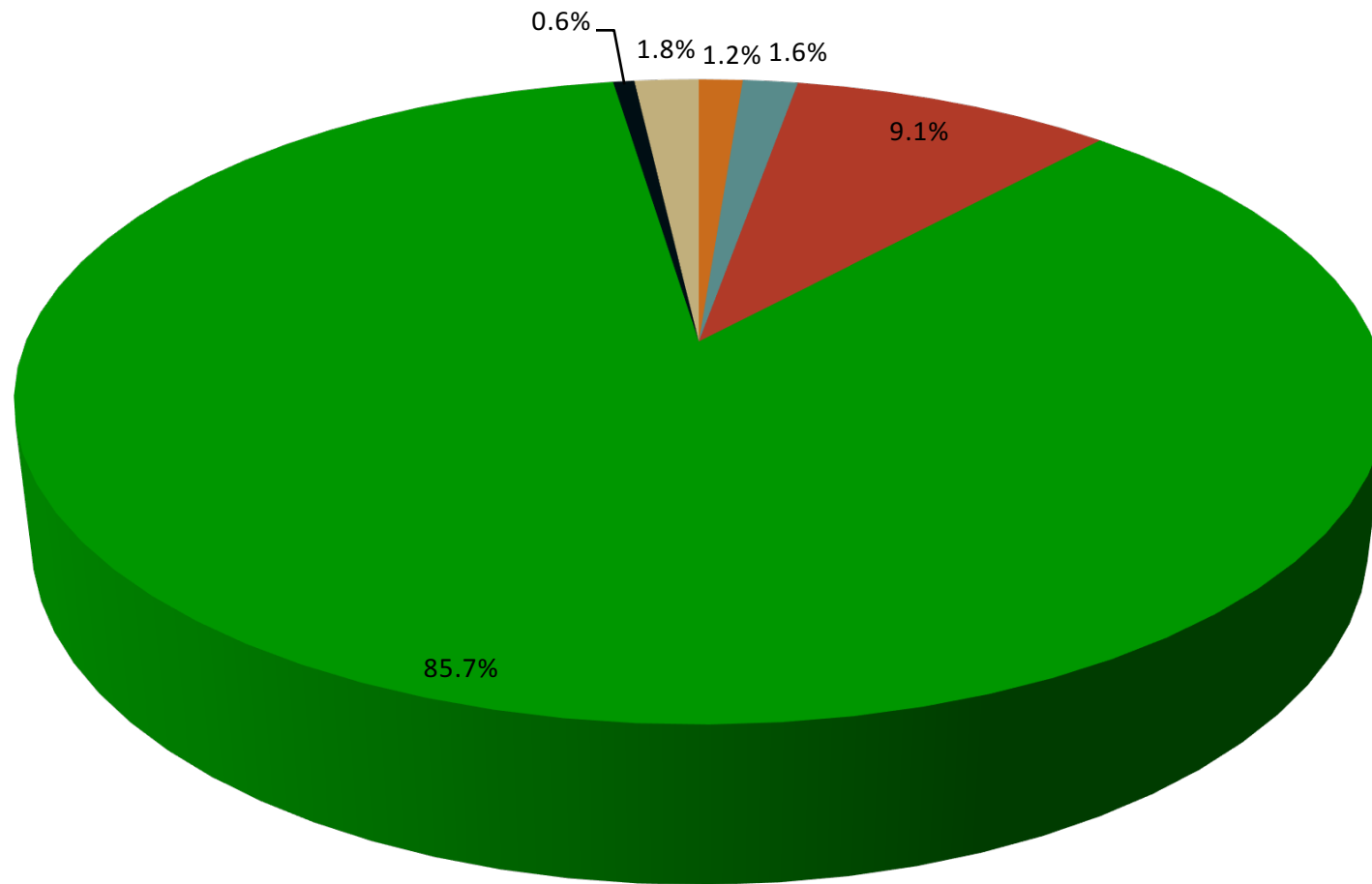
## Price Marketing

# Cigarette Company Marketing Expenditures, by Category, 1975-2012



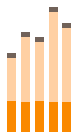
Source: author's calculations from data reported in FTC (2011)

# Cigarette Company Marketing Expenditures, % of Total by Type, 2012



■ Advertising ■ Public Entertainment ■ Placement ■ Price Discounts ■ Merchandise ■ Other

Source: author's calculations from data reported in FTC (2015)



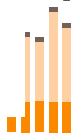
# Tobacco Industry Efforts to Offset Tax Increase

On February 4th, 2009, the Federal Government enacted legislation to fund the expansion of the State Children's Health Insurance Program (SCHIP) that increases excise taxes on cigarettes by 158%.

As a result, you will see the price of all cigarettes, including ours, increase in retail stores.

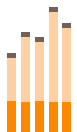
We know times are tough, so we'd like to help. We invite you to register at [Marlboro.com](http://Marlboro.com) to become eligible for cigarette coupons and special offers using this code: **MAR1558**

Thank You, Philip Morris USA

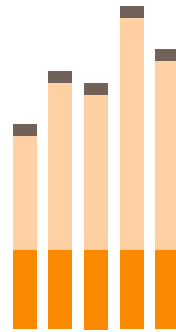


# Restricting Price Marketing?

- Family Smoking Prevention and Tobacco Control Act, 2009
  - Eliminates federal pre-emption of stronger state, local restrictions on tobacco company marketing
    - Allows limits on time, place or manner of tobacco company marketing
    - Comprehensive state and/or local marketing bans possible?
  - A few jurisdictions moving forward with bans on multi-pack deals and coupon redemption
  - A few implementing high minimum pricing policies designed to minimize price promotions







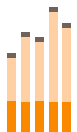
**Economic Impact of  
Tobacco Tax Increase:  
Common Oppositional  
Arguments**

# Impact on Revenues

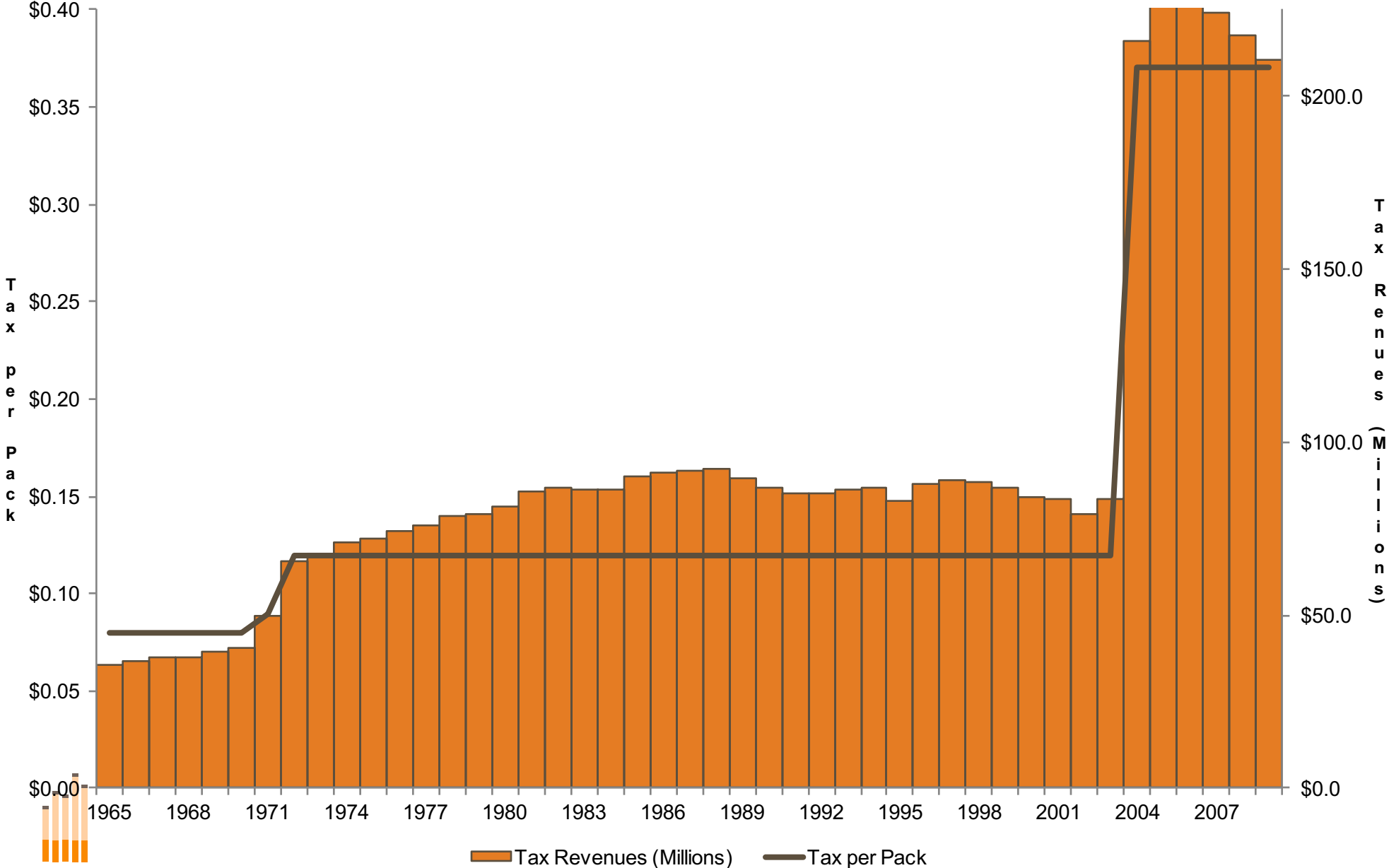
By *J Scott Moody*, 4/2/08, from an [AP story](#):

AUGUSTA — “A coalition of health groups today urged lawmakers to increase the cigarette tax by a \$1 per pack, saying the increase will encourage more people to quit smoking and generate more money for health programs.

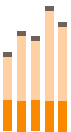
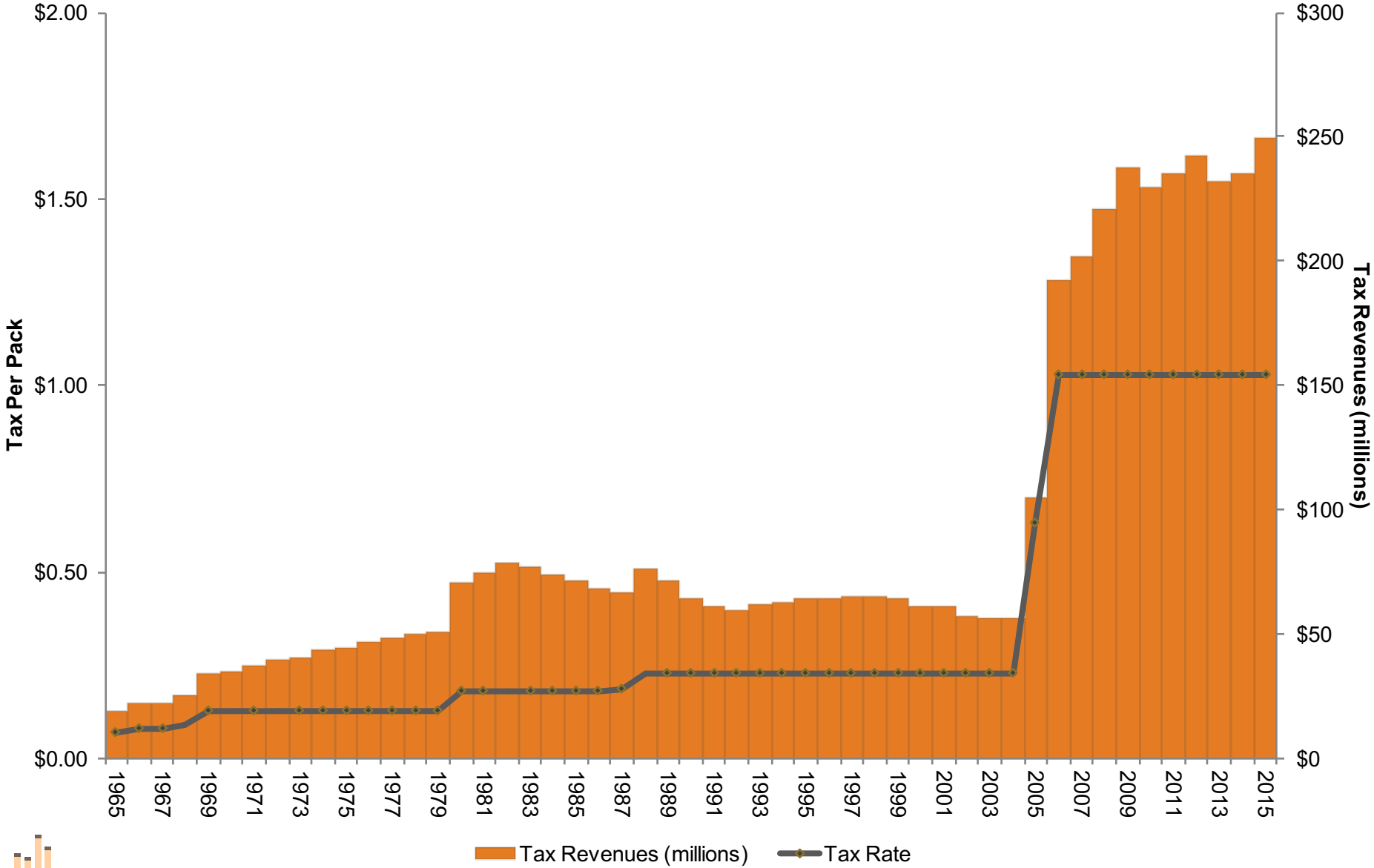
**Translation: Fewer people smoking equals more cigarette tax revenue? Someone needs a math lesson.”**



# Cigarette Tax and Tax Revenues Georgia, 1965-2009



# Cigarette Tax and Tax Revenues Oklahoma, 1965-2015



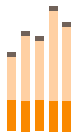
# Positive Effect of Tax Increases on Revenues Results from:

## Low share of tax in price:

- In US, state taxes account for about 25% of price on average
- total taxes account for less than half of price, on average
- *Implies large tax increase has much smaller impact on price*

## Less than proportionate decline in consumption:

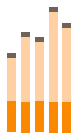
- 10% price increase reduces consumption by 4%



# Sustainability of Cigarette Tax Revenues

Some suggest increases in revenues won't be sustained over time

- Looked at significant state tax increases over past 20 years where increase was maintained for at least 5 years
  - Separately for states with major tobacco control programs



# Sustainability of Cigarette Tax Revenues

## • *Conclusions:*

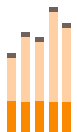
- All significant state tax increases resulted in significant increases in state tax

- revenues

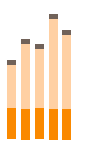
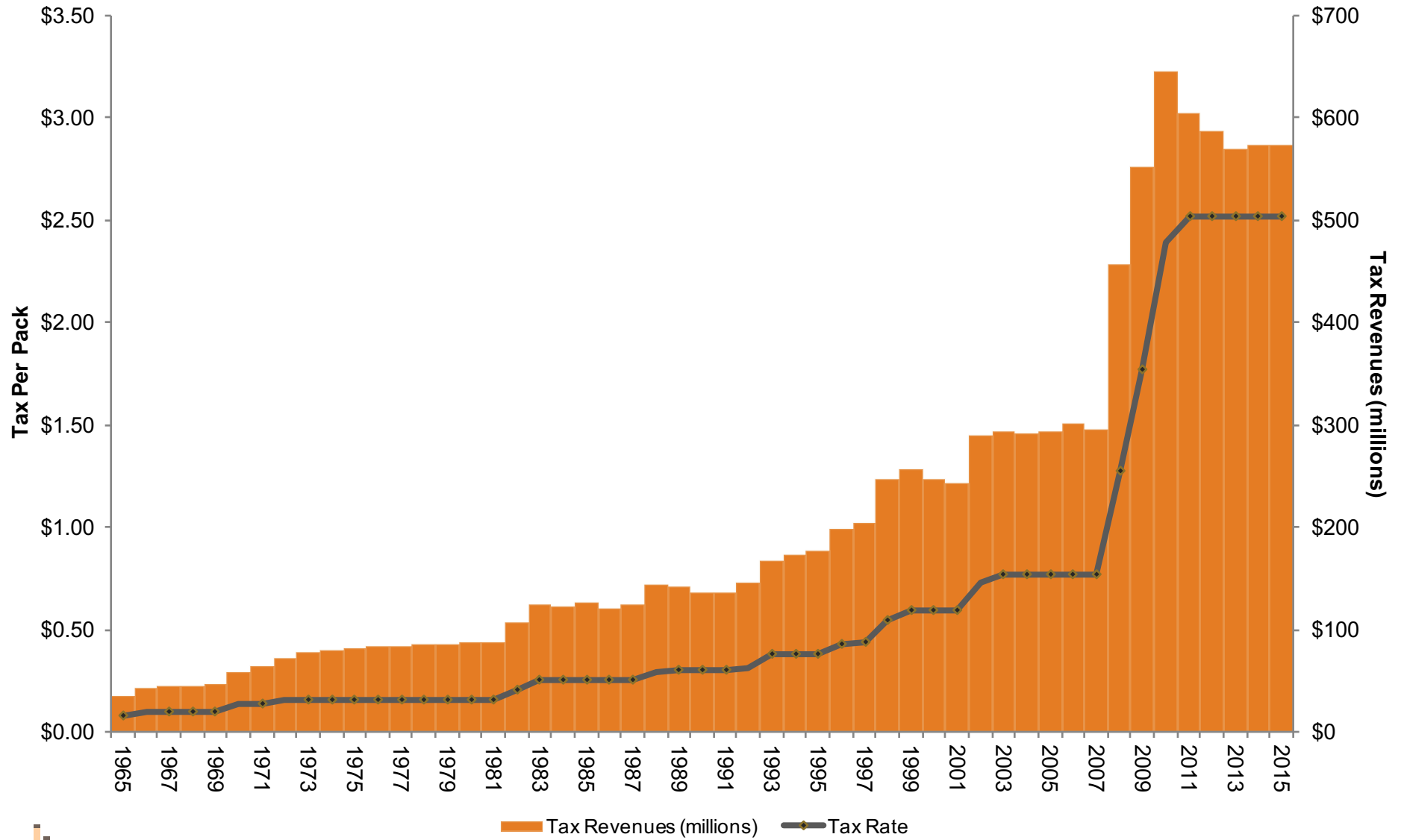
- Nominal increases in revenues sustained over time in states without tobacco control programs

- Nominal revenues decline in states with tobacco control programs, but are significantly higher than before tax increase

- Tobacco tax revenues more predictable than other revenues

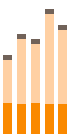
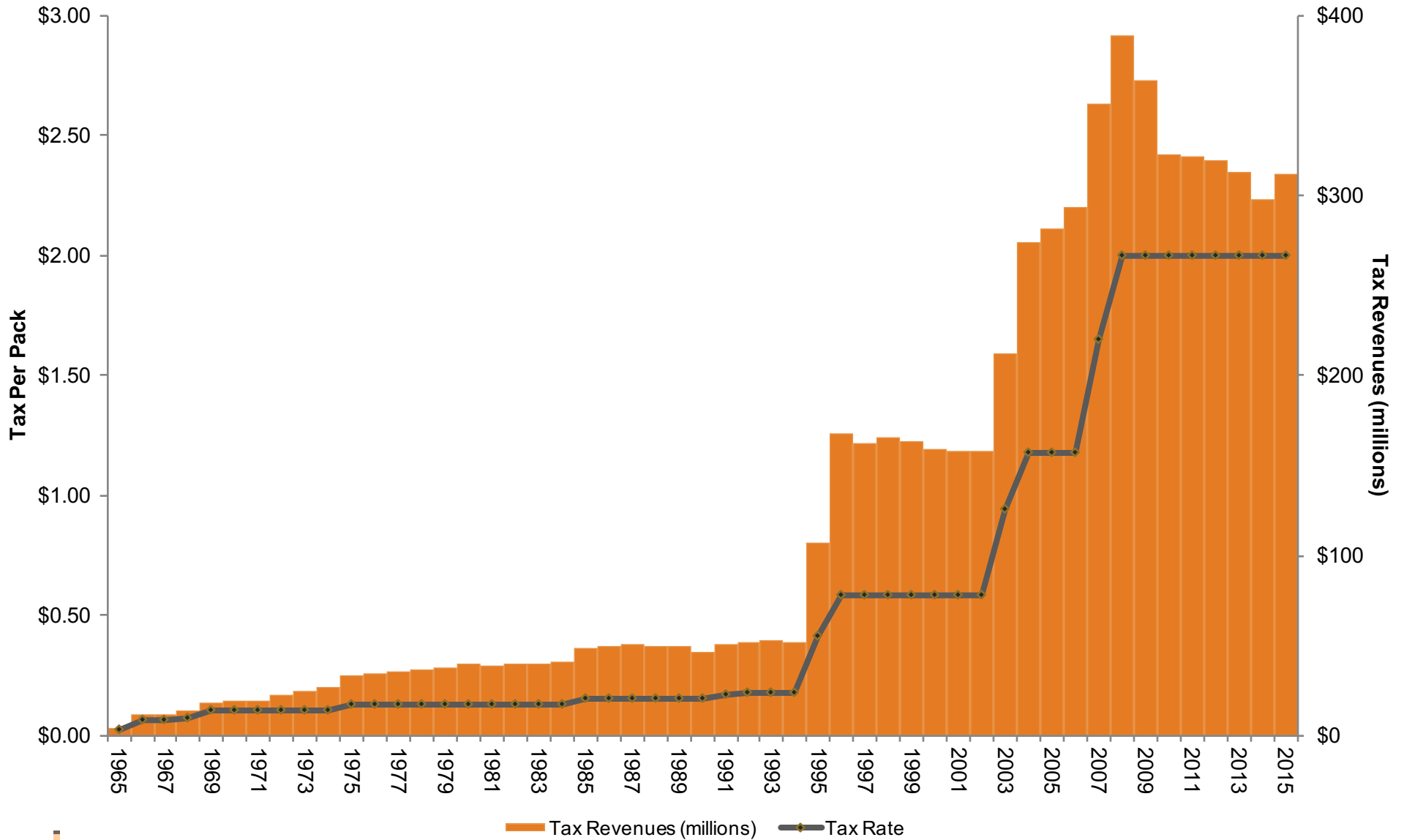


# Cigarette Tax and Tax Revenues, Wisconsin, 1965-2015





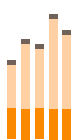
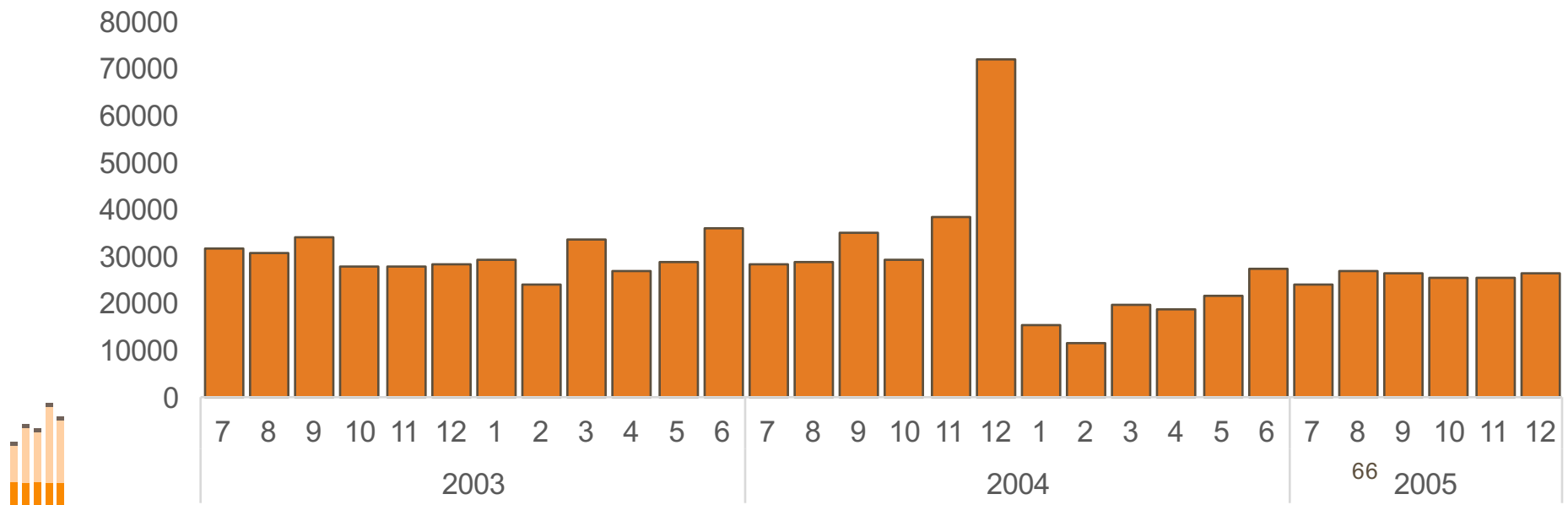
# Cigarette Tax and Tax Revenues, Arizona, 1965-2015



# Other Issues when Increasing Tobacco Taxes

- “Inventory” or “Floor” tax
  - Collect increase in taxed on products in inventory taxed under old tax rate to avoid stockpiling in anticipation of tax increase

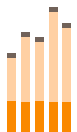
Monthly Cigarette Shipments, Oklahoma, 7/03-12/05



# Impact on Jobs

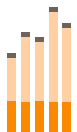
JULY, 14, 2010 – The Associated Press

- RICHMOND, Va. — The tobacco industry is running a full-court press ahead of a federal scientific panel's meeting to discuss how to regulate menthol cigarettes, a still-growing part of the shrinking cigarette market.
- The union representing nearly 4,000 tobacco workers sent a letter to the Food and Drug Administration committee examining the public health effects of the minty smokes, warning that a ban could lead to "severe jobs loss" and black market cigarettes.



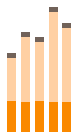
# Impact on Jobs

- Tobacco excise tax will lead to decreased consumption of tobacco products
  - Small loss of jobs in tobacco sector
- Money not spent on tobacco products will be spent on other goods and services
  - Gains in jobs in other sectors
- Increase in tax revenues will be spent by government
  - Additional job gains in other sectors
- Net increase in jobs in states like Oklahoma



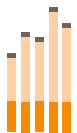
# Impact on Businesses

- More recent argument that higher taxes will harm convenience stores
- New analysis
  - Number of convenience stores (convenience only, gas stations, both), by state, 1997-2009
  - State cigarette tax rates and smoke-free air policies
  - Economic conditions (income, unemployment, gas prices)
  - Multivariate, fixed effects econometric models



# Impact on Businesses

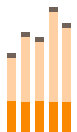
- Results:
  - Positive association between state cigarette tax and number of convenience stores
    - “overshifting” of cigarette tax in retail price
    - Substitution of spending on cigarettes to spending on other products
    - \$1.00 tax increase associated with increase of 11 stores per million population
  - No impact of smoke-free policies
  - Robust to alternative specifications and empirical methods



# Tax Avoidance & Evasion

April 1, 2008 – New York Sun

- A pack of premium cigarettes in New York City now costs \$7 or \$8; prices would rise to above \$9. Opponents of the tax increase argue that **higher prices would drive smokers to seek ways to evade the law and purchase cheaper cigarettes from smugglers or in neighboring states, blunting potential revenue gains for the state.** "It's a black market **gold mine**," a senior fellow at the Manhattan Institute, E.J. McMahon, said of the proposed tax.



# Figure 6 - State Cigarette Excise Tax Rates, United States, April 2015

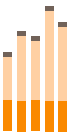
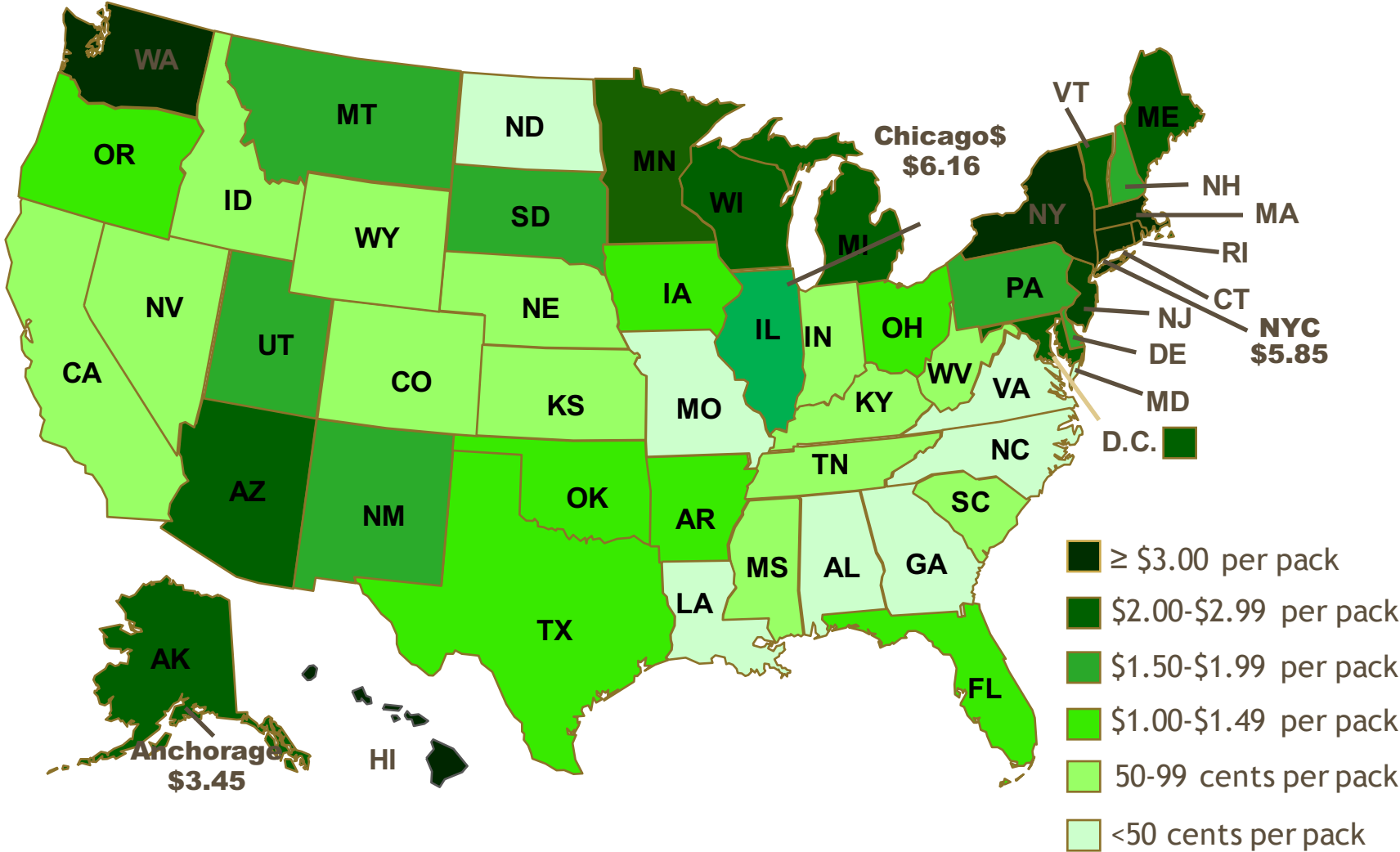
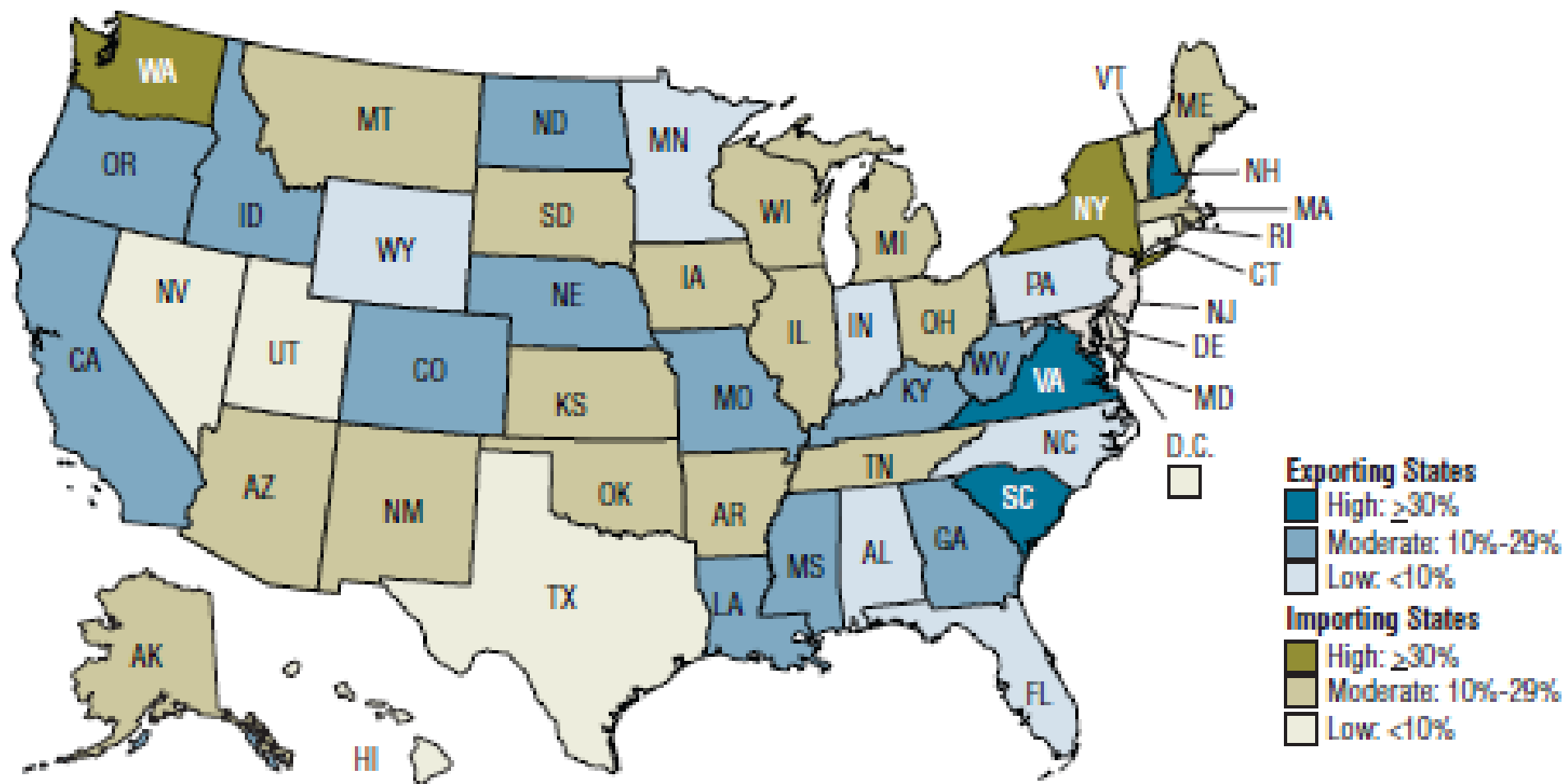




Figure 7. State Cigarette Importing/Exporting Shares, 2010-2011



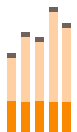
Note: "Importing states" are those where some consumers avoid or evade taxes by obtaining their tobacco products from states or federal tribal lands where taxes are lower. "Exporting states" are those where some tobacco products intended for consumption within that state are purchased by consumers from outside of the state to avoid or evade their "home" taxes.

Source: Created from data in National Research Council and Institute of Medicine, 2015.

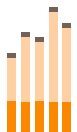
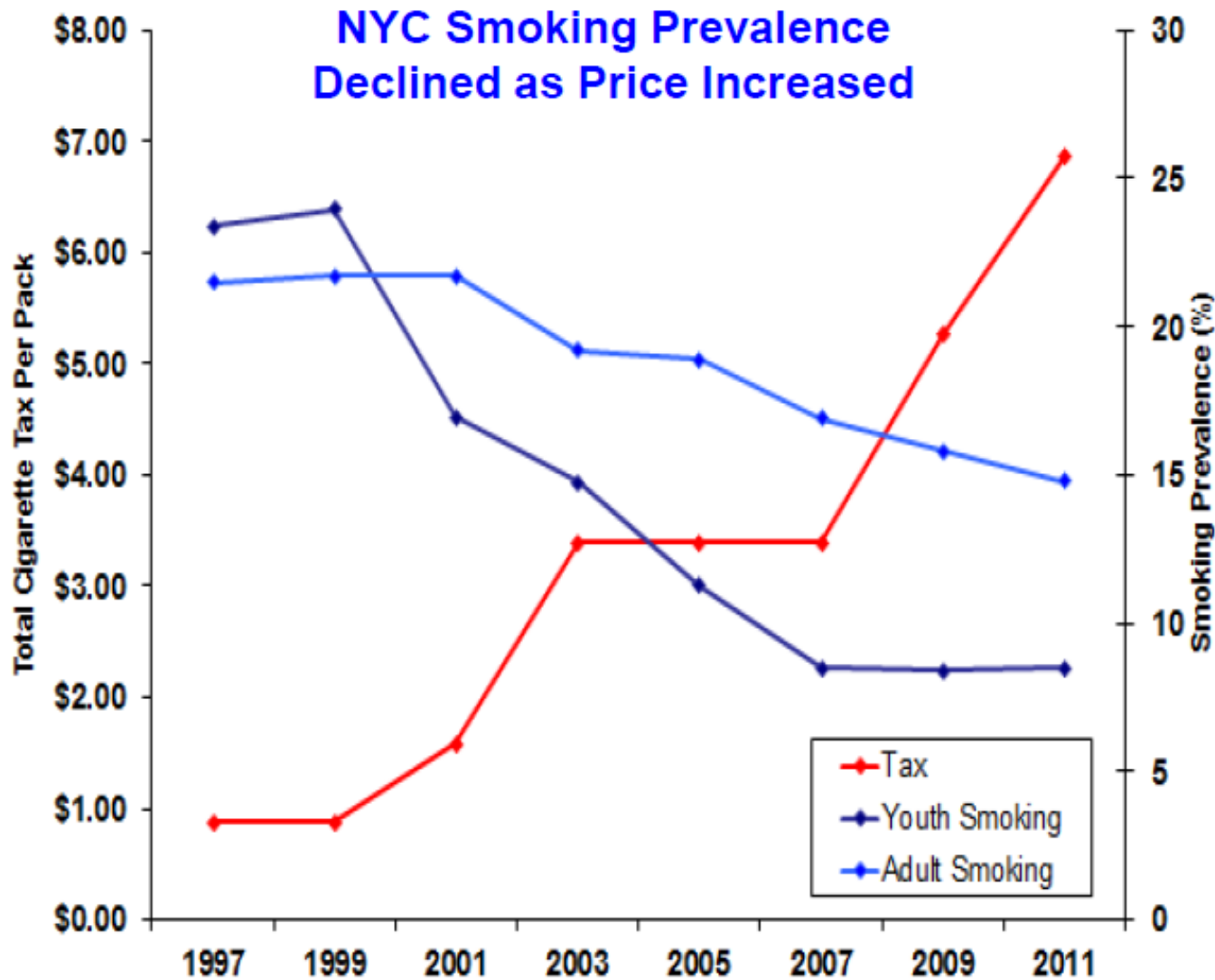


# Tobacco Taxes & Illicit Trade

- Fact: tobacco use falls and tax revenues increase following tax increases even in the presence of illicit tobacco trade



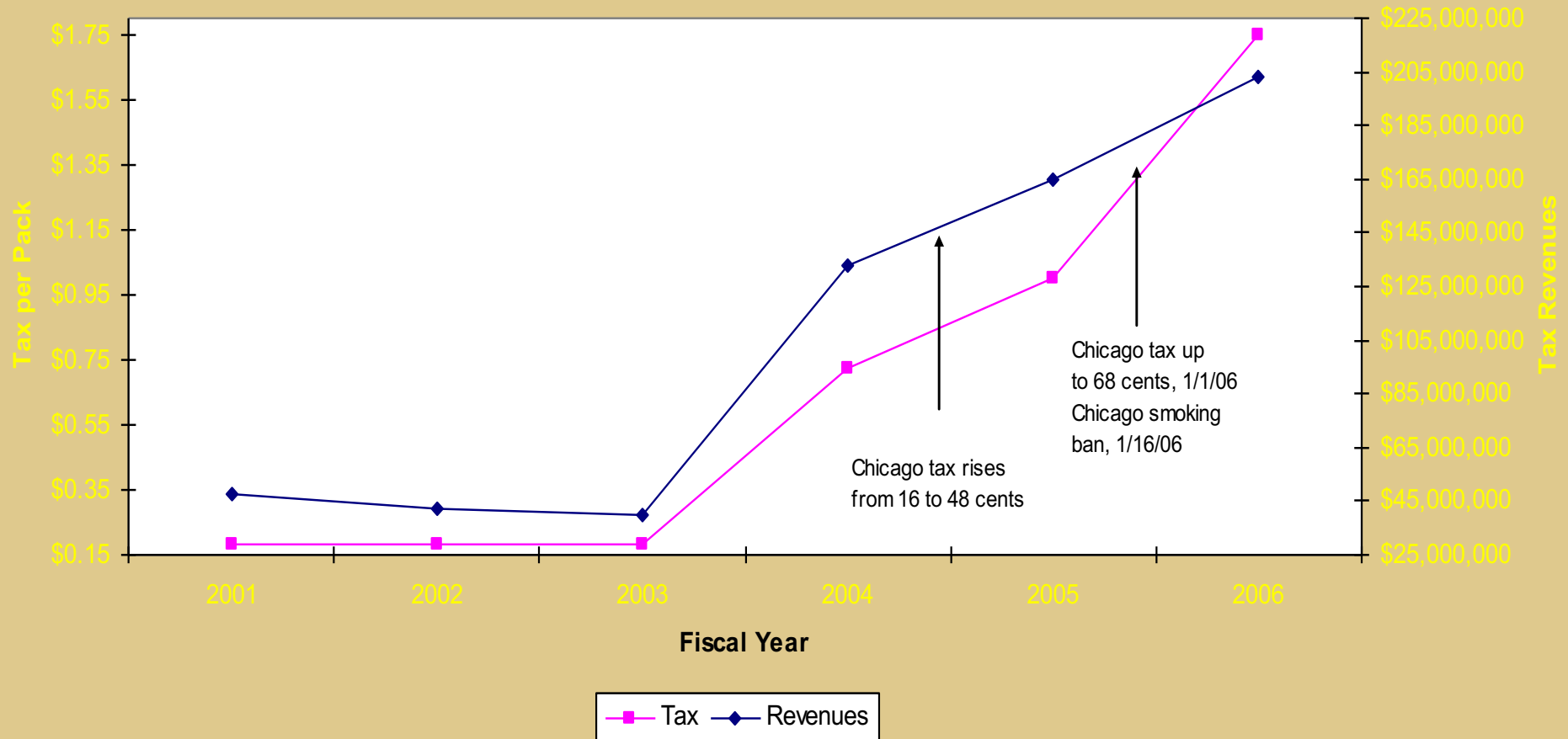
# Tax Avoidance & Evasion Do NOT Eliminate Health Impact of Higher Taxes



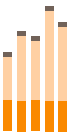
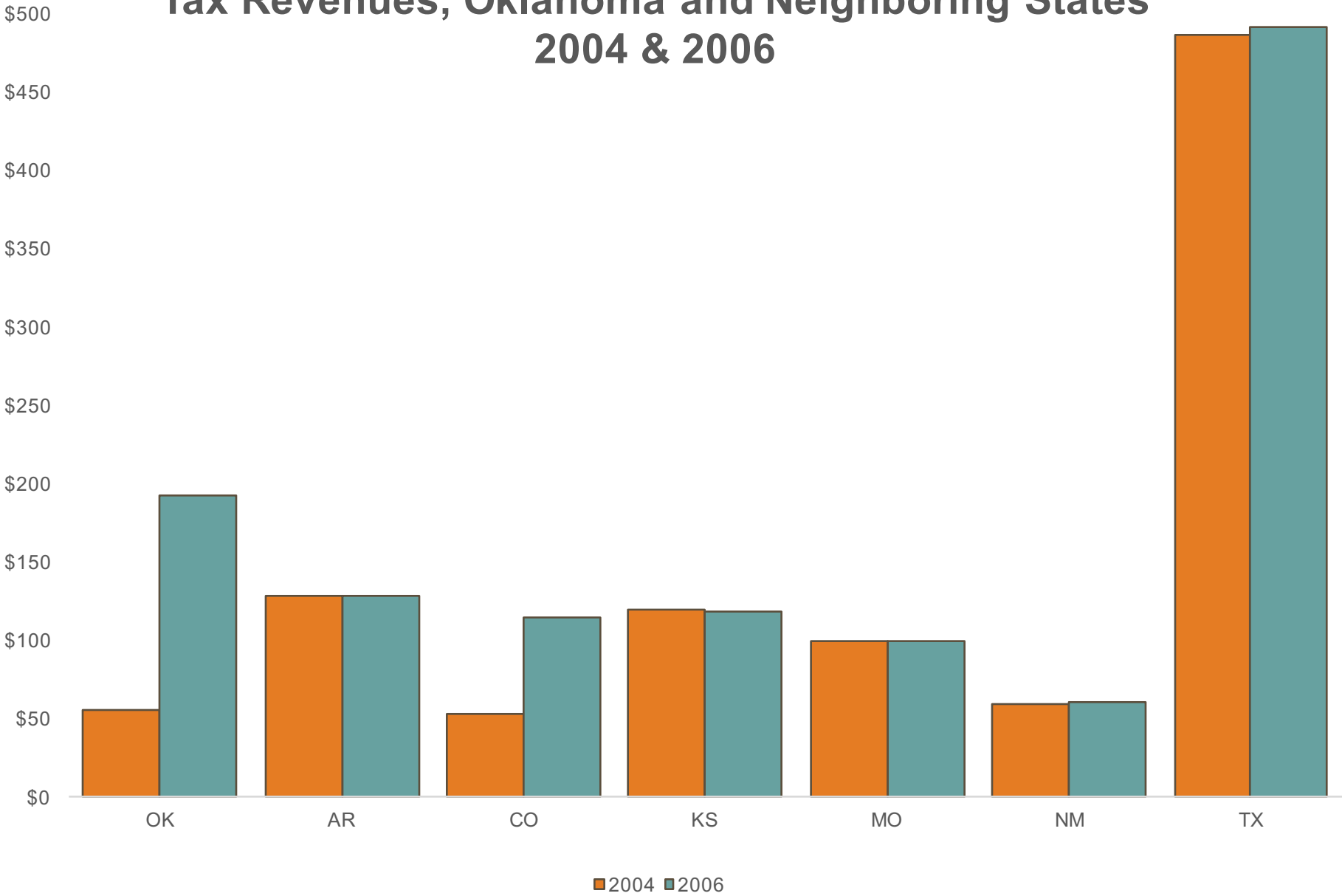
# Tax Avoidance & Evasion

## Do NOT Eliminate Revenue Impact of Higher Taxes

### Cook County Cigarette Tax and Tax Revenues - FY01-FY06

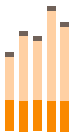


# Tax Revenues, Oklahoma and Neighboring States 2004 & 2006

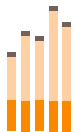
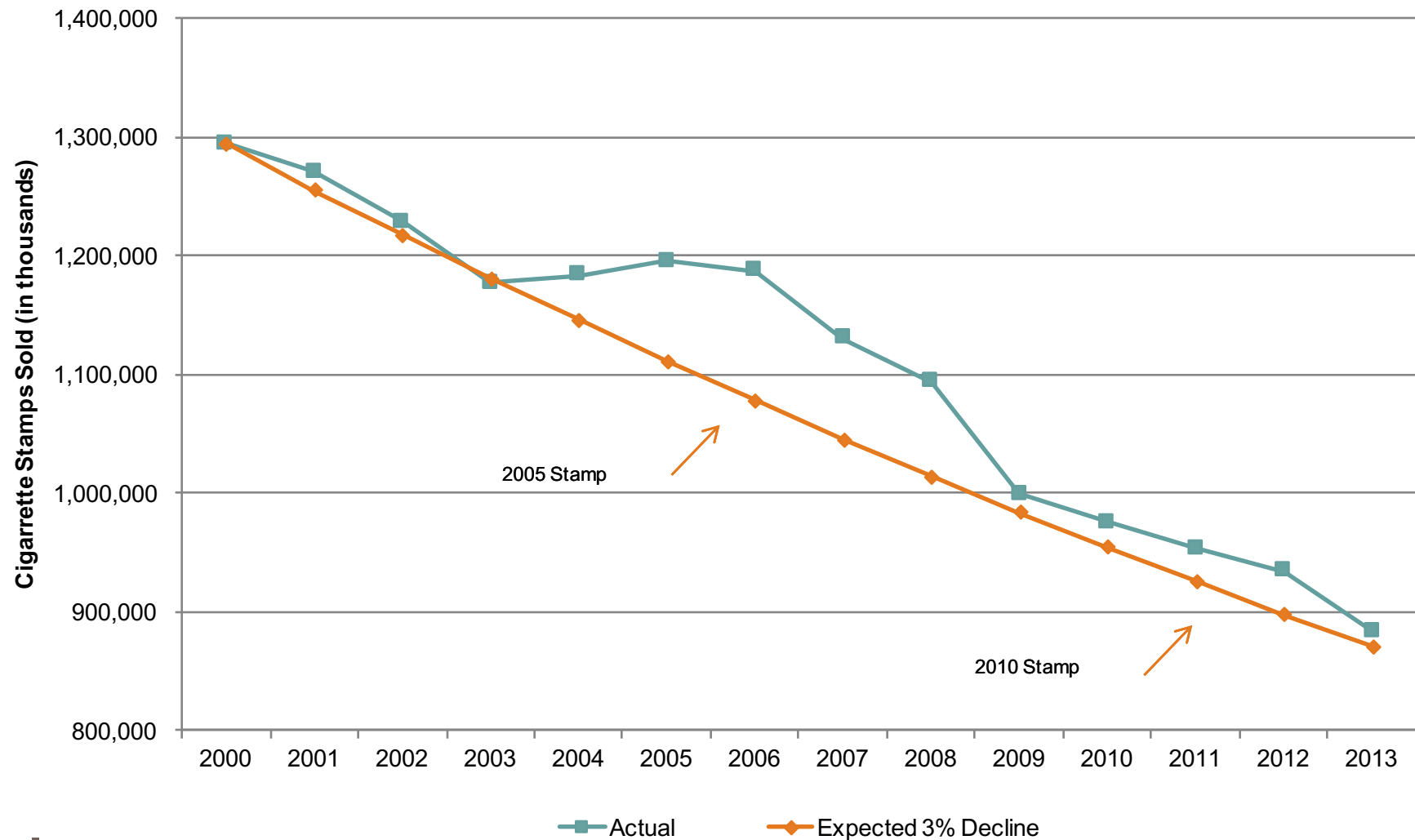


# Combating Tobacco Tax Evasion

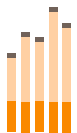
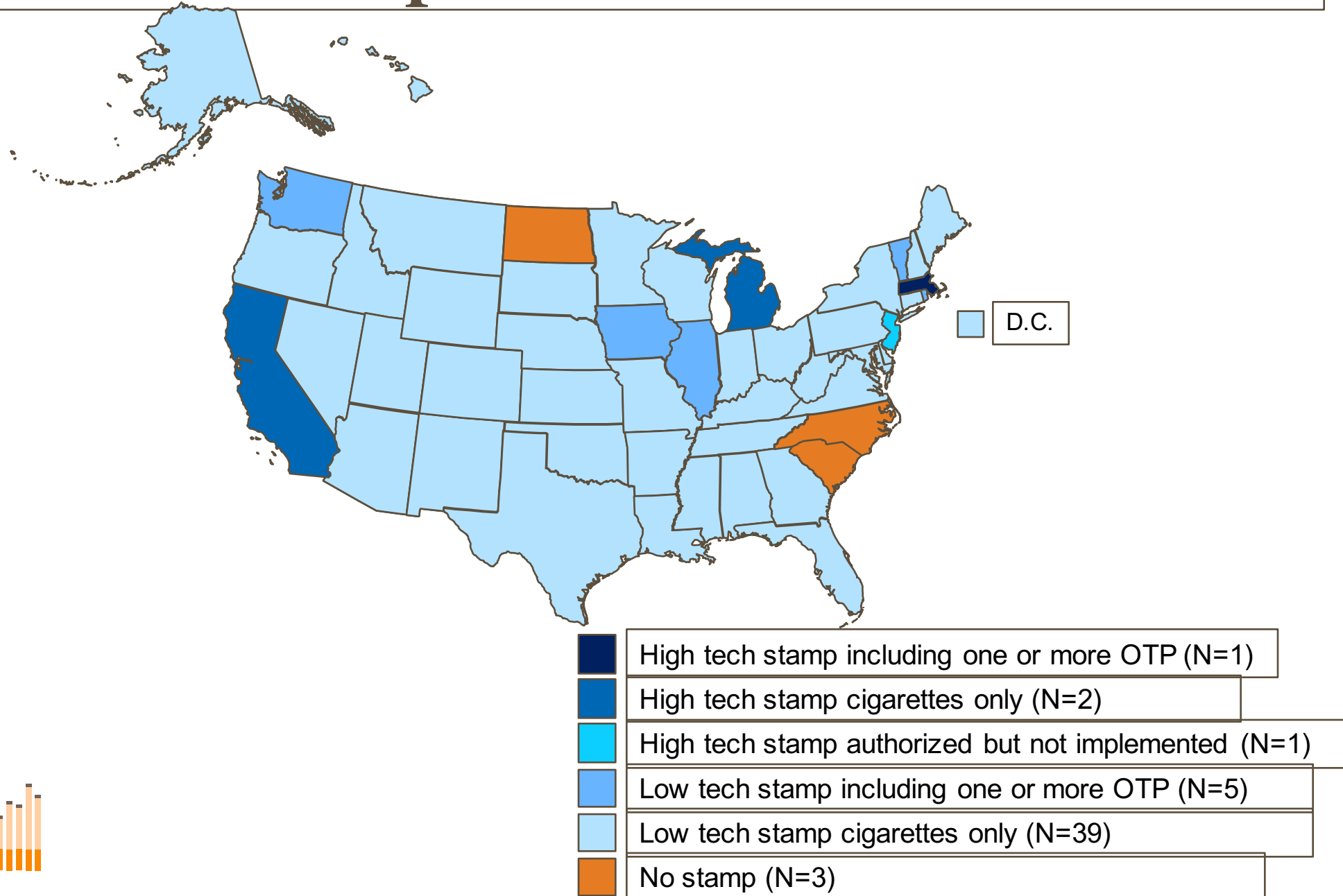
- Adopt high tech tax stamp and enforce
  - Reduces tax evasion
  - More than pays for itself with increases in revenues



# Cigarette Tax Stamps Sold – projected and actual, California, 2000 - 2013

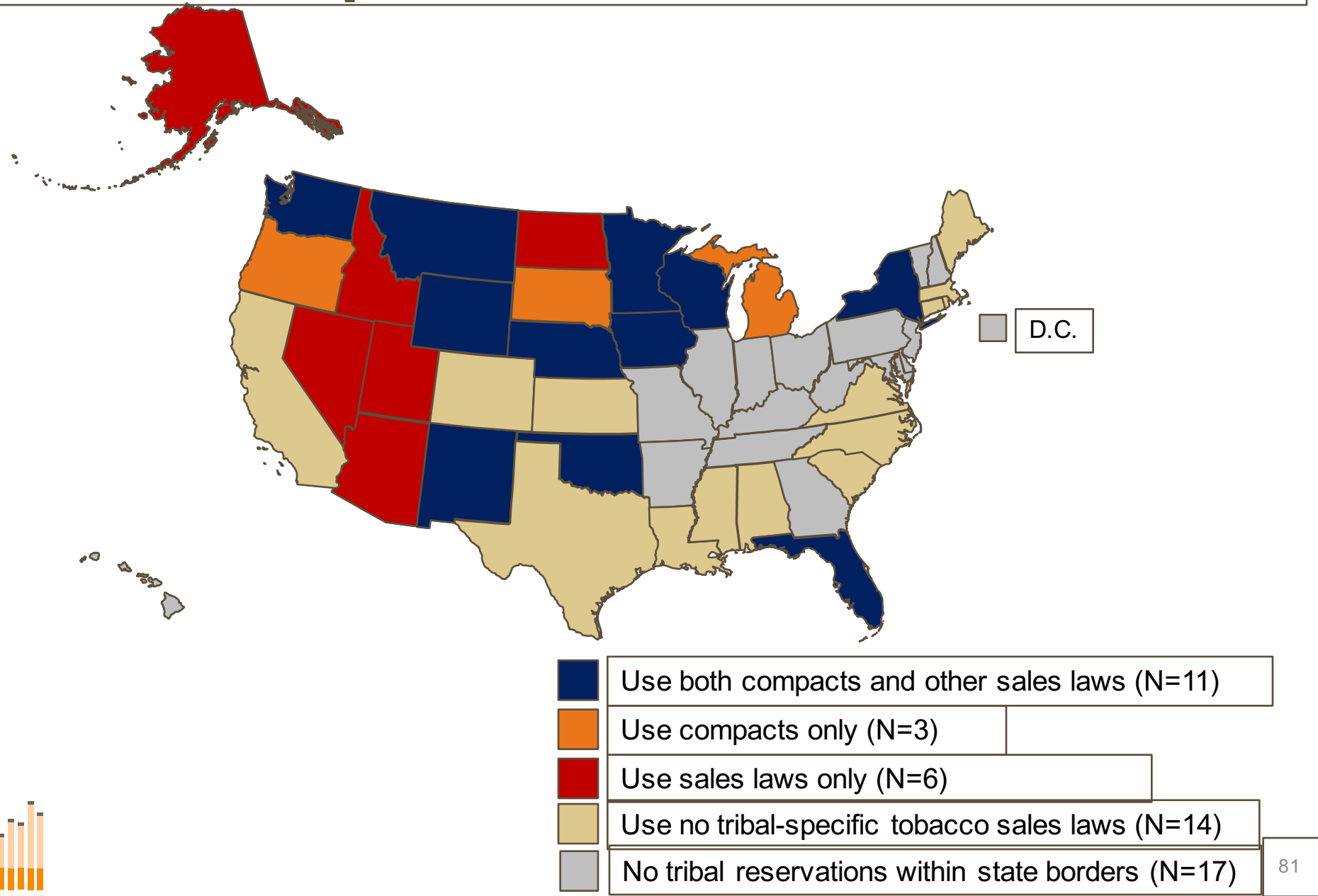


# Figure 9: Types of State Cigarette and OTP Tobacco Stamps



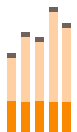


# Figure 11: Types of Tribal Tobacco Sale Laws - 2014



# Tribal Policies

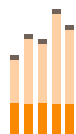
- Case studies of state experiences suggest:
  - Compacts with tribes are critical to ensuring success of efforts to reduce reservation-based tax avoidance and evasion
  - Most effective systems appear to be those that apply state tax to all tribal sales
  - Rebate/quota schemes somewhat effective
    - Often based on formulas that are likely to overstate tribal consumption
    - Can be combined with efforts to limit purchase quantities



# Impact on the Poor

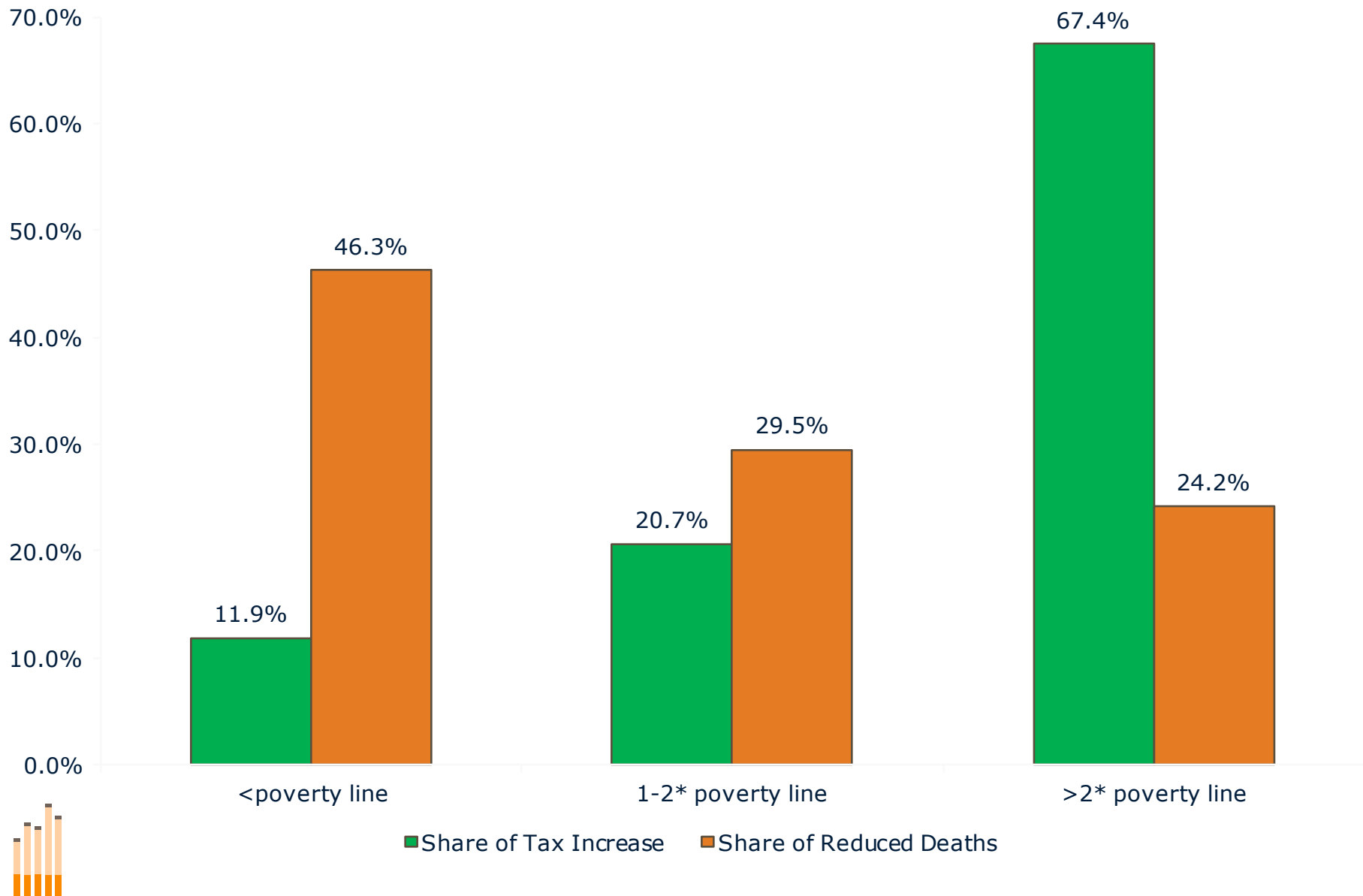
July 23, 2010 – San Francisco Examiner

- “Democrats are relying more heavily in their midterm 2010 election message that Republicans care nothing about the poor. Conveniently absent from this analysis is Republican opposition to President Barack Obama’s cigarette tax increase..... **While higher cigarette taxes do discourage smoking, they are highly regressive.** Analyzing a slightly less severe proposal in 2007, the Tax Foundation noted that **‘no other tax hurts the poor more than the cigarette tax.’**” Peyton R. Miller, special to the Examiner.



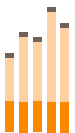
# Who Pays & Who Benefits

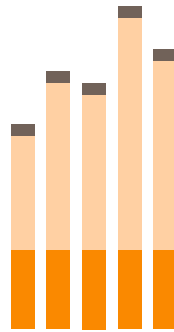
## Impact of Federal Tax Increase, U.S., 2009



# Impact on the Poor

- Need to consider overall fiscal system
  - Key issue with tobacco taxes is what's done with the revenues generated by the tax
  - Greater public support for tobacco tax increases when revenues are used for tobacco control and/or other health programs
  - Net financial impact on low income households can be positive when taxes are used to support programs targeting the poor
  - Concerns about regressivity offset by use of revenues for programs directed to poor

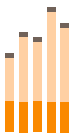




# Summary and Potential Impact of Tax Increase

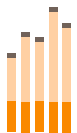
# Summary

- Increases in tobacco prices lead to significant reductions in tobacco use
- Higher tobacco taxes are most direct option for increasing prices
- Restricting price-reducing marketing would add to impact of tax increases
- Claims of negative economic impact of tax and price increases false or greatly exaggerated



# Potential Impact

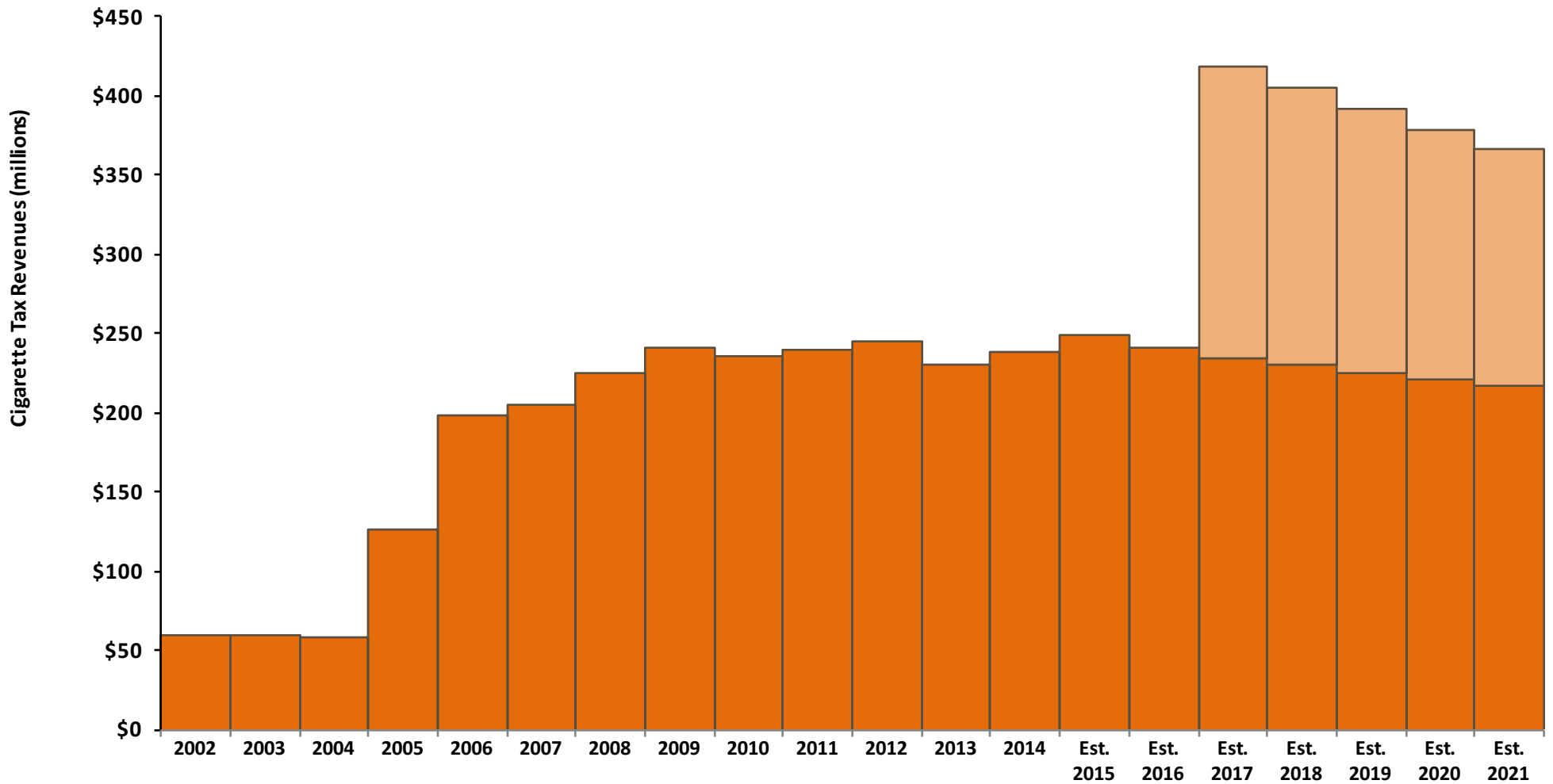
- \$1.50 Increase in cigarette excise tax in Oklahoma would:
  - Raise \$183.6 million in *new* tax revenue
  - Prevent 31,800 kids from taking up smoking
  - Encourage 29,600 adult smokers to quit
  - Prevent 18,000 premature deaths from smoking
  - Reduce smoking-complicated pregnancies and births by 6,100 in first 5 years
  - Save \$3.4 million in Medicaid spending in first 5 years



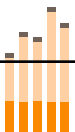


# Estimated Future Cigarette Tax Revenues, Oklahoma

Without Increase      With \$1.50 Increase



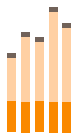
Note: Data are for fiscal years ending June 30.



Source: CTFK, ACS-CAN & Tobacconomics, 2016

# Potential Impact

- \$2.00 Increase in cigarette excise tax in Oklahoma would:
  - Raise \$203.1 million in *new* tax revenue
  - Prevent 42,400 kids from taking up smoking
  - Encourage 39,500 adult smokers to quit
  - Prevent 24,000 premature deaths from smoking
  - Reduce smoking-complicated pregnancies and births by 8,100 in first 5 years
  - Save \$4.6 million in Medicaid spending in first 5 years



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**For more information:**

**Tobacconomics**

**<http://www.tobacconomics.org>**

**@tobacconomics**

**fjc@uic.edu**

