

# **Public Health & Revenue Implications of a Sugar Sweetened Beverage Tax**

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# Overview

- Economic rationales for SSB taxation
- Experiences with tobacco taxation
- Impact of food taxes/prices on consumption and consequences
- Sugar-sweetened beverage taxation
- Oppositional arguments – myths & facts

# Rationale for SSB Tax

## ■ **Efficient revenue generation**

- Considerable revenue potential
- US Estimates suggest that 1¢ per ounce tax on SSBs would generate nearly \$15 billion nationally

## ■ **Promote public health**

- Growing evidence that raising price of unhealthy foods/beverages would reduce consumption, promote healthier eating, and improve weight outcomes

## ■ **Cover the external costs of obesity**

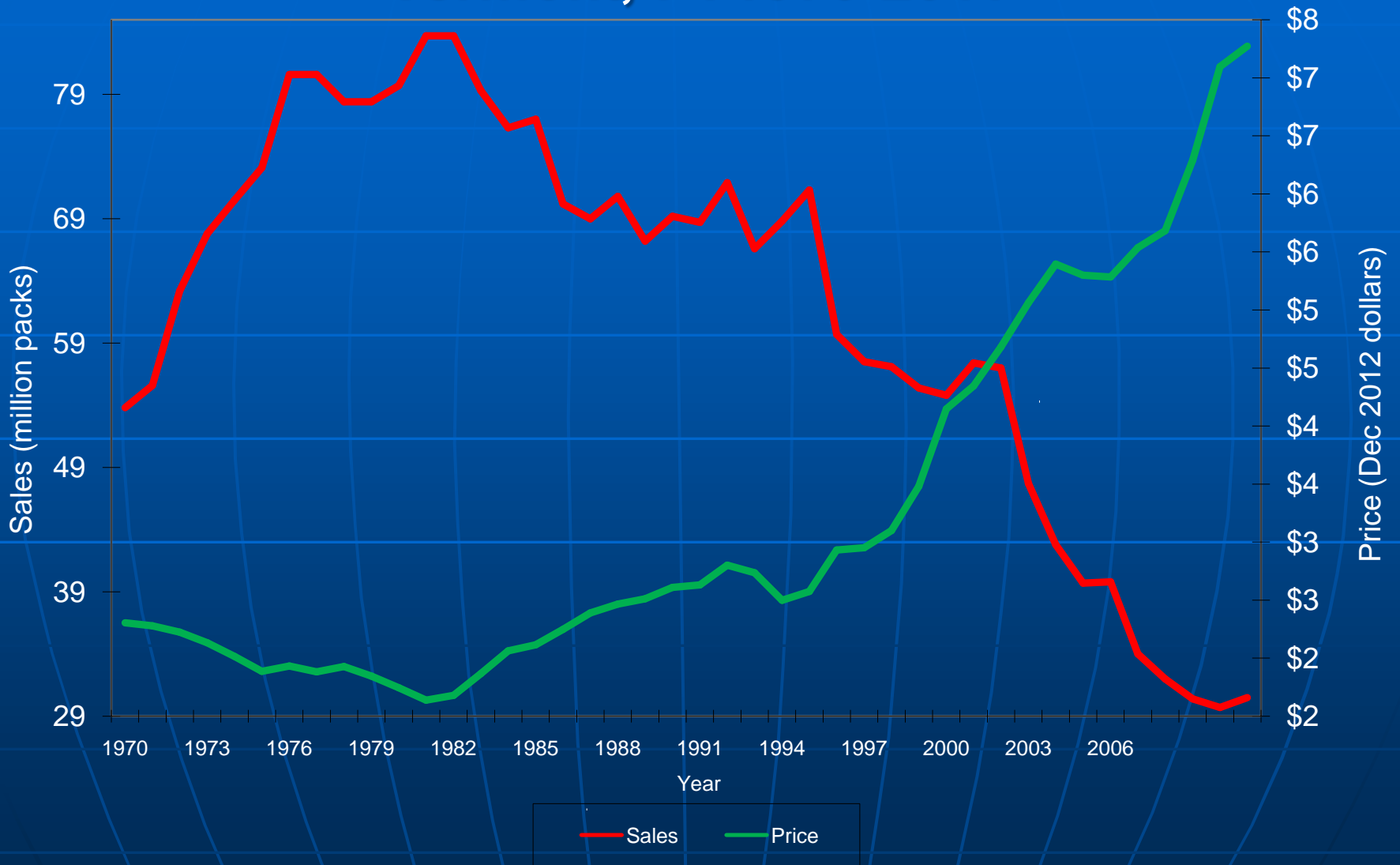
- In US, health care costs from treating obesity estimated at \$147-210 billion, with about half covered by public insurance programs

# Impact of Taxes & Prices 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

# Cigarette Prices and Cigarette Sales Vermont, FY1970-2011



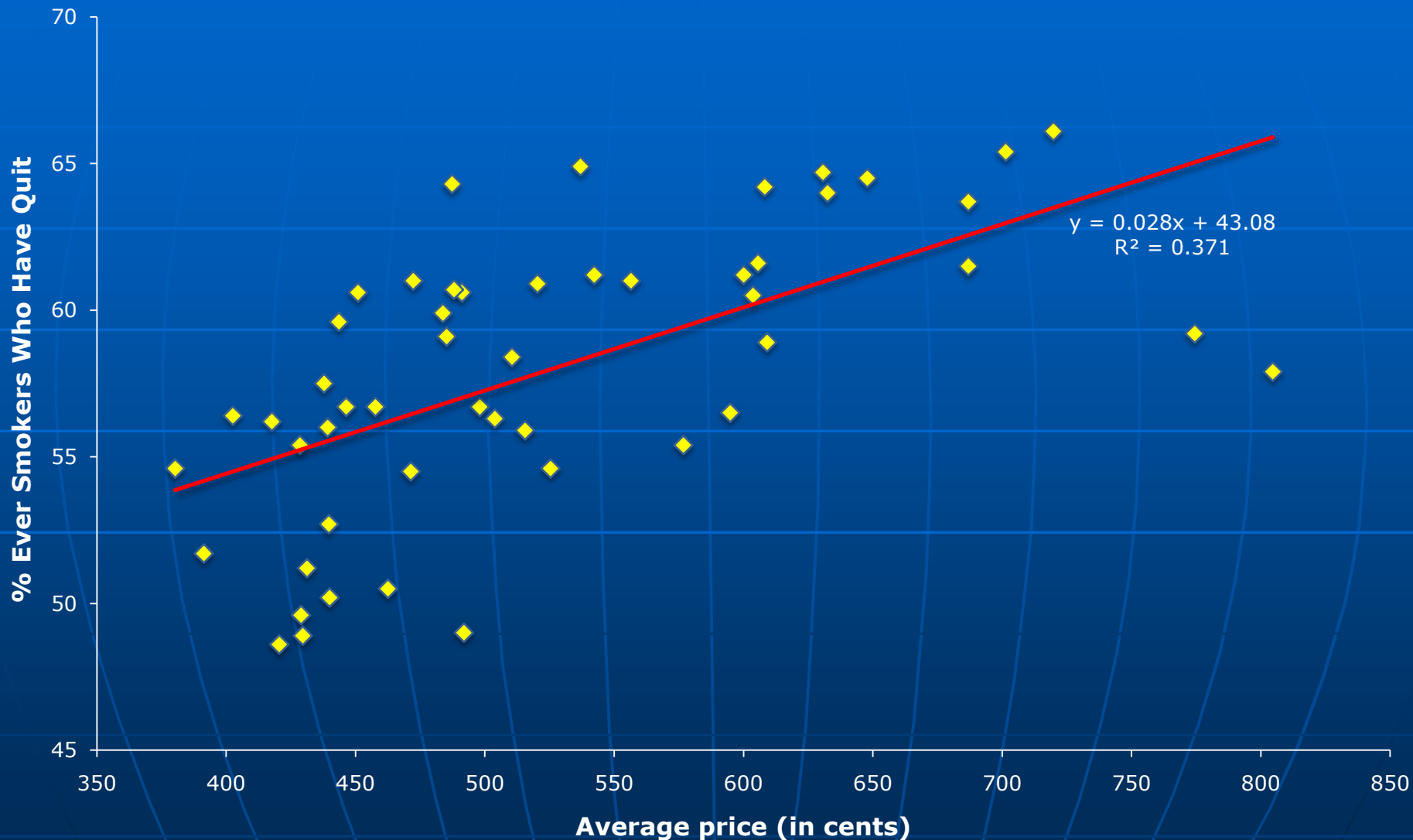
Source: *Tax Burden on Tobacco*, 2012, and author's calculations

# Cigarette Prices and Adult Smoking Prevalence United States, 1970-2010



Source: *Tax Burden on Tobacco*, 2011, National Health Interview Survey, and author's calculations

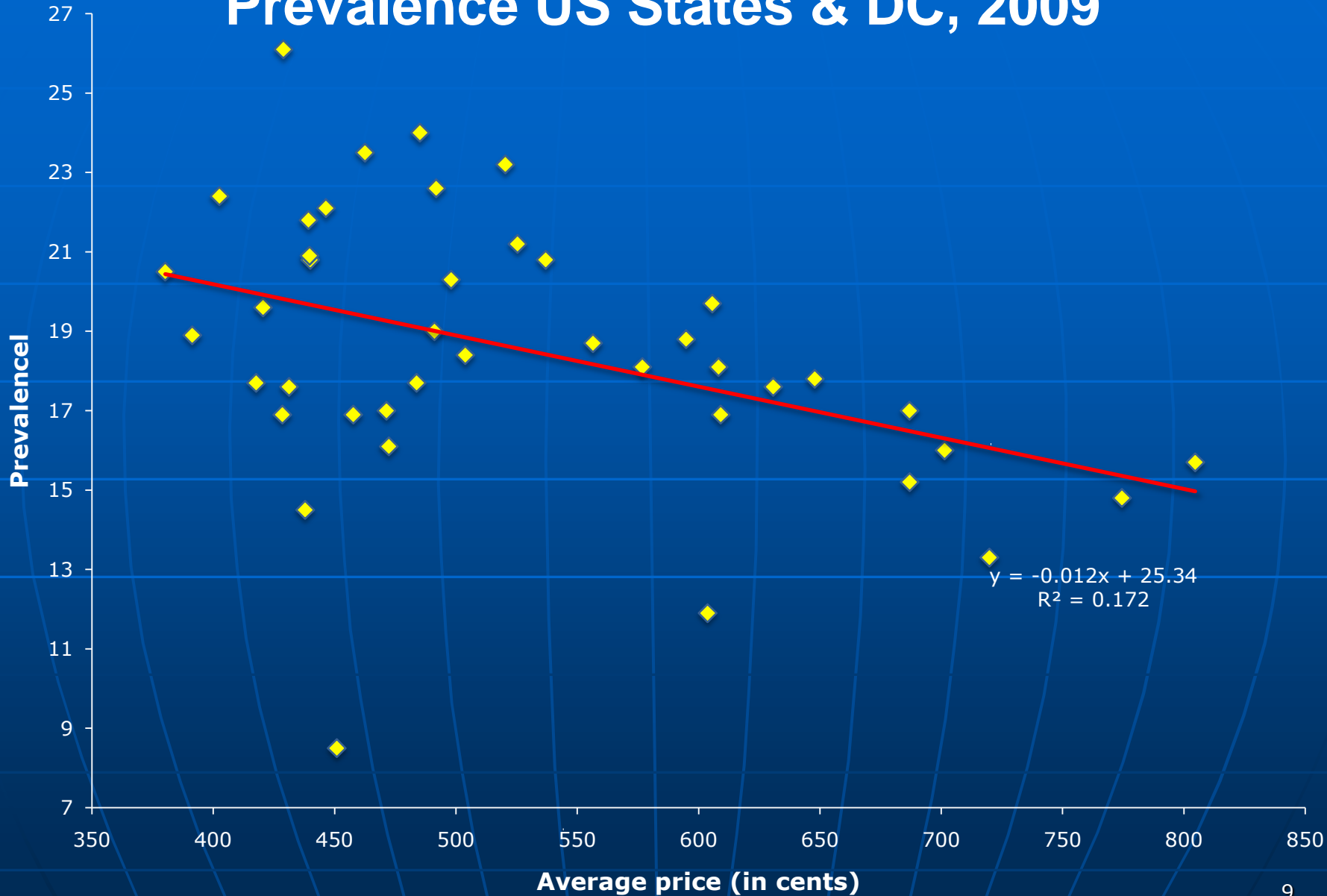
# Cigarette Prices and Cessation US States & DC, 2009



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



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

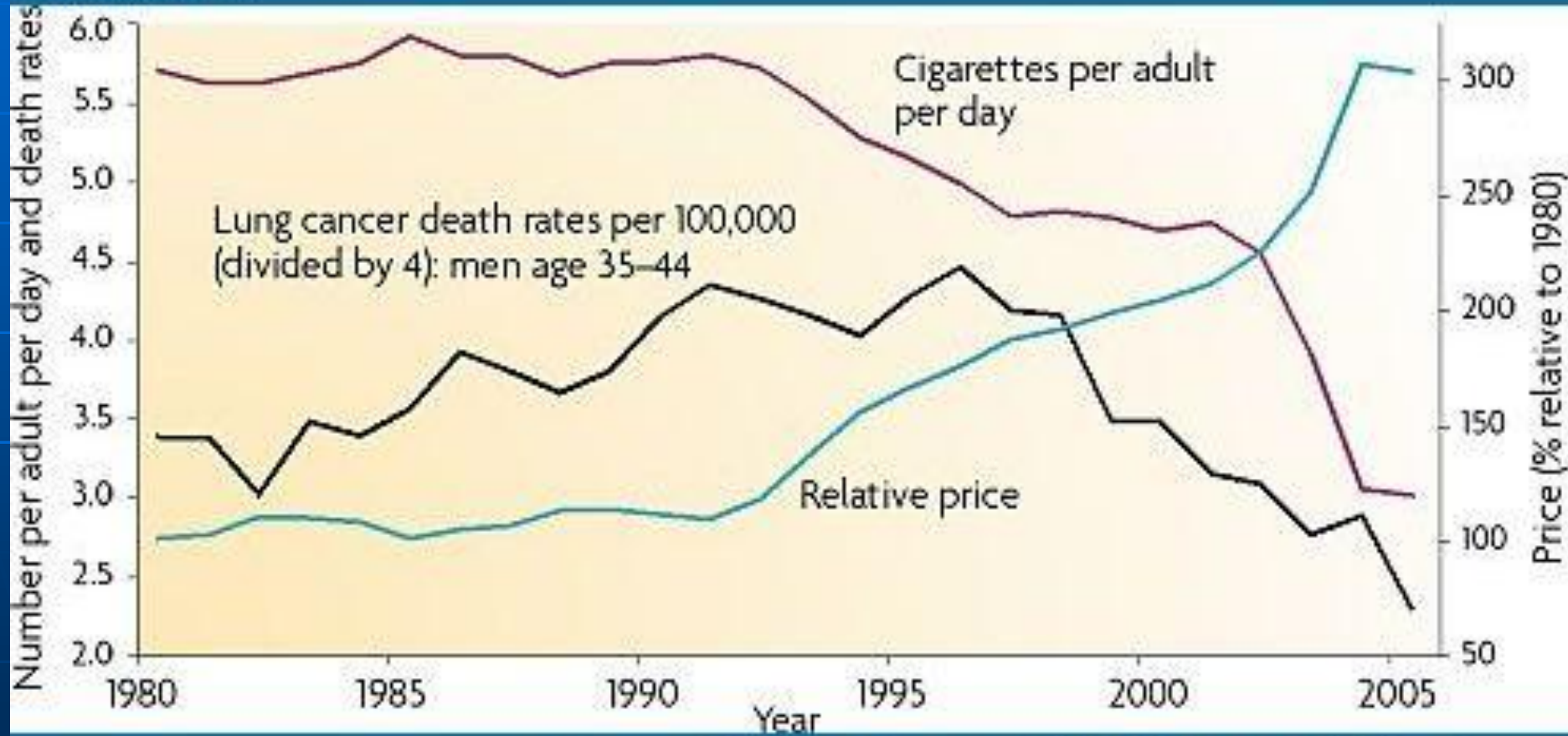


Source: YRBS, *Tax Burden on Tobacco*, 2010, and author's calculations

# Taxes, Prices and Health

## US, 1980-2005

Medscape

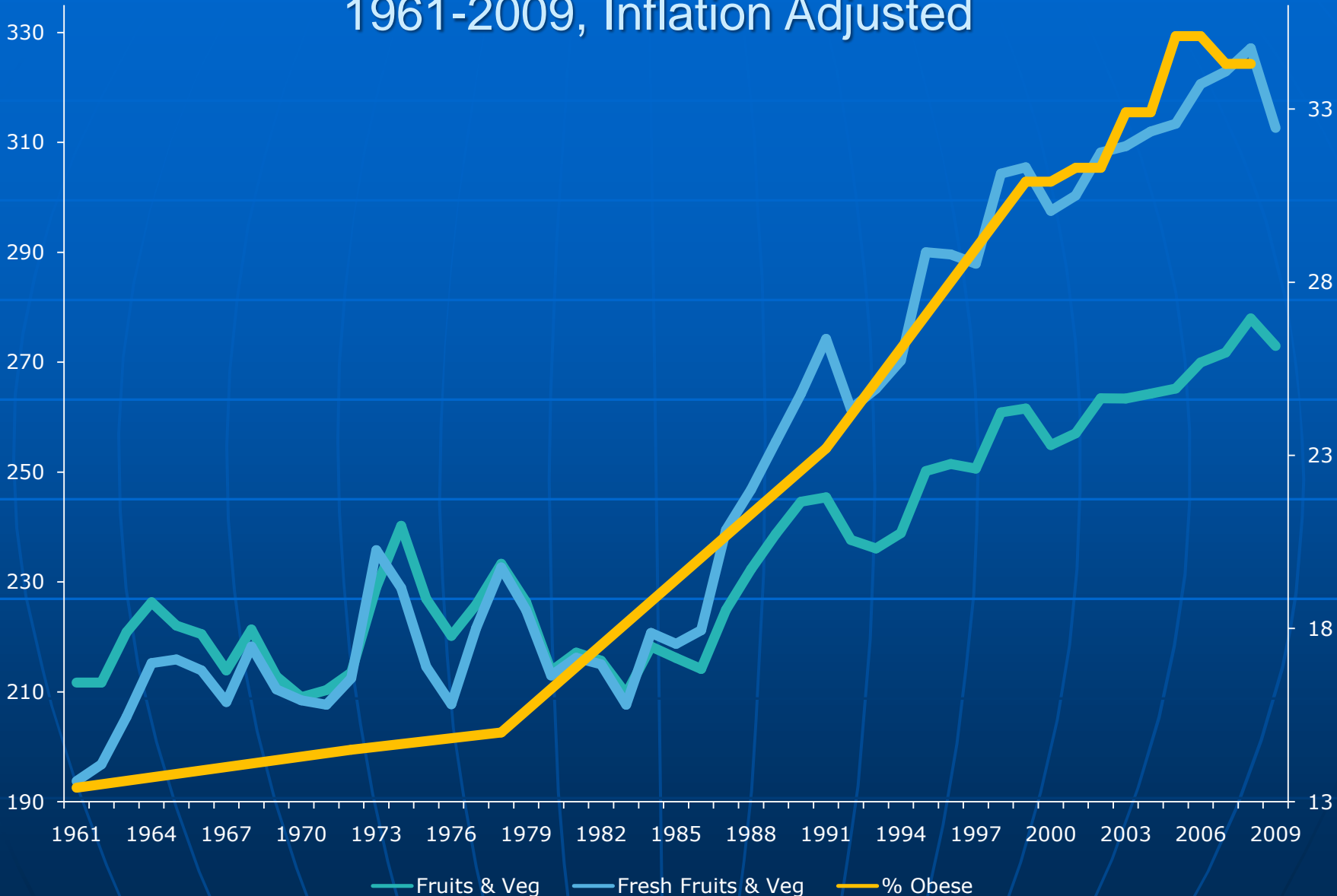


Source: Nat Rev Cancer © 2009 Nature Publishing Group

# Impact of Food & Beverage Prices on Diet and Weight

# Selected Food Price & Adult Weight Trends

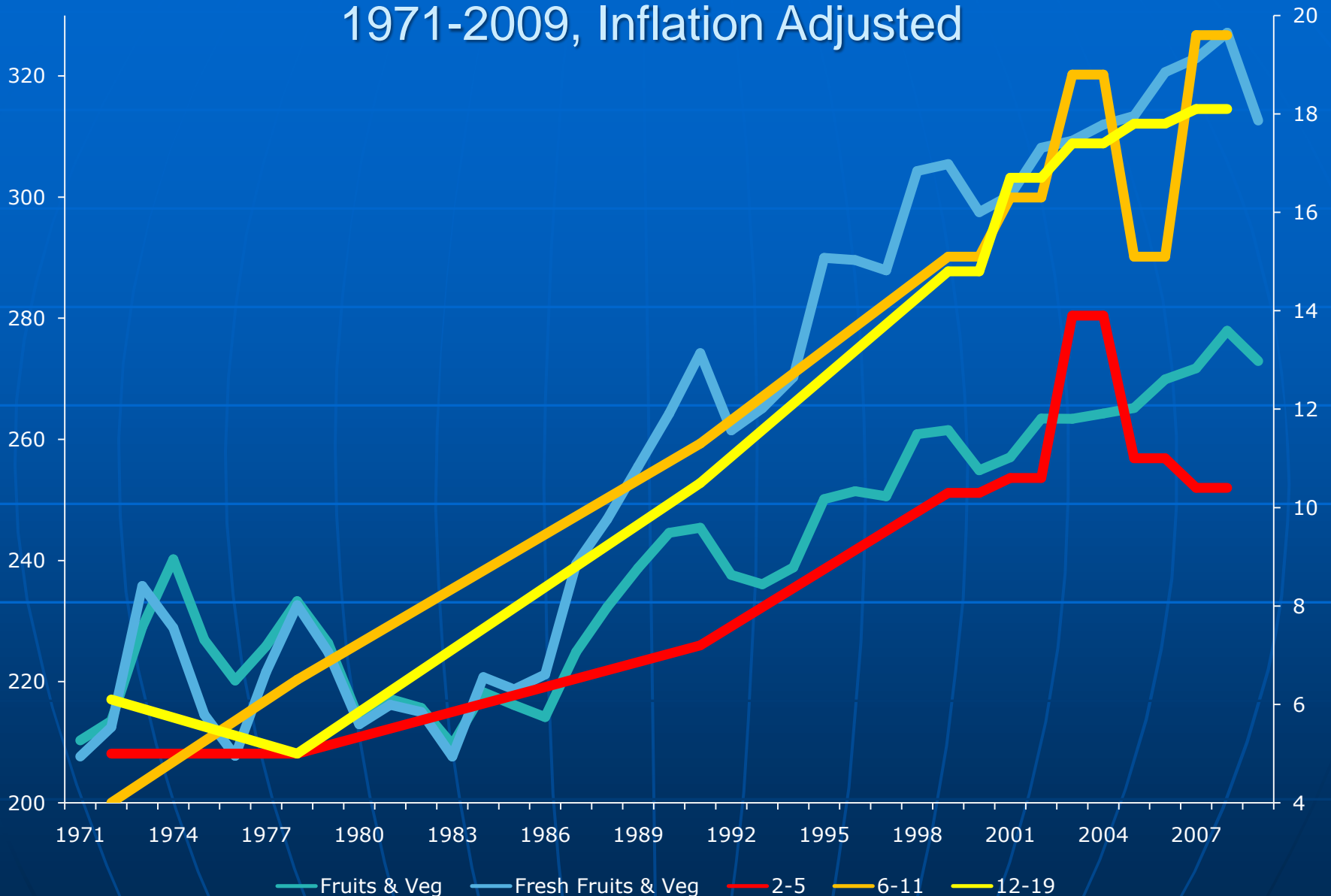
## 1961-2009, Inflation Adjusted



Source: BLS; NHES-I 1960-62; NHANES, 1971-74, 1976-80, 1988-94, 1999-2000, 2001-02, 2003-04, 2005-06, 2007-08

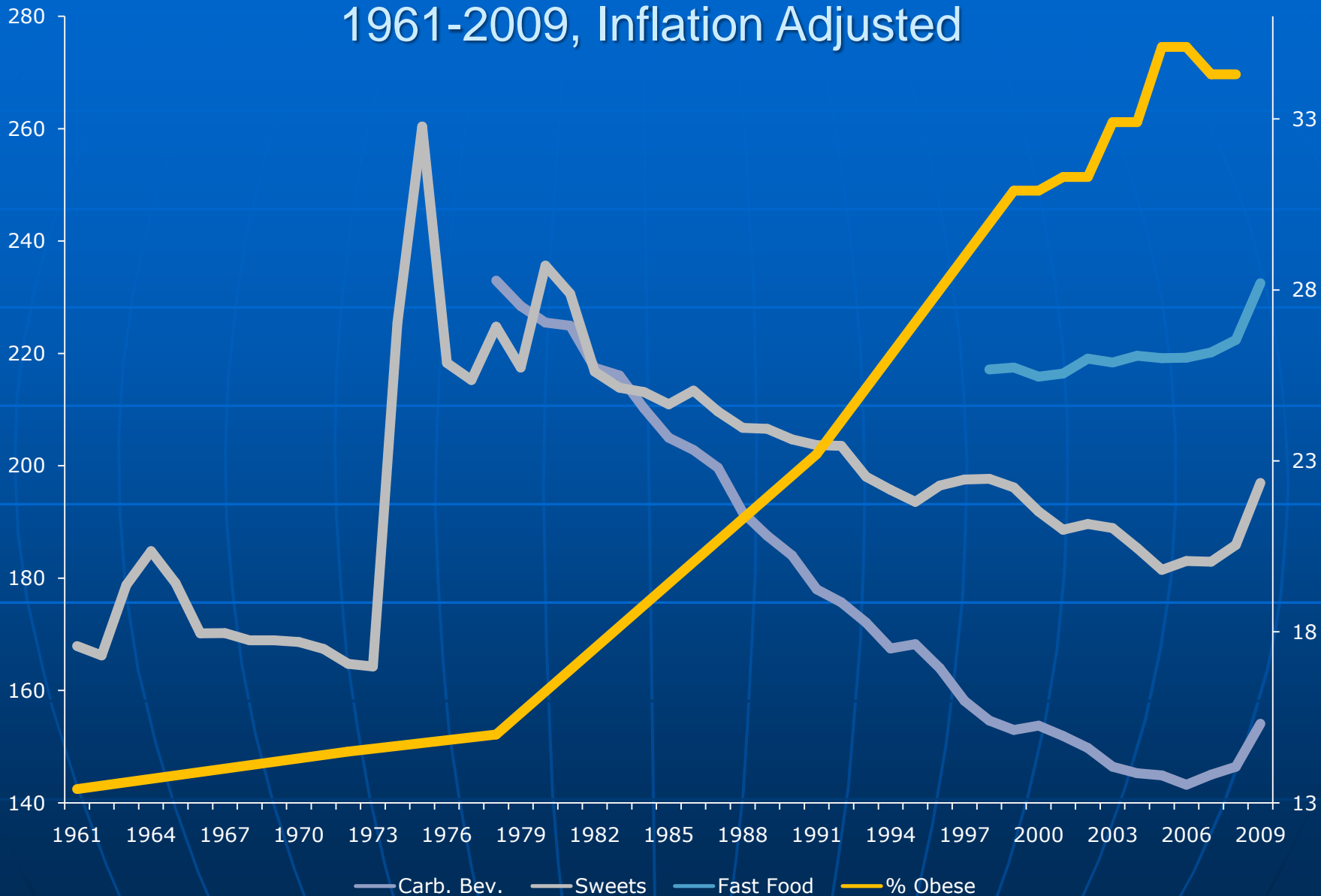
# Selected Food Price & Youth Weight Trends

## 1971-2009, Inflation Adjusted



# Selected Food Price & Adult Weight Trends

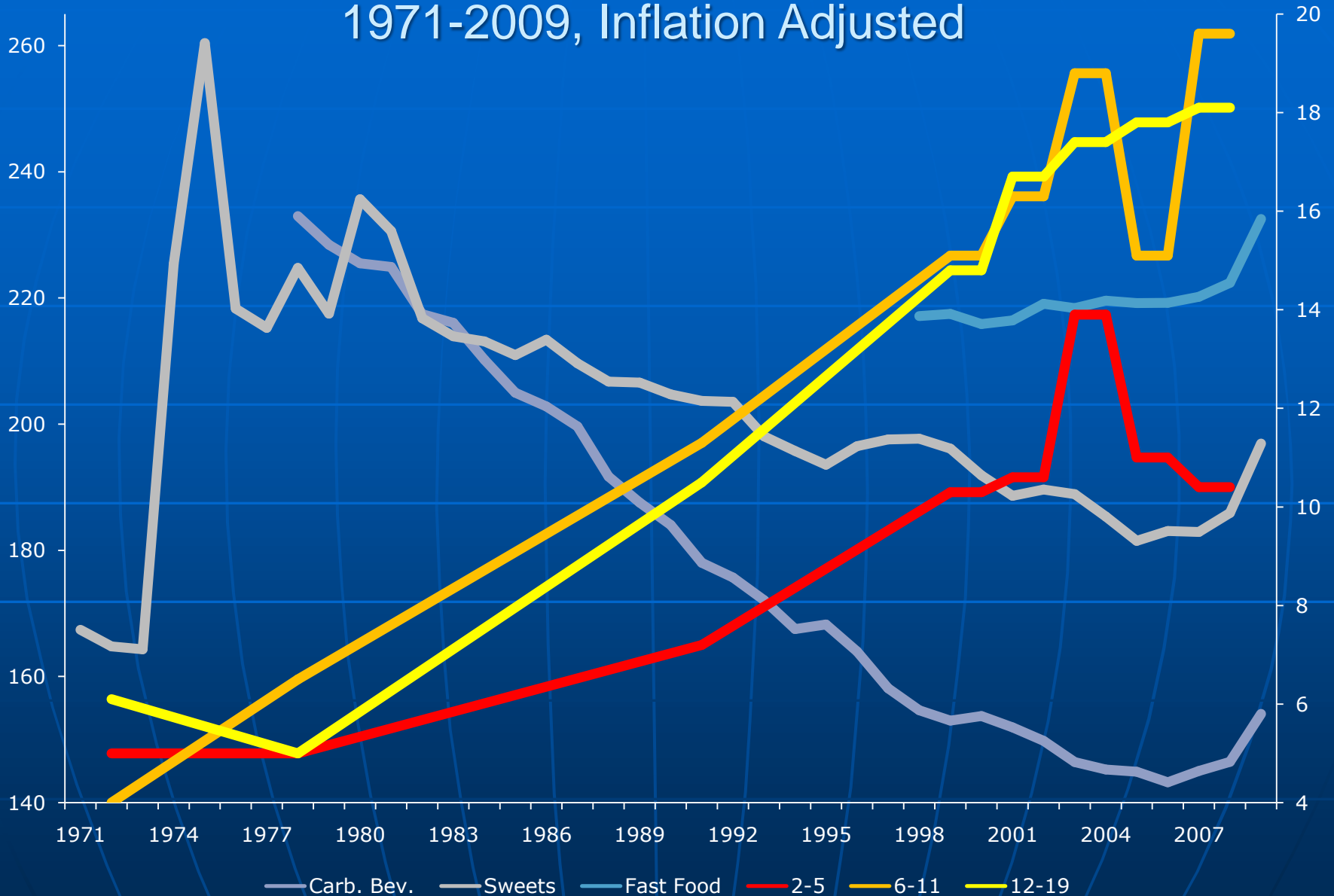
## 1961-2009, Inflation Adjusted



Source: BLS; NHES-I 1960-62; NHANES, 1971-74, 1976-80, 1988-94, 1999-2000, 2001-02, 2003-04, 2005-06, 2007-08

# Selected Food Price & Youth Weight Trends

## 1971-2009, Inflation Adjusted



# Food Prices and Consumption

- Estimates from recent economic research show significant effects of food & beverage prices on consumption
- 10% price increase reduces:
  - Sugar sweetened beverage consumption by 12.1%
  - Fast food consumption by 5.2%
  - Vegetable consumption by 4.8%
  - Fruit consumption by 4.9%



# Food Prices and Weight Outcomes

Relatively limited research with mixed findings to date on impact of food and beverage prices and weight outcomes:

- Higher sugary food prices reduce prevalence of overweight/obesity among adults (Miljkovic et al., 2008)
- 10% higher fast food prices would reduce prevalence of adolescent obesity by almost 6% (Powell, et al., 2007)
- Higher soda sales taxes associated with reduced weight gain, particularly for overweight kids (Sturm, et al., 2010)
- Higher carbonated beverage prices significantly related to lower BMI in children (Wendt and Todd, 2011)
- Tax-induced reductions in calories from beverage intake offset by increased calories from other sources (Fletcher et al., 2010)

# Food Prices and Weight Outcomes

While mixed, the weight of the evidence increasingly indicates that changes in relative prices for healthier and less healthy foods may affect weight outcomes, with greater impact on:

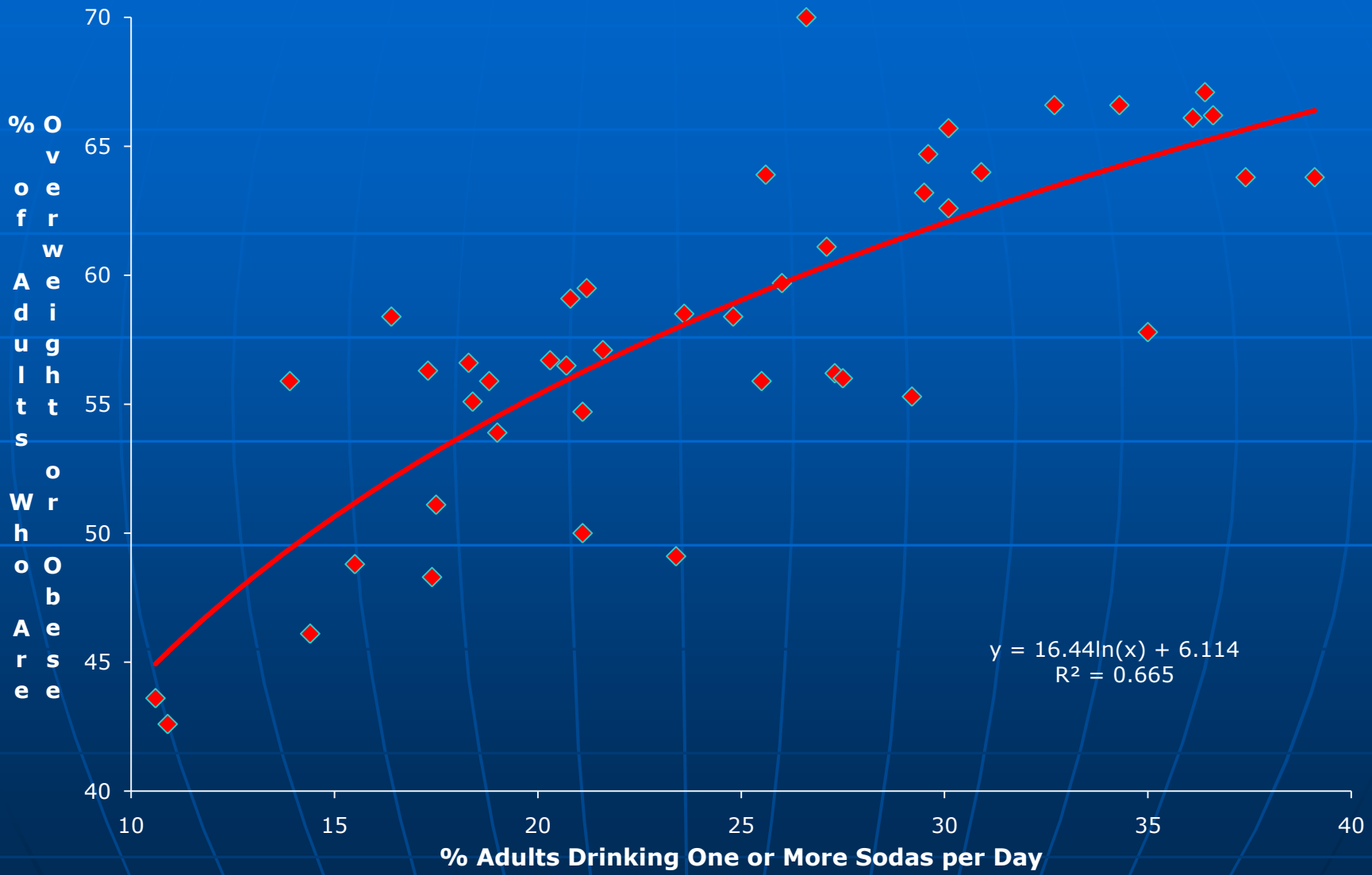
- Lower income, less educated populations
- Younger populations
- Populations at greater risk for obesity

# Sugar Sweetened Beverage Taxes

# Why Sugar-Sweetened Beverage Taxes?

- Link to obesity
  - Several meta-analyses conclude that increased SSB consumption causes increased weight, obesity
  - Increased calories from SSBs not offset by reductions in calories from other sources
- Other health consequences
  - type 2 diabetes, lower bone density, dental problems, headaches, anxiety and sleep disorders

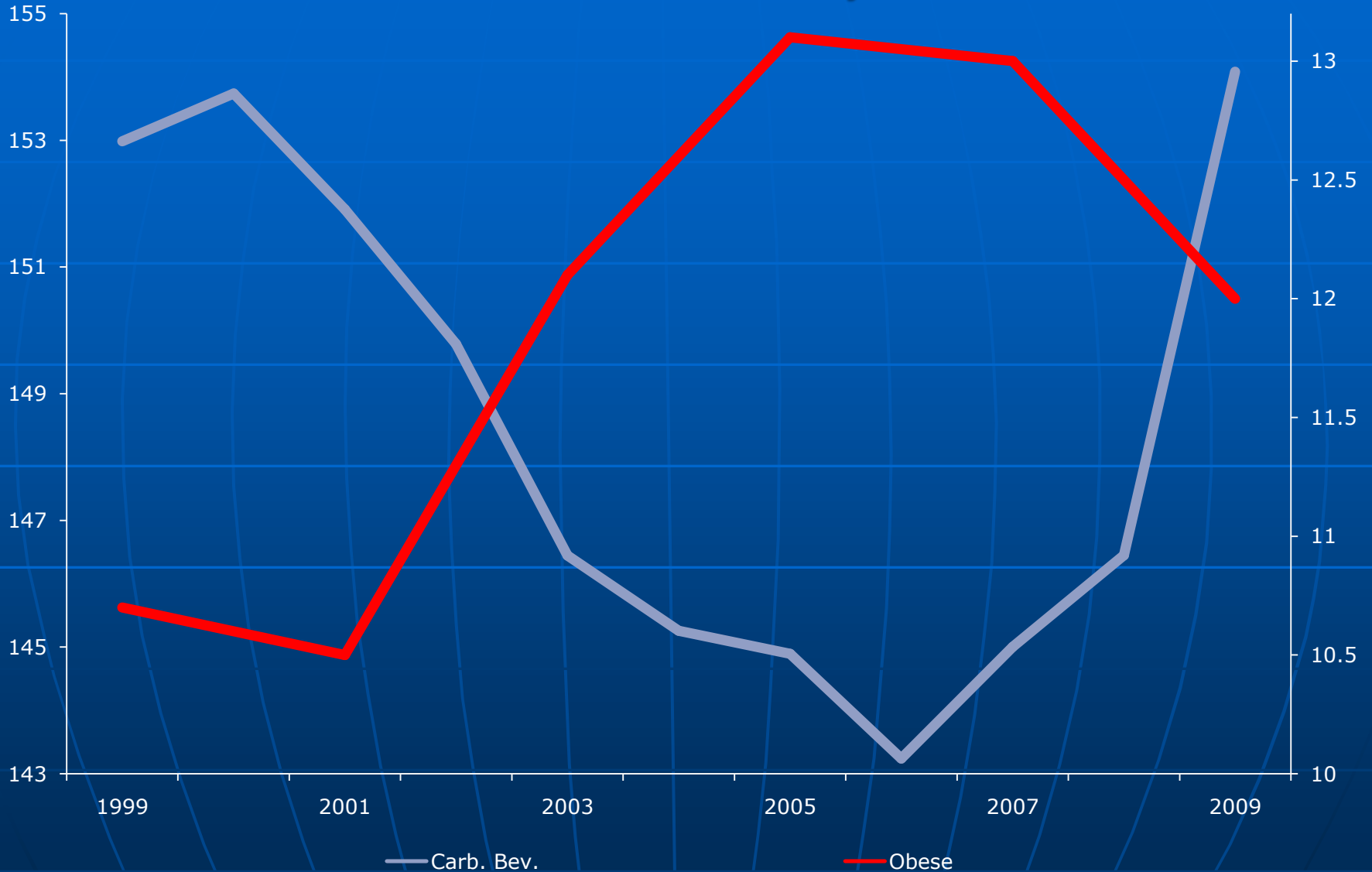
# Soda Consumption & Obesity California Counties, 2005



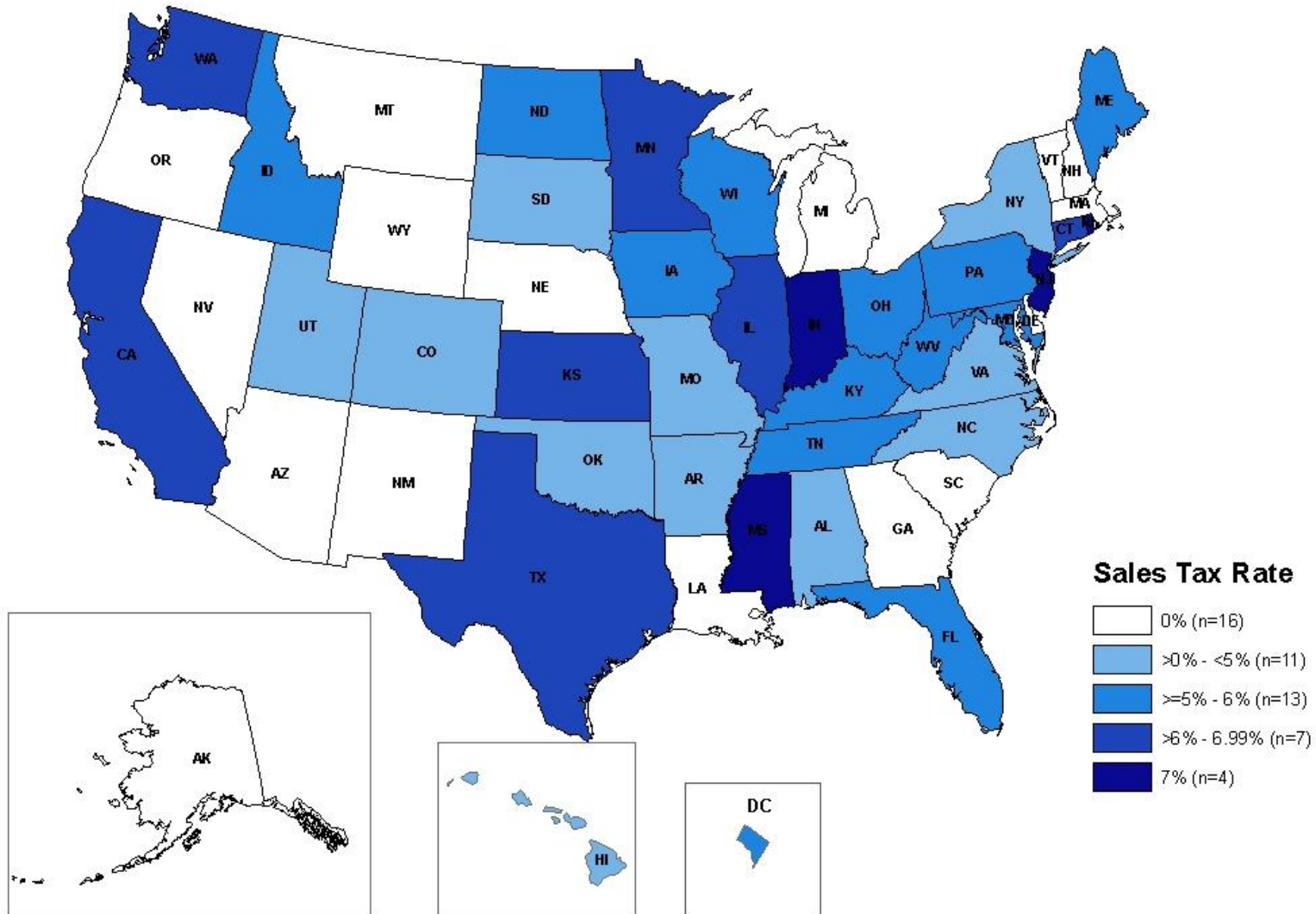
Source: Babey, et al., 2009 and authors' calculations.

# Carbonated Beverage Prices & Youth Obesity

## 1995-2009, Inflation Adjusted



# Sales Taxes on Carbonated Beverages United States, July 1, 2012



Note: Does not include 3 states with mandatory, statewide local tax rate (CA-1%, UT-1.25%, VA-1%)

Data Source: Bridging the Gap Program, University of Illinois at Chicago, 2012



# Best Practices in SSB Taxation

- From a public health perspective, specific excise tax on SSBs only preferable to sales tax or ad valorem excise tax or to a broader beverage tax that includes low/no-calorie options
  - More apparent to consumer
  - Easier administratively
  - Reduces incentives for switching to cheaper brands, larger quantities
  - Revenues more stable, not subject to industry price manipulation
  - Greater impact on consumption; more likely impact on weight outcomes
  - Disadvantage: need to be adjusted for inflation



# SSB Taxation & Revenues

- Revenue generating potential of beverage tax is considerable
  - SSB Tax calculator at:
    - <http://www.yaleruddcenter.org/sodatax.aspx>
  - Tax of one cent per ounce could generate:
    - \$26.5 million in Vermont if on SSBs only
    - \$39.3 million if diet included
  - Earmarking tax revenues for obesity prevention efforts would add to impact of tax

# Oppositional Arguments

-

## Myths & Facts

# Impact on Jobs

- SSB tax will lead to decreased consumption of beverages
  - Small loss of jobs in beverage sector
- Money not spent on beverages 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
- Small net increase in jobs likely in most states

# Impact on Businesses

- Argument that SSB taxes will harm convenience stores
- Similar arguments made for tobacco taxes
  - Conducted analysis of convenience stores (convenience only, gas stations, both), by state, 1997-2009
  - State cigarette tax rates and smoke-free policies
  - Controlled for state economic conditions
  - Found that higher tobacco taxes associated with more convenience stores
    - Consumers buy other products, overshifting of taxes

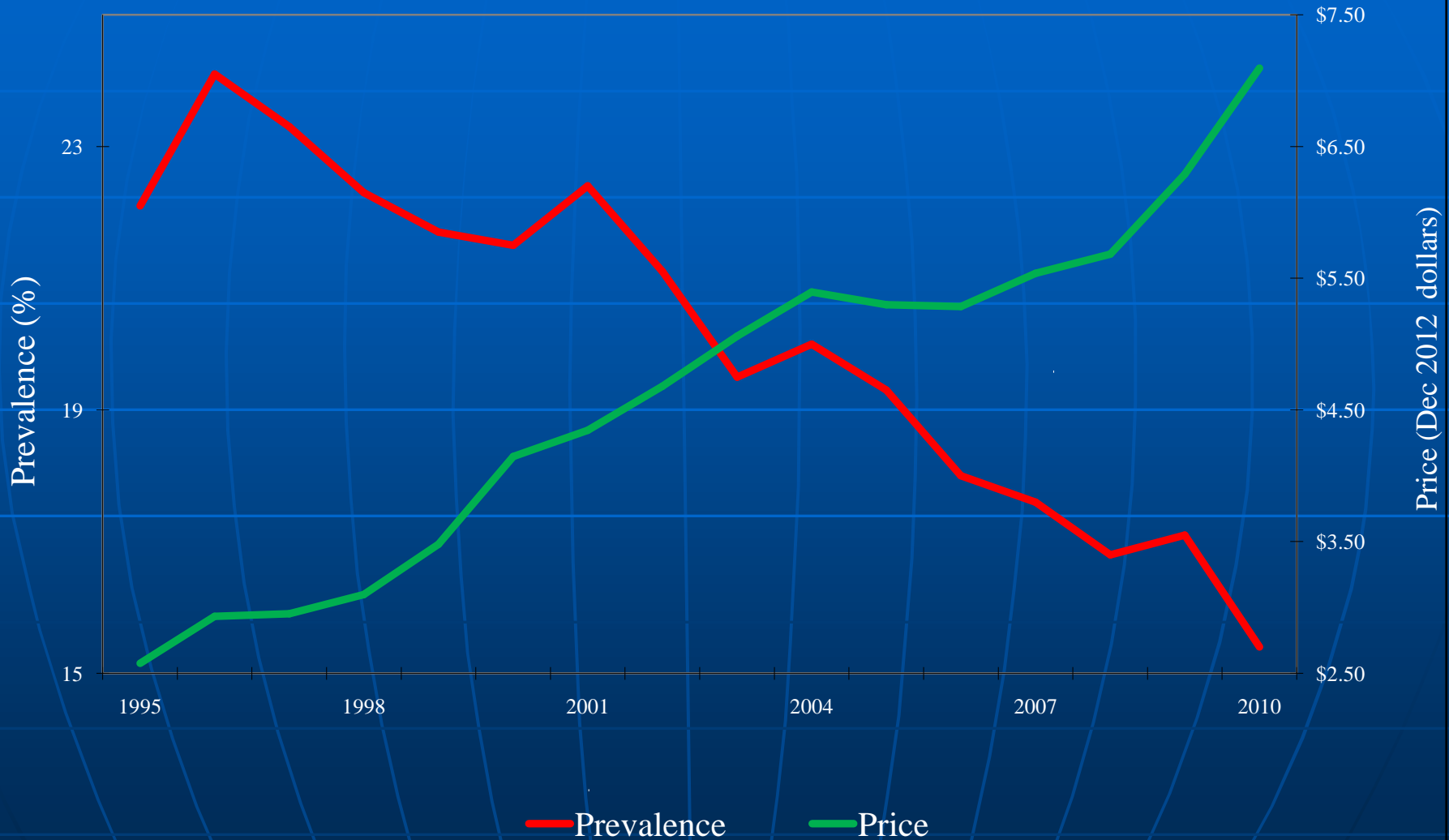
# Impact on the Poor

- Greater price sensitivity of poor – relatively large reductions in consumption among lowest income populations, small reductions among higher income populations
- Health benefits that result from tax increase are progressive
- Use of tax revenues for obesity prevention, health promotion, and/or other programs targeting the poor offsets financial impact

# Tax Avoidance

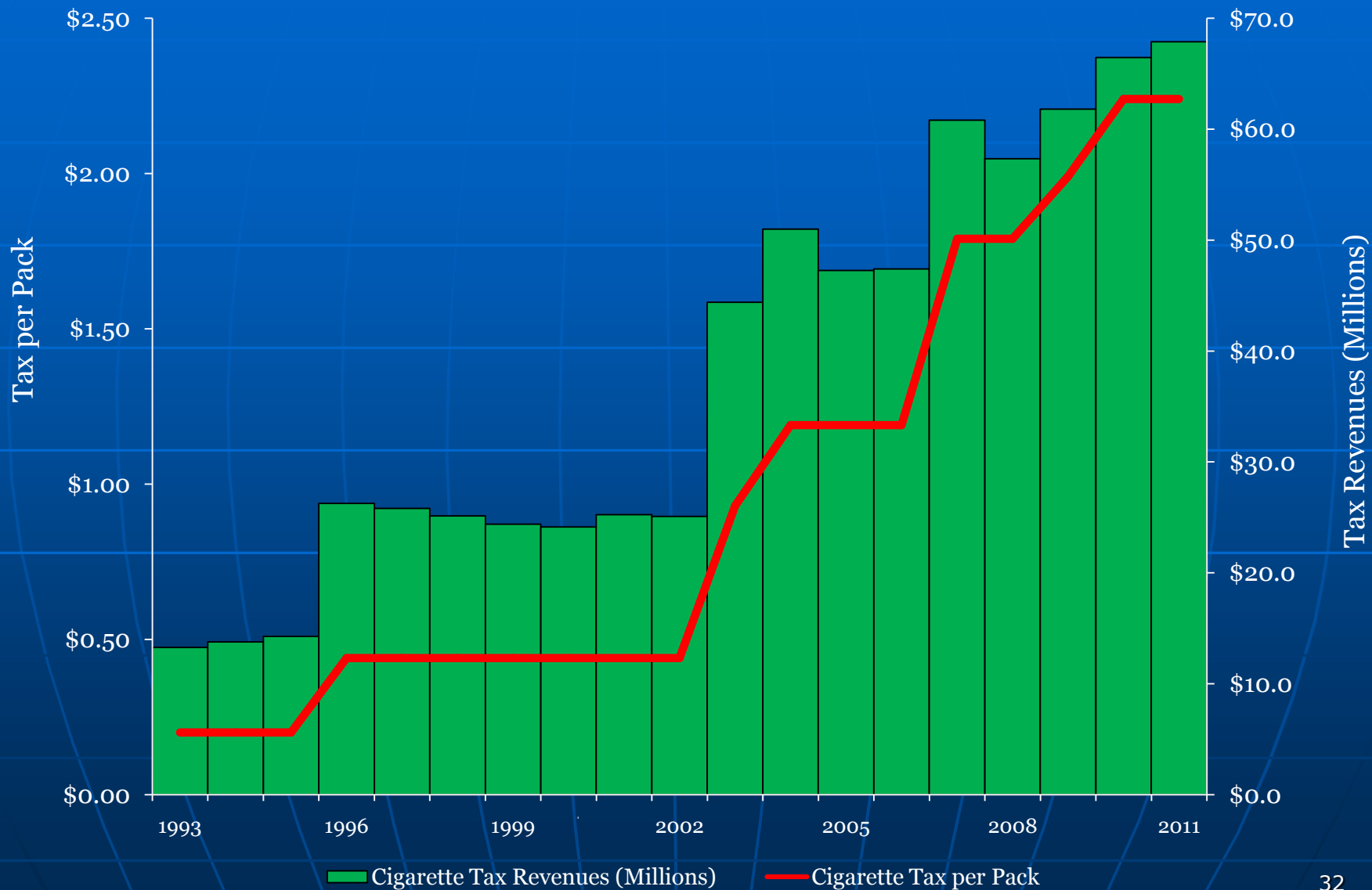
- Some tax avoidance likely for consumers near border, but not enough to offset the public health and revenue impact of tax
  - 2011 survey of Vermont adults found that none surveyed who buy SSBs at gas stations or convenience stores and who do not regularly shop in New Hampshire would cross the border to buy SSBs to avoid the tax.
- Similar concerns about tobacco taxes greatly exaggerated
  - Real reductions in tobacco use
  - Real increases in tobacco tax revenues

# Cigarette Prices and Adult Smoking Prevalence Vermont, 1995-2010





# Cigarette Tax per Pack and Cigarette Tax Revenues Vermont, 1993-2011



Source: NHIS, *Tax Burden on Tobacco*, 2012, and author's calculations



# Tax Avoidance

## ■ Revenue impact:

- Last Vermont tax increase with no change in New Hampshire tax for one year
  - Vermont - July 1, 2006, increase from \$1.19 to \$1.79 per pack
  - New Hampshire's tax of 80 cents per pack
- In the year following the increase:
  - Cigarette tax revenues rose by \$13.4 million (28.3%) in Vermont
  - Cigarette tax revenues fell by \$3.4 million (-2.4%) in New Hampshire
- Claims of cross-border shopping and other tax avoidance efforts clearly exaggerated

# Summary

# Summary

- Tobacco tax increases have significantly reduced tobacco use and its consequences
- Potential for using sugar sweetened beverage taxes to promote healthier eating and curb obesity
  - While generating considerable revenue for obesity prevention and health programs
- Economic counterarguments false or greatly overstated

For more information:

[fjc@uic.edu](mailto:fjc@uic.edu)

<http://www.bridgingthegapresearch.org/>

The screenshot shows a Windows Internet Explorer browser window with the address bar displaying [http://www.bridgingthegapresearch.org/research/sodasnack\\_taxes/](http://www.bridgingthegapresearch.org/research/sodasnack_taxes/). The browser's address bar also shows a search bar with the text "Soda/Snack Taxes" and a Google search button. The website's header features the logo "bridging the gap" and the tagline "Research Informing Policies and Practices for Healthy Youth". A navigation menu includes "HOME", "ABOUT US", "RESEARCH", "RELATED SITES", and "CONTACT US". Below the navigation menu, there are three sub-menus: "District Wellness Policies", "Elementary School Survey", and "Soda/Snack Taxes". The main content area has a blue background with the title "Soda/Snack Taxes" and the text: "This page highlights our research around state-level taxes on snack foods, soda, and other sweetened beverages. To see products from other BTG research activities, click on the 'Research' tab above." At the bottom of the page, there is a section titled "Sugar-Sweetened Beverage Taxes and Public Health: Research Brief" with the text: "This 2009 research brief provides an overview of the current research on" and a "DEFINITIONS" section with the text: "These files contain definitions of food and food products for use in conjunction with the snack tax data. These definitions were compiled beginning".