

# Looking Backward and Looking Forward: Lessons Learned from Alcohol and Tobacco Taxes and Implications for Obesity Prevention

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# Presenter Disclosures

## Frank J. Chaloupka

**(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:**

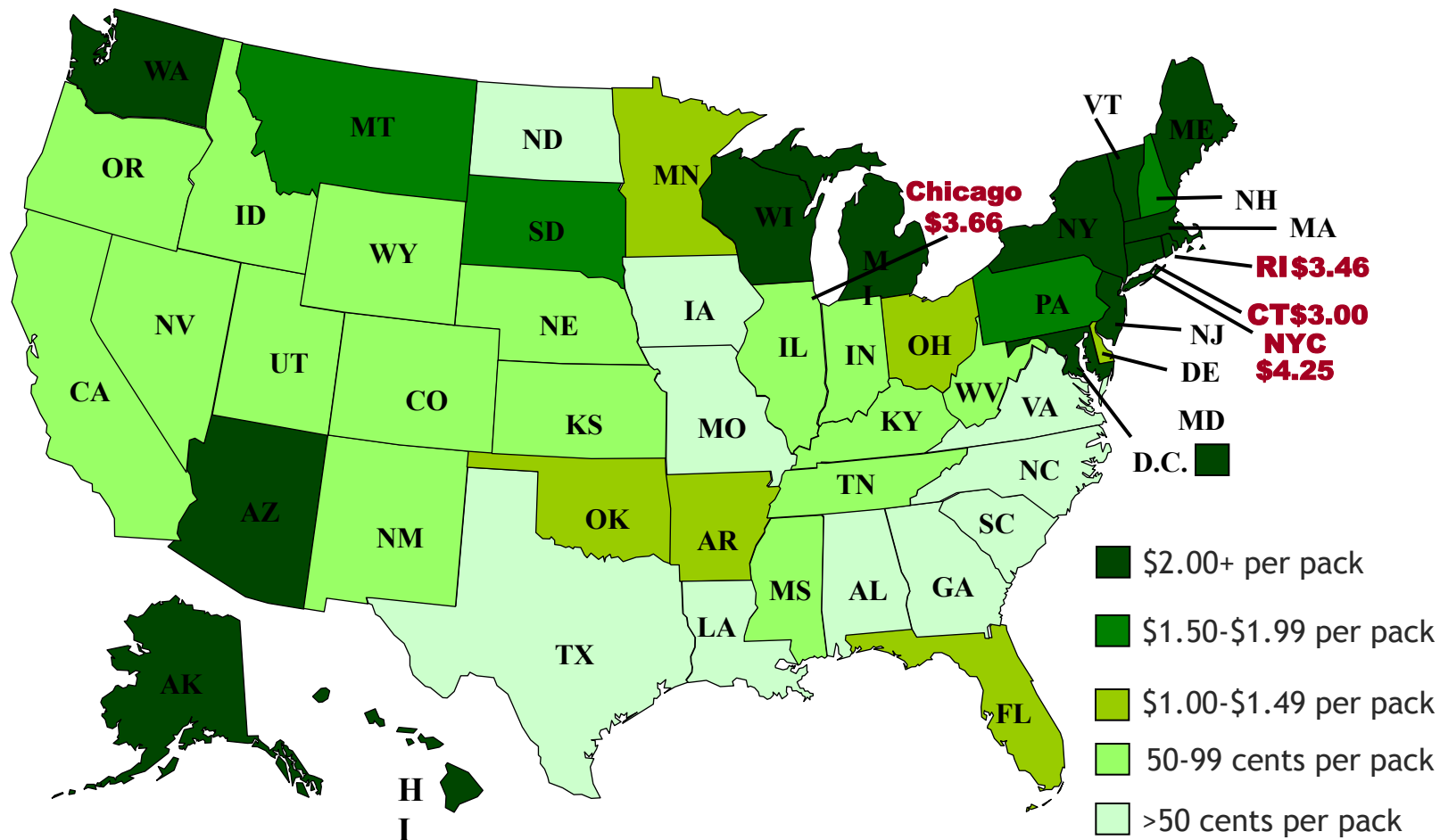
**No Disclosures to make**

# Presentation Overview

- Brief review of the evidence on the impact of tobacco taxes on tobacco use and its consequences
- Brief review of the evidence on the impact of alcoholic beverage taxes on drinking and its consequences
- Potential for using taxes to promote healthy eating and reduce obesity

# TOBACCO TAXES AND TOBACCO USE

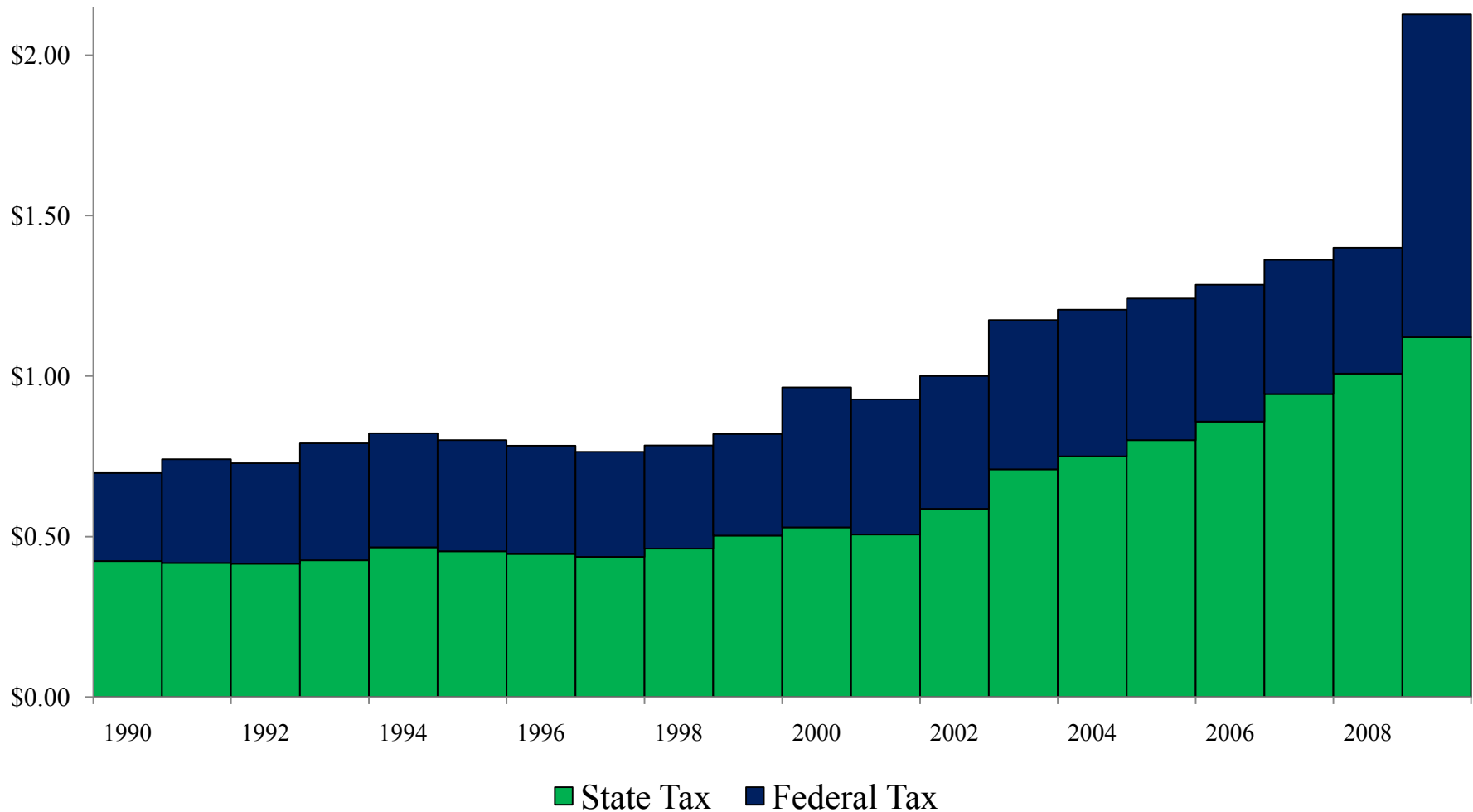
# Cigarette Taxes in the US, 2009



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

# State and Federal Cigarette Taxes, 1990-2009

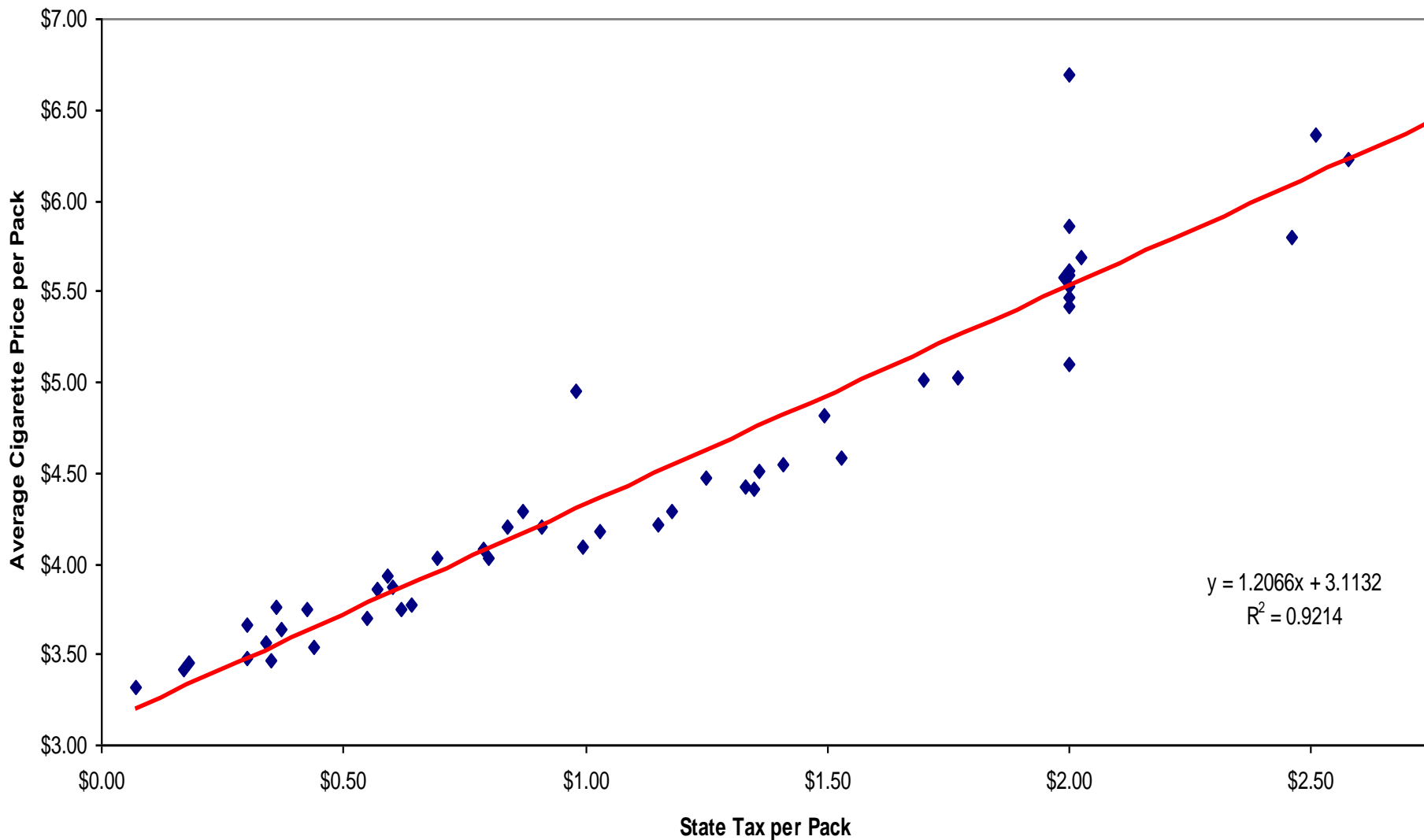
## Inflation Adjusted, September 2009 Dollars



Source: *Burden on Tobacco*, 2009, and author's calculations

# State Cigarette Taxes and Prices

November 1, 2008

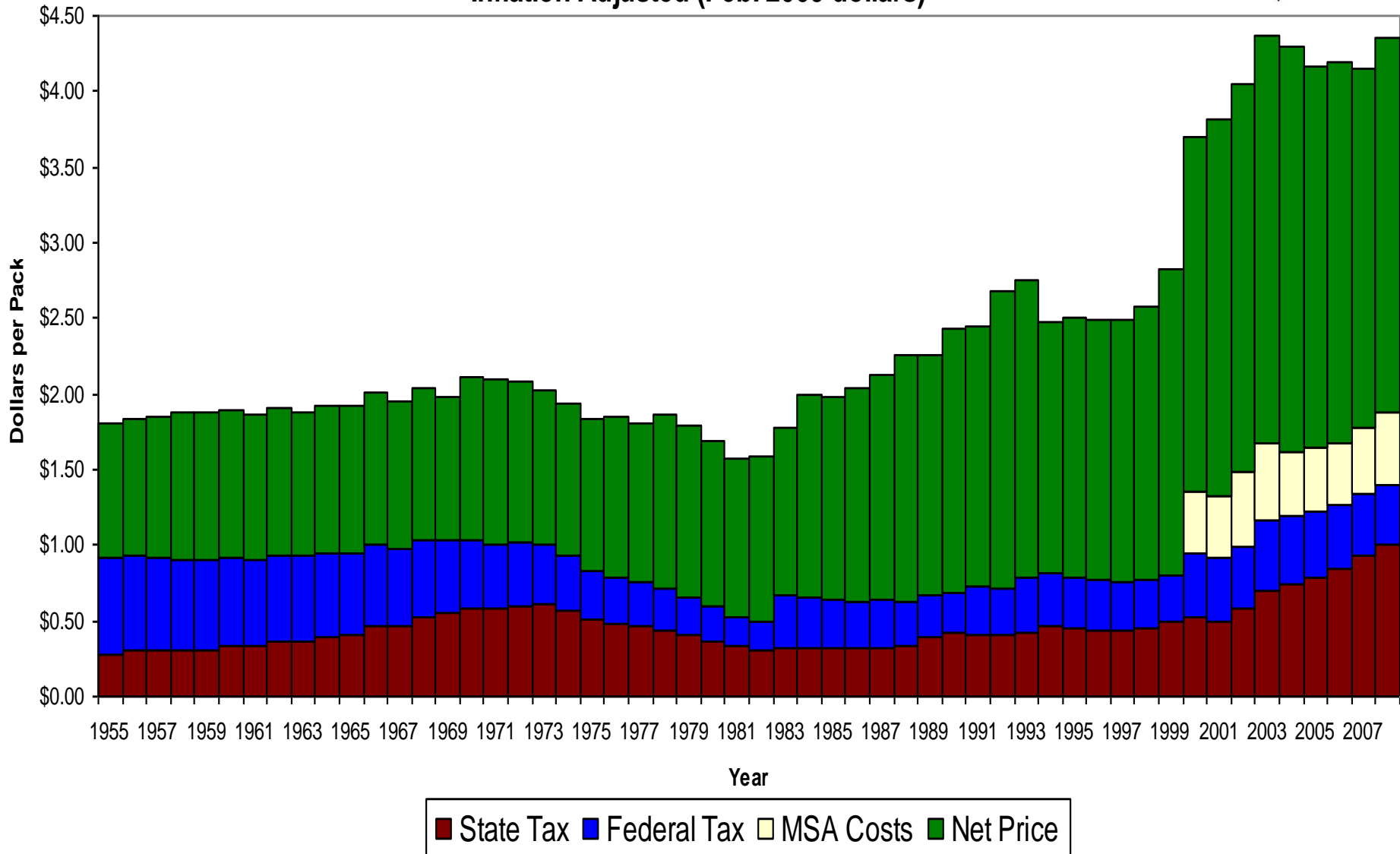


Source: *Tax Burden on Tobacco*, 2009, and author's calculations

# Cigarette Taxes and Prices, 1976-2008

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Inflation Adjusted (Feb. 2009 dollars)

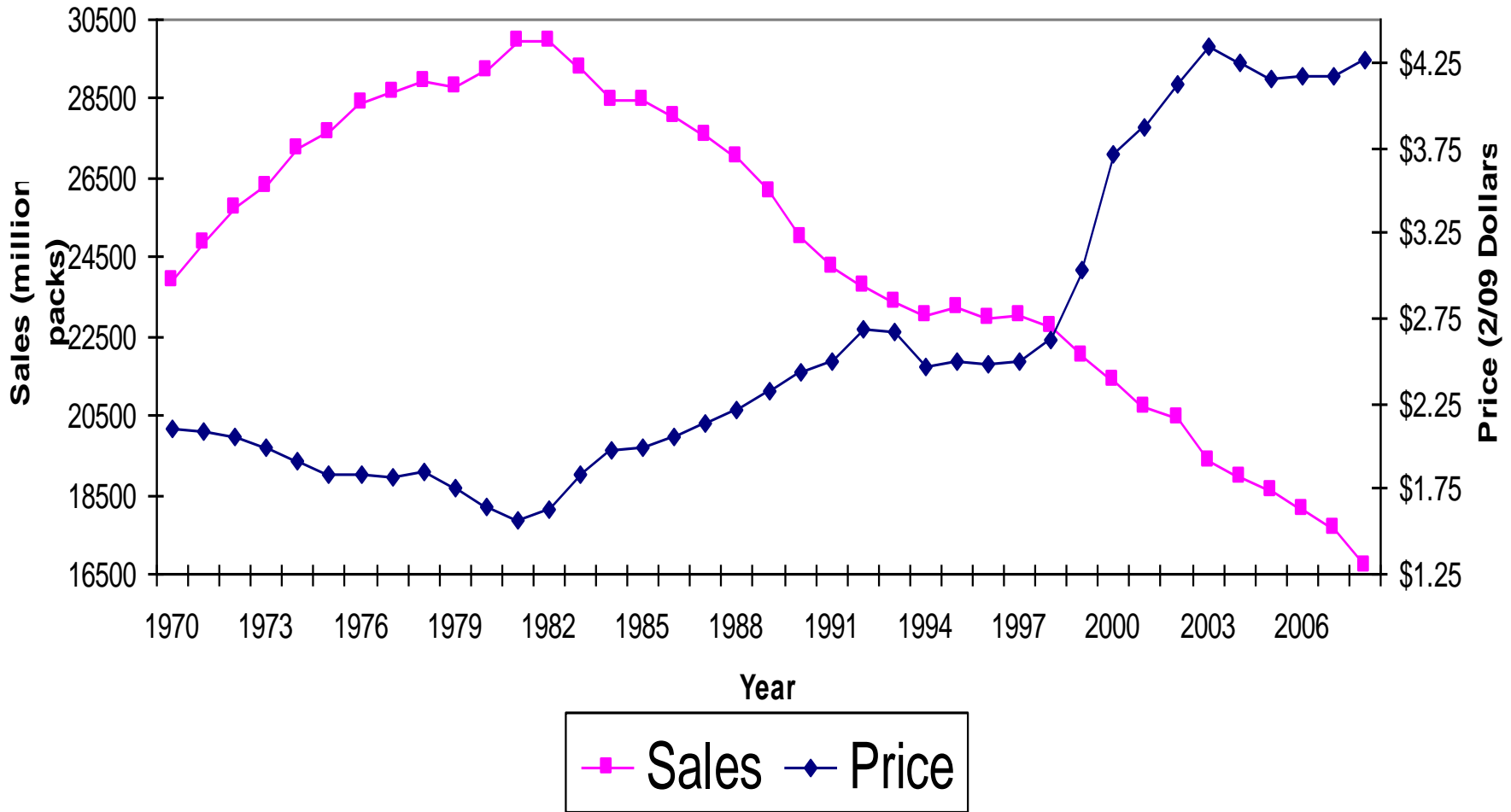


Source: *Tax Burden on Tobacco*, 2009, and author's calculations



# Cigarette Prices and Cigarette Sales

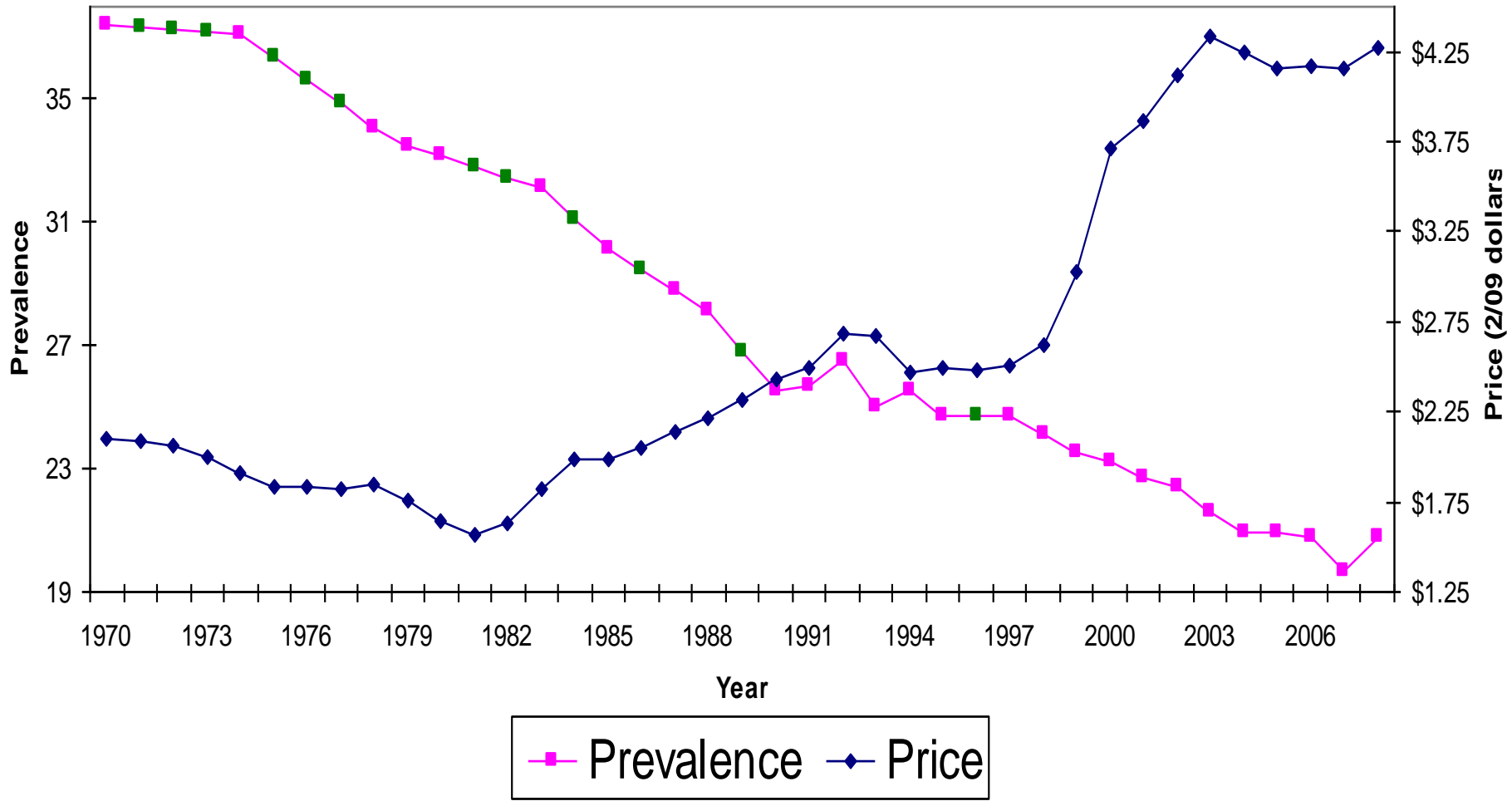
## United States, 1970-2008



Source: *Tax Burden on Tobacco*, 2009, and author's calculations

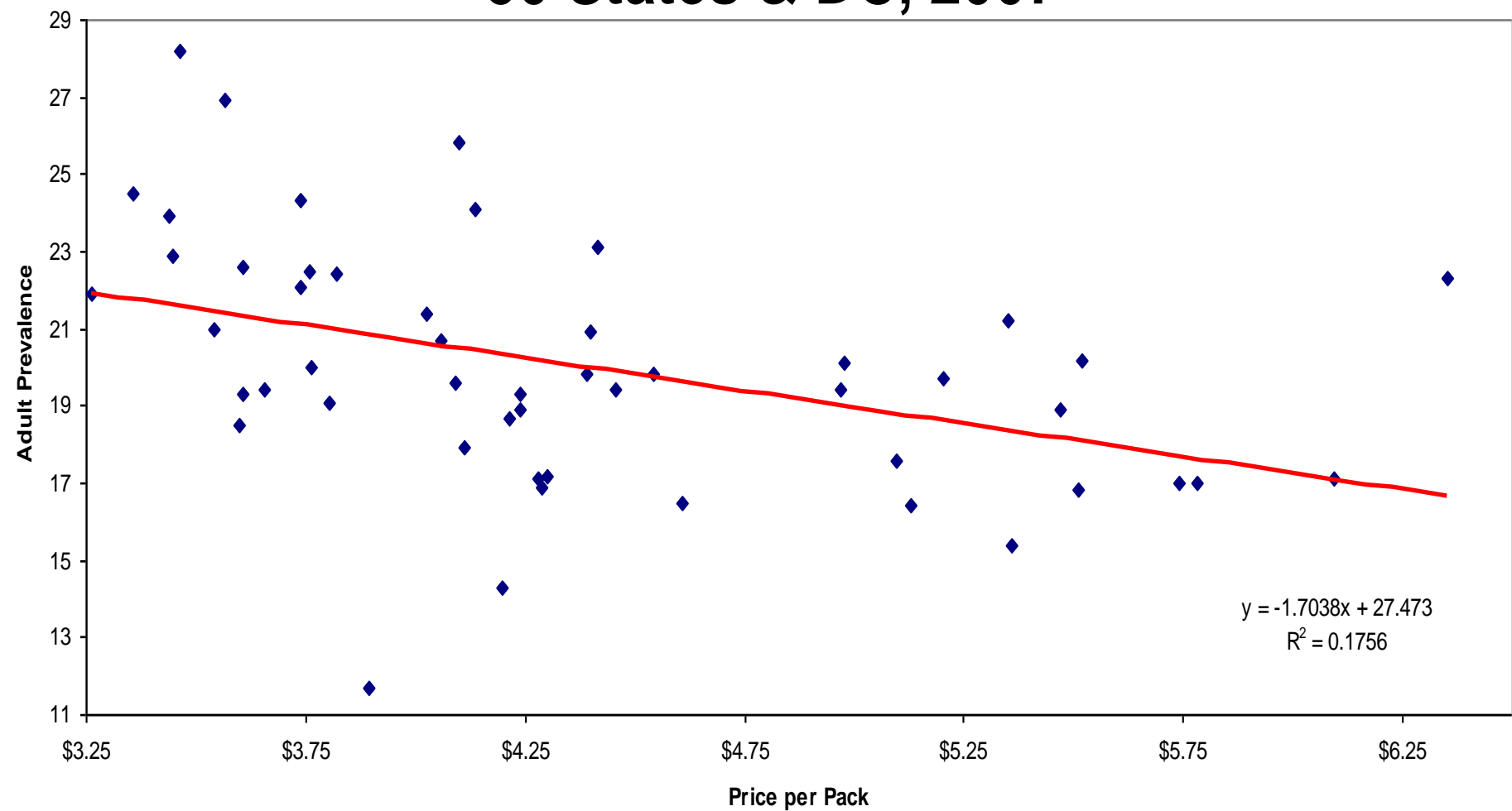


# Cigarette Prices and Adult Smoking Prevalence, United States, 1970-2008



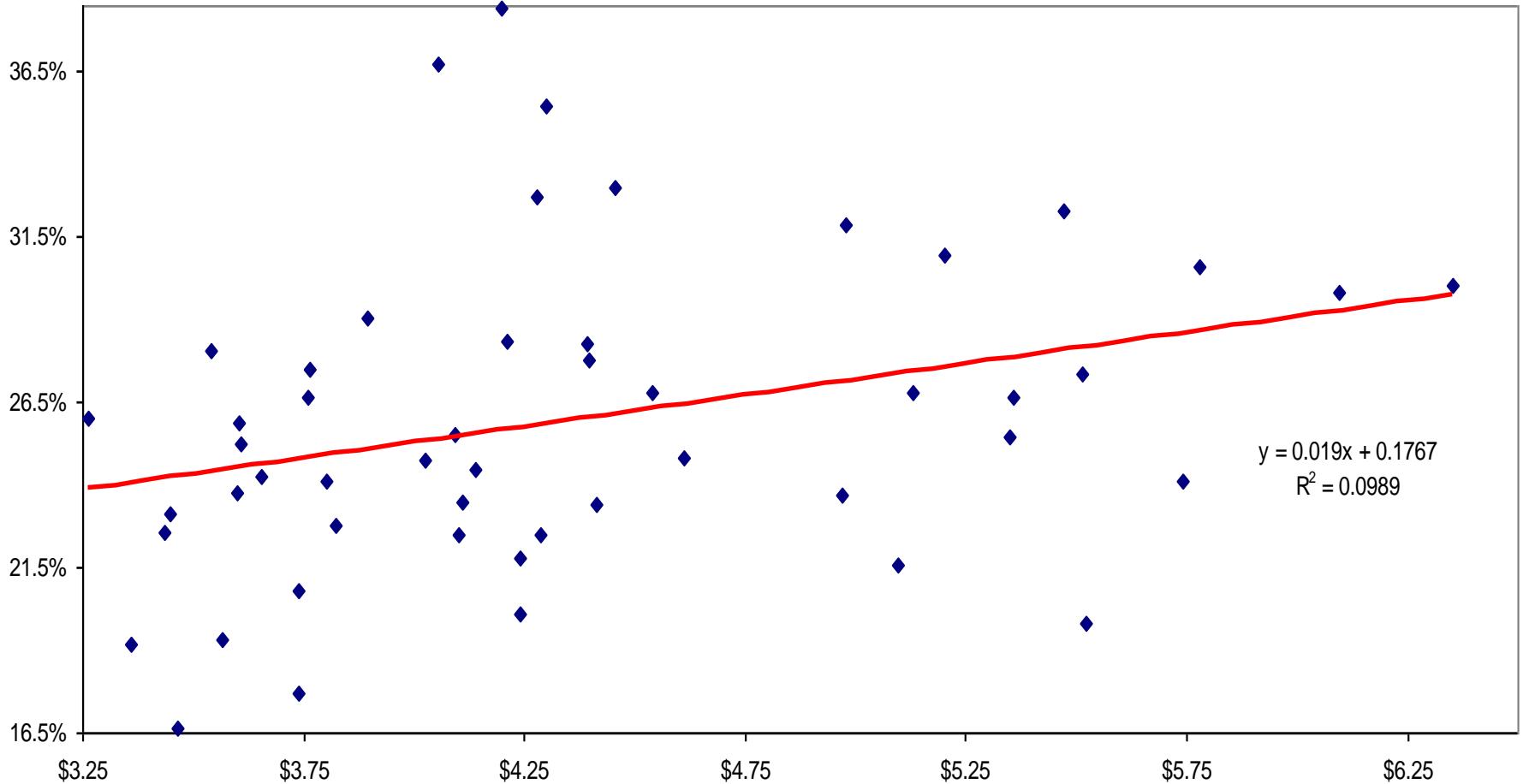
Source: NHIS, *Tax Burden on Tobacco*, 2009, and author's calculations  
 Note: green data points for prevalence are interpolated assuming linear trend

# Cigarette Prices and Adult Prevalence, 50 States & DC, 2007



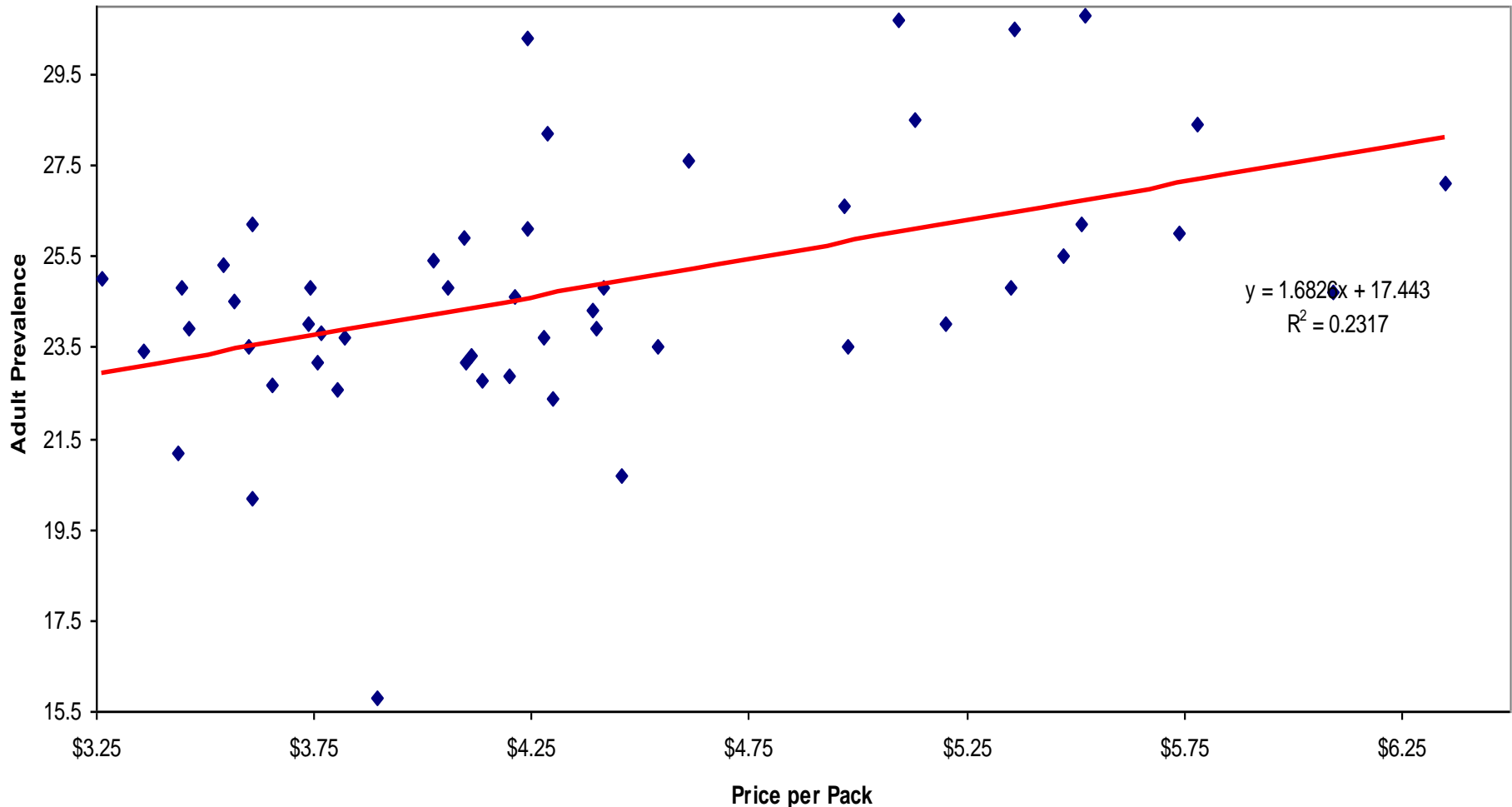
Source: BRFSS, *Tax Burden on Tobacco*, 2009, and author's calculations

# Cigarette Prices and Non-Daily Smoking Rates, 50 States & DC, 2007



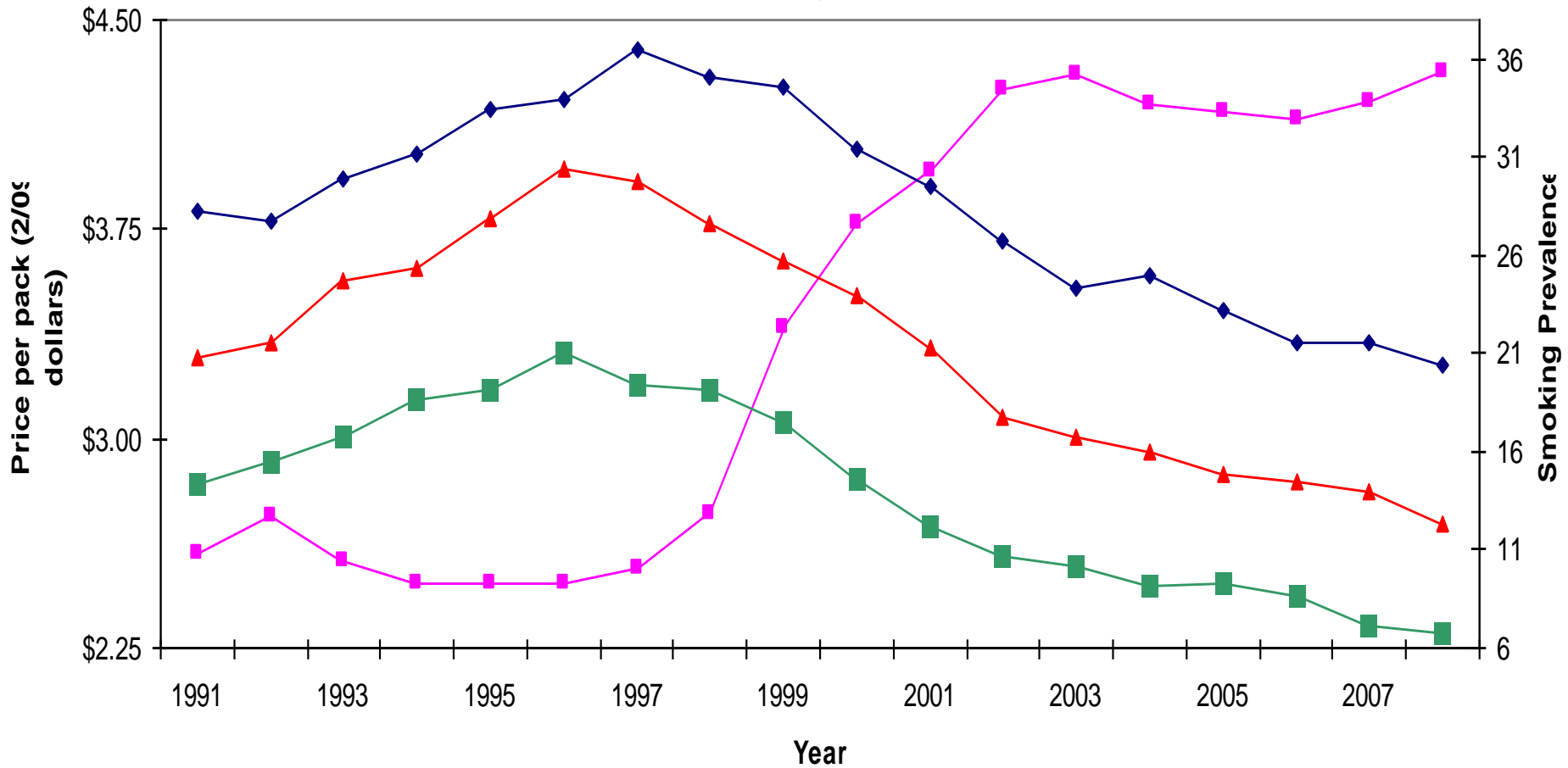
Source: BRFSS, *Tax Burden on Tobacco*, 2009, and author's calculations

# Cigarette Prices and Former Smoking Rates, 50 States & DC, 2007



Source: BRFSS, *Tax Burden on Tobacco*, 2009, and author's calculations

# Cigarette Price and Youth Smoking Prevalence, United States, 1991-2008



■ Cigarette Price   
 ◆ 12th grade prevalence   
 ▲ 10th grade prevalence   
 ■ 8th grade prevalence

Source: MTF, *Tax Burden on Tobacco*, 2009, and author's calculations

Based on our estimates, the recent \$0.6167 per pack increase in the Federal cigarette tax will:

- Reduce cigarette sales by over 900 million packs
- Generate almost \$9 billion in new revenues
- Lead over 1.15 million current smokers to quit
- Prevent over 1.45 million youth from taking up smoking
- Prevent almost 720,000 premature deaths caused by smoking
- Generate significant reductions in spending on health care to treat diseases caused by smoking

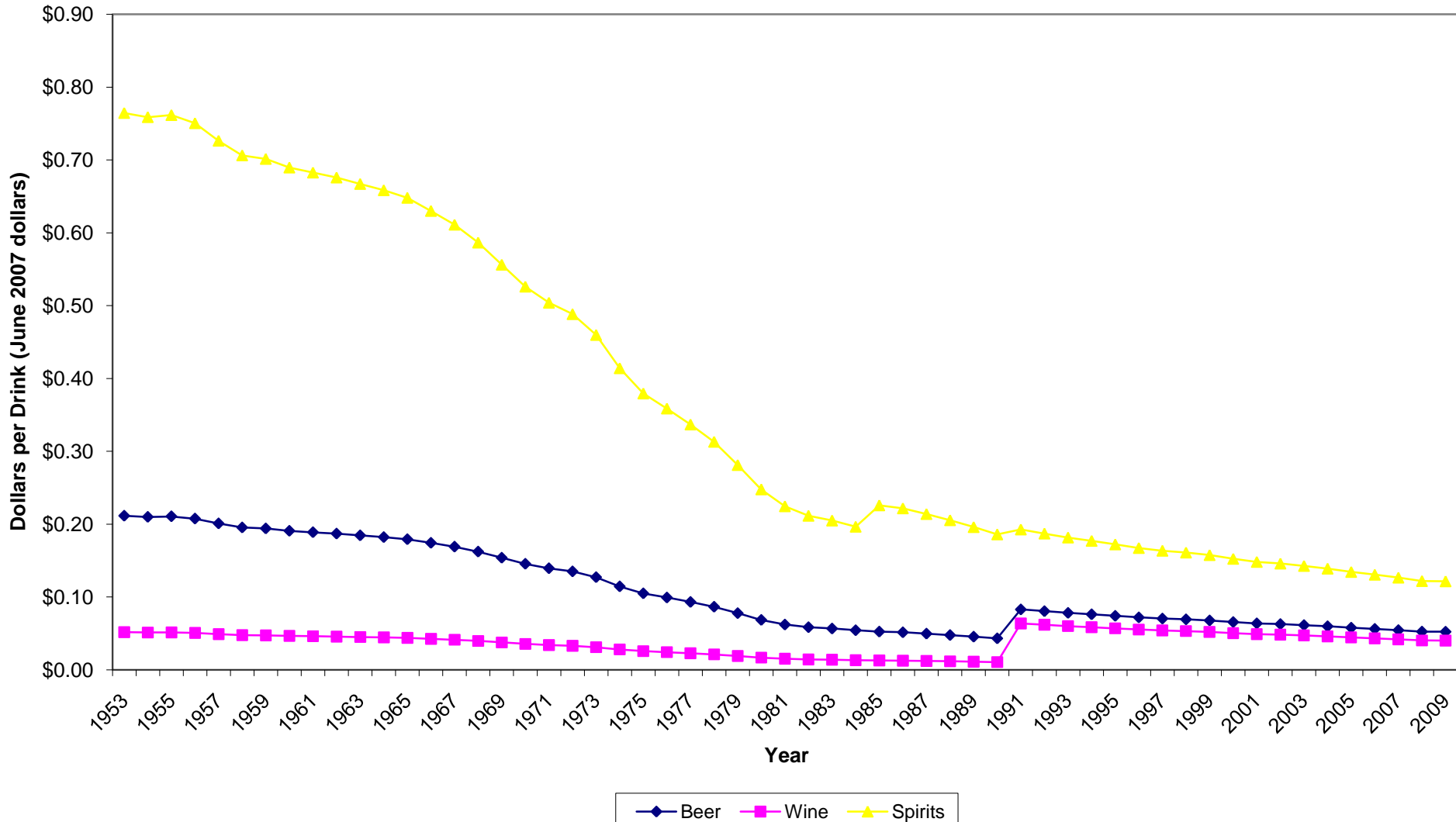
Source: Chaloupka and Tauras, 2009



# ALCOHOLIC BEVERAGE TAXES, DRINKING, AND CONSEQUENCES

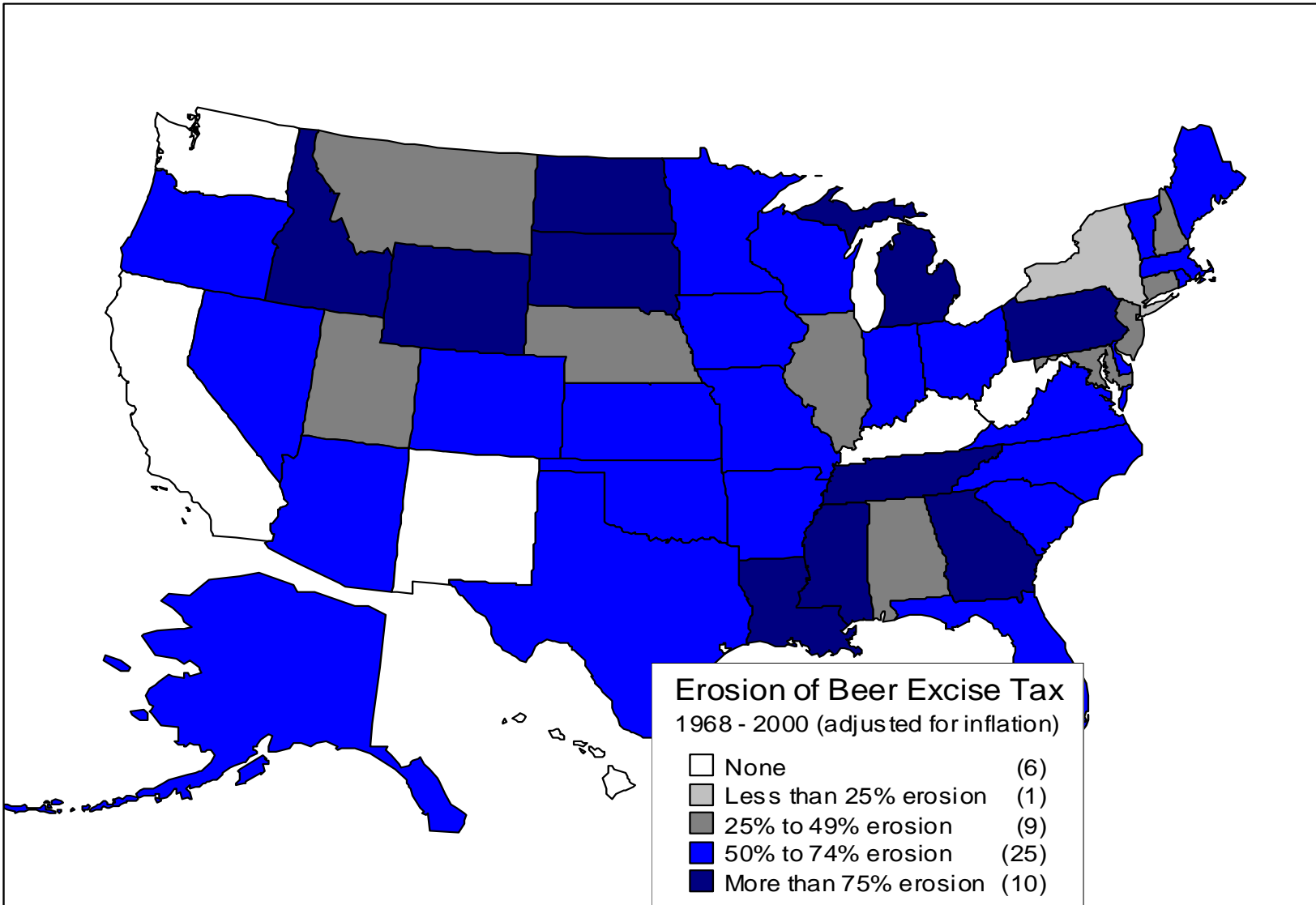


# Federal Alcoholic Beverage Taxes per Drink



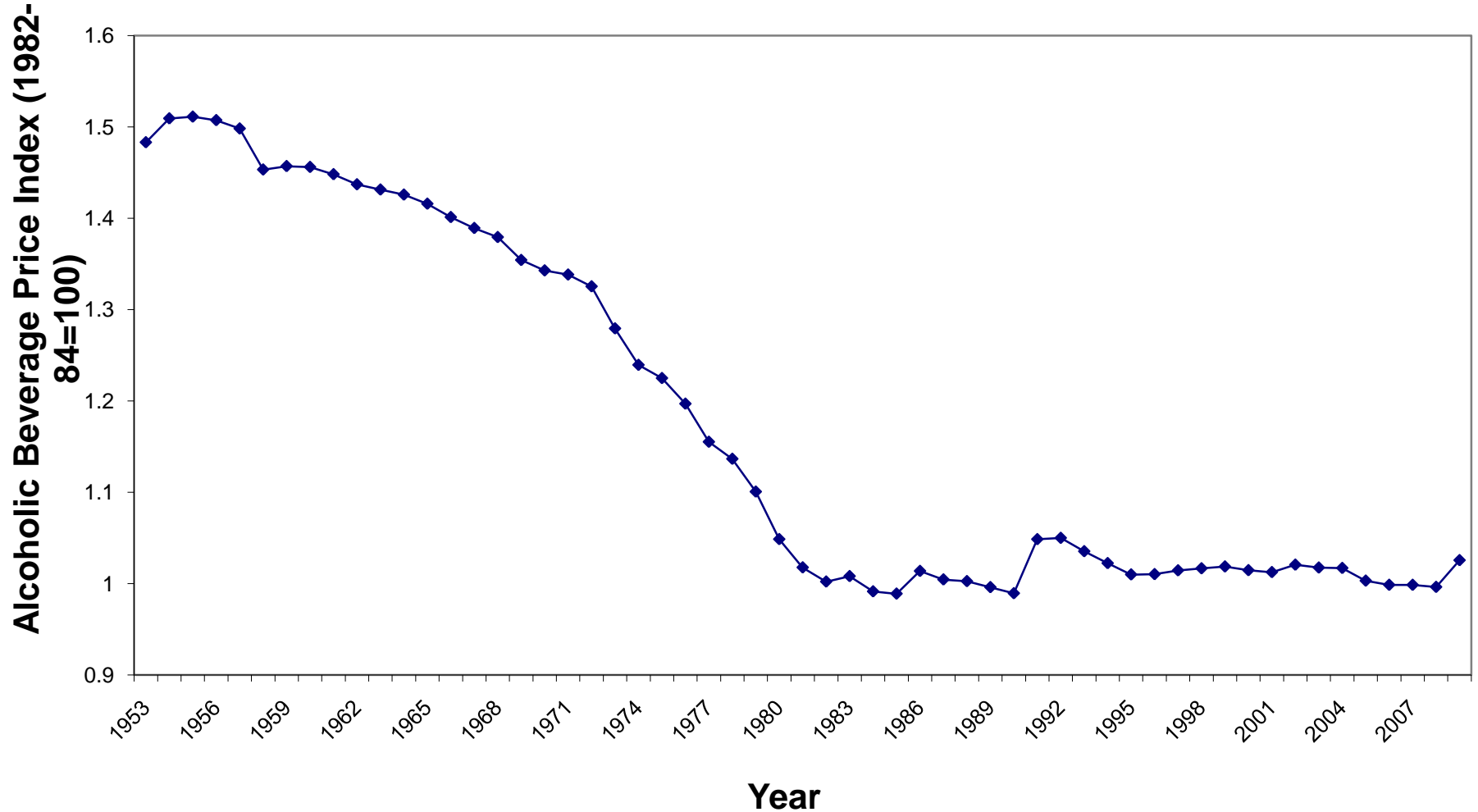
Source: Bureau of Labor Statistics, and author's calculations

# Erosion of State Taxes



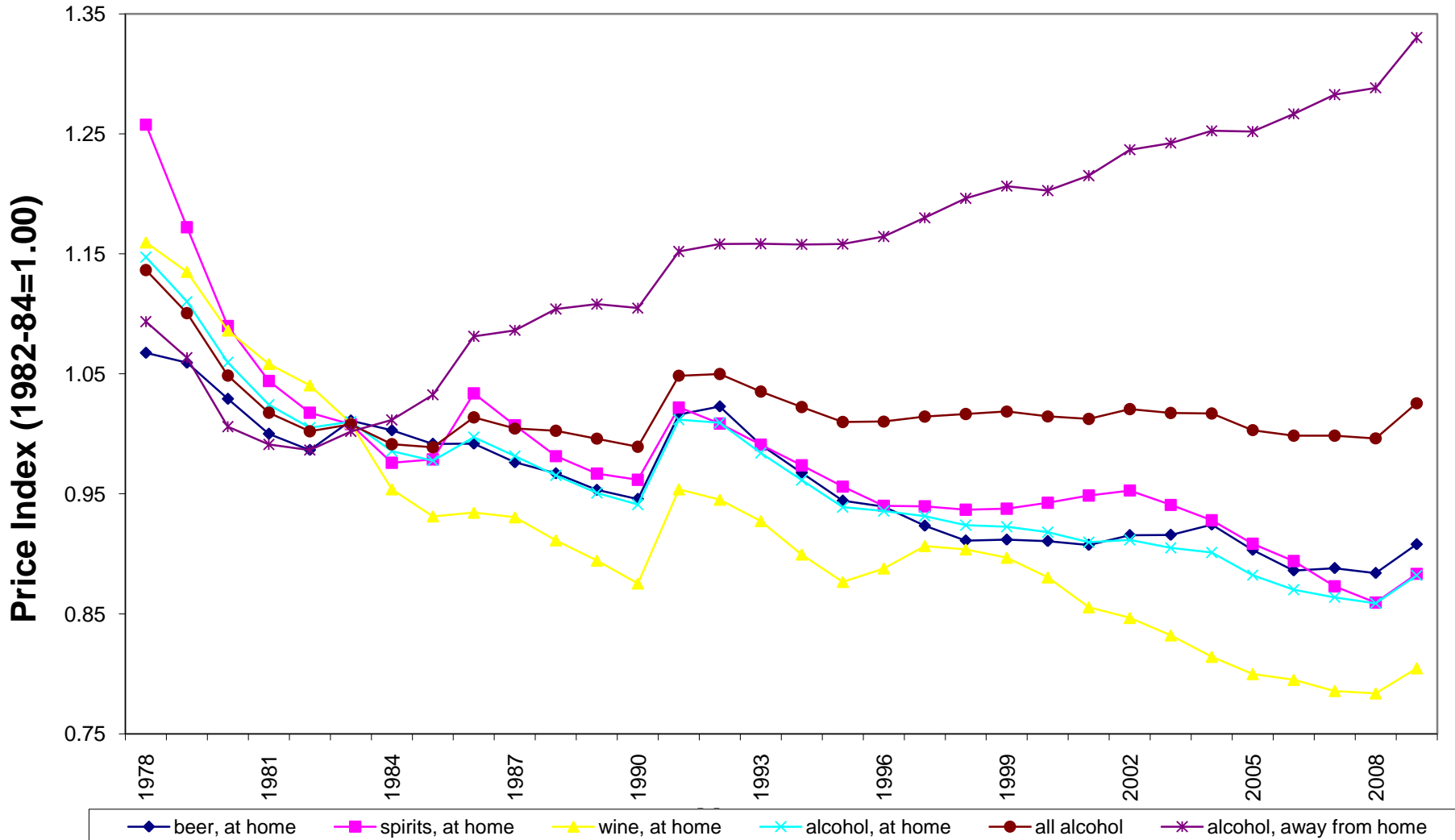
Source: Wagenaar et al. 2000

# Inflation Adjusted Alcoholic Beverage Prices 1953-2007



Source: Bureau of Labor Statistics, and author's calculations

# Inflation Adjusted Alcoholic Beverage Prices 1978-2009



Source: Bureau of Labor Statistics, and author's calculations

Extensive econometric and other research shows that higher prices for alcoholic beverages significantly reduce drinking:

- 10 percent price increase would reduce:
  - Beer consumption by 1.7 to 4.6 percent
  - Wine consumption by 3.0 to 6.9 percent
  - Spirits consumption by 2.9 to 8.0 percent
  - Overall consumption by 4.4 percent
  - Heavy drinking by 2.8 percent
  - Generally larger effects on youth and young adults

Source: Wagenaar et al., 2009



Extensive econometric and other research shows that higher prices for alcoholic beverages significantly reduce:

- Drinking and driving, traffic crashes, and motor-vehicle accident fatalities
- Deaths from liver cirrhosis, acute alcohol poisoning, alcohol-related cancers, cardiovascular diseases, and other health consequences of excessive drinking
- Violence, including spouse abuse, child abuse, and suicides
- Other consequences of drinking, including work-place accidents, teenage pregnancy, and incidence of sexually transmitted diseases

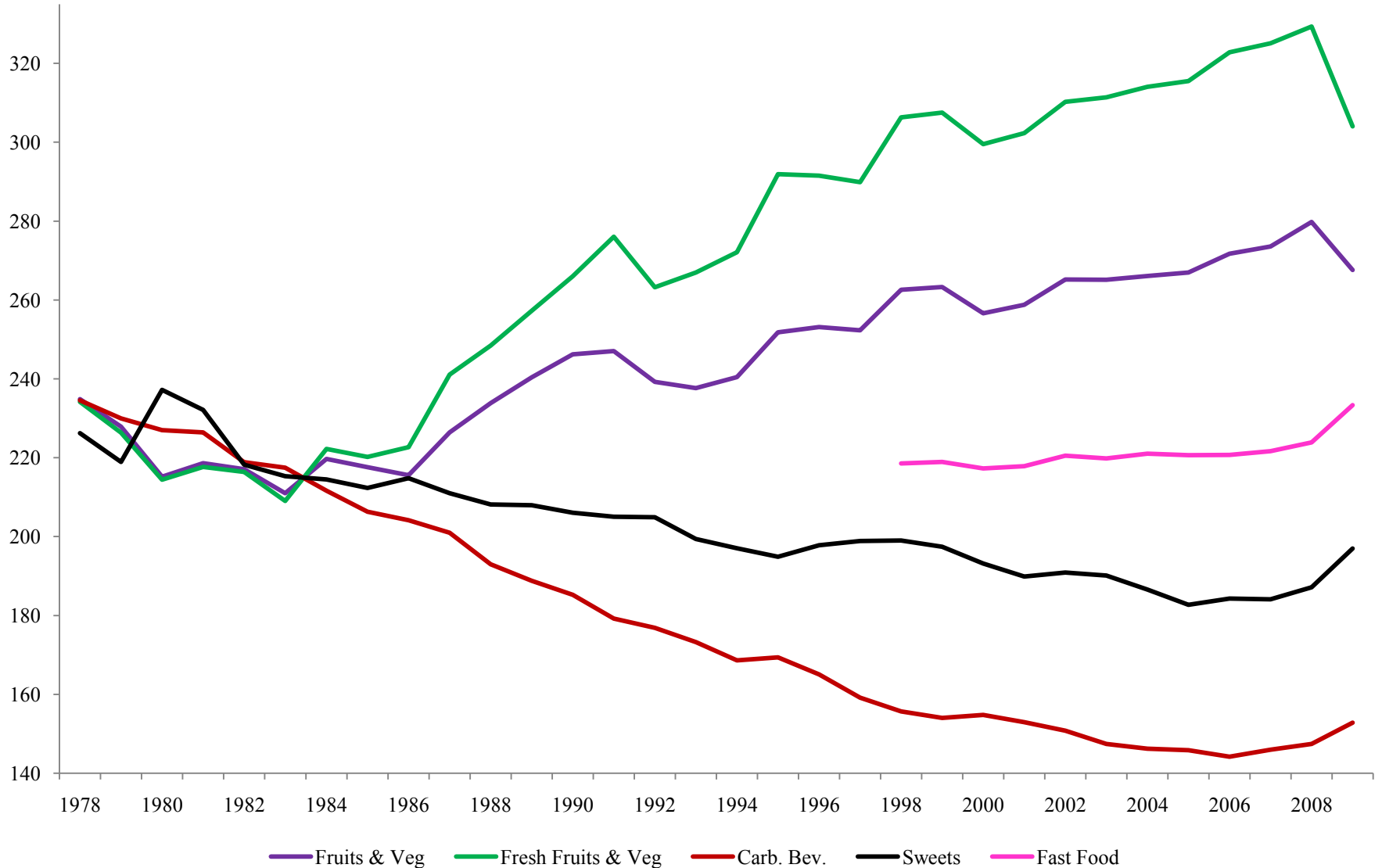
Source: Chaloupka, 2009



# FOOD PRICES, OBESITY TRENDS AND POLICY OPTIONS

# Selected Food Price Trends, 1978-2009

## Inflation Adjusted



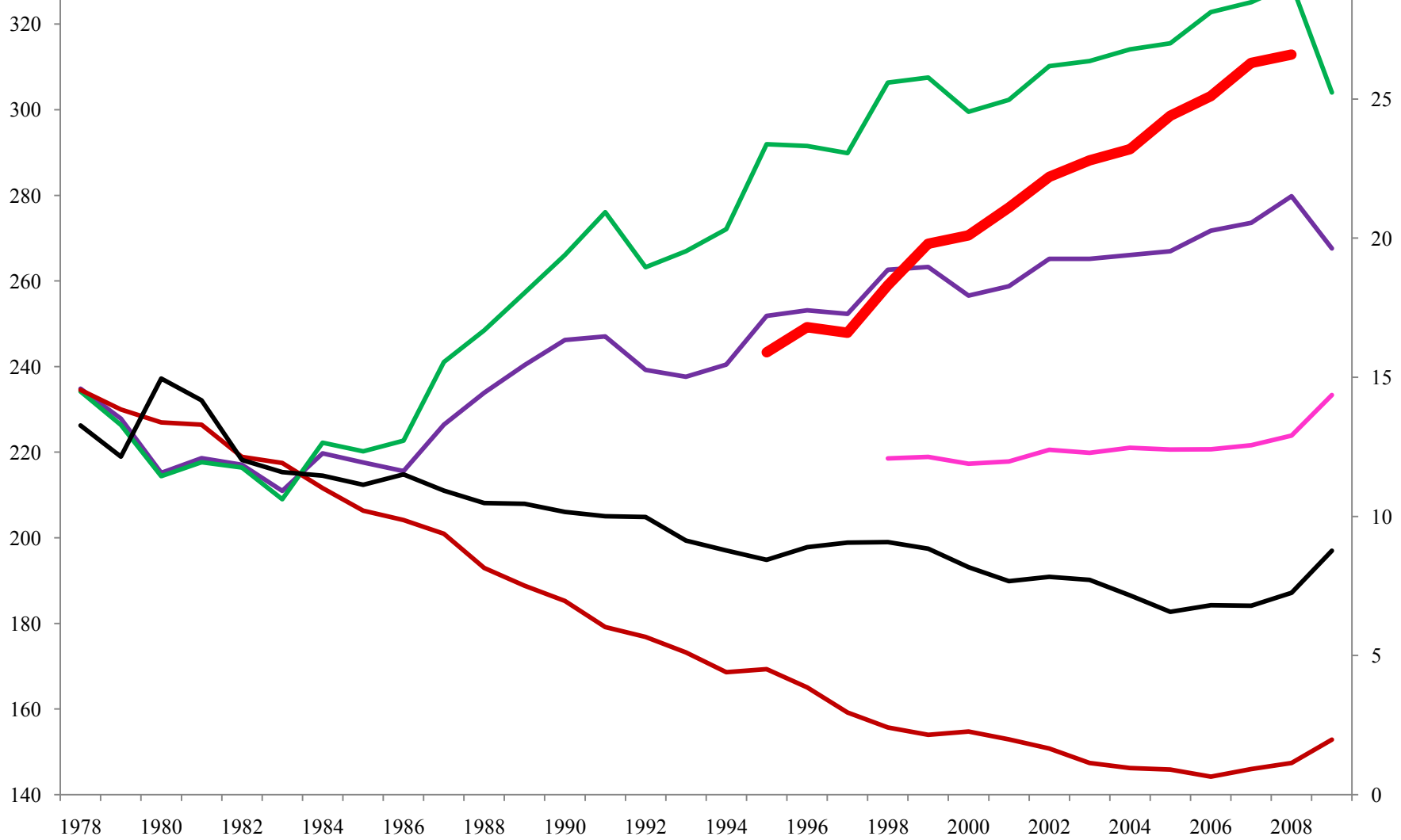
Source: Bureau of Labor Statistics, 2009 and authors' calculations



# Food Prices and Obesity Prevalence

## Inflation Adjusted

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— Fruits & Veg   
 — Fresh Fruits & Veg   
 — Carb. Bev.   
 — Sweets   
 — Fast Food   
 — % Obese, adults

Source: BRFSS 2009, BLS 2009 and authors' calculations

Extensive economic research on the impact of food and beverage prices on consumption of various products; estimates suggest 10% own-price increase would reduce:

- Cereal consumption by 5.2%
- Fruit consumption by 7.0%
- Vegetable consumption by 5.9%
- Soft drink consumption by 7.8%
- Sweets consumption by 3.5%
- Food away from home consumption by 8.1%

Source: Andreyeva, et al., in press



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

- Higher prices for sugary foods would significantly reduce prevalence of overweight and obesity among adults (Miljkovic et al., 2008)
- 10% increase in fast food prices would reduce prevalence of adolescent obesity by almost 6% (Powell, et al., 2007)
- Weight outcomes among low-income populations and those with higher BMI more responsive to prices
  - BMI of kids in families below poverty level about 50% more responsive to F&V prices
  - BMI for kids at unhealthy weight levels 39% more responsive to F&V prices
  - BMI of adolescents at unhealthy weight levels about 4 times more responsive to F&V and fast food prices.



Emerging evidence on prices suggests that significant changes in relative prices of healthy and unhealthy foods could reduce BMI and likelihood of obesity

- Increases in prices of less healthy foods and beverages
  - taxes
  - elimination of corn subsidies
  - disallow purchases under food assistance programs
- Reductions in prices of more healthy foods and beverages
  - subsidies
  - expanded or favored treatment under food assistance programs

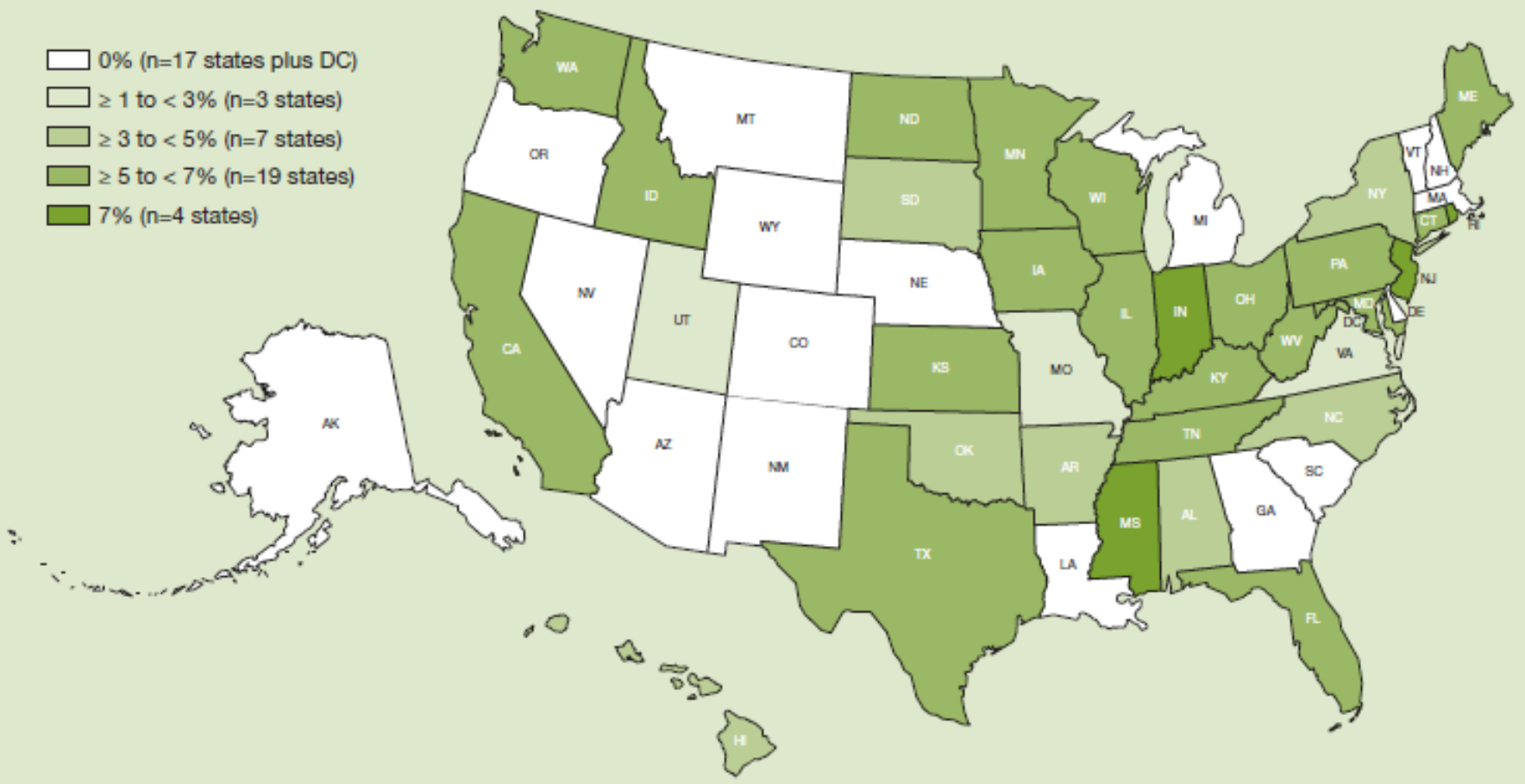
Source: Powell and Chaloupka, 2009; Chaloupka et al., 2009



# Policy Options: Soda Taxes



State Soda Sales Tax Rates (as of January 1, 2009)



Source: Bridging the Gap Program, Health Policy Center, University of Illinois at Chicago with data compiled by The MayaTech Corporation. In addition to sales taxes, the following states currently apply excise taxes to bottles, syrups, and/or powders/mixes at the manufacturer, distributor or retail level: Alabama, Arkansas, Rhode Island, Tennessee, Virginia, Washington, and West Virginia.

- Recent and ongoing research suggests
  - Household soda purchases lower in states where higher sales tax applies to sodas
  - Children's soda consumption lower where sales taxes are higher
  - Likelihood of obesity not associated with presence/level of tax
    - *Current taxes too low to significantly reduce calorie intake*
  - Considerable revenue generating potential of soda taxes

Source: Chaloupka et al., 2009; Brownell, et al., 2009;

Bridging the Gap, work in progress



For more information:

[www.bridgingthegapresearch.org](http://www.bridgingthegapresearch.org)

[www.impactteen.org](http://www.impactteen.org)

[www.yaleruddcenter.org/sodatax.aspx](http://www.yaleruddcenter.org/sodatax.aspx)

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