

tobaccoeconomics

Economic Research Informing Tobacco Control Policy

Fiscal Policy & Health

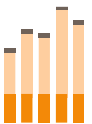
Frank J. Chaloupka, University of Illinois at Chicago

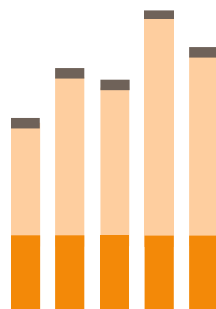
World Cancer Congress

4 October 2018, Kuala Lumpur, Malaysia

Overview

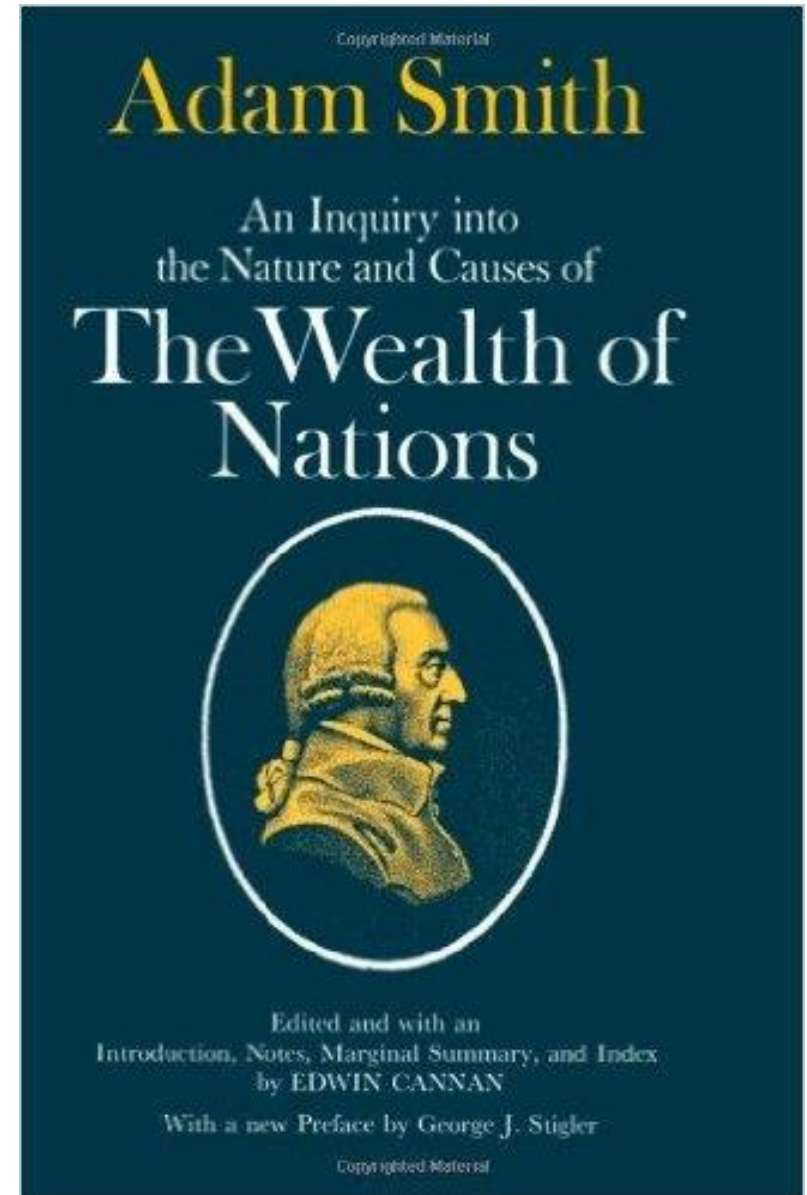
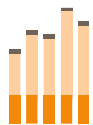
- Impact of Tobacco, Alcohol, and Sugary Beverage Taxes on Use and Consequences of Use
- Myths and Facts About Economic Impact of Taxes

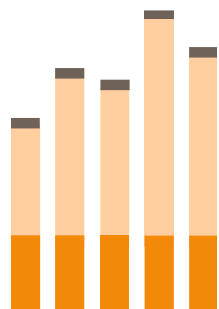




Impact of Taxes & Prices on Unhealthy Behaviors

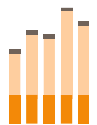
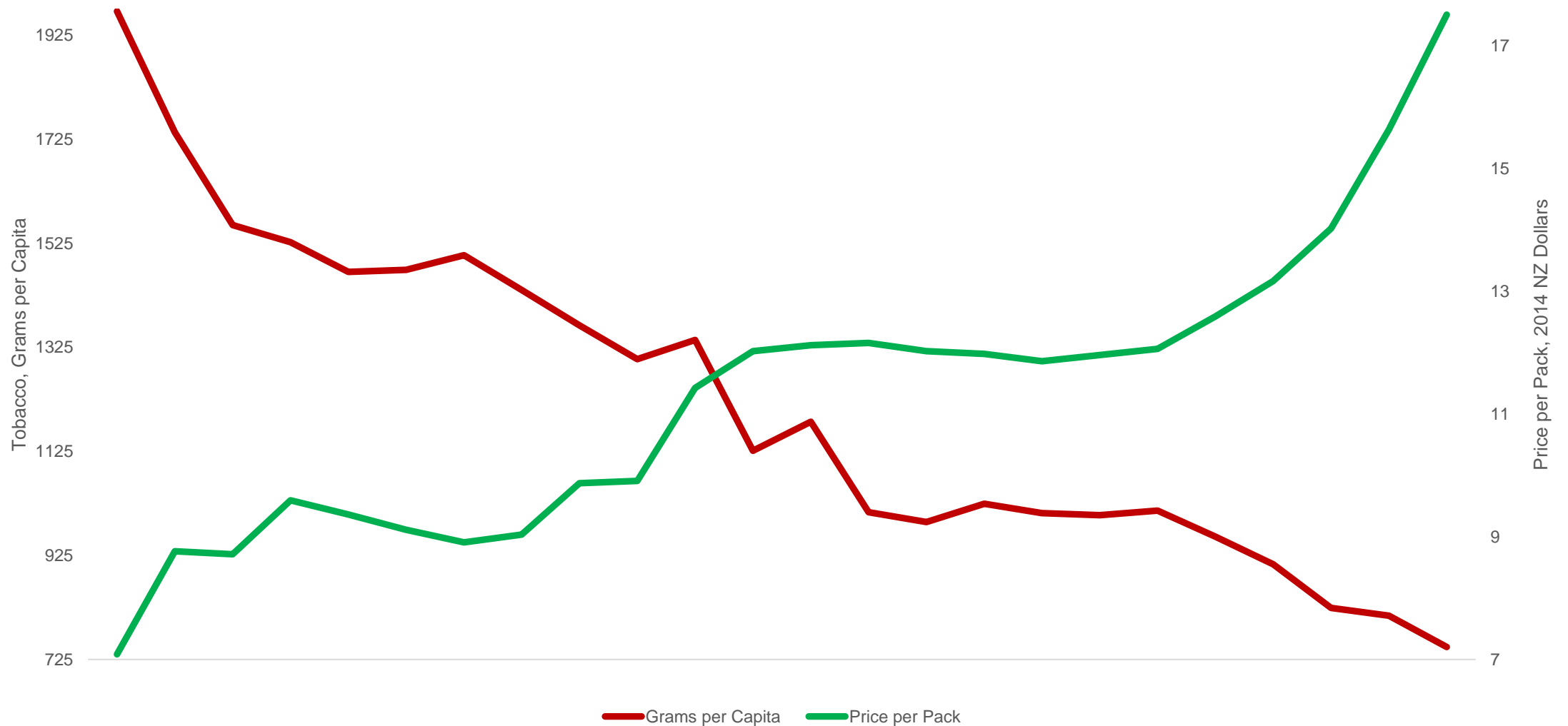
"Sugar, rum, and tobacco,
*are commodities which are no
where necessaries of life,
which are become objects of
almost universal consumption,
and which are therefore*
**extremely proper subjects
of taxation.**





Taxes, Prices & Tobacco Use

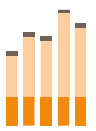
Tobacco Consumption and Cigarette Prices New Zealand, 1990-2013, Inflation Adjusted



Sources: EIU, World Bank and OECD

Cigarette Price & Consumption

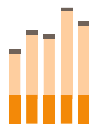
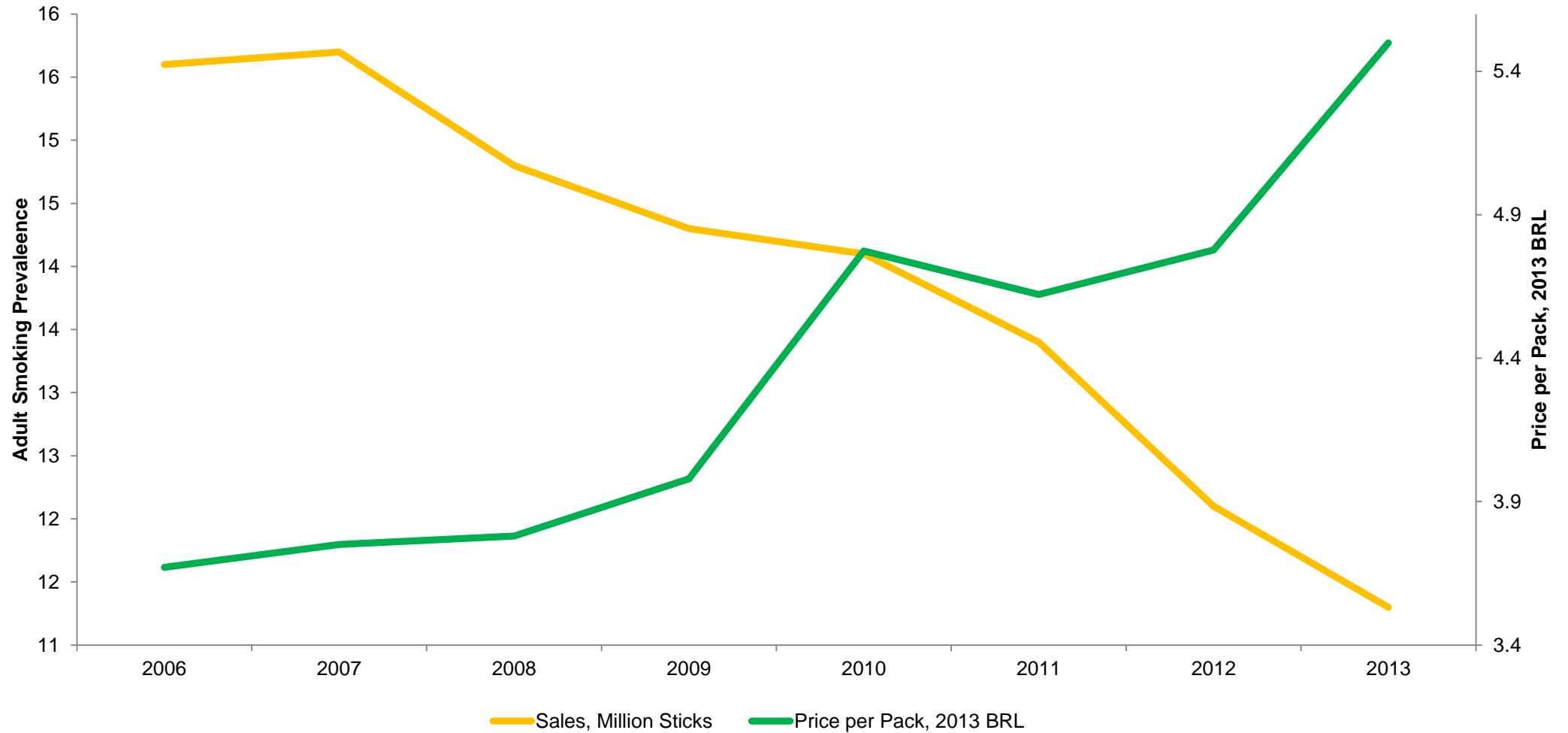
Hungary, 1990-2011, Inflation Adjusted



Sources: EIU, ERC, and World Bank

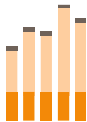
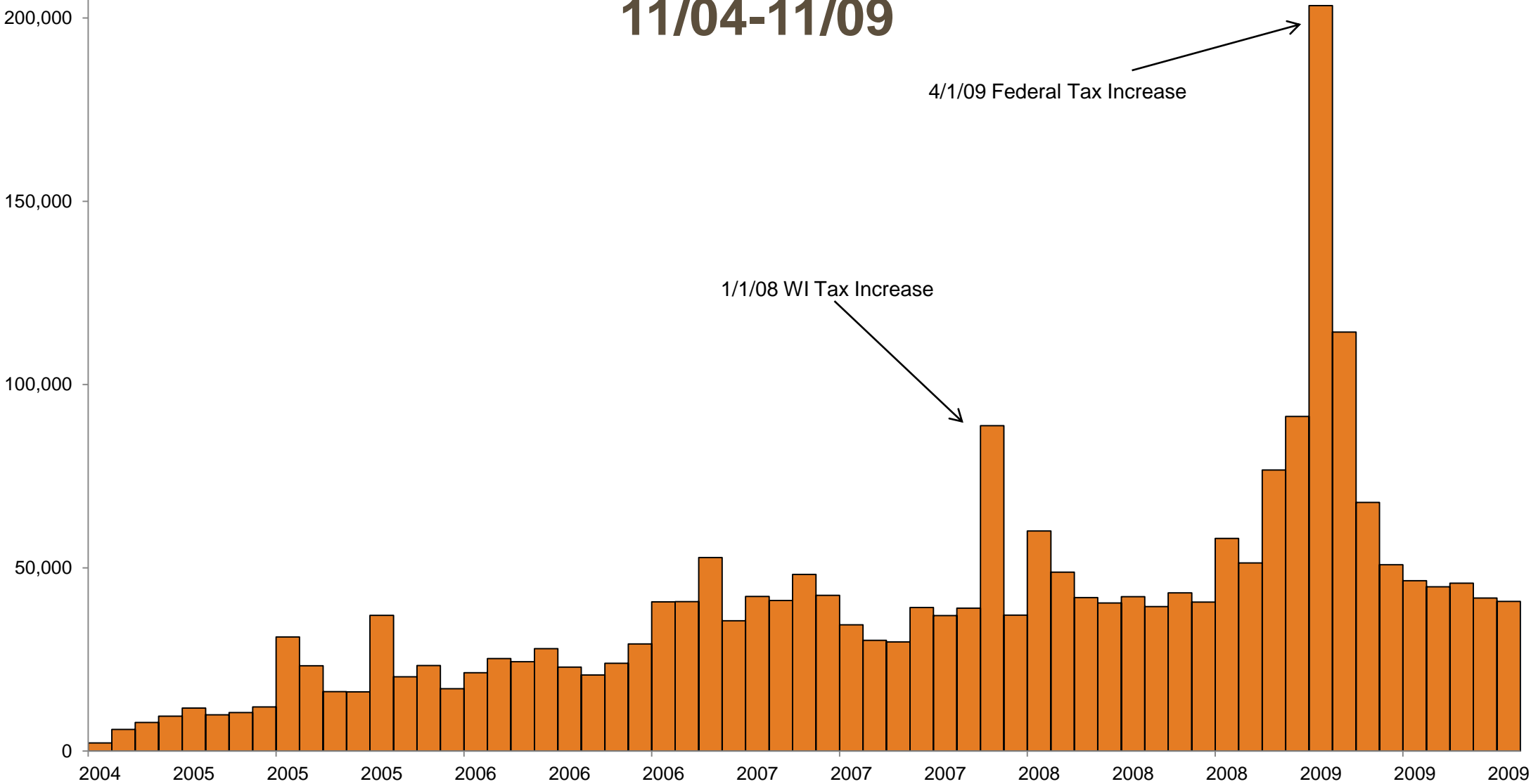
Adult Prevalence & Price, Brazil

Adult Smoking Prevalence and Cigarette Price
Brazil, Inflation Adjusted, 2006-2013

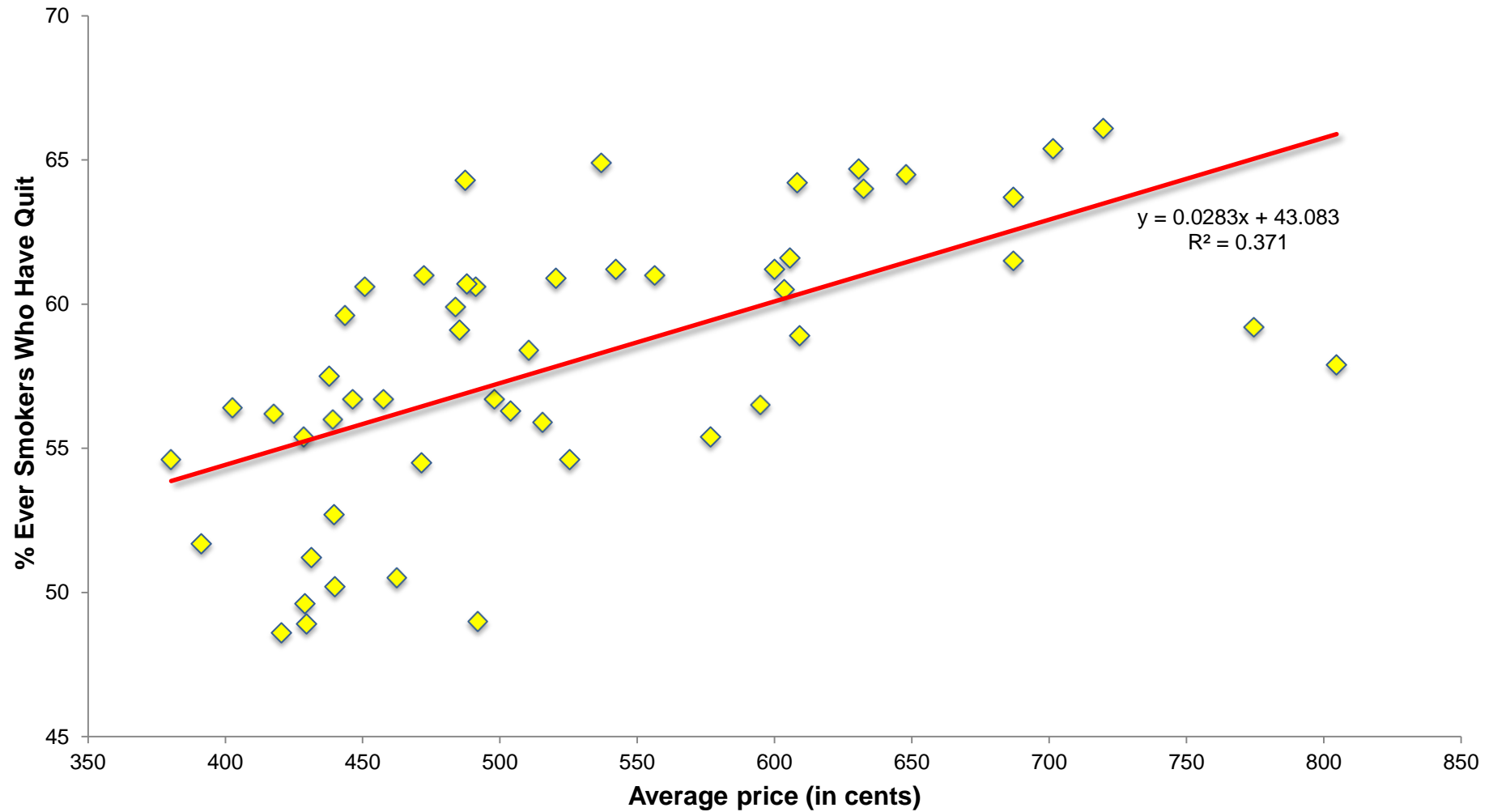


Sources: Ministry of Health, Brazil; EIU; World Bank

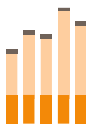
Monthly Quit Line Calls, United States 11/04-11/09



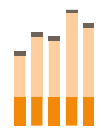
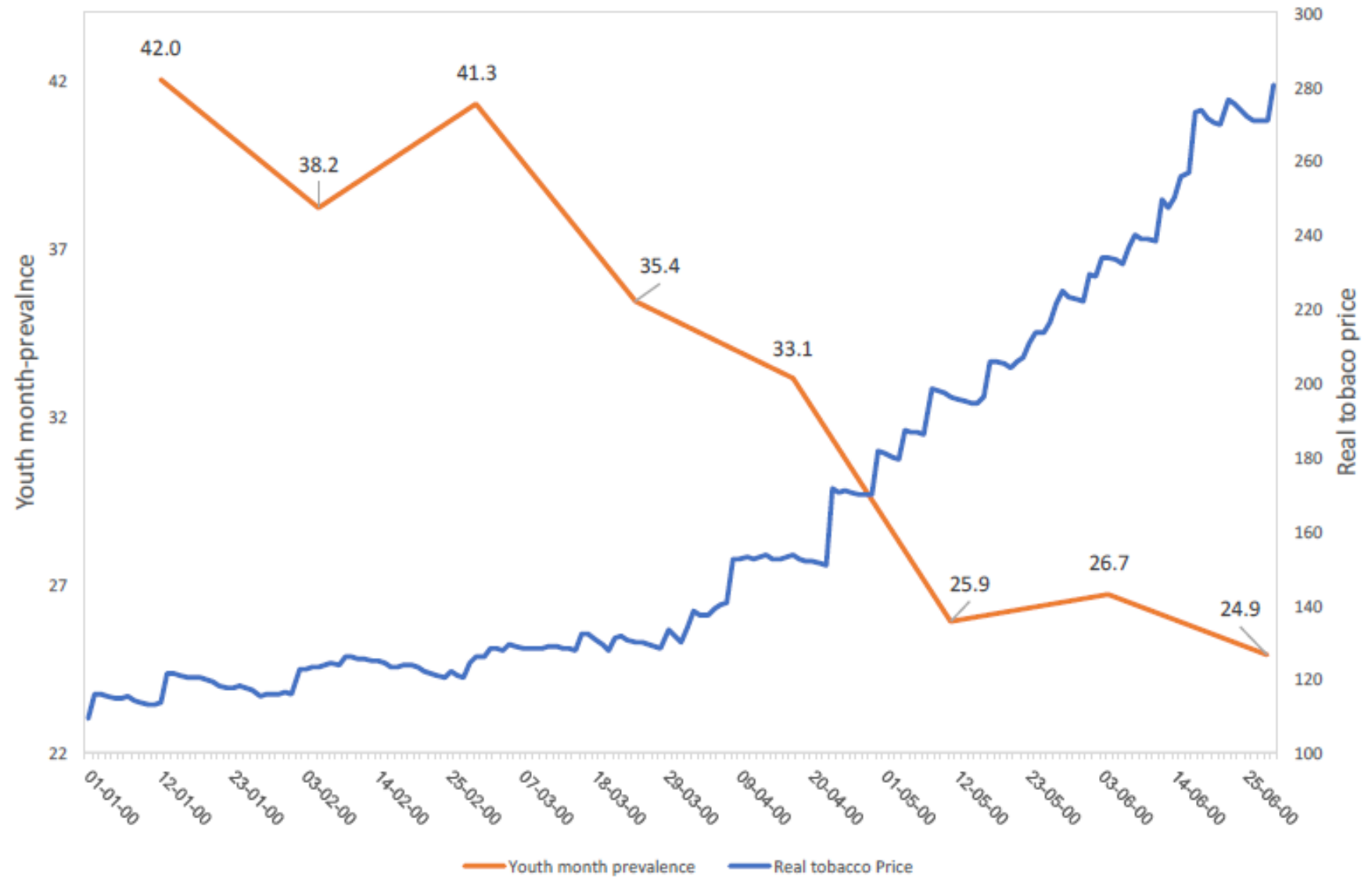
Cigarette Prices and Cessation US States, 2009



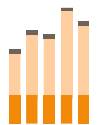
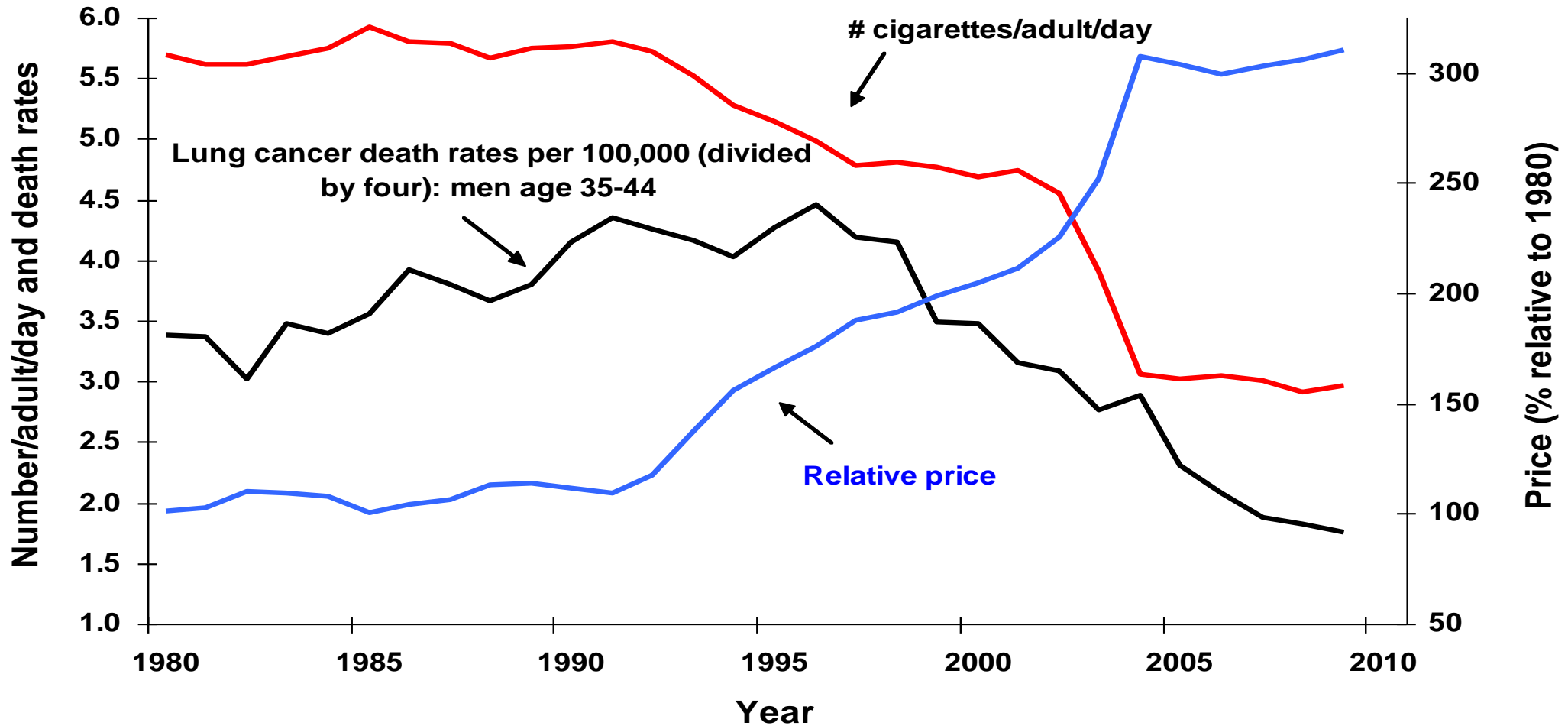
Source: BRFSS, *Tax Burden on Tobacco*, 2010, and author's calculations



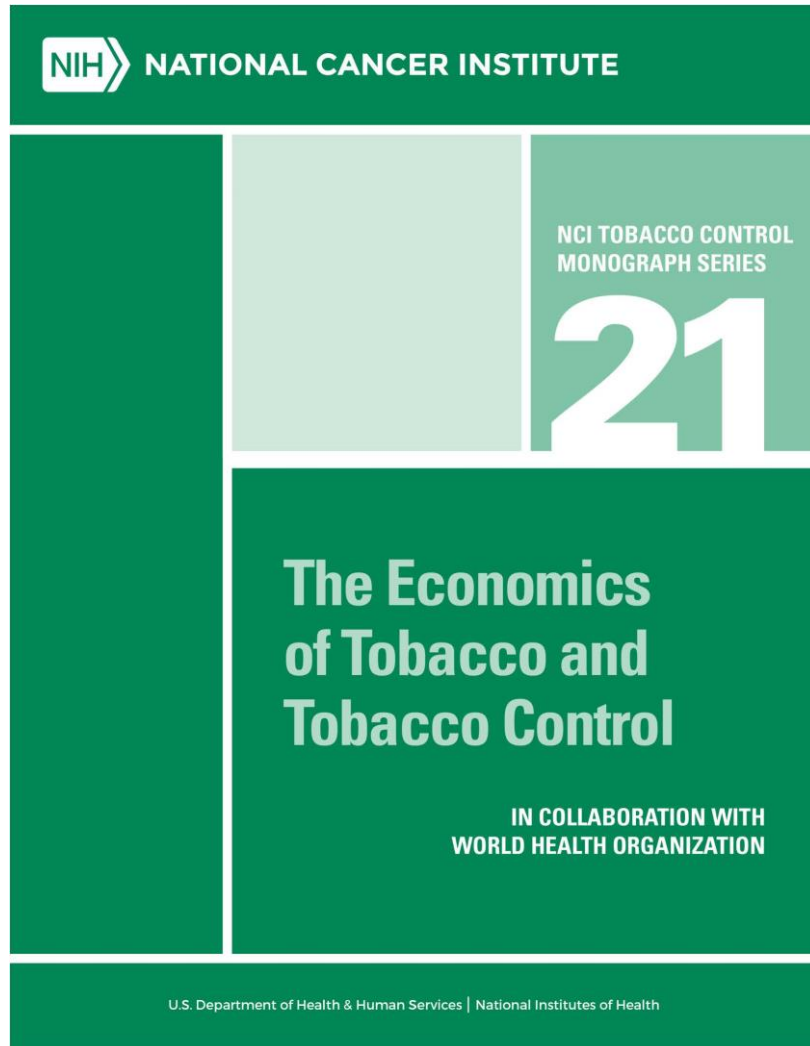
Cigarette Price & Youth Smoking Prevalence Chile, 2000-2015



Price, Consumption & Lung Cancer, France

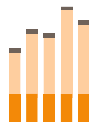


Effectiveness of Tobacco Taxes



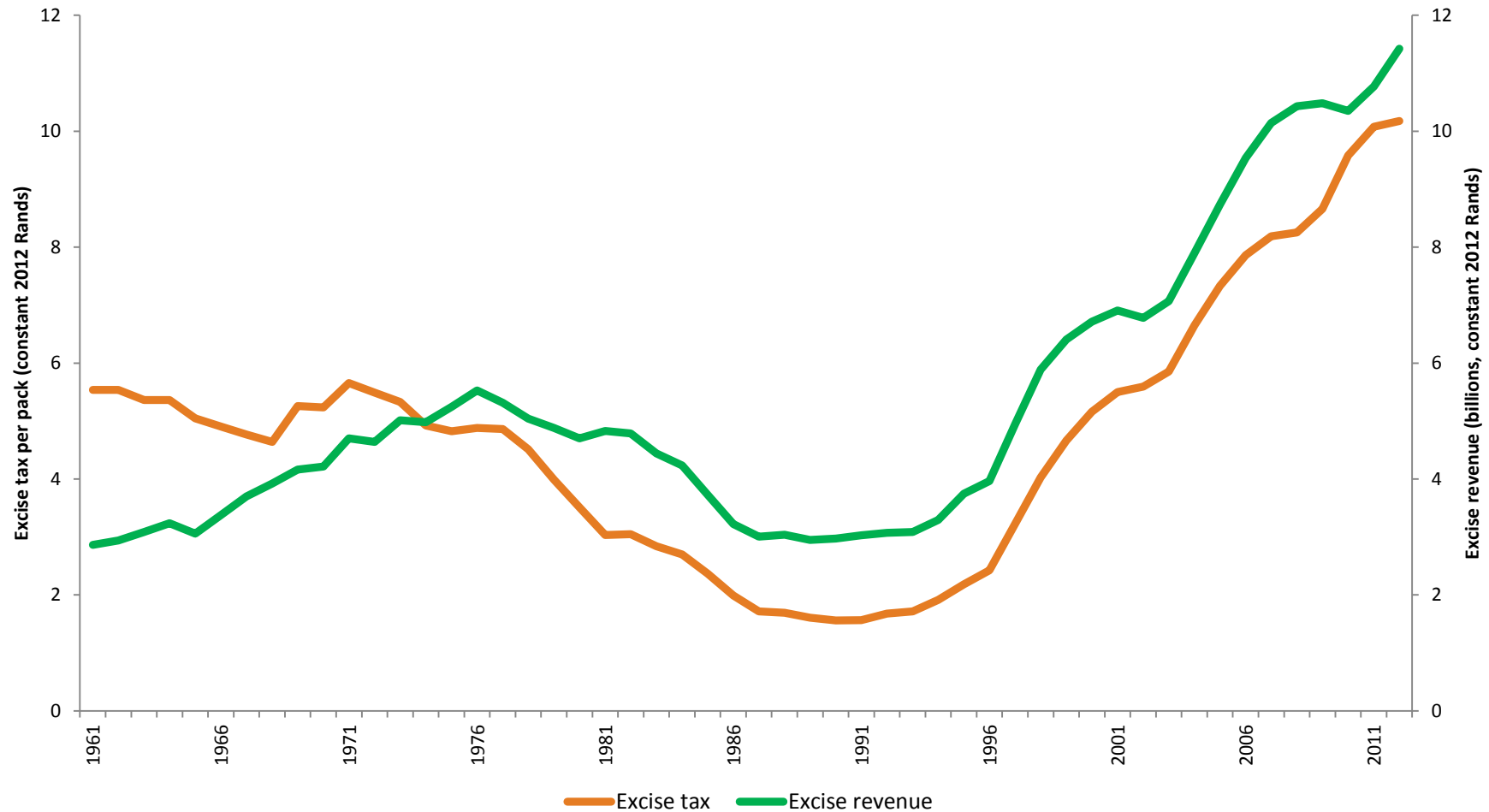
Chapter 4, Conclusion 1:

A substantial body of research, which has accumulated over many decades and from many countries, shows that **significantly increasing the excise tax and price of tobacco products is the single most consistently effective tool for reducing tobacco use.**

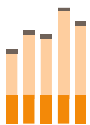


Taxes & Tax Revenues, South Africa

Excise Tax per Pack and Excise Tax Revenue
South Africa, Inflation Adjusted, 1961-2012



Sources: Blecher & Van Walbeek, 2014



Tobacco Taxes and Revenues

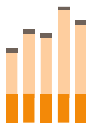
- The Addis Ababa Action Agenda states:
“... price and tax measures on tobacco can be an effective and important means to reduce tobacco consumption and health-care costs, and represent a revenue stream for financing development in many countries”

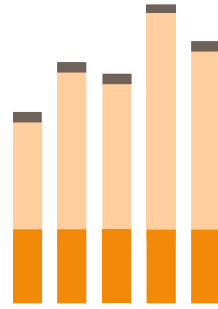


FINANCING FOR
DEVELOPMENT

13-16 JULY 2015 • ADDIS ABABA • ETHIOPIA

TIME FOR GLOBAL ACTION

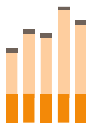




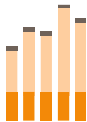
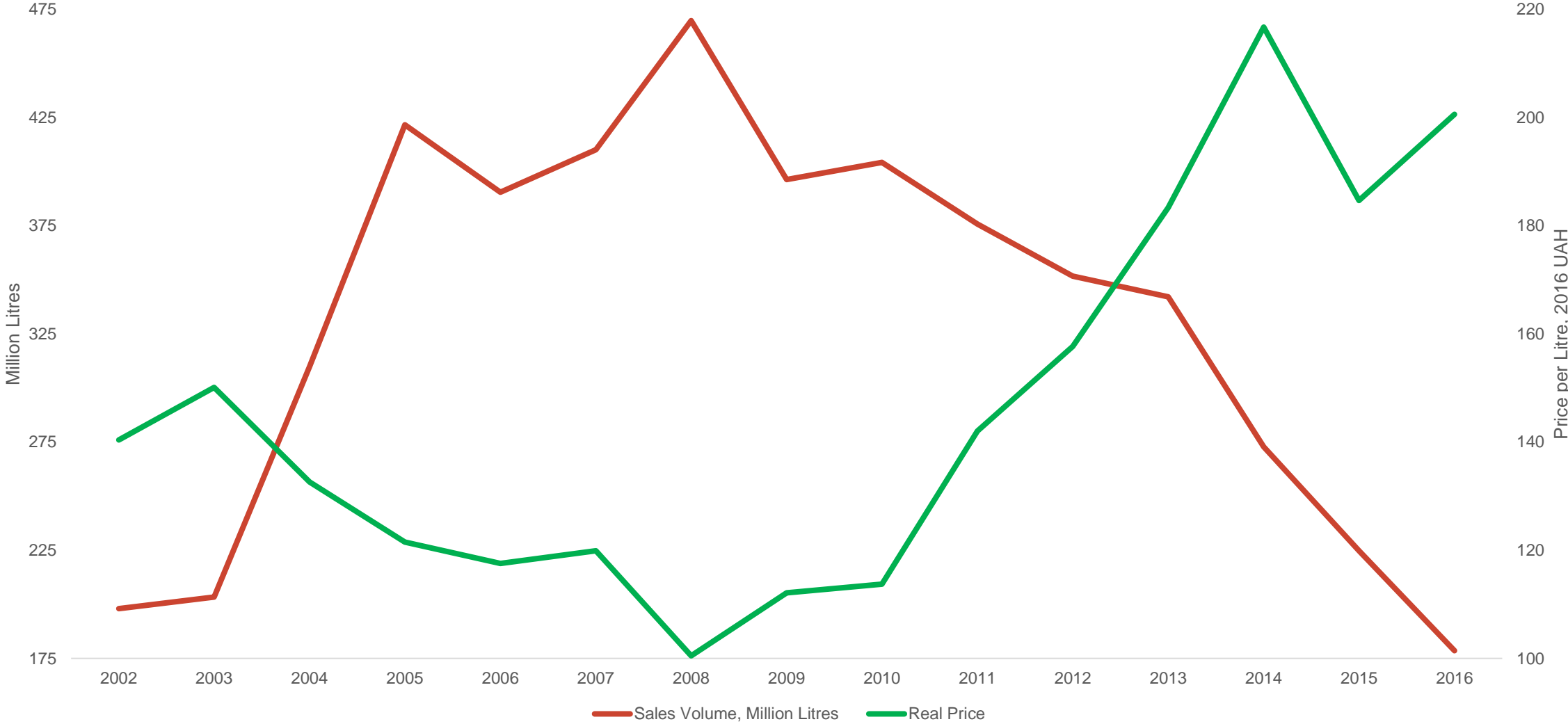
Taxes, Prices & Excessive Drinking

Alcohol Prices & Drinking

- Extensive econometric and other research shows that higher prices for alcoholic beverages significantly reduce drinking:
 - 10 percent price increase would reduce:
 - Overall consumption by 5.1% to 7.7% in HICs
 - Overall consumption by 6.4% in LMICs
 - Tax/price increases reduce all aspects of drinking
 - Prevalence, frequency, intensity
 - Generally larger effects on youth and young adults

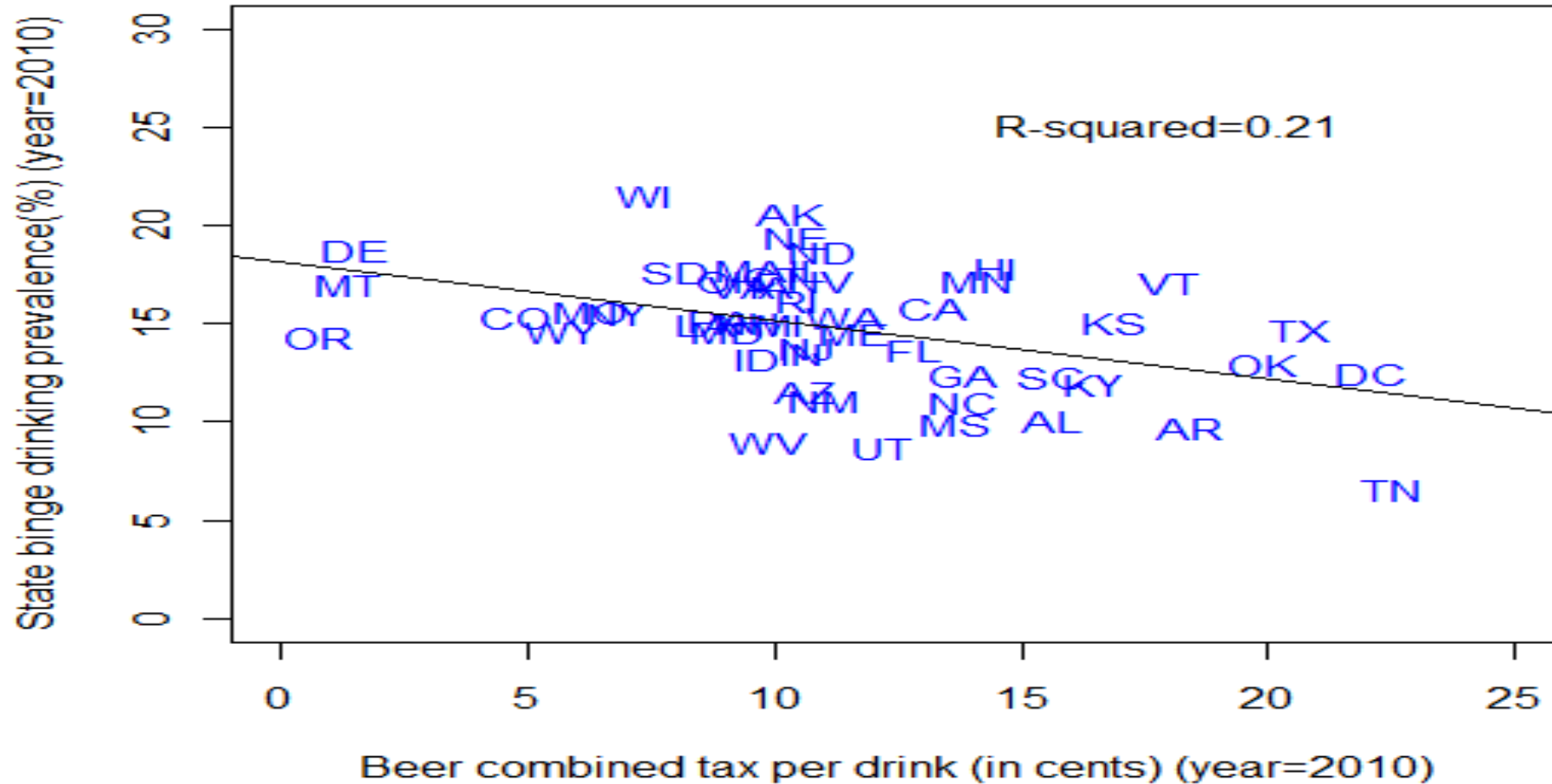


Distilled Spirits Sales and Prices Ukraine, 2002-2016, Inflation Adjusted

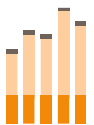


Sources: Chaloupka, et al., forthcoming

Beer Tax and Binge Drinking Prevalence US States, 2010



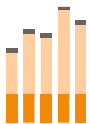
Source: Xuan et al., 2013



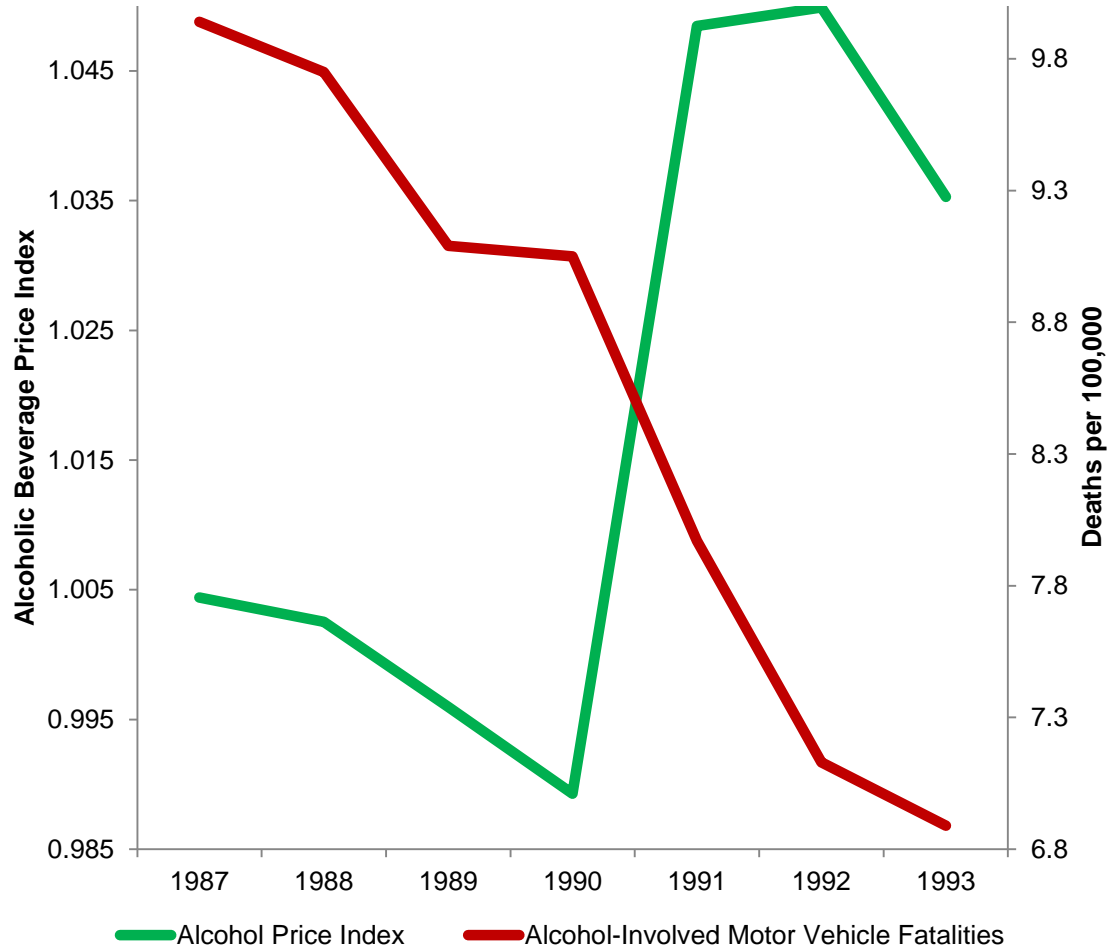
Alcohol Prices & Consequences

- Extensive econometric and other research shows that higher prices for alcoholic beverages significantly reduce:
 - Drinking and driving, traffic crashes, and motor-vehicle accident fatalities

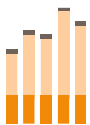
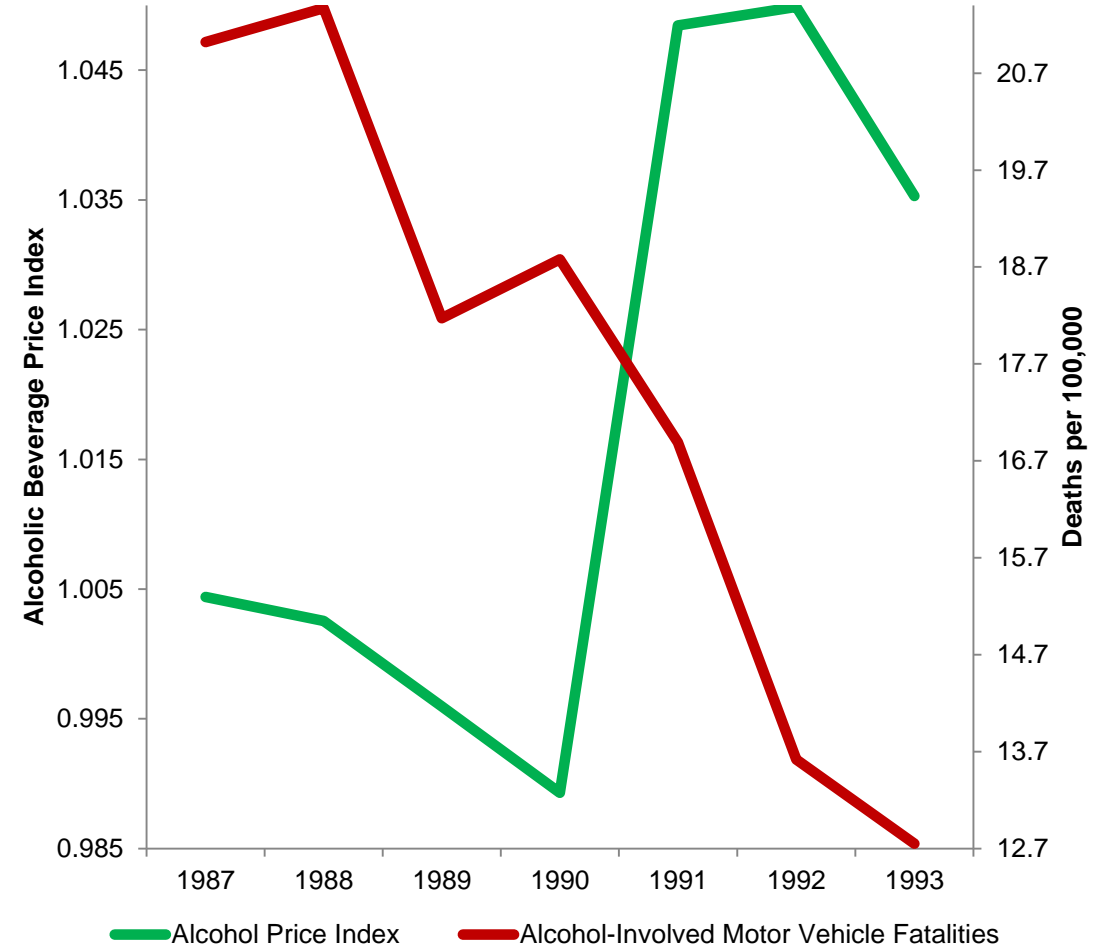
Source: Xin & Chaloupka, 2012; Wagenaar et al., 2010



Alcohol Prices and Alcohol-Related Traffic Fatalities, US, All Ages, 1987-1993



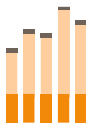
Alcohol Prices and Alcohol-Related Traffic Fatalities, US, Ages 16-20, 1987-1993



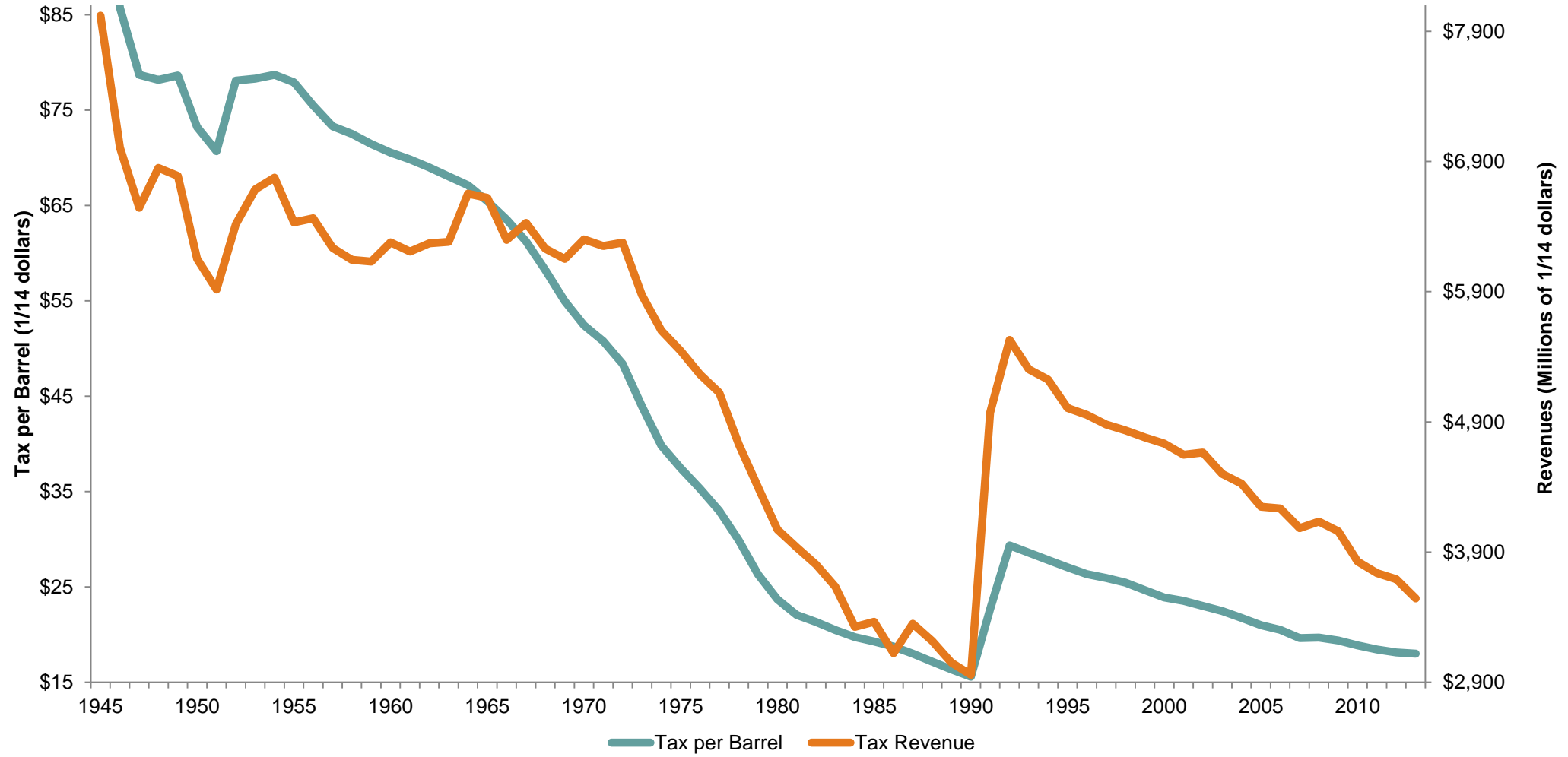
Source: NHTSA, BLS, and author's calculations

Alcohol Prices & Consequences

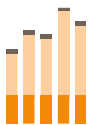
- Econometric and other research shows that higher prices for alcoholic beverages significantly reduce:
 - Deaths from liver cirrhosis, acute alcohol poisoning, alcohol-related cancers, cardiovascular diseases, and other health consequences of excessive drinking
 - Violence (including spouse abuse, child abuse, and suicide) and other crime
 - Other consequences of drinking, including work-place accidents, teenage pregnancy, and incidence of sexually transmitted diseases

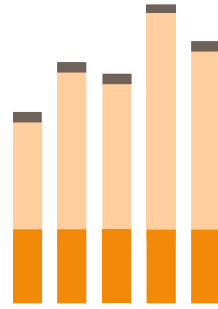


U.S. Federal Beer Tax and Tax Revenues 1945-2013, Inflation Adjusted



Source: *Brewers Almanac*, 2013, ATTTB, 2014, and author's calculations



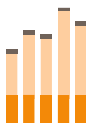


Taxes, Prices & Diet

Prices and Food & Beverage Consumption

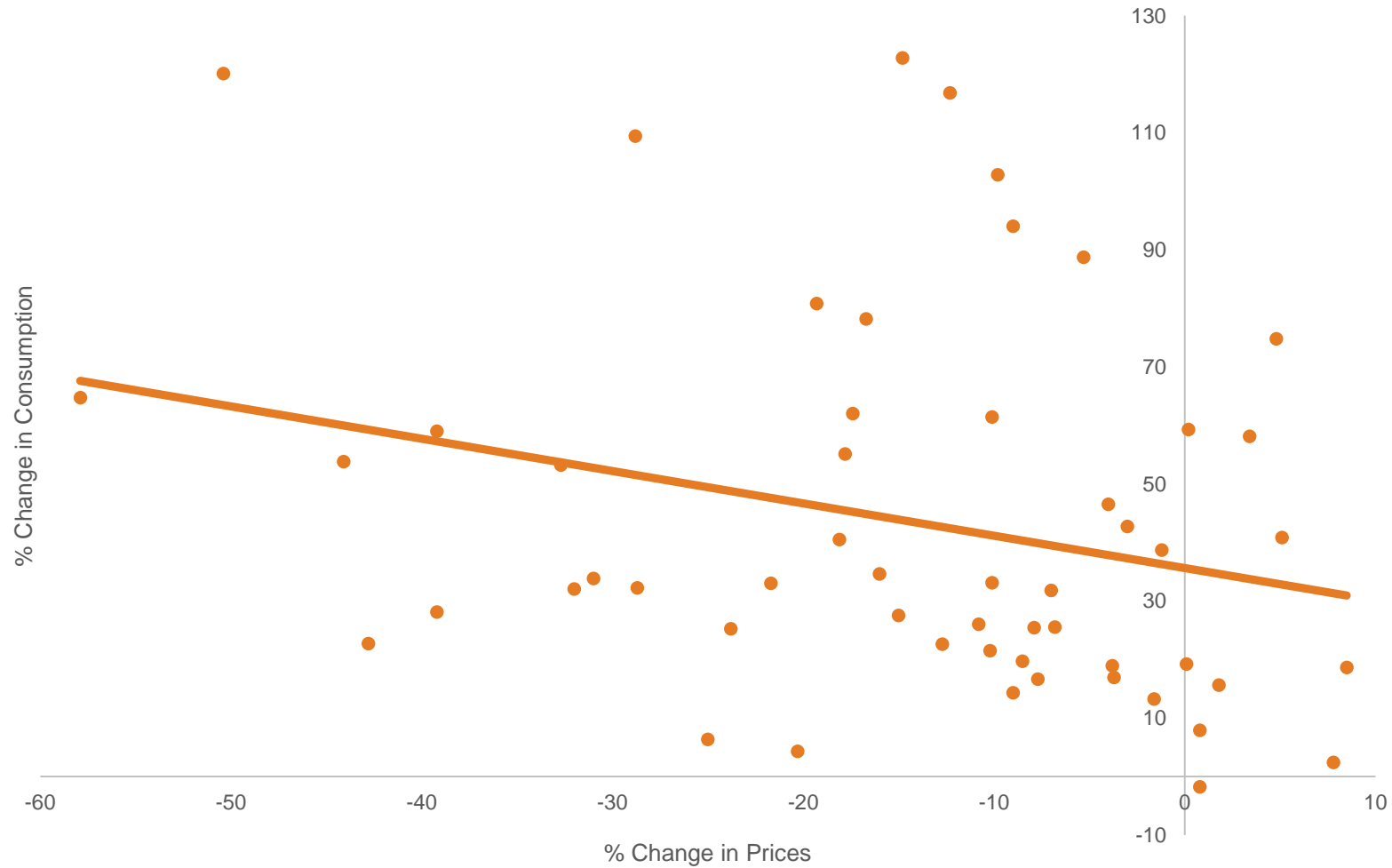
Extensive economic research on the effects of prices on food/beverage consumption

- Our recent review concludes 10% increase in own-price would reduce:
 - Sugar-sweetened beverage consumption by 12.1%
 - Fruit consumption by 4.9%
 - Vegetable consumption by 4.8%
 - Fast food consumption by 5.2%

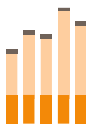


Sweet & Savory Snack Prices & Consumption

Percentage Change, 2000-2014, Selected Countries

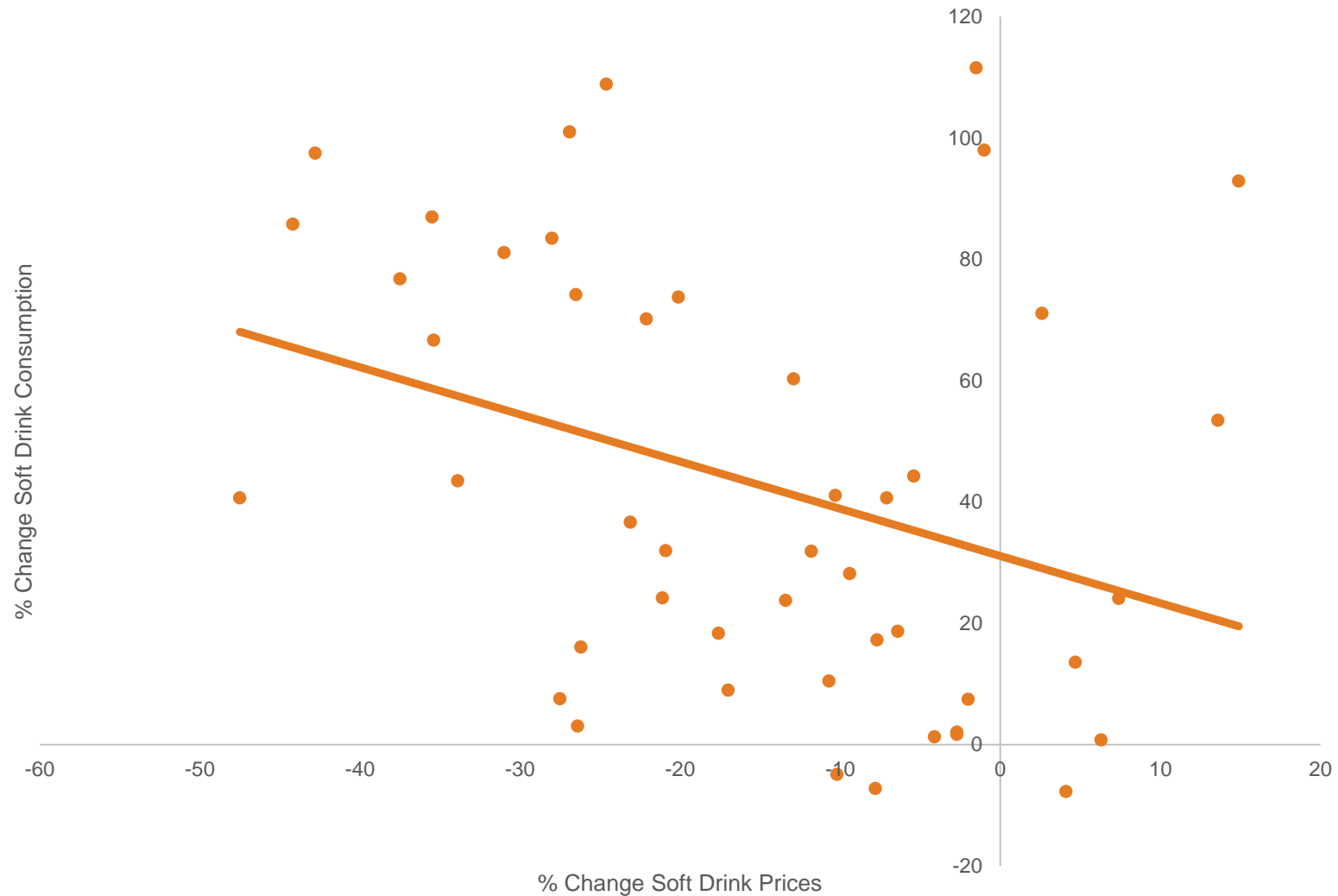


Source: Euromonitor, 2015, and author's calculations

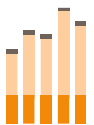


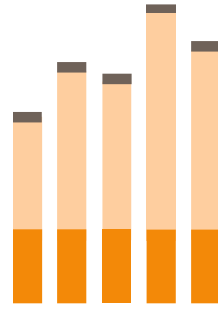
Soft Drink Prices & Consumption

Percentage Change, 2000-2014, Selected Countries



Source: Euromonitor, 2015, and author's calculations





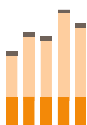
Taxes, Prices & Obesity

Selected Food Price & Adult Weight Trends

United States, 1961-2009, Inflation Adjusted

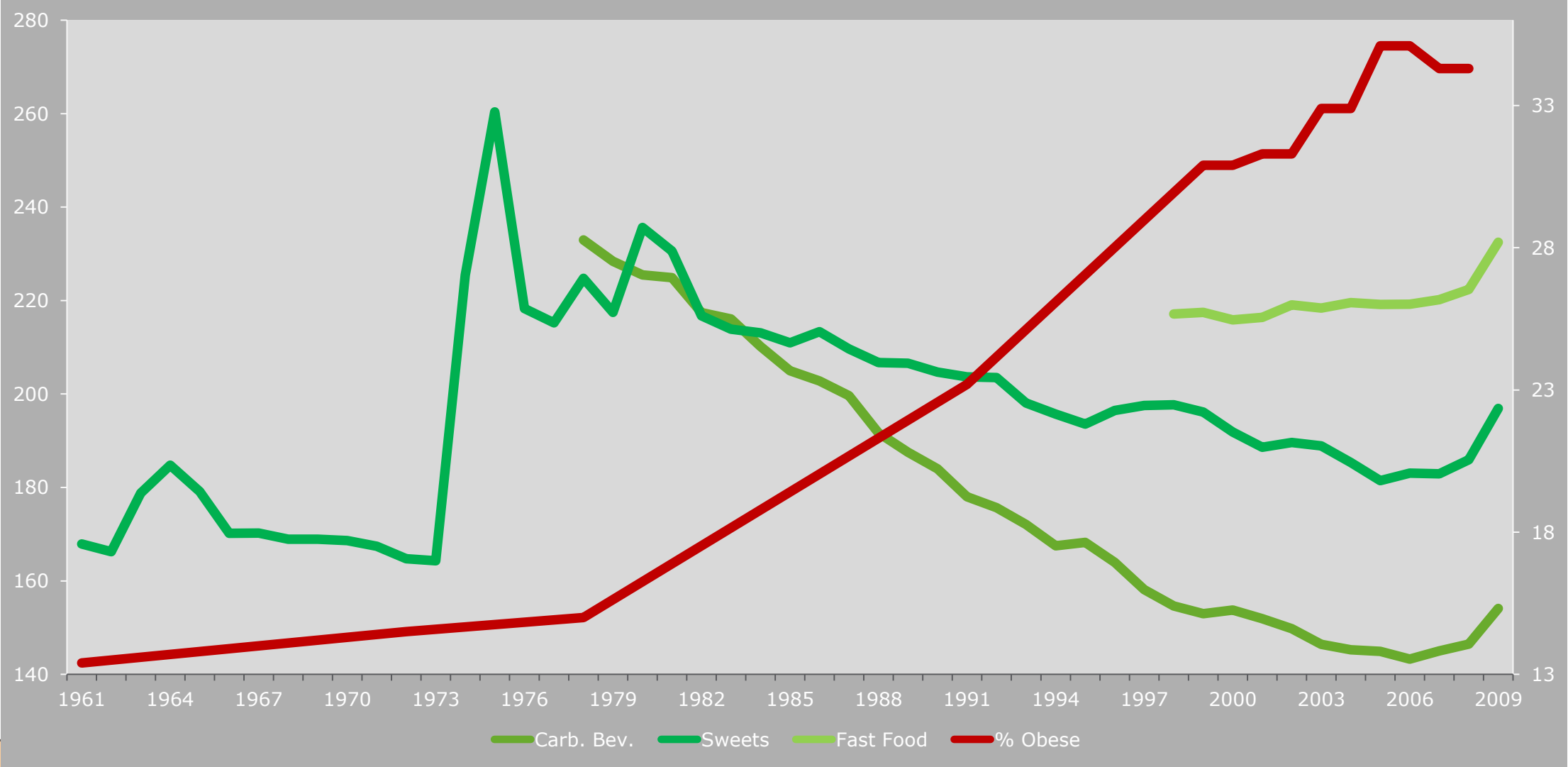


Source: BLS; NHES-I 1960-62; NHANES, 1971-74, 1976-80, 1988-94, 1999-2000, 2001-02, 2003-04, 2005-06, 2007-08



Selected Food Price & Adult Weight Trends

United States, 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

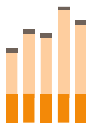


Prices and Weight Outcomes

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

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

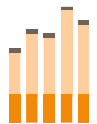
Source: Powell, et al., 2013



Prices and Weight Outcomes

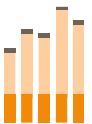
Subsidies alone likely to be counter-productive:

- Increase consumption of subsidized products
- Income effect leads to increased consumption of other products
- Net increase in caloric intake

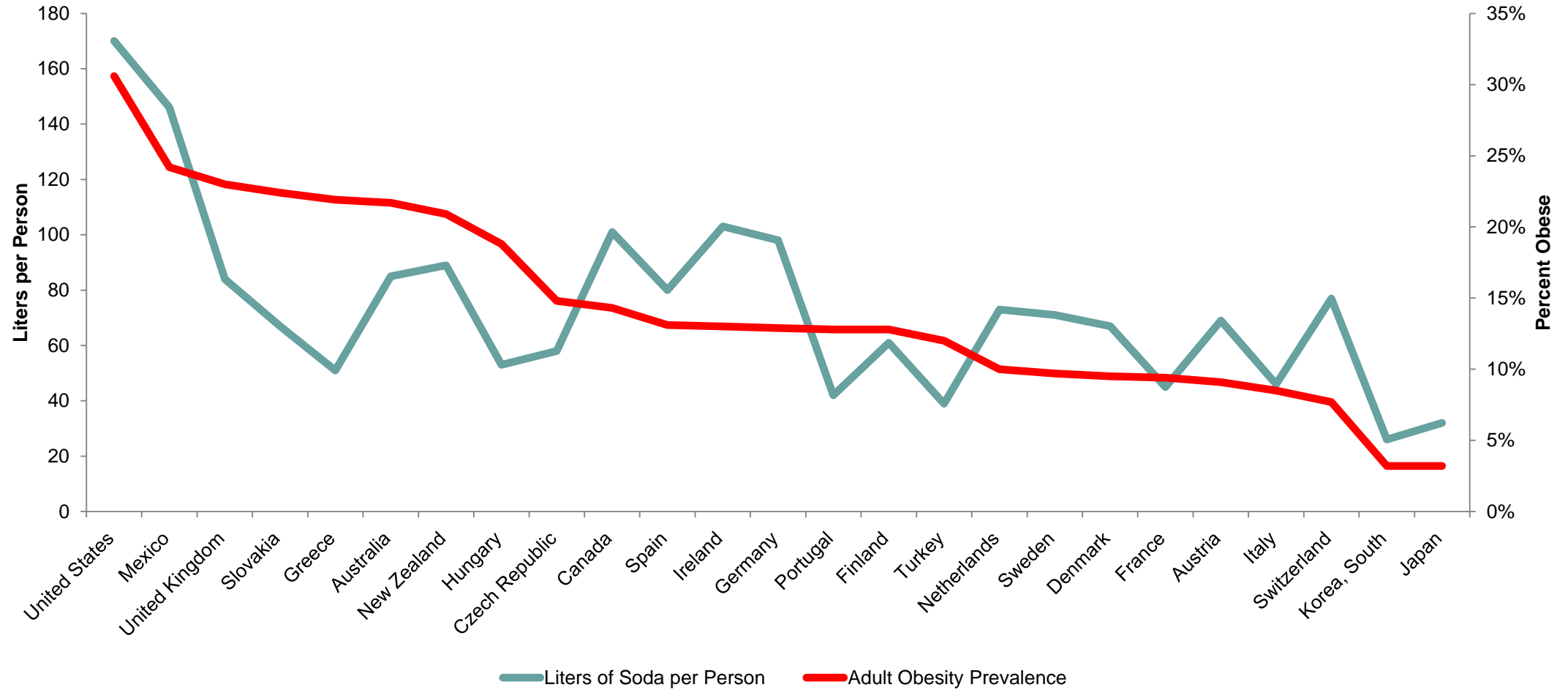


Rationale for SSB Taxes

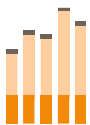
- Link to obesity
 - Several meta-analyses conclude that increased SSB consumption causes increased weight, obesity
 - Increased calories from SSBs not offset by reductions in calories from other sources
- Other health consequences
 - Type 2 diabetes, lower bone density, dental problems, headaches, anxiety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



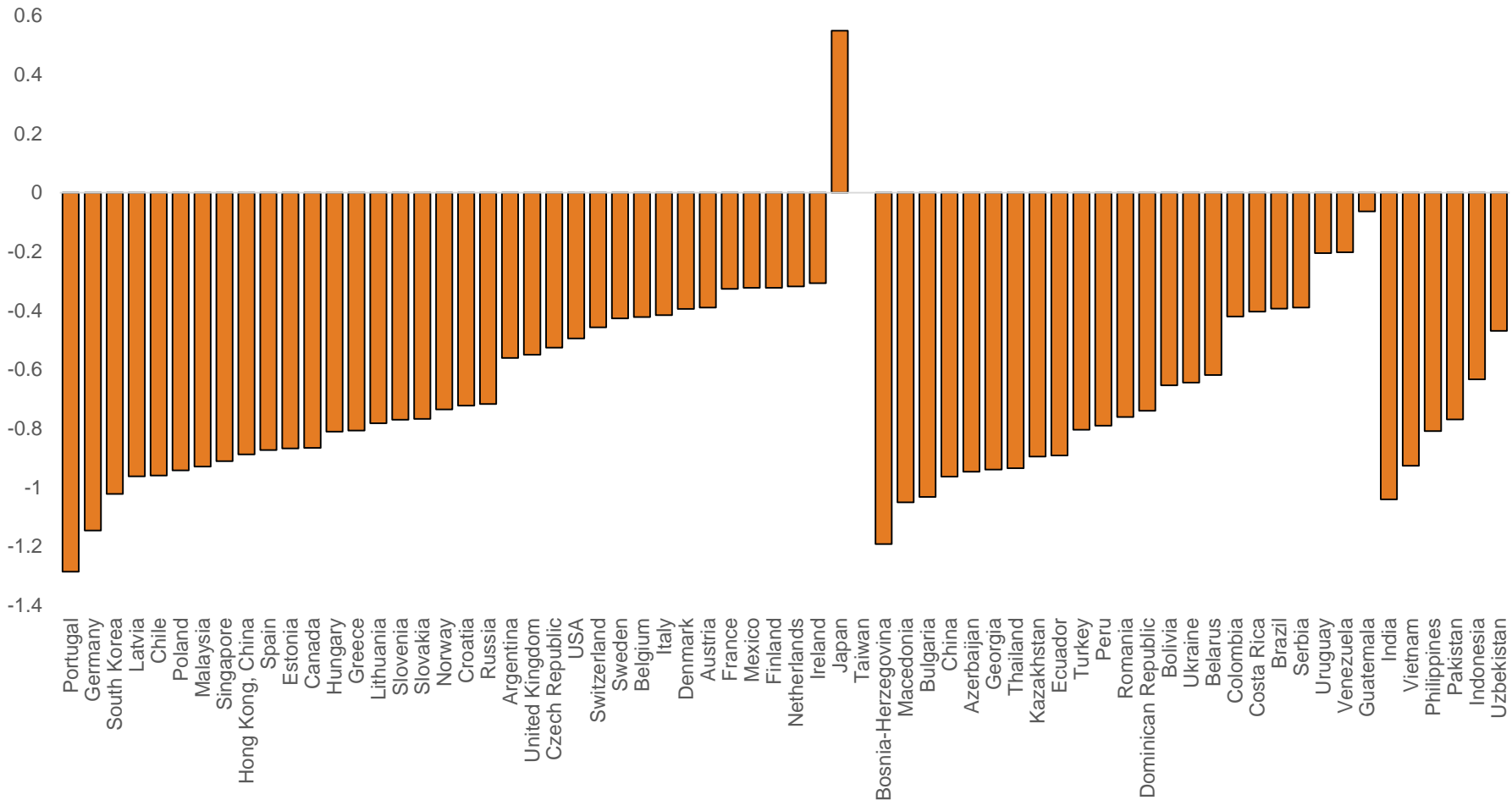
Soda Consumption & Obesity Selected Countries



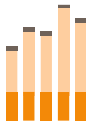
Source: Soda consumption from Euromonitor, 2011; Obesity prevalence from OECD Health Data, 2005



Change in Soft Drink Affordability 2000-2013, Selected Countries



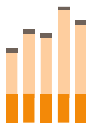
Source: Euromonitor, 2015, and author's calculations



Soda Taxes in Mexico

Evidence from Mexico's peso per liter SSB tax;

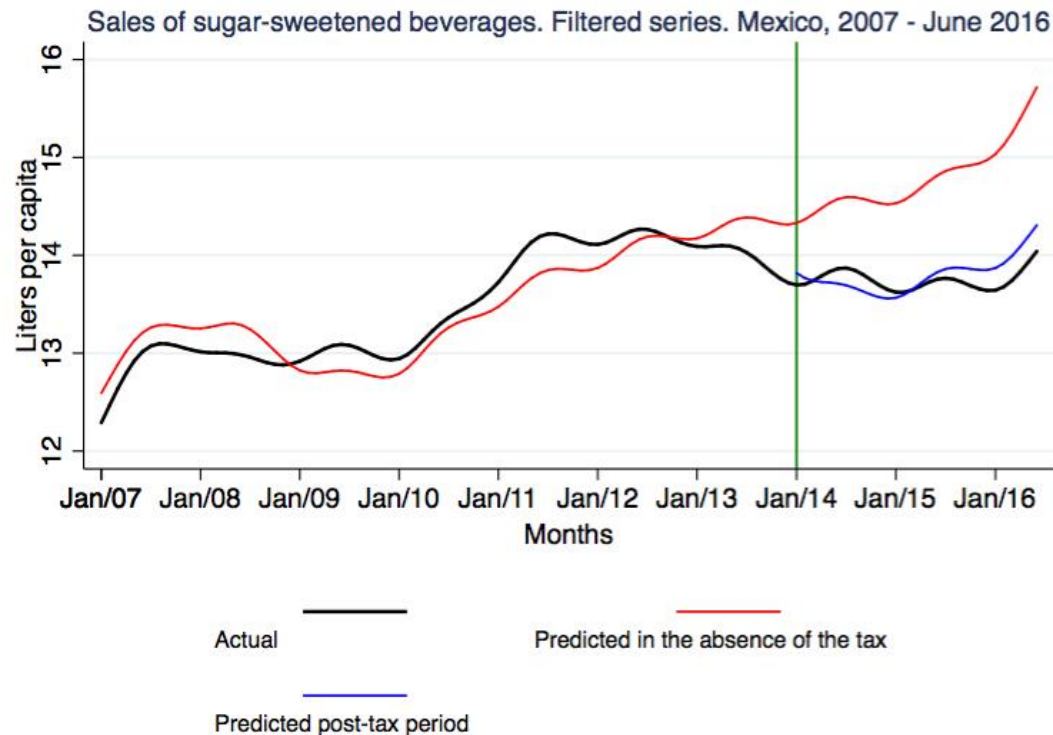
- Increased prices for SSBs relative to non-taxed beverages
 - about 10% price increase
 - pass through varies by type, size, location
- Significant reduction in SSB sales, consumption
 - growing over time
- Significant increase in bottled water consumption
- Greater impact on heavier consumers, low-income population
- Generated nearly 16 billion pesos in new revenue in first year



Sources: Colchero, et al., 2015; Colchero, et al., 2016;
Colchero, et al., 2015; Ng, et al., under review

Impact of Tax on Sales

Mexico, 2007-2016



Impact on SSB sales consistent with reductions in purchases:

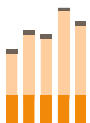
- 6% drop in 2014
- 8% drop in 2015
- 11% drop in first half of 2016

5.2% increases in bottled water sales

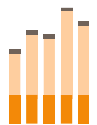
OLS- Adjusted for seasonality, the global indicator of the economic activity

Colchero MA, Guerrero Lopez C, Molina M, Rivera J . Beverage sales in Mexico before and after implementation of a sugar sweetened beverages tax. 2016. PLoS ONE. 11(9).

Changes in sales of sugar-sweetened beverages in Mexico before (2007-2013) and after the tax (2014-2016): <https://www.insp.mx/epppo/blog/4278-changes-sales-beverages.html>

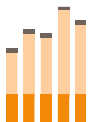


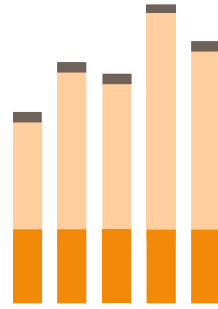
Changes in Household Purchases of Taxed and Untaxed Beverages By Socioeconomic Level, Mexico, 2014-15



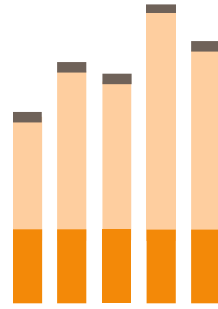
Impact of Tax on Purchases Year One (2014)

- **Greatest impact on heaviest consumers**
 - **Highest purchasers:**
 - 31% of households, purchased average of 157 liters of SSB/capita/yr
 - *10% reduction in purchases following tax*
 - **Middle purchasers:**
 - 40% of households, purchased average of 60 liters of SSB/capita/yr
 - *8% reduction of taxed beverages post-tax*
 - **Light and non purchasers:**
 - Remaining households; small impact on light purchasers



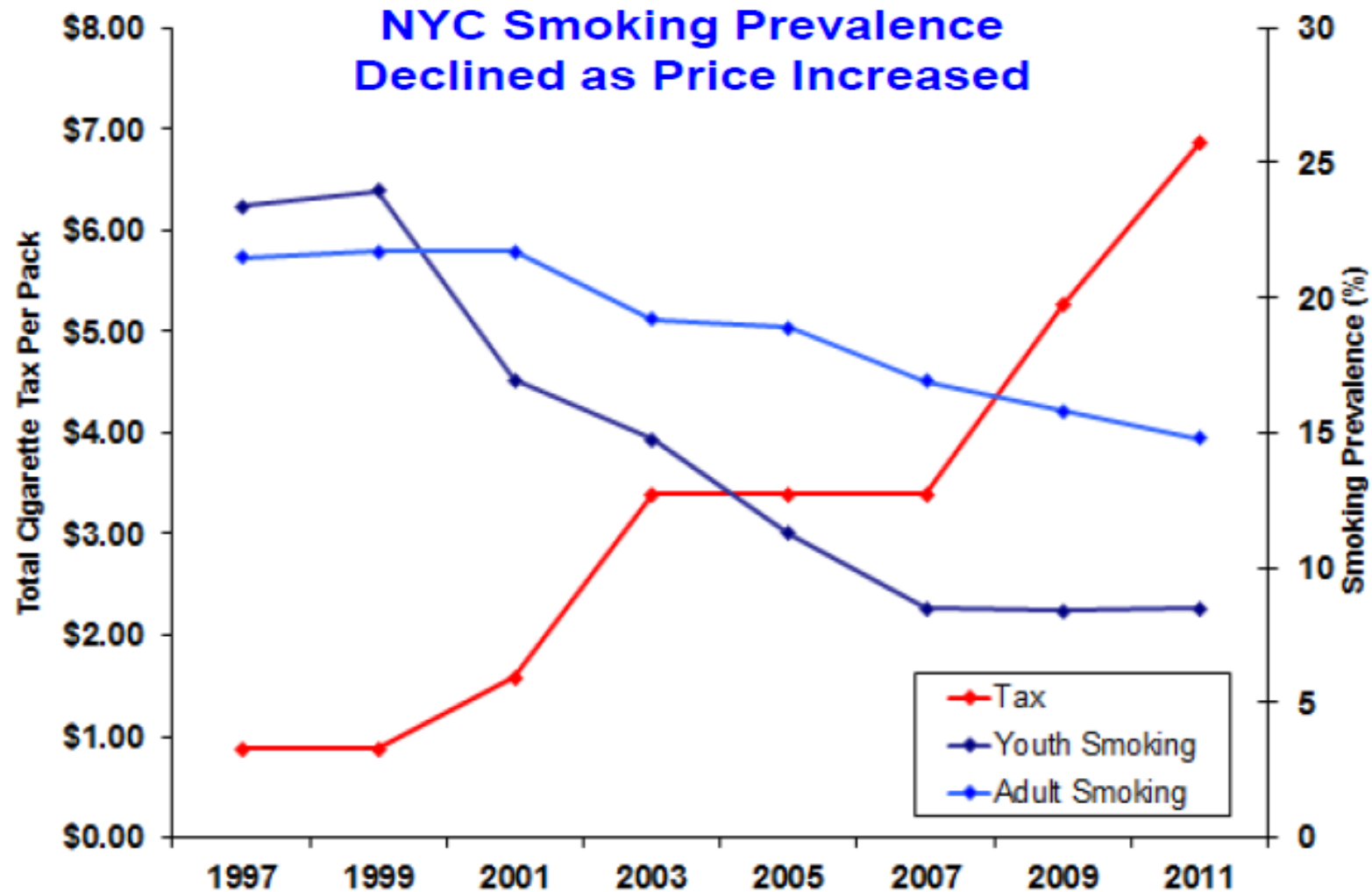


Oppositional Arguments

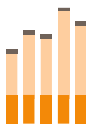


Tax Avoidance & Evasion

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

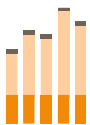
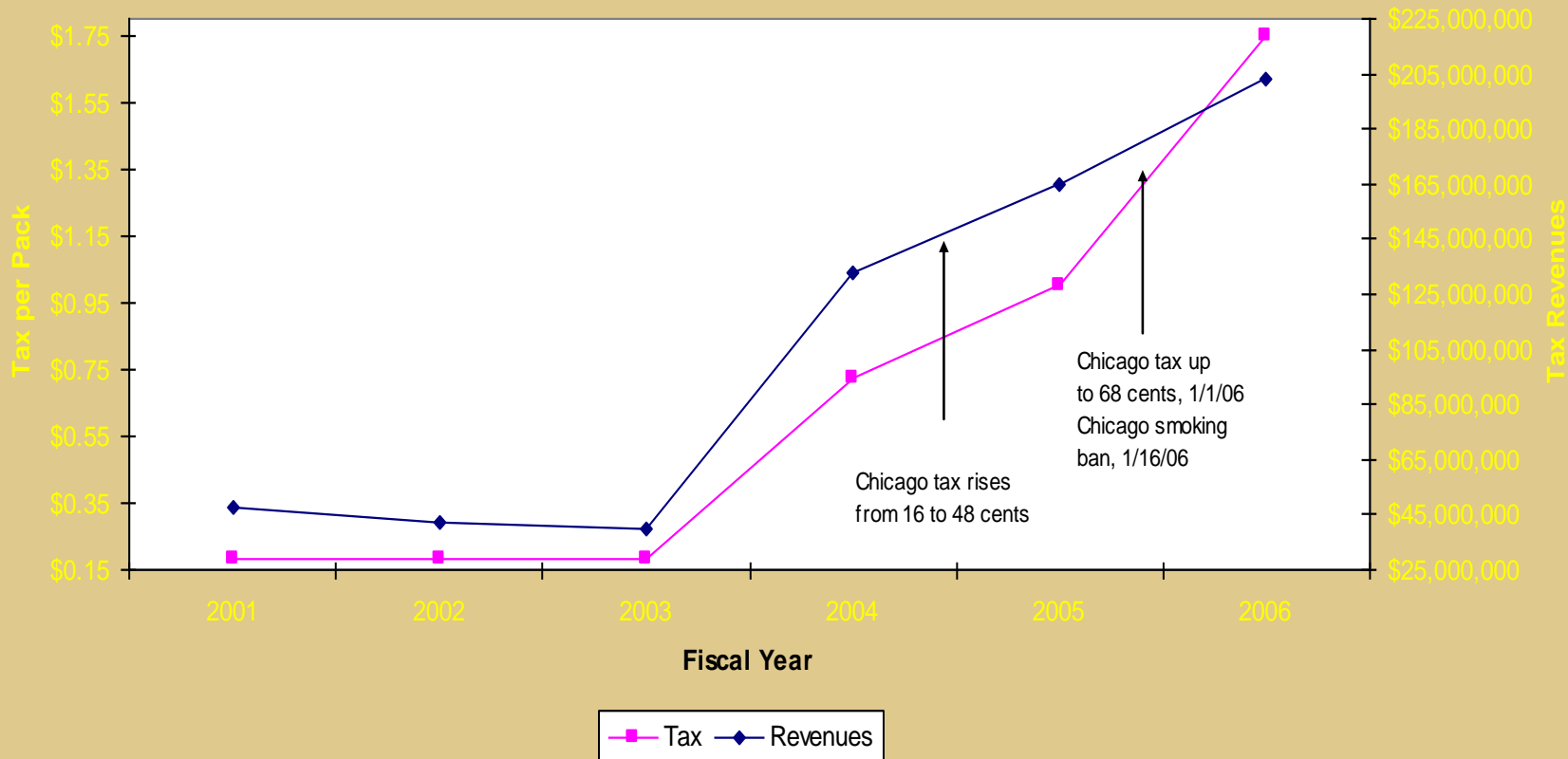


Source: Schroth, 2014

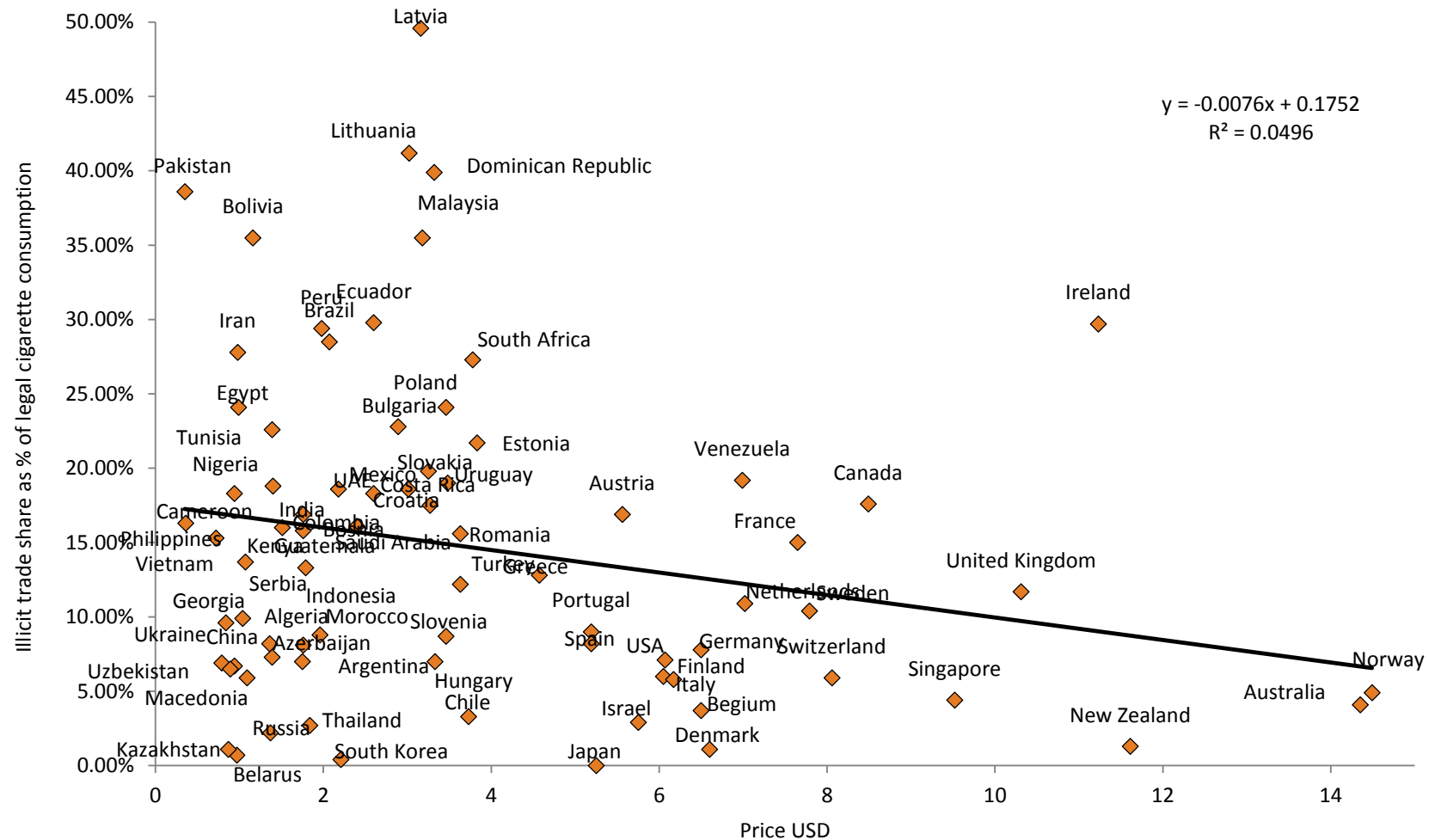


Tax Avoidance & Evasion Do NOT Eliminate Revenue Impact of Higher Taxes

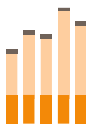
Cook County Cigarette Tax and Tax Revenues - FY01-FY06



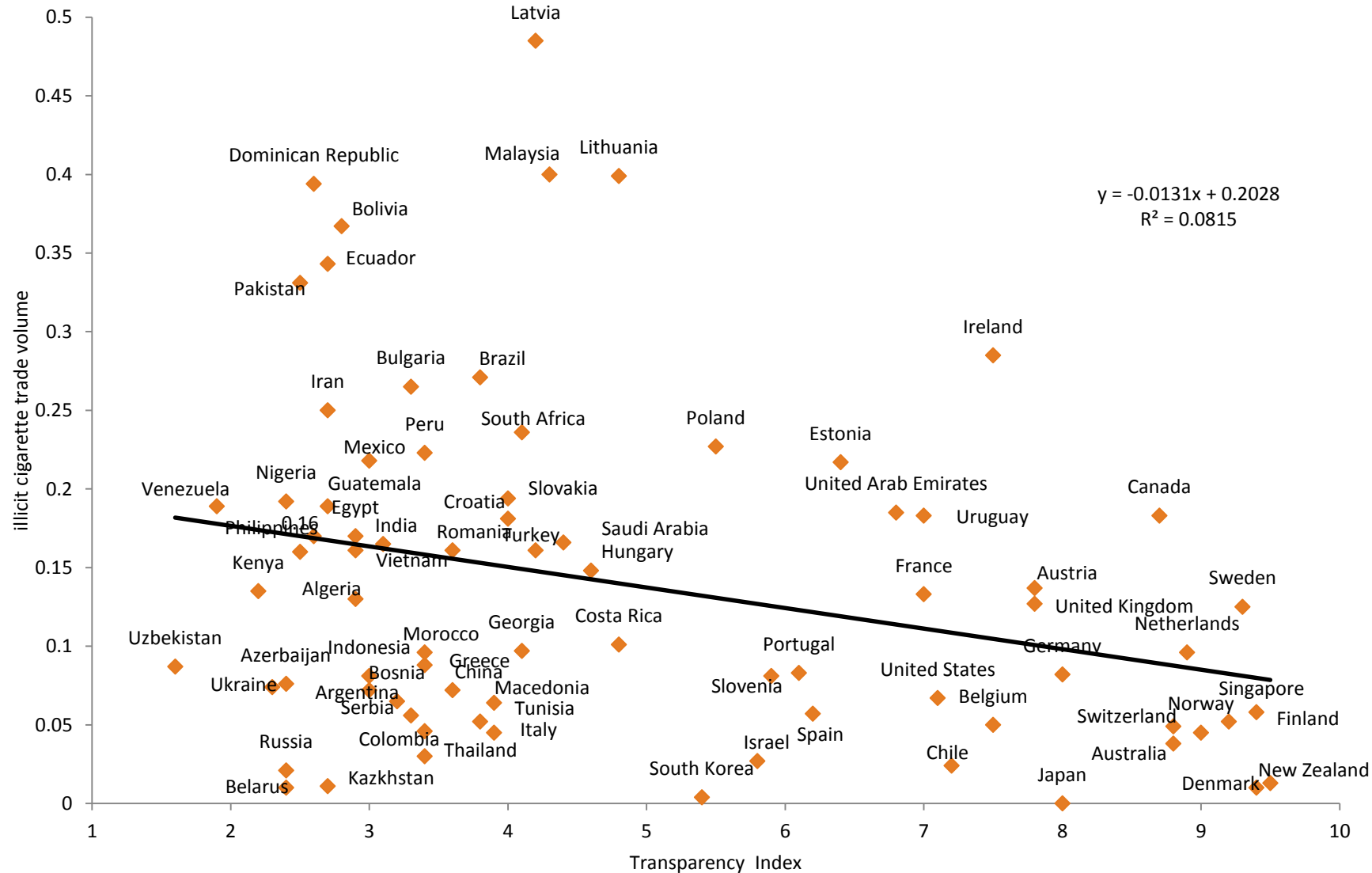
Illicit Cigarette Market Share & Cigarette Prices, 2012



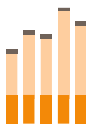
Sources: Euromonitor, WHO



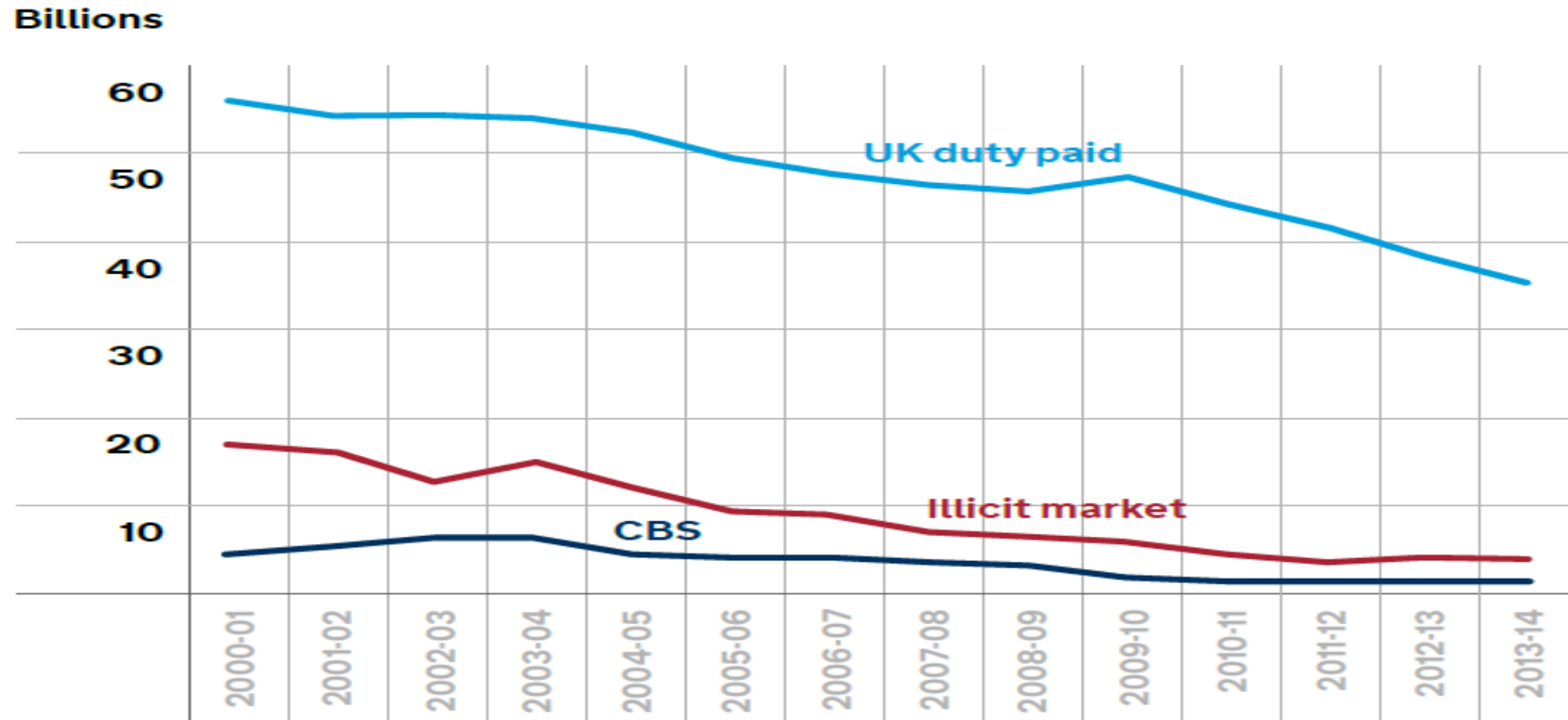
Smuggling and Corruption, 2011



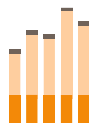
Sources: Euromonitor, Transparency International



Estimated Volumes of Cigarettes Consumed in the U.K. – Duty paid, illicit, and cross-border shopping, 2000-01 – 2013-14

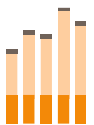


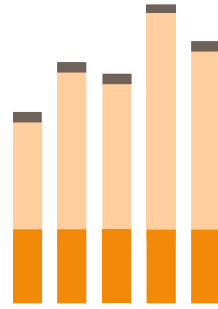
Source: HM Revenue & Customs, 2014



Combating Illicit Tobacco Trade

- Illicit trade protocol to the WHO FCTC
 - Adopted November 2012; recently entered into force (MOP1 next week); provisions calling for:
 - Strong tax administration
 - Prominent, high-tech tax stamps and other pack markings
 - Licensing of manufacturers, exporters, distributors, retailers
 - Export bonds
 - Unique identification codes on packages
 - Better enforcement
 - Increased resources
 - Focus on large scale smuggling
 - Swift, severe penalties
 - Multilateral/intersectoral cooperation

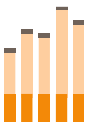




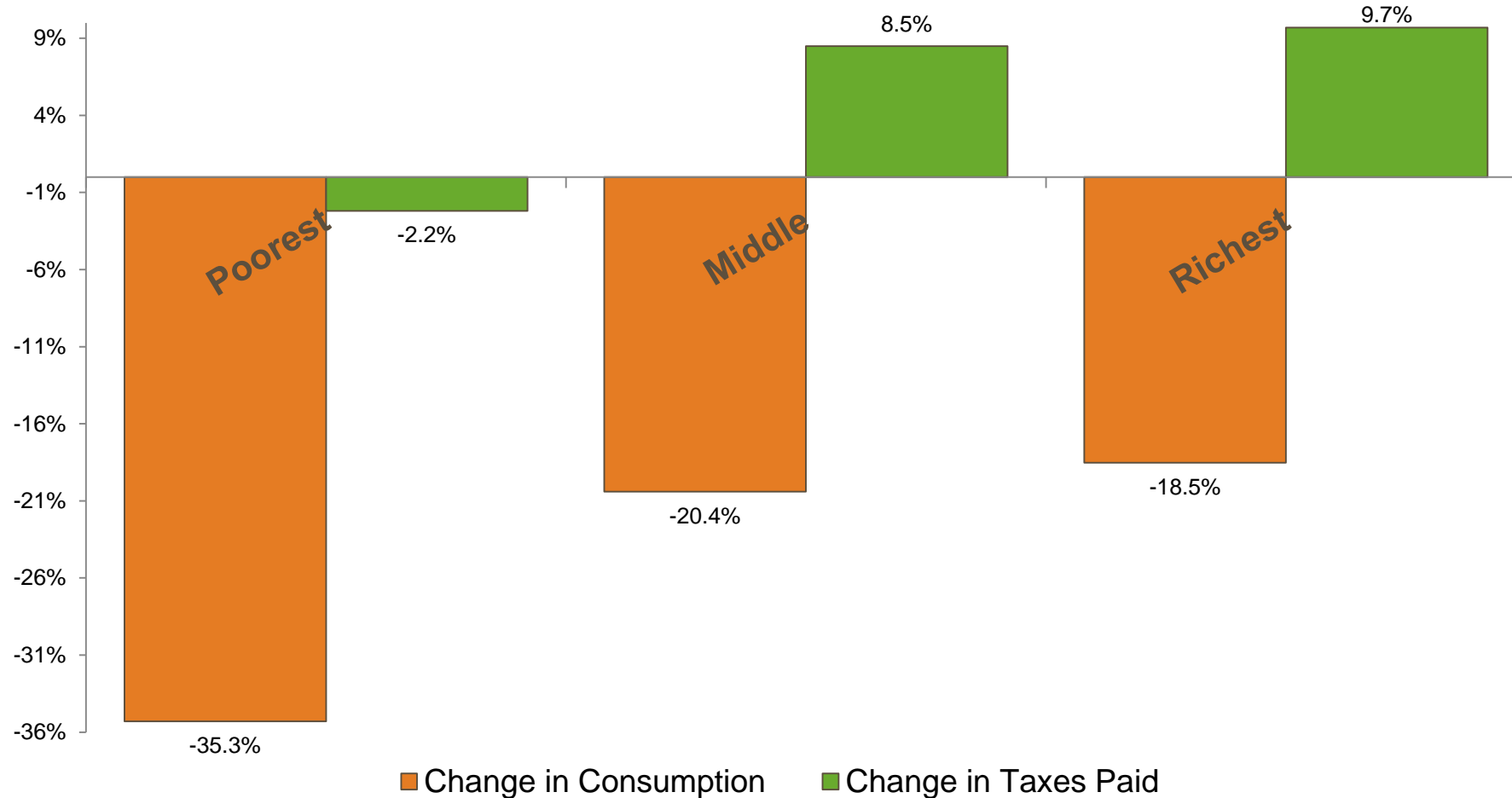
Impact on the Poor

Impact on the Poor

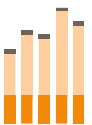
- Concerns about the regressivity of higher alcohol & tobacco taxes, food/beverage taxes
 - Most excise taxes are regressive, but tax increases can be progressive
 - Greater price sensitivity of poor – relatively large reductions in use among lowest income populations, small reductions among higher income populations
 - Health benefits that result from tax increase are progressive



Who Pays & Who Benefits Turkey, 25% Tax Increase

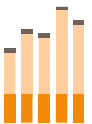


Source: Adapted from Önder & Yürekli, 2014

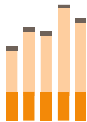
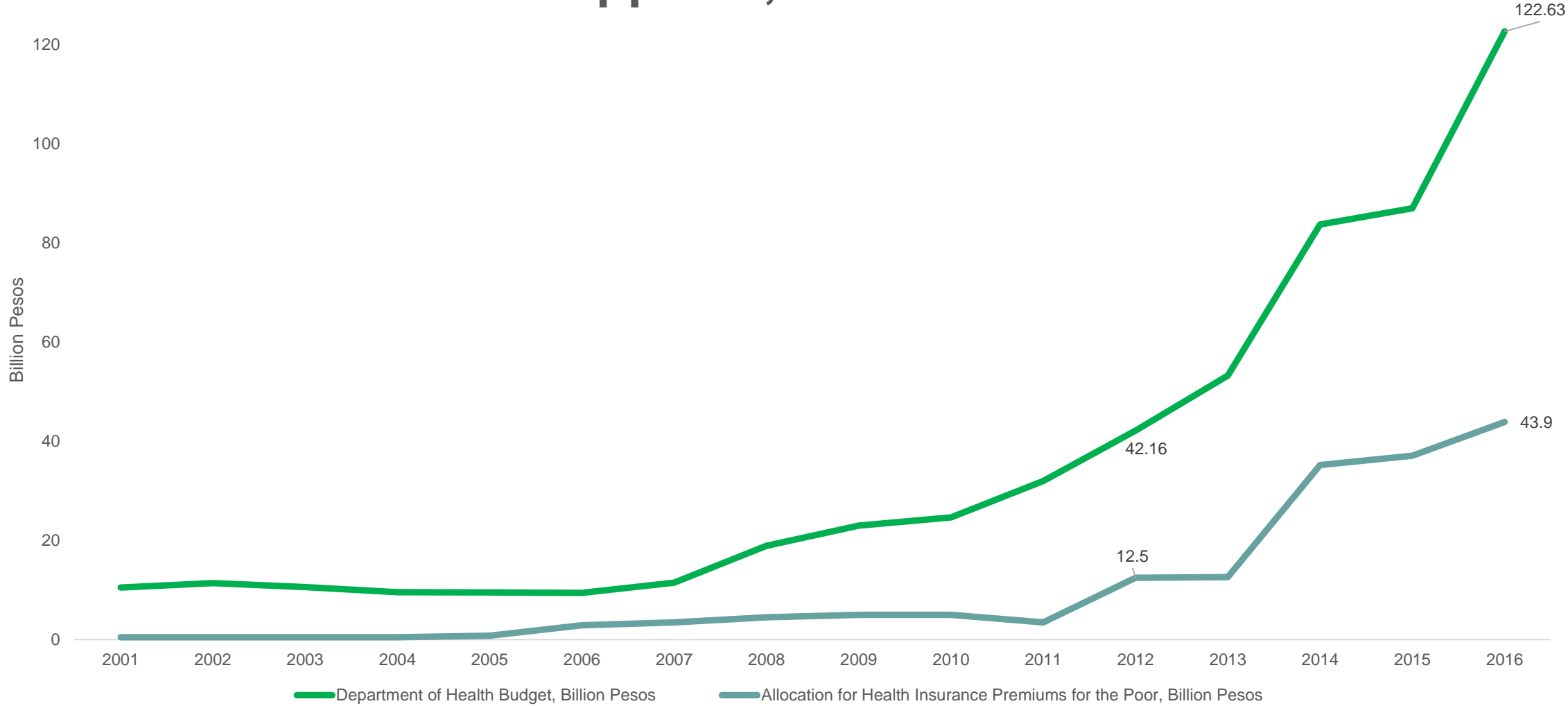


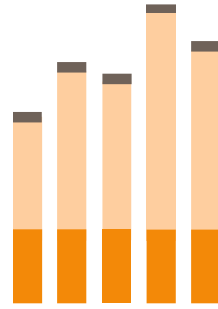
Impact on the Poor

- Need to consider overall fiscal system
 - Key issue with taxes is what's done with the revenues generated by the tax
 - Greater public support for tax increases when revenues are used for prevention & control programs 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



Incremental Revenues for Health and the Poor, Philippines, 2001-2016



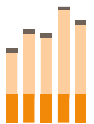


Impact on the Economy

Excise Taxes and Jobs

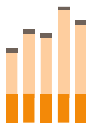
Industry-sponsored studies tell only part of story:

- Focus on the gross impact:
 - New tax or tax increase will lead to decreased consumption of taxed product
 - Results in loss of some jobs dependent on production of taxed product
- Ignore the net impact:
 - Money not spent on taxed product will be spent on other goods and services
 - New/increased tax revenues spent by government
 - ***Offsetting job gains in other sectors***



Tobacco Taxes and Jobs

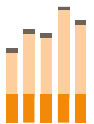
- Many published studies assess impact of reductions in tobacco use from tax increases and/or other tobacco control measures:
 - Variety of high, middle, and low income countries
 - Use alternative methodologies
- Generally find that employment losses in tobacco sector more than offset by gains in other sectors



Tobacco Taxes and Jobs

Concerns about job losses in tobacco sector have been addressed using new tax revenues:

- Turkey, Philippines among countries that have allocated tobacco tax revenues to helping tobacco farmers and/or those employed in tobacco manufacturing make transition to other livelihoods
 - Crop substitution programs, retraining programs





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Employment changes associated with the introduction of taxes on sugar-sweetened beverages and nonessential energy-dense food in Mexico

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ARTICLE INFO

Keywords:
Employment
Taxes
Mexico
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Policy
Obesity

ABSTRACT

We assessed changes in employment in employment rates, associated with the tax on sugar-sweetened beverages (SSB) and nationally representative surveys. Control model changes in number of employment commercial establishments selling beverages show that there were no significant changes in industries (for beverages and nonessential) post-tax period for employment in consumption. However, these changes are negligible and conclusion, there were no employment reduction on SSB and nonessential energy-dense food.

RESEARCH AND PRACTICE

Employment Impact of Sugar-Sweetened Beverage Taxes

Lisa M. Powell, PhD, Roy Wada, PhD, Joseph J. Persky, PhD, and Frank J. Chaloupka, PhD

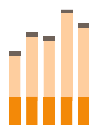
Sugar-sweetened beverages (SSBs) are the leading source of added sugar in the American diet and are associated with increased risk of type 2 diabetes, cardiovascular disease, dental caries, osteoporosis, and obesity.¹⁻⁴ From 1988-1994 to 1999-2004, average daily caloric intake of SSBs increased from 157 to 203 kilocalories among adults and from 204 to 224 kilocalories among children aged 2 to 19 years.^{5,6} Recently, SSB consumption prevalence fell across all age groups from 1999-2000 to 2007-2008, although the prevalence of sports and energy drinks increased and heavy SSB consumption (≥ 500 kcal/day) increased among children.^{2,7} In 2009-2010,

Objectives. We assessed the impact of sugar-sweetened beverage (SSB) taxes on net employment.

Methods. We used a macroeconomic simulation model to assess the employment impact of a 20% SSB tax accounting for changes in SSB demand, substitution to non-SSBs, income effects, and government expenditures of tax revenues for Illinois and California in 2012.

Results. We found increased employment of 4406 jobs in Illinois and 6654 jobs in California, representing a respective 0.06% and 0.03% change in employment. Declines in employment within the beverage industry occurred but were offset by new employment in nonbeverage industry and government sectors.

Conclusions. SSB taxes do not have a negative impact on state-level employment, and industry claims of regional job losses are overstated and may mislead lawmakers and constituents. (*Am J Public Health*. 2014;104:672-677. doi:10.2105/AJPH.2013.301630)





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journal homepage: www.elsevier.com/locate/ypmedEmployment impacts of alcohol taxes[☆]Roy Wada^a, Frank J. Chaloupka^{b,c,*}, Lisa M. Powell^{b,c}, David H. Jernigan^d^a Boston Public Health Commission, 1010 Massachusetts Avenue, 6th Floor, Boston, MA 02118, United States^b Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, MC 275, 1747 W. Roosevelt Road, Chicago, IL 60608, United States^c Health Policy and Administration, School of Public Health, University of Illinois at Chicago, Chicago, IL 60608, United States^d Department of Health, Behavior and Society, Bloomberg School of Public Health, The Johns Hopkins University, Baltimore, MD 21205, United States

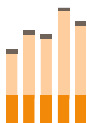
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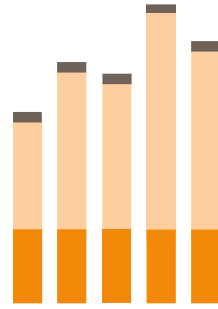
Keywords:

Alcohol taxes
Excise taxes
Sales taxes
Employment

ABSTRACT

There is strong scientific evidence supporting the effectiveness of increasing alcohol taxes for reducing excessive alcohol consumption and related problems. Opponents have argued that alcohol tax increases lead to job losses. However, there has been no comprehensive economic analysis of the impact of alcohol taxes on employment. To fill this gap, a regional macroeconomic simulation model was used to assess the net impact of two hypothetical alcohol tax increases (a 5-cent per drink excise tax increase and a 5% sales tax increase on beer, wine, and distilled spirits, respectively) on employment in Arkansas, Florida, Massachusetts, New Mexico, and Wisconsin. The model accounted for changes in alcohol demand, average state income, and substitution effects. The employment impact of spending the new tax revenue on general expenditures versus health care was also assessed. Simulation results showed that a 5-cent per drink additional excise tax on alcoholic beverages with new tax revenues allocated to general expenditures increased net employment in Arkansas (802 jobs); Florida (4583 jobs); Massachusetts (978 jobs); New Mexico (653 jobs); and Wisconsin (1167 jobs). A 5% additional sales tax also increased employment in Arkansas (789 jobs); Florida (4493 jobs); Massachusetts (898 jobs); New Mexico (621 jobs); and Wisconsin (991 jobs). Using new alcohol tax revenues to fund health care services resulted in slightly lower net increases in state employment. The overall economic impact of alcohol tax increases cannot be fully assessed without accounting for the job gains resulting from additional tax revenues.

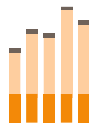




Summary

Conclusions

- Higher tobacco and alcohol taxes, and new sugary beverage taxes will significantly reduce consumption
- Reduced consumption will lead to fewer cases of cancer, cardiovascular disease, diabetes, and other non-communicable diseases
- Counterarguments about negative economic impact false or greatly overstated
- Taxes generally considered one of the “best buys” in NCD prevention



THANK YOU!

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