

# **tobacconomics**

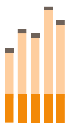
Economic Research Informing Tobacco Control Policy

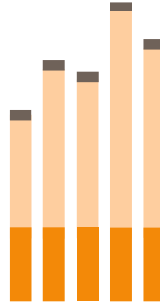
# Impact of Health Policy on Cancer Prevention

Frank J. Chaloupka, University of Illinois at Chicago  
HKAS Symposium on Cancer Challenge in Hong Kong  
6 October 2018, Hong Kong

# Overview

- “Best Buys” in Cancer and other NCD prevention
- Impact of Tobacco, Alcohol, and Sugary Beverage Taxes on Use and Consequences of Use
- Myths and Facts About Economic Impact of Taxes



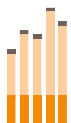


# **“Best Buys” in Cancer & Other NCD Prevention**

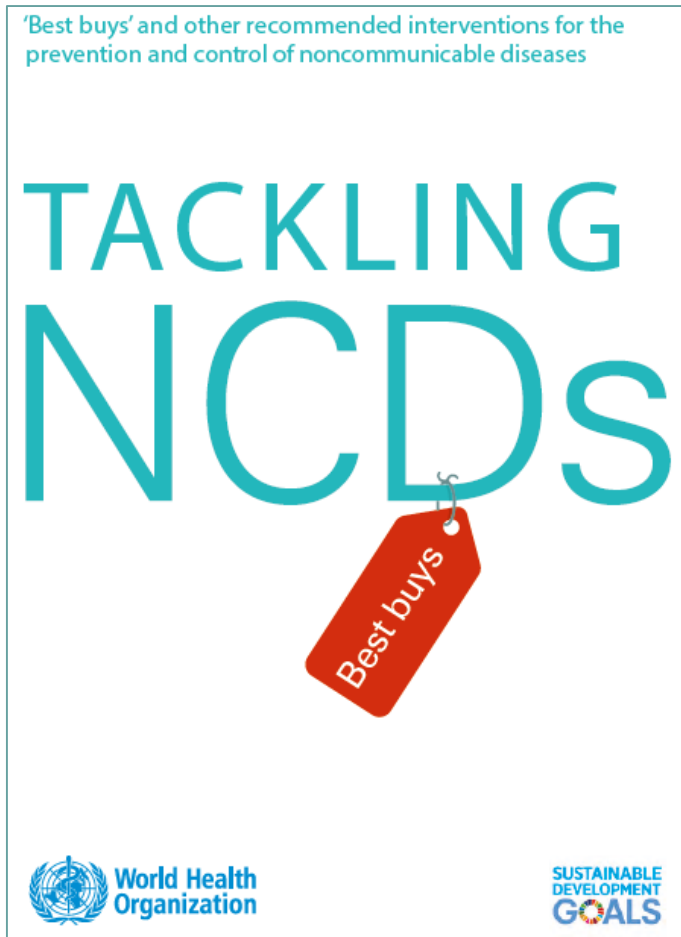
# NCDs: Major Risk Factors

Major NCD	Major modifiable causative Risk Factors			
	Tobacco Use	Unhealthy Diet	Physical Inactivity	Harmful Use of Alcohol
Heart Disease & Stroke	✓	✓	✓	✓
Diabetes	✓	✓	✓	✓
Cancer	✓	✓	✓	✓
Chronic Lung Disease	✓			

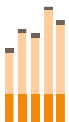
Source: WHO, 2010; Mackay, 2012



# “Best Buys” - Tobacco Use



- **Increase excise taxes and prices on tobacco products**
- Implement plain/standardized packaging and/or large graphic health warnings on all tobacco packages
- Enact and enforce comprehensive bans on tobacco advertising, promotion and sponsorship
- Eliminate exposure to second-hand tobacco smoke in all indoor workplaces, public places, public transport
- Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and second hand smoke



Source: WHO 2017

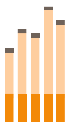
'Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases

# TACKLING NCDs

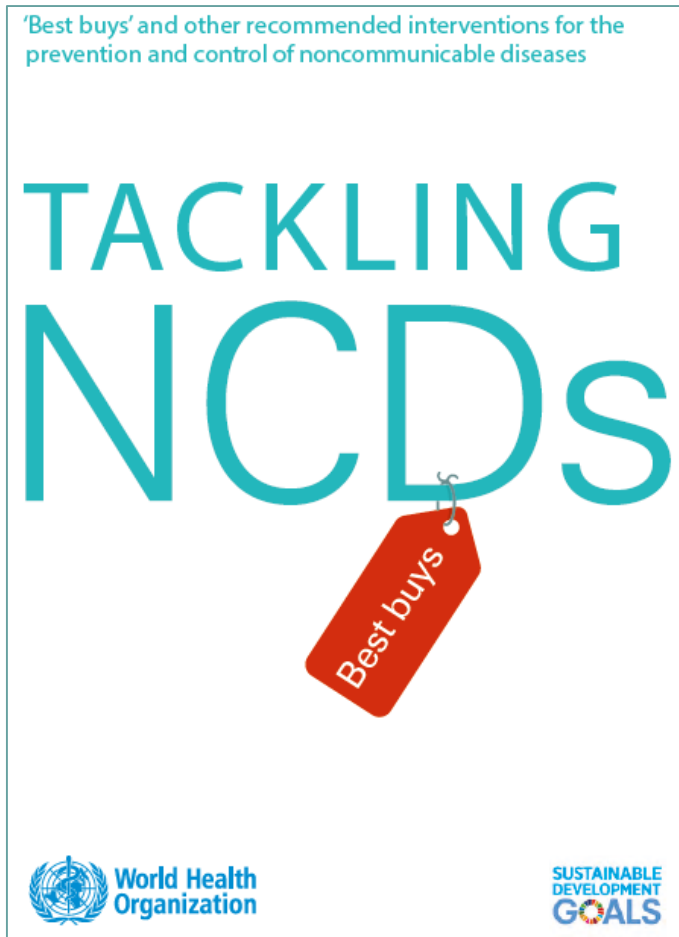


## “Best Buys” - Alcohol Use

- **Increase excise taxes on alcoholic beverages**
- Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising
- Enact and enforce restrictions on the physical availability of retailed alcohol

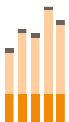


# “Best Buys” – Unhealthy Diet



- Reduce salt intake through the reformulation of food products to contain less salt and the setting of target levels for the amount of salt in foods and meals
- Reduce salt intake through the establishment of a supportive environment in public institutions such as hospitals, schools, workplaces and nursing homes, to enable lower sodium options to be provided
- Reduce salt intake through a behaviour change communication and mass media campaign
- Reduce salt intake through the implementation of front-of pack labelling

Source: WHO 2017



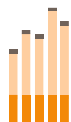
'Best buys' and other recommended interventions for the prevention and control of noncommunicable diseases

# TACKLING NCDs

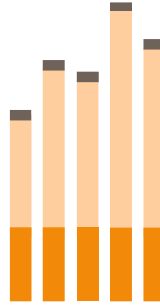


## Unhealthy Diet – Other Cost-Effective Interventions

- **Reduce sugar consumption through effective taxation on sugar-sweetened beverages**
- Eliminate industrial trans-fats through the development of legislation to ban their use in the food chain

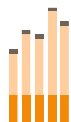
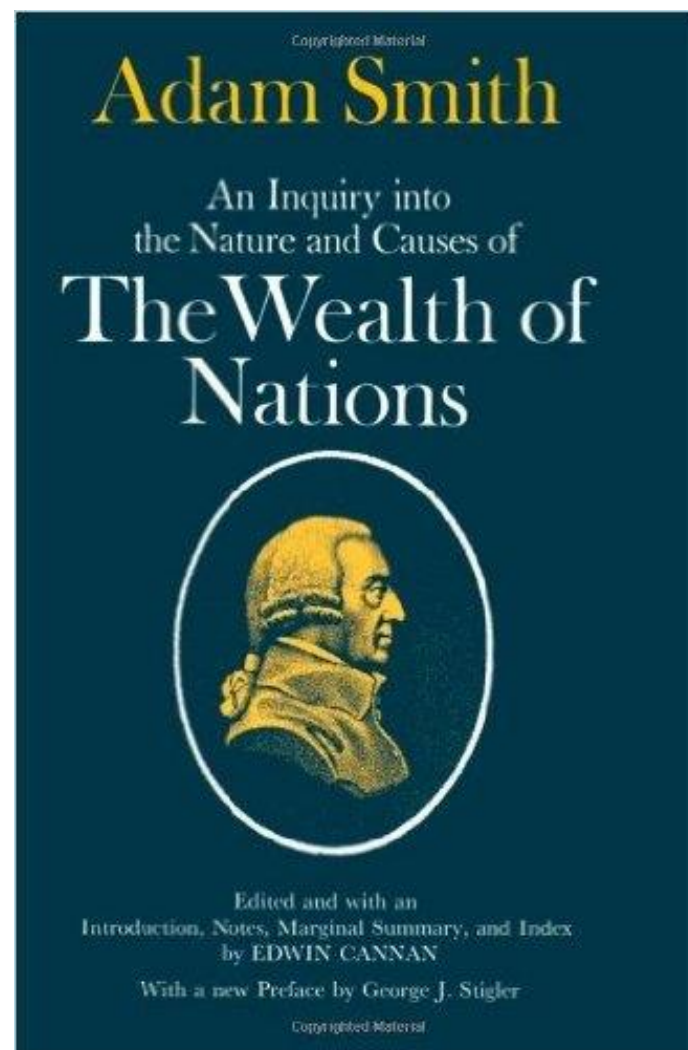




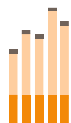
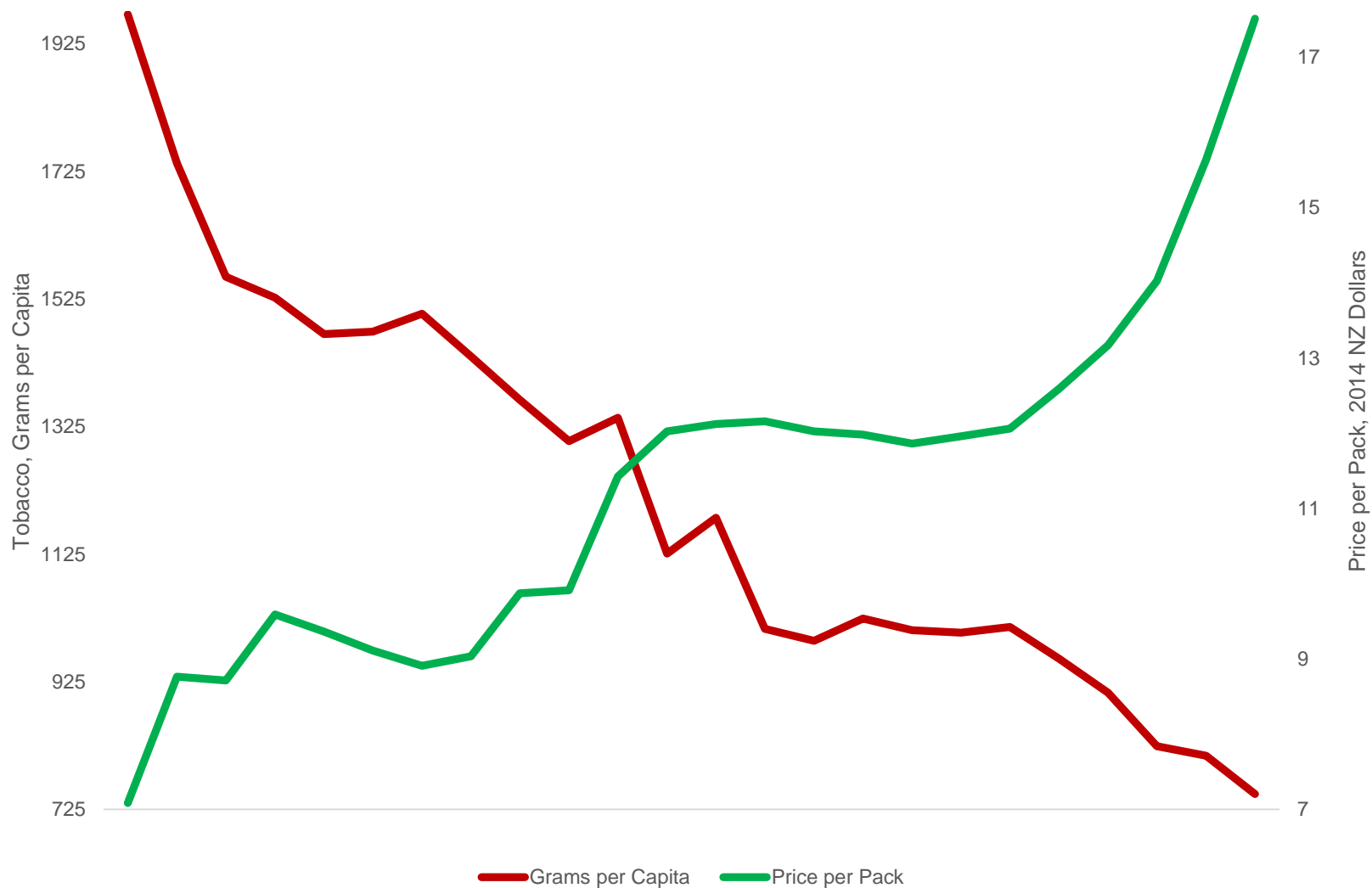


# Impact of Taxes & Prices on Unhealthy Behaviors

**"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.**

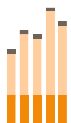
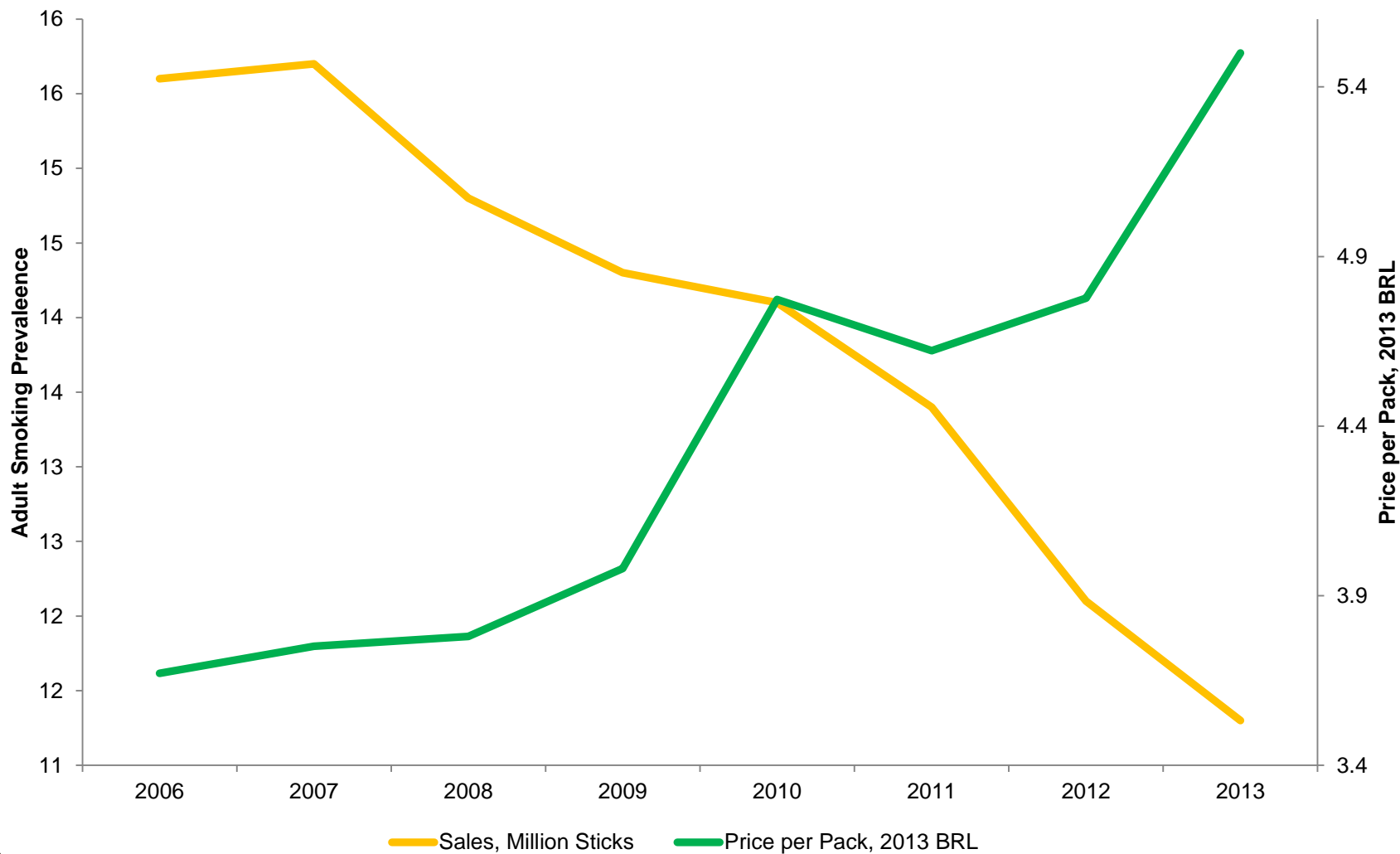


# Tobacco Consumption and Cigarette Prices New Zealand, 1990-2013, Inflation Adjusted

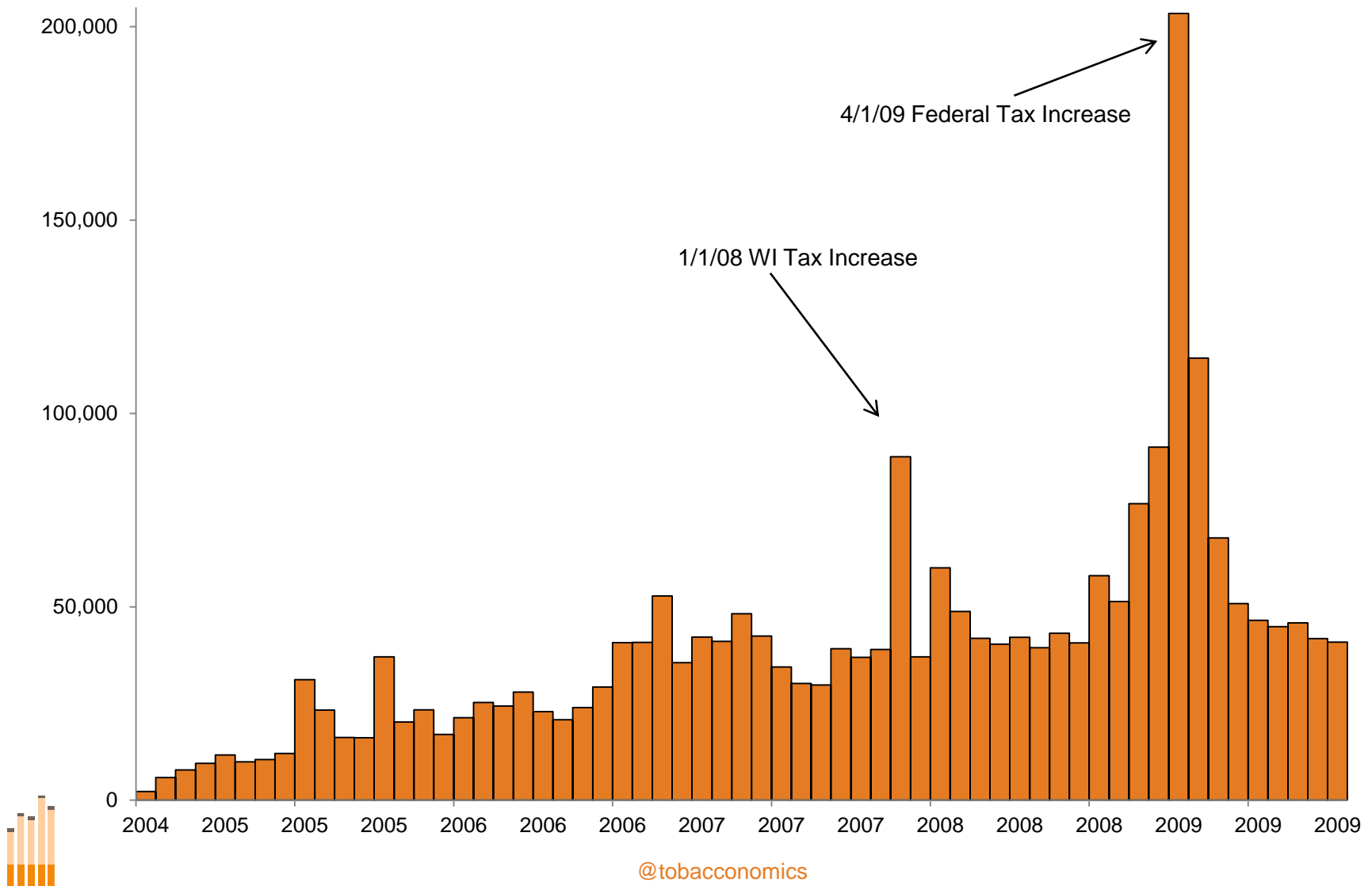


# Adult Prevalence & Price, Brazil

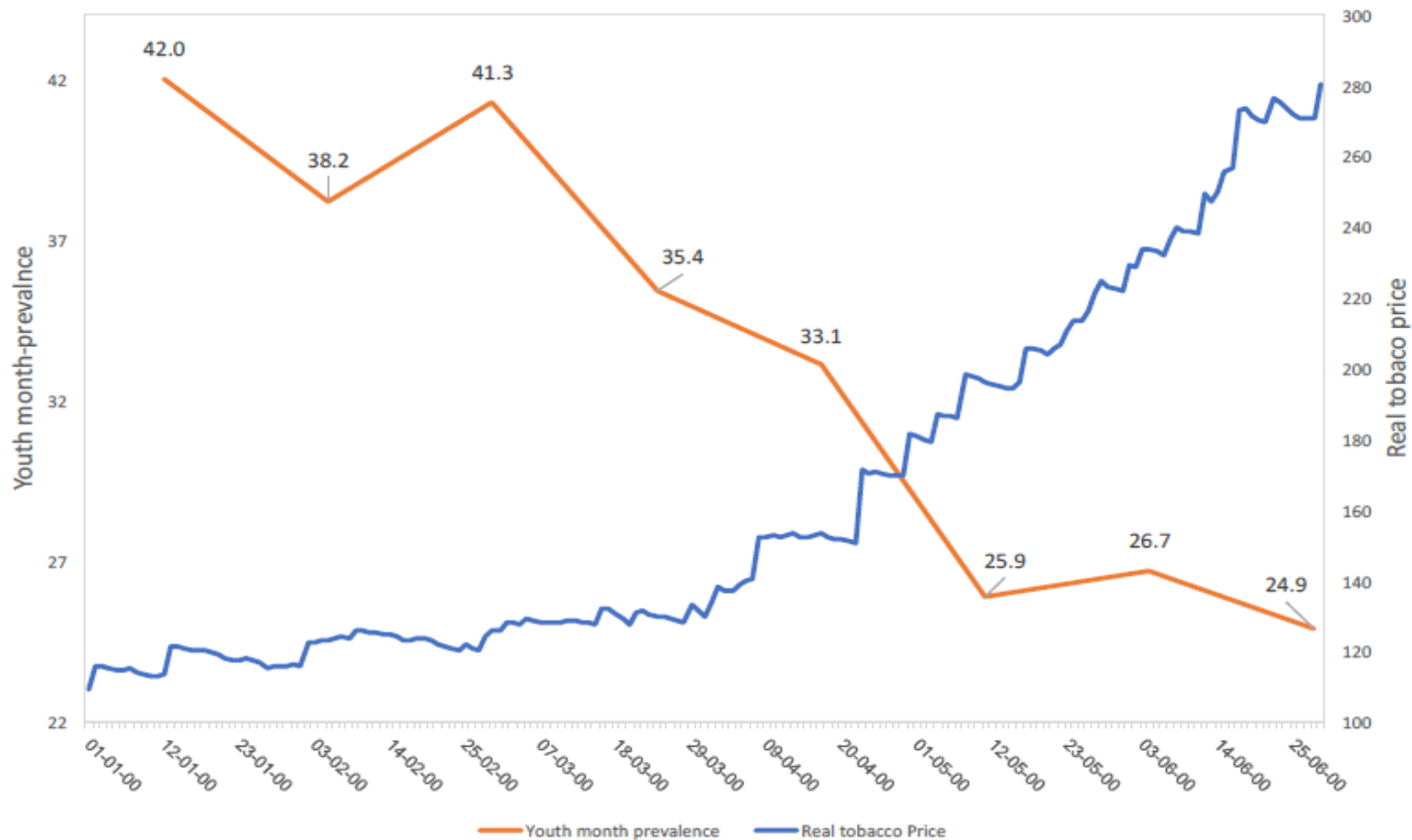
## Inflation Adjusted, 2006-2013



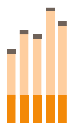
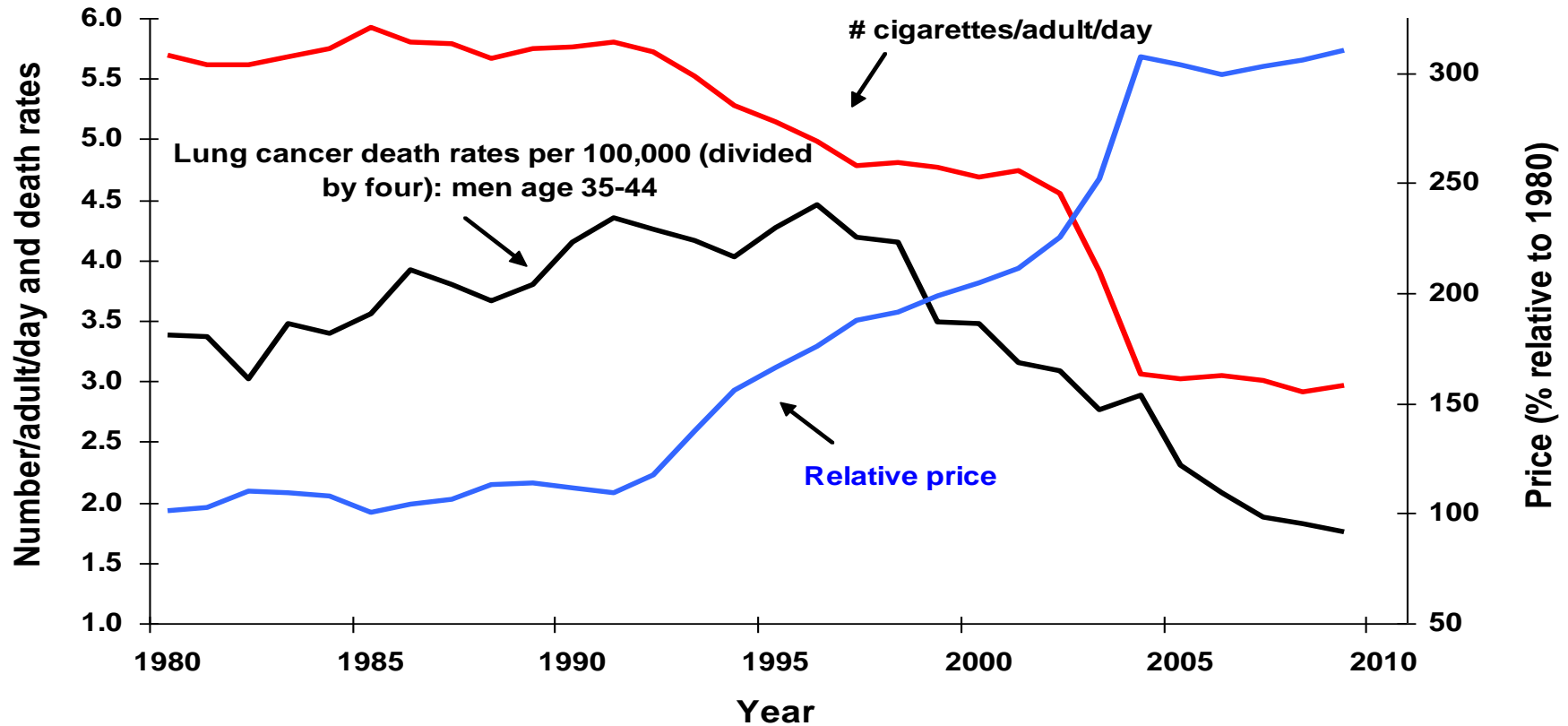
# Monthly Quit Line Calls United States 11/04-11/09



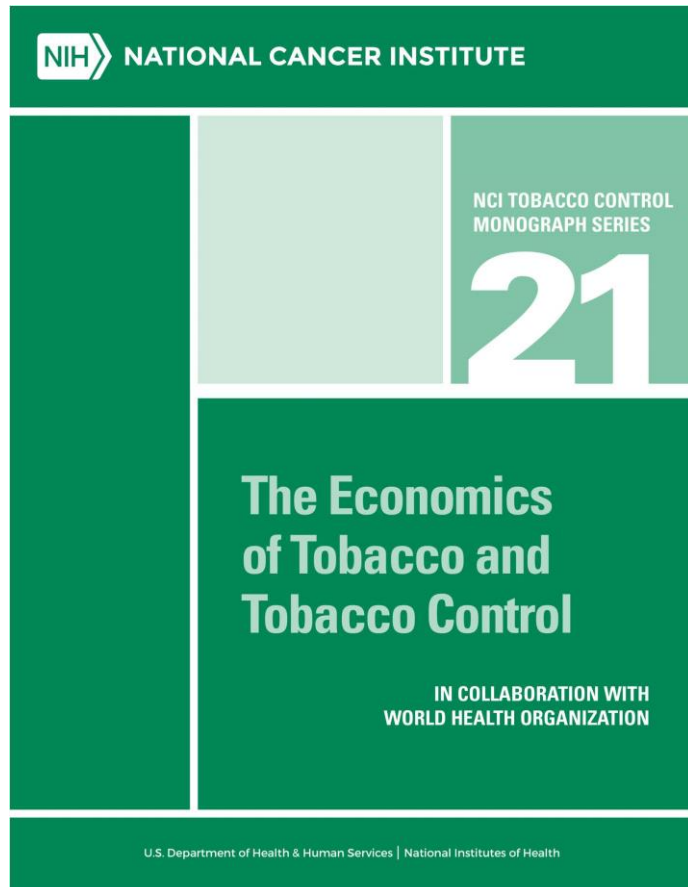
# Cigarette Price & Youth Smoking Prevalence Chile, 2000-2015



# Price, Consumption & Lung Cancer, France Inflation Adjusted, 1980-2010

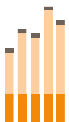


# Effectiveness of Tobacco Taxes



## Chapter 4, Conclusion 1:

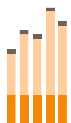
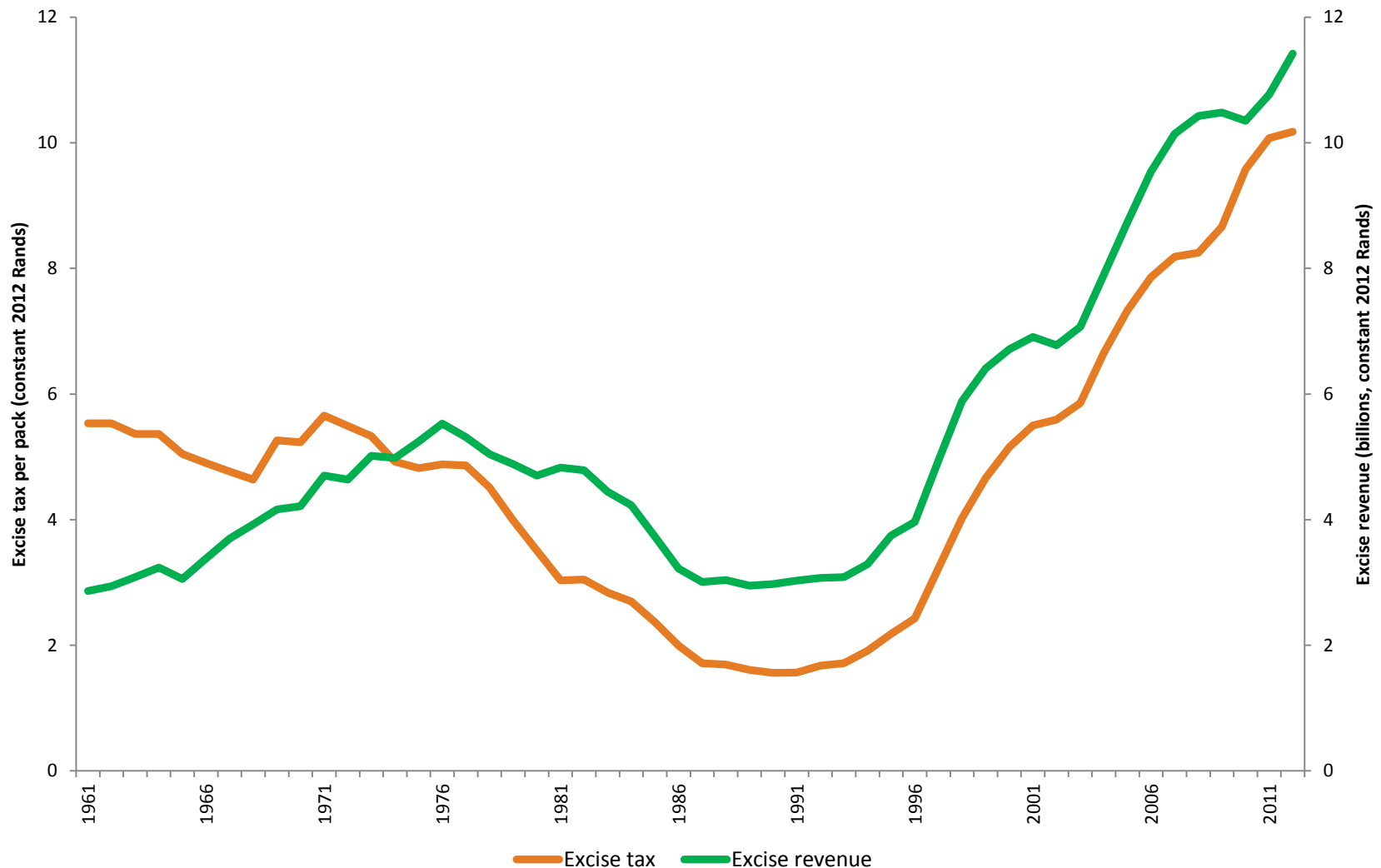
A substantial body of research, which has accumulated over many decades and from many countries, shows that **significantly increasing the excise tax and price of tobacco products is the single most consistently effective tool for reducing tobacco use.**





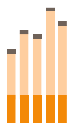
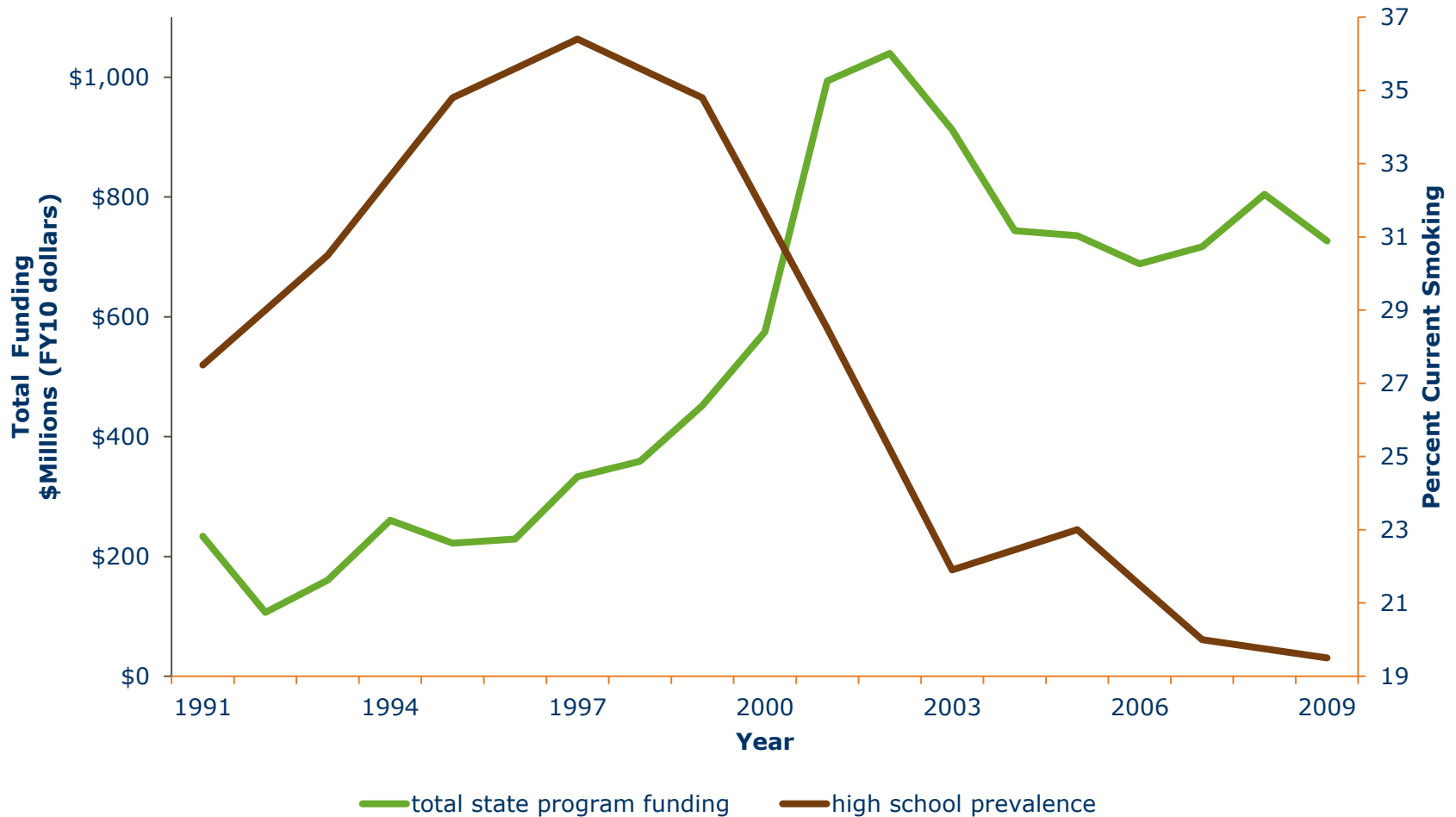
# Taxes & Tax Revenues, South Africa

## Inflation Adjusted, 1961-2012



# Tobacco Control Funding & Youth Smoking

## United States, Inflation Adjusted, 1991-2009



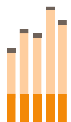
# Tobacco Taxes and Revenues

- 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**”*

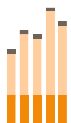


**FINANCING FOR  
DEVELOPMENT**  
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TIME FOR GLOBAL ACTION



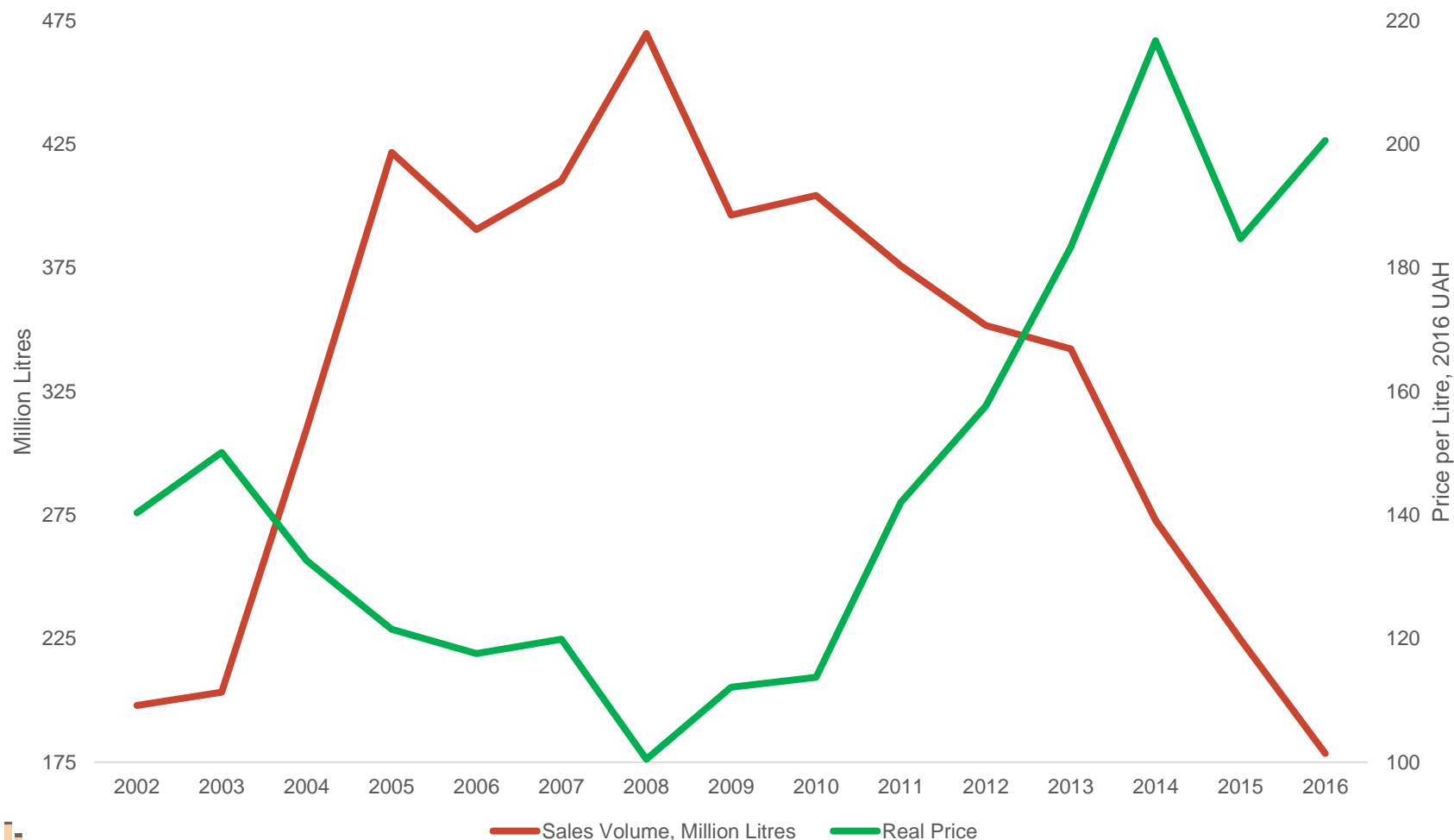
# Alcohol Taxes, Prices & Drinking

- 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

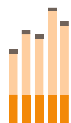
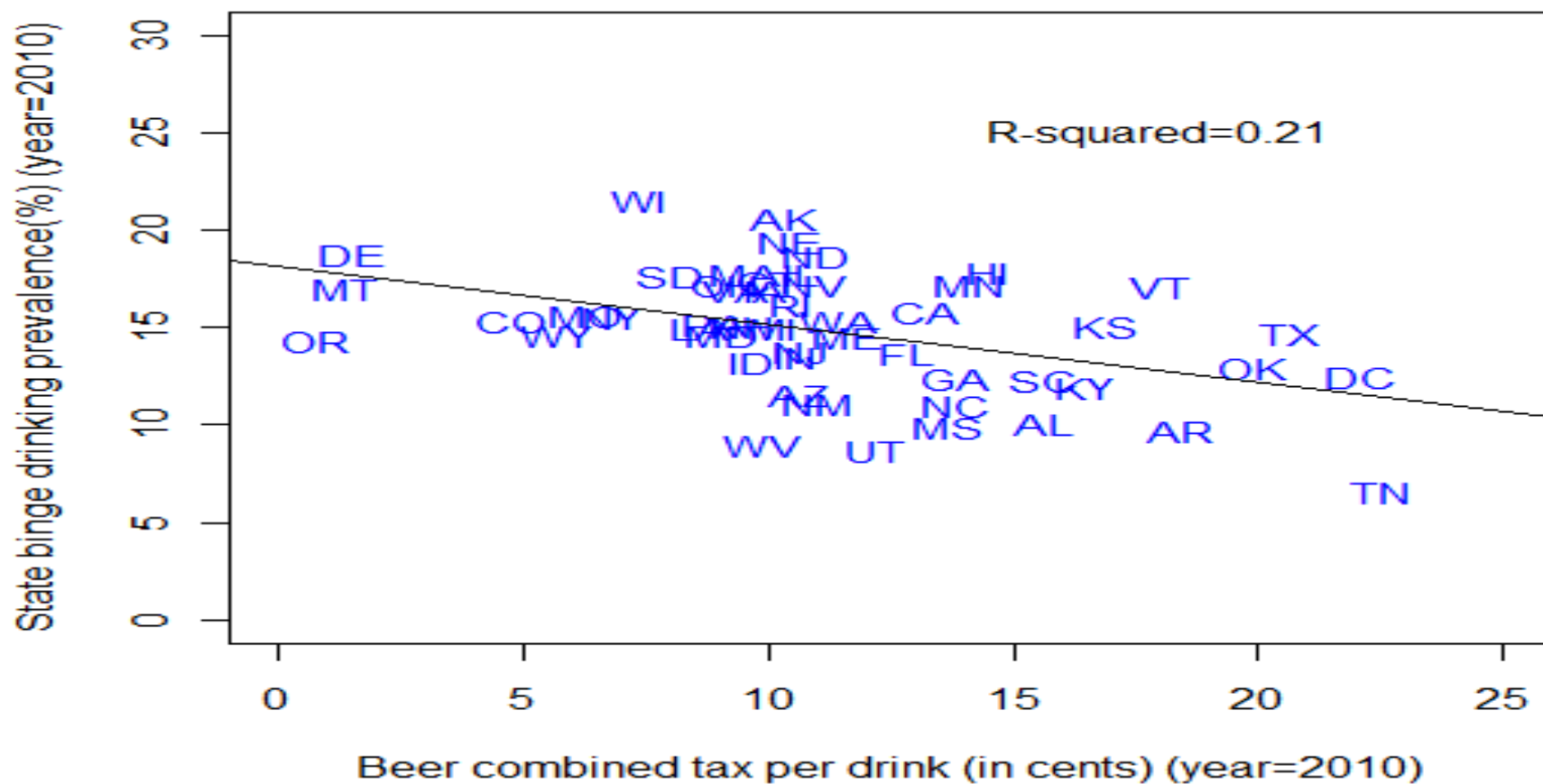


# Distilled Spirits Prices & Sales

## Ukraine, Inflation Adjusted, 2002-2016

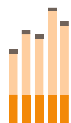


# Beer Taxes & Binge Drinking Prevalence United States, 2010



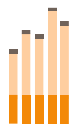
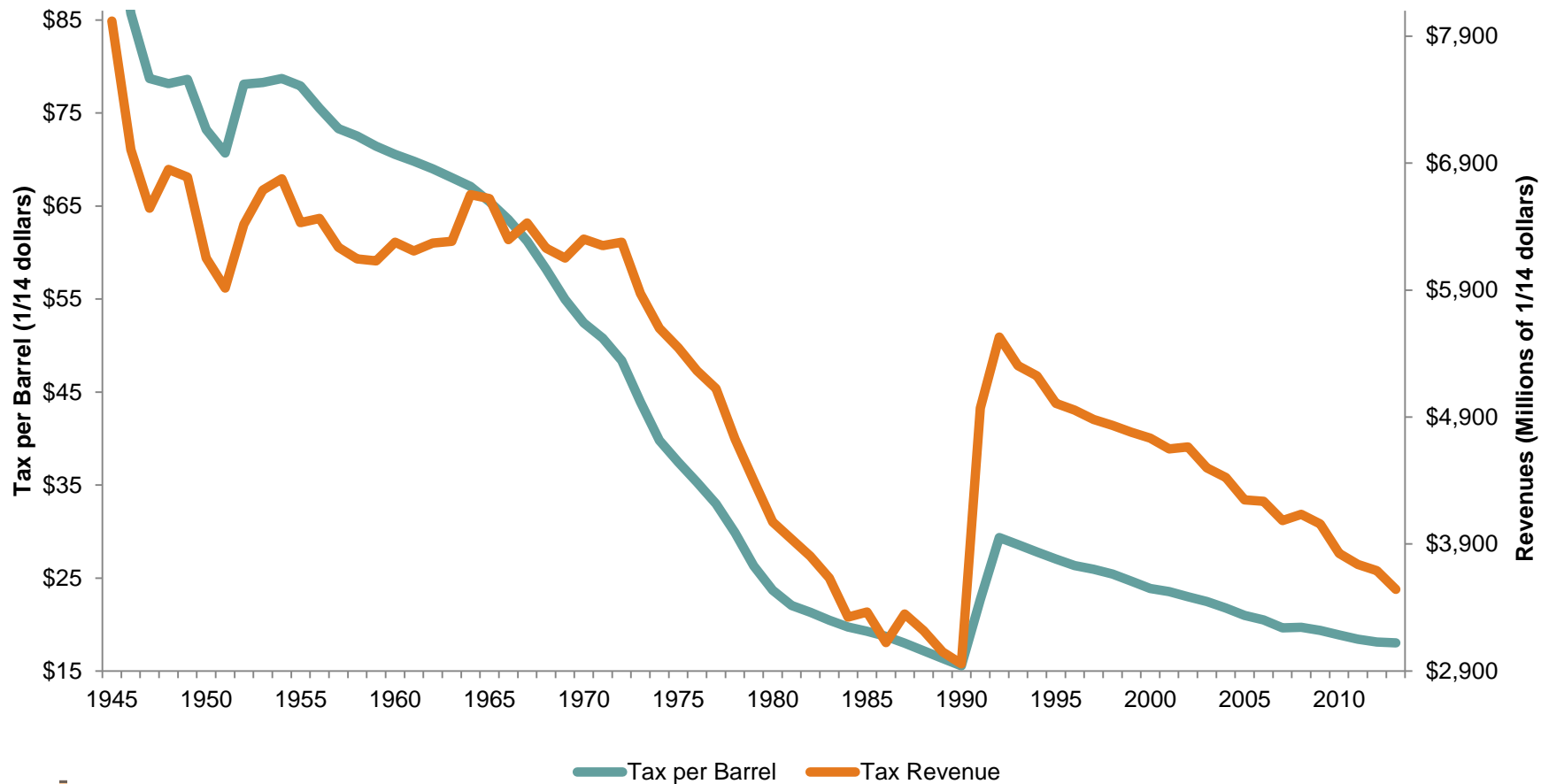
# Alcohol Taxes, Prices & Consequences

- 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 suicide) and other crime
  - Other consequences of drinking, including work-place accidents, teenage pregnancy, and incidence of sexually transmitted diseases



# Federal Beer Tax & Tax Revenues

## United States, Inflation Adjusted, 1945-2013



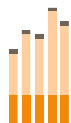
Source: *Brewers Almanac*, 2013, ATTTB, 2014, and author's calculations



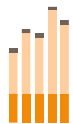
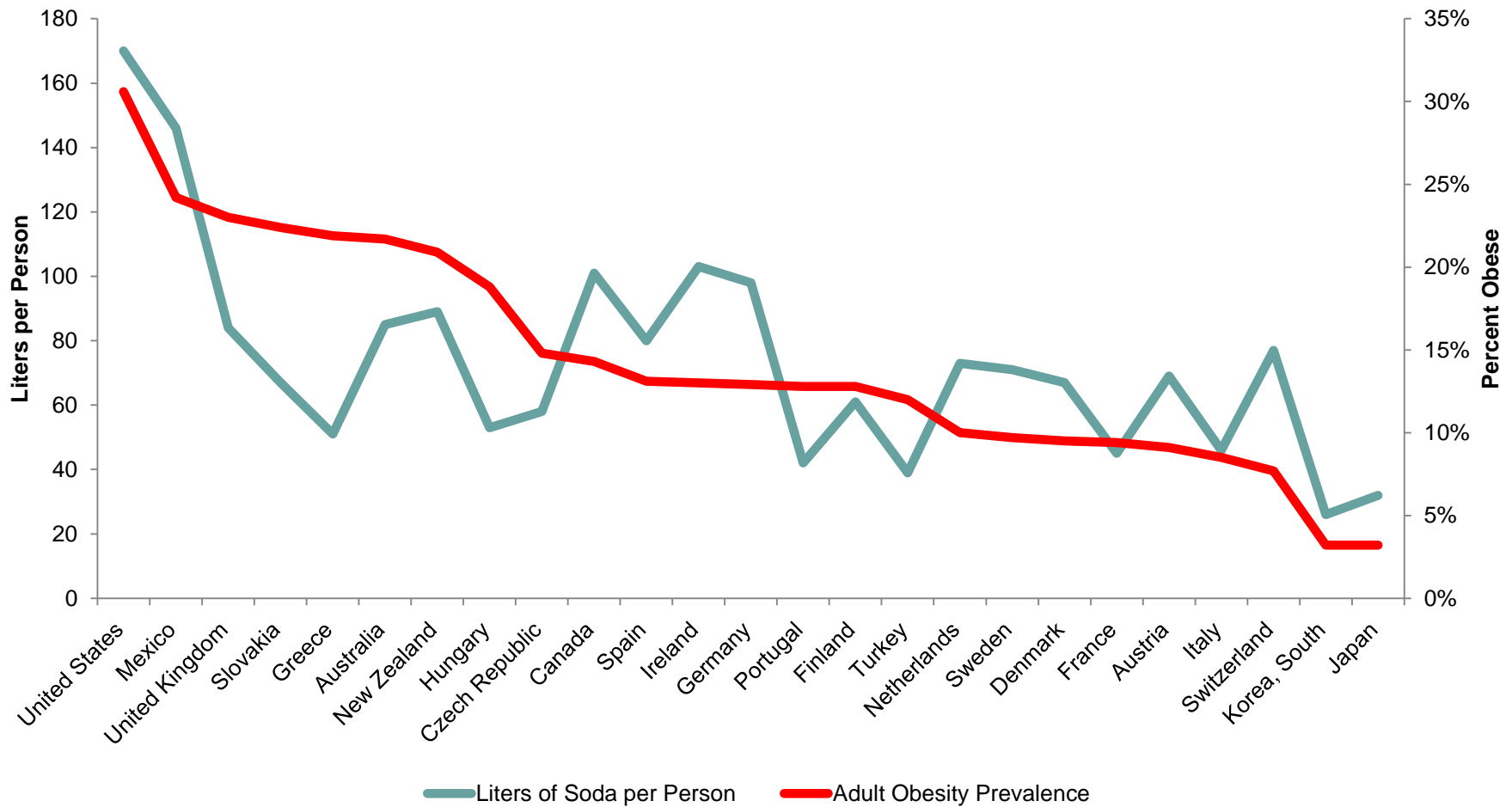
# Prices and Food & Beverage Consumption

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

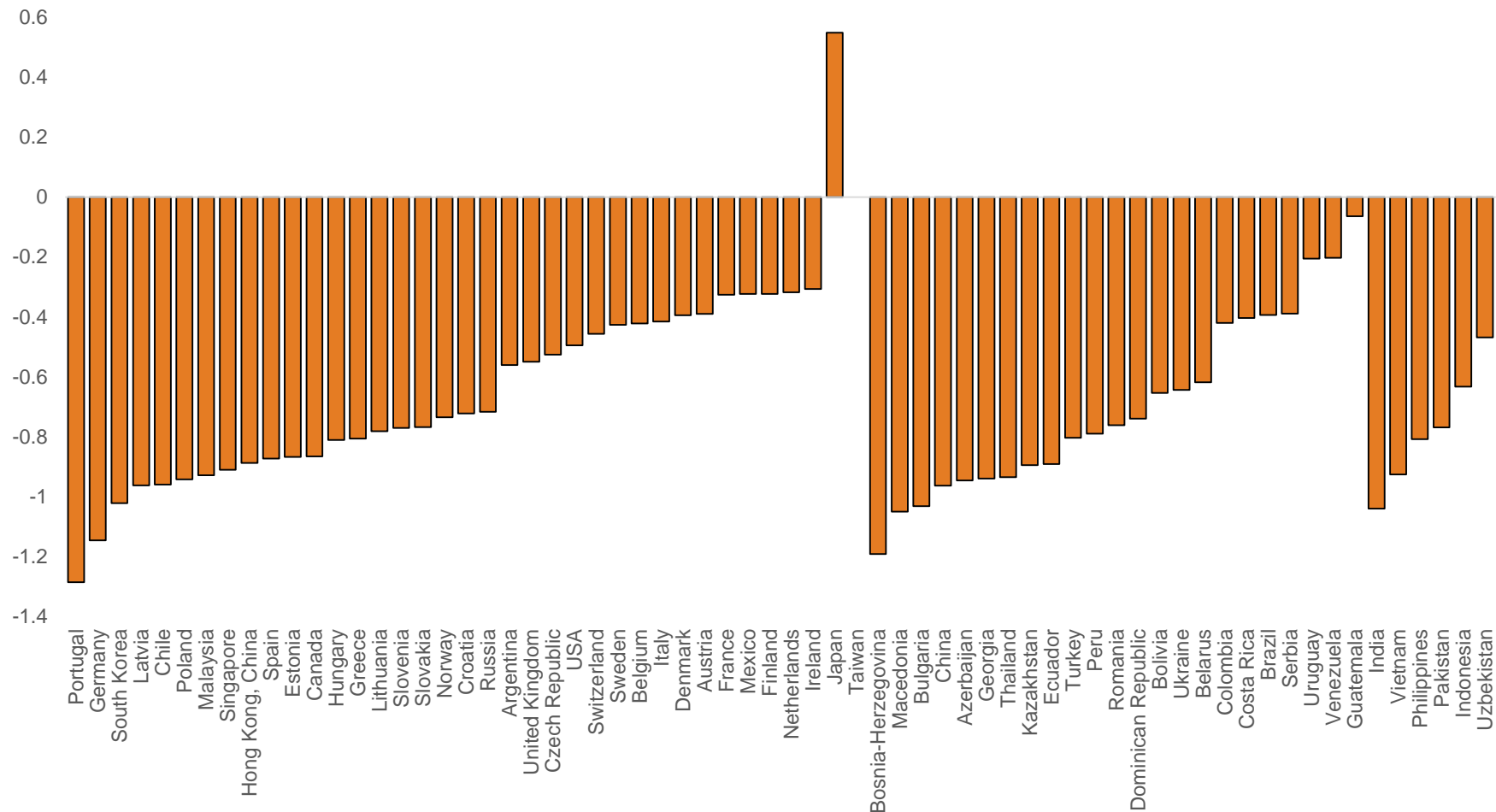
- Our recent review concludes 10% increase in own-price would reduce:
  - Sugar-sweetened beverage consumption by 12.1%
  - Fruit consumption by 4.9%
  - Vegetable consumption by 4.8%
  - Fast food consumption by 5.2%



# Soda Consumption & Obesity Selected Countries

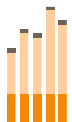
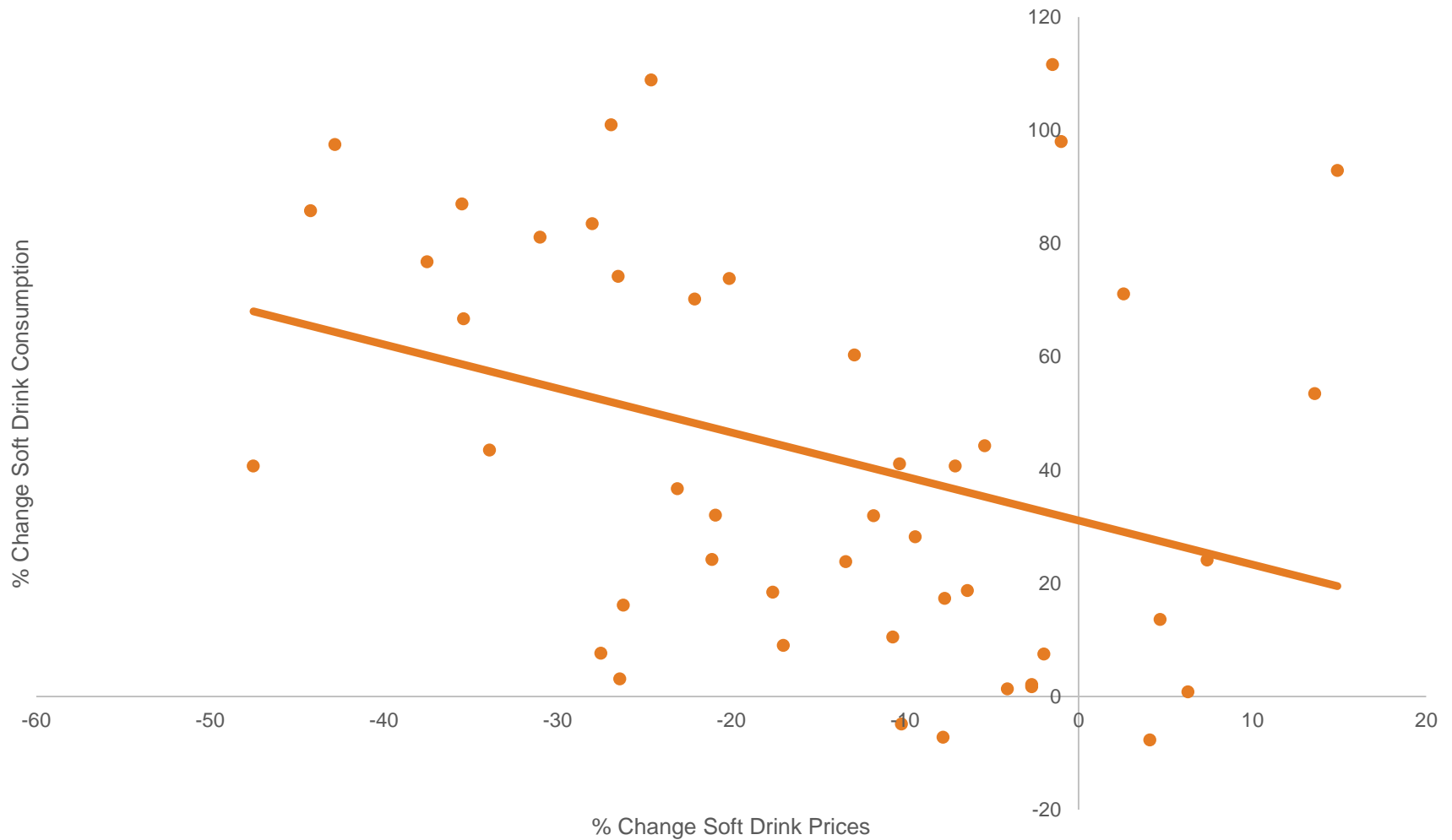


# Change in Soft Drink Affordability 2000-2013, Selected Countries



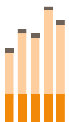
# Soft Drink Prices & Consumption

## Percentage Change, 2000-2014, Selected Countries



# Sugary Drink Tax - Mexico

- Mexico implemented peso-per-liter tax on SSBs in 2014
  - Increased prices for SSBs relative to non-taxed beverages
    - about 10% price increase
    - pass through varies by type, size, location
  - Generated nearly 16 billion pesos in new revenue in first year
  - Also implemented a 'junk food' tax of 8% at the same time



# Impact of SSB Tax on Sales

## Mexico, 2007-2016

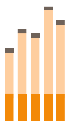


Significant reductions in SSB sales:

- 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

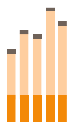
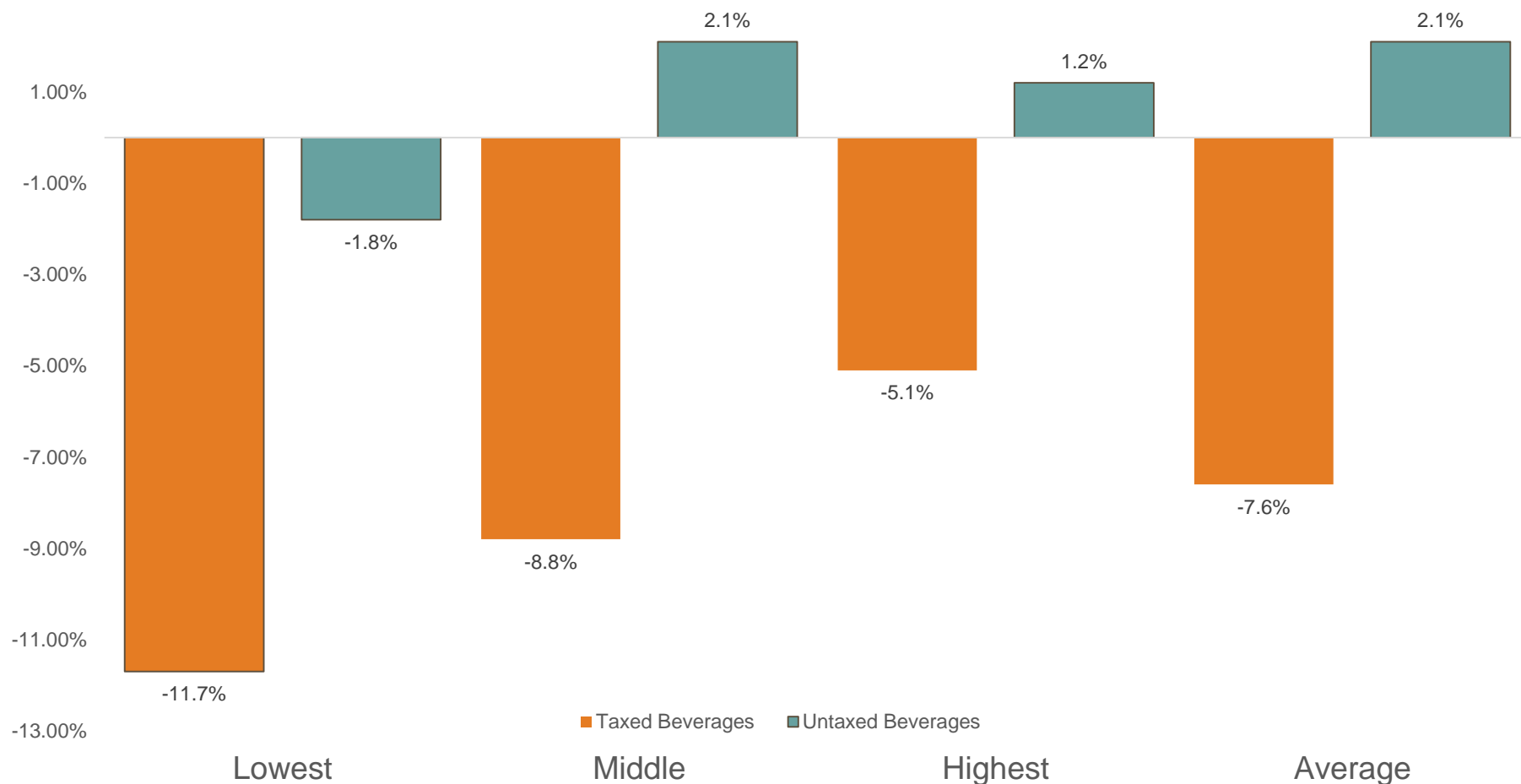


Changes in sales of sugar-sweetened beverages in Mexico before (2007-2013) and after the tax (2014-2016): <https://www.insp.mx/eppo/blog/4278-changes-sales-beverages.html>

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).

# Impact of SSB Tax on Household Purchases

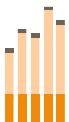
## Mexico, by Income Group, 2014-2015



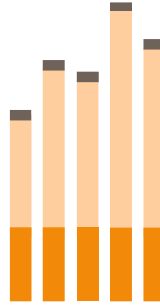
# Impact of SSB Tax on Purchases Mexico, by Purchase Level, 2014

- 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

Ng SW, Rivera J, Popkin B, Colchero MA. Did high purchasers respond differently to the excise tax on sugar-sweetened beverages in Mexico?







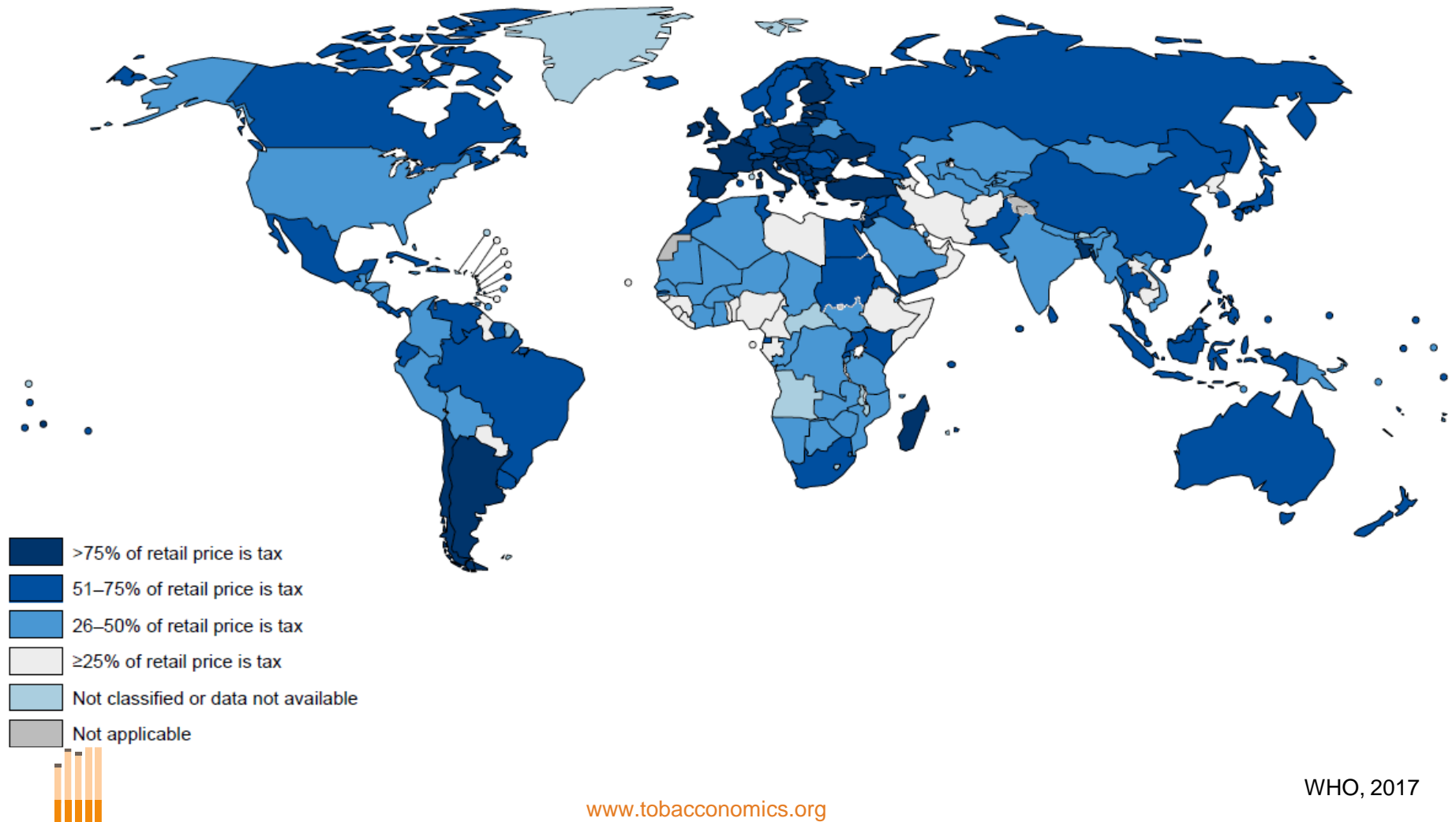
# Oppositional Arguments

-

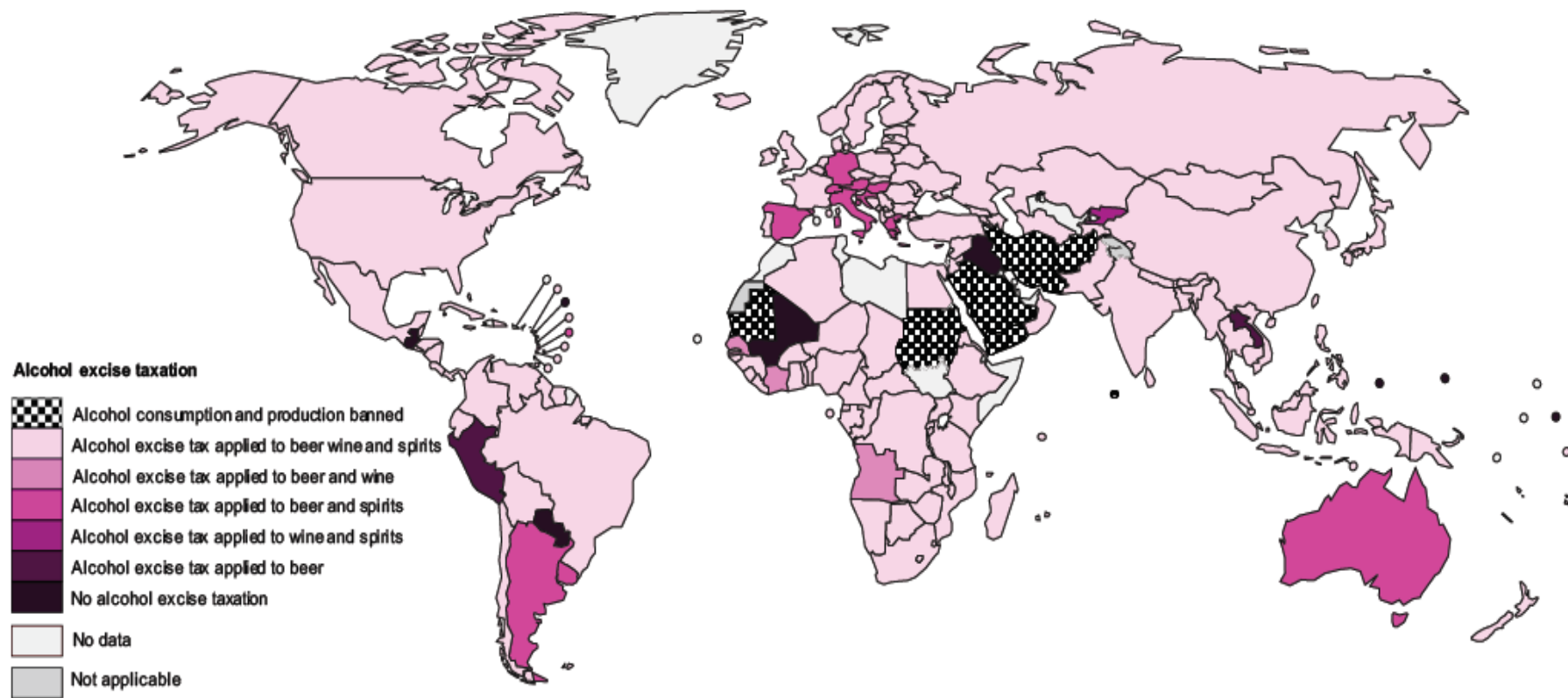
## Myths & Facts

# Cigarette Taxes as Percent of Retail Price

## July 2016



# Alcoholic Beverage Excise Taxes by Beverage Type



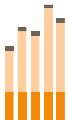
The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.



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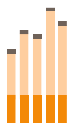
# Sugary Drink Taxes, January 2018

1. COOK ISLANDS
2. KIRIBATI
3. FRENCH POLYNESIA
4. MEXICO
5. CHILE
6. DOMINICA
7. BARBADOS
8. PORTUGAL
9. SPAIN (CATELONIA)
10. IRELAND
11. UNITED KINGDOM
12. FRANCE
13. BELGIUM
14. NORWAY
15. FINLAND
16. ESTONIA
17. HUNGARY
18. ST HELENA
19. SOUTH AFRICA
20. SAUDIA ARABIA
21. UNITED ARAB EMIRATES
22. MAURITIUS
23. SEYCHELLES
24. BRUNEI
25. NAURU
26. FIJI
27. SAMOA
28. TONGA



# Oppositional Arguments

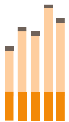
- Massive job losses as consumption falls in response to higher taxes and other control policies
- Poor adversely affected by higher taxes
- Increased tax avoidance and tax evasion in response to higher taxes



# Excise Taxes and Jobs

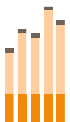
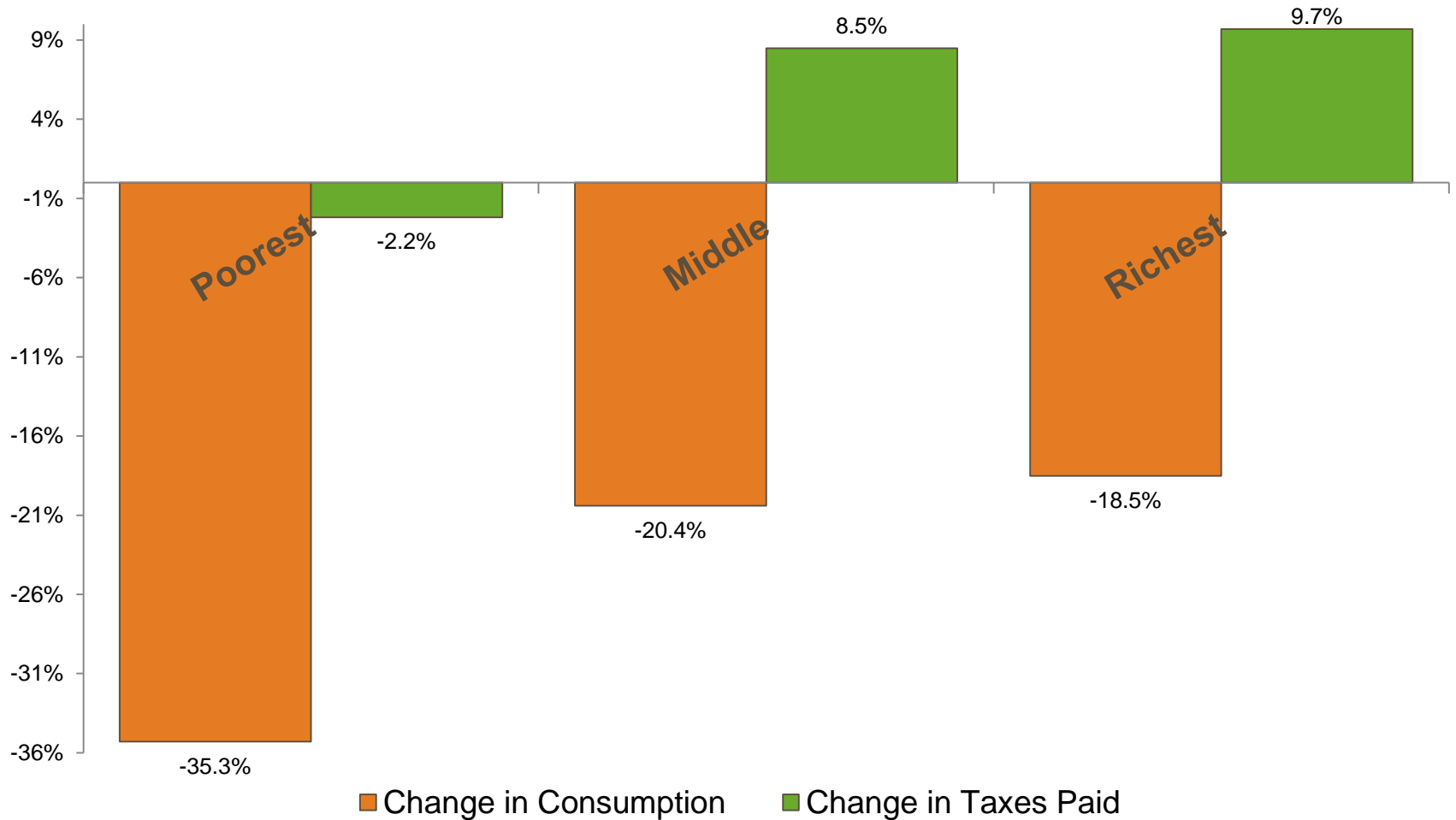
Industries tell only part of story:

- 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***

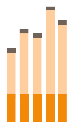
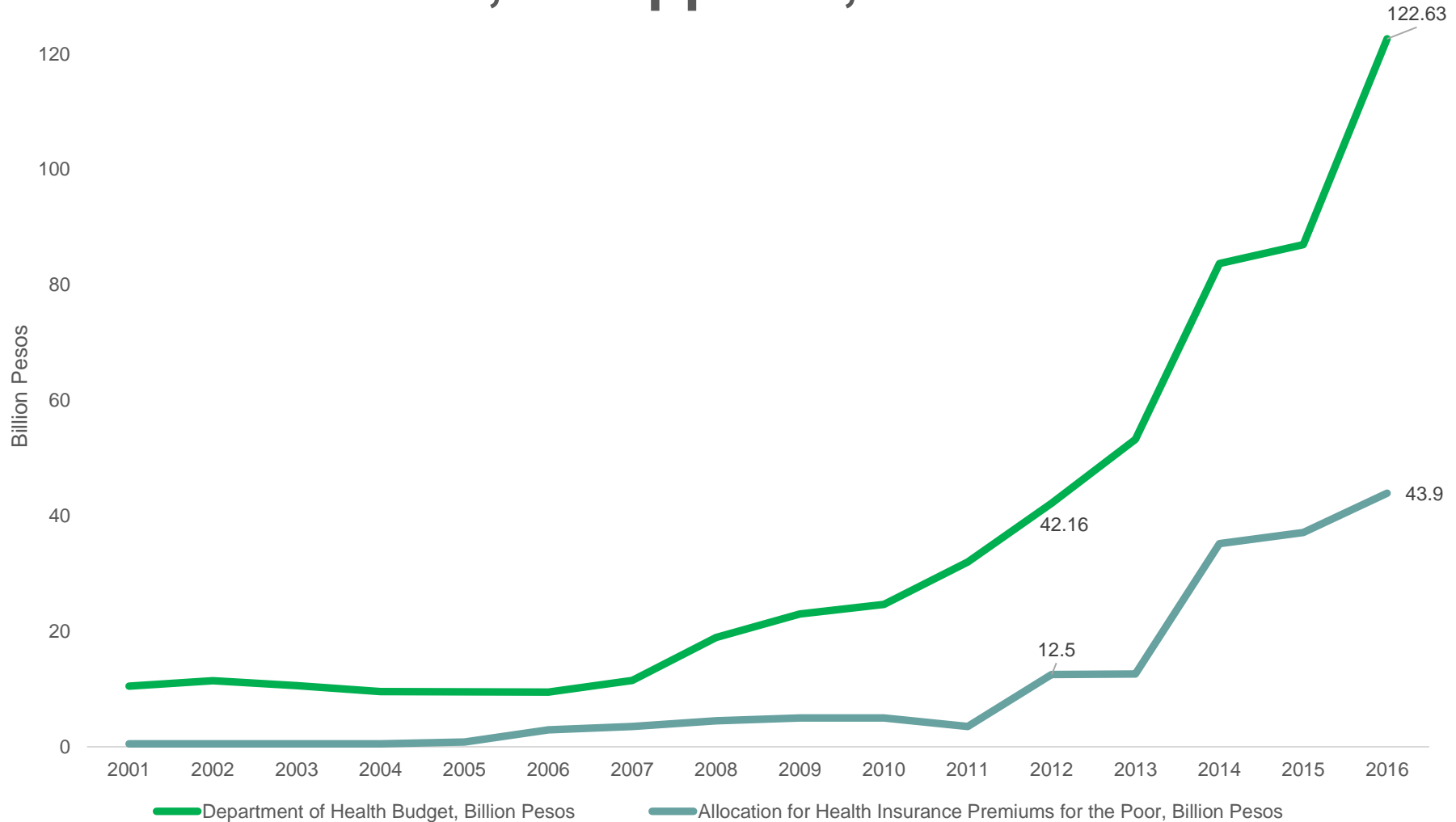


# Who Pays & Who Benefits

## Turkey, 25% Cigarette Tax Increase

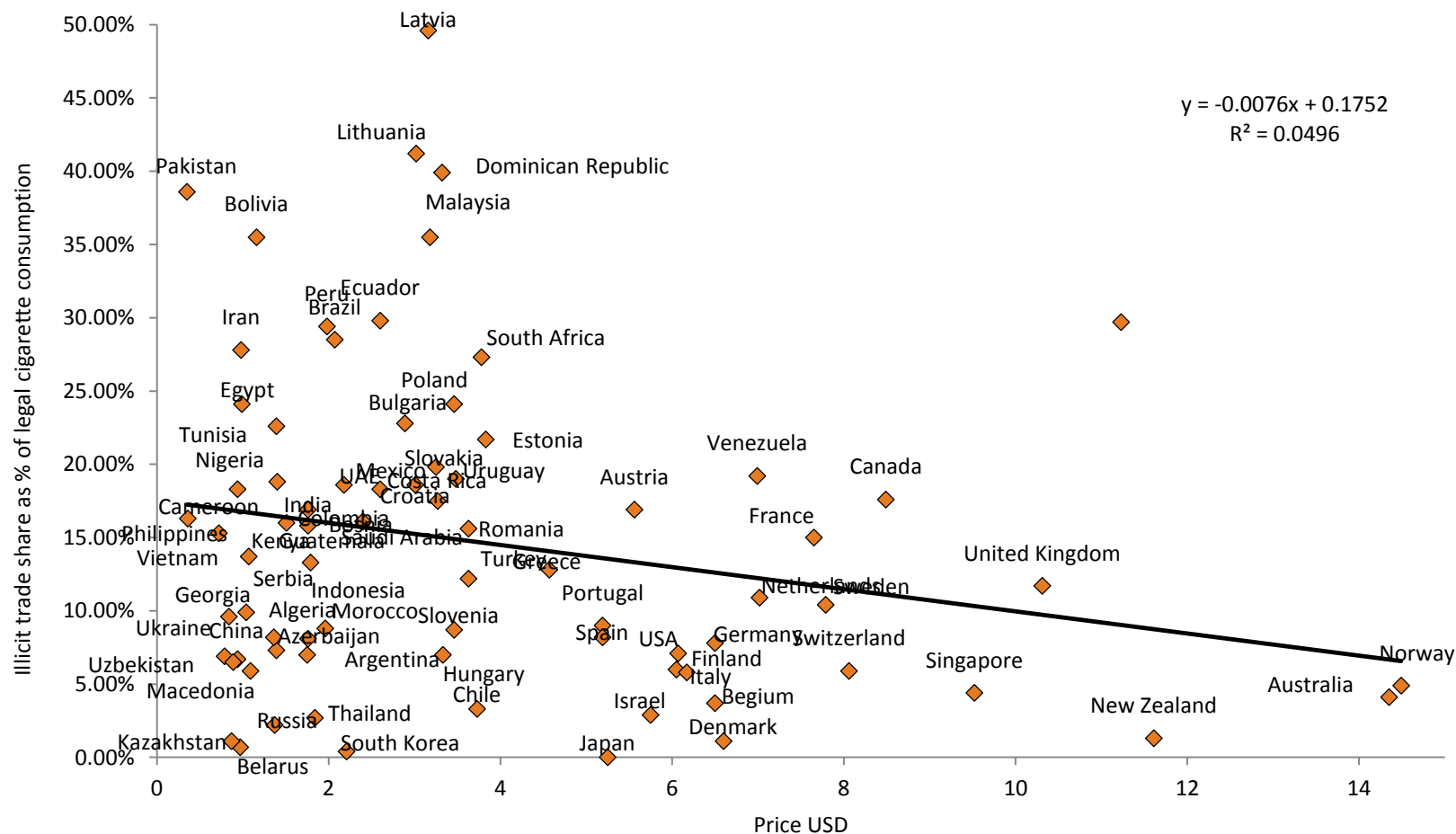


# Incremental Revenues for Health and the Poor, Philippines, 2001-2016

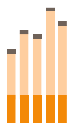
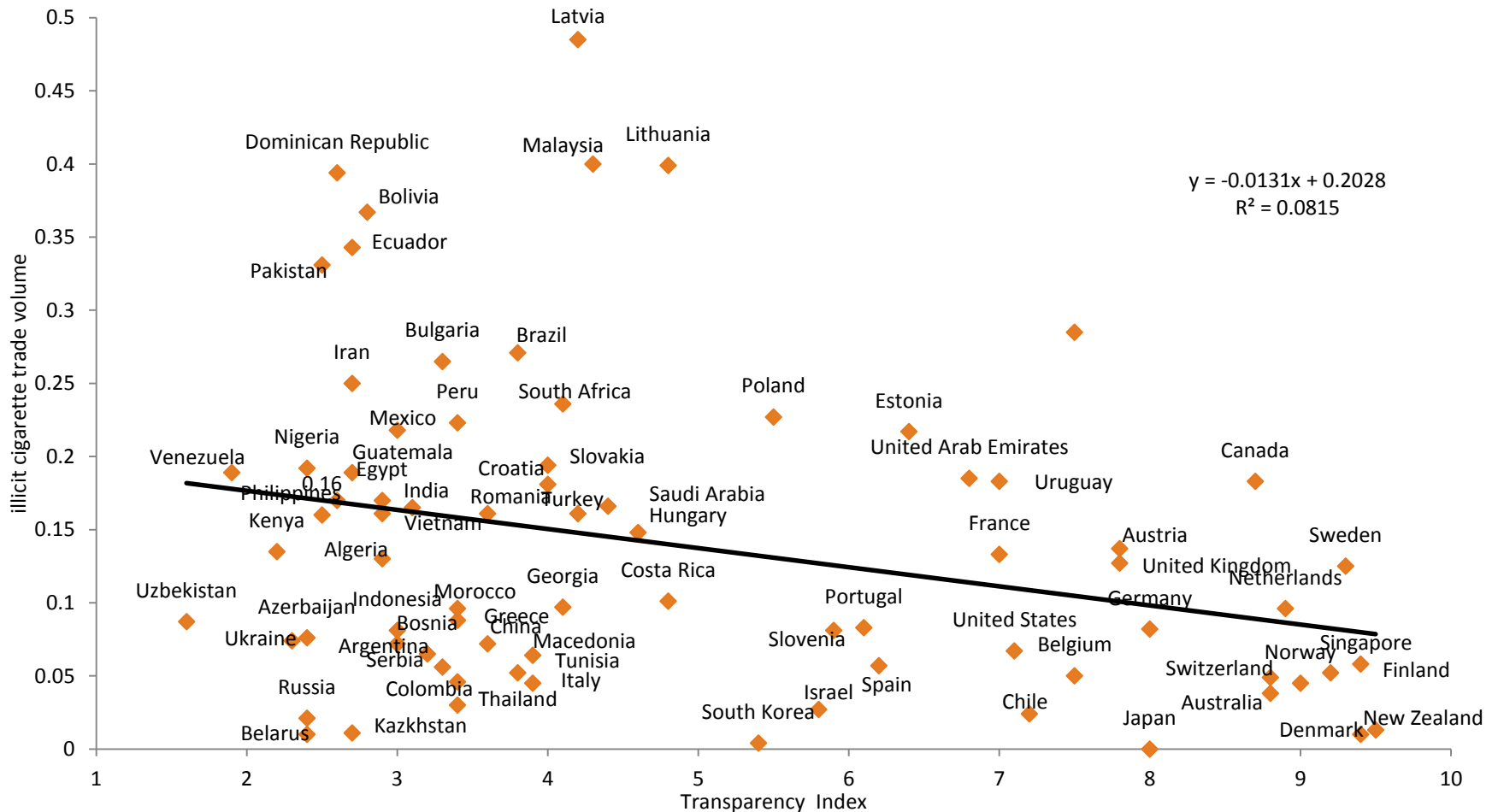




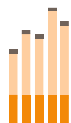
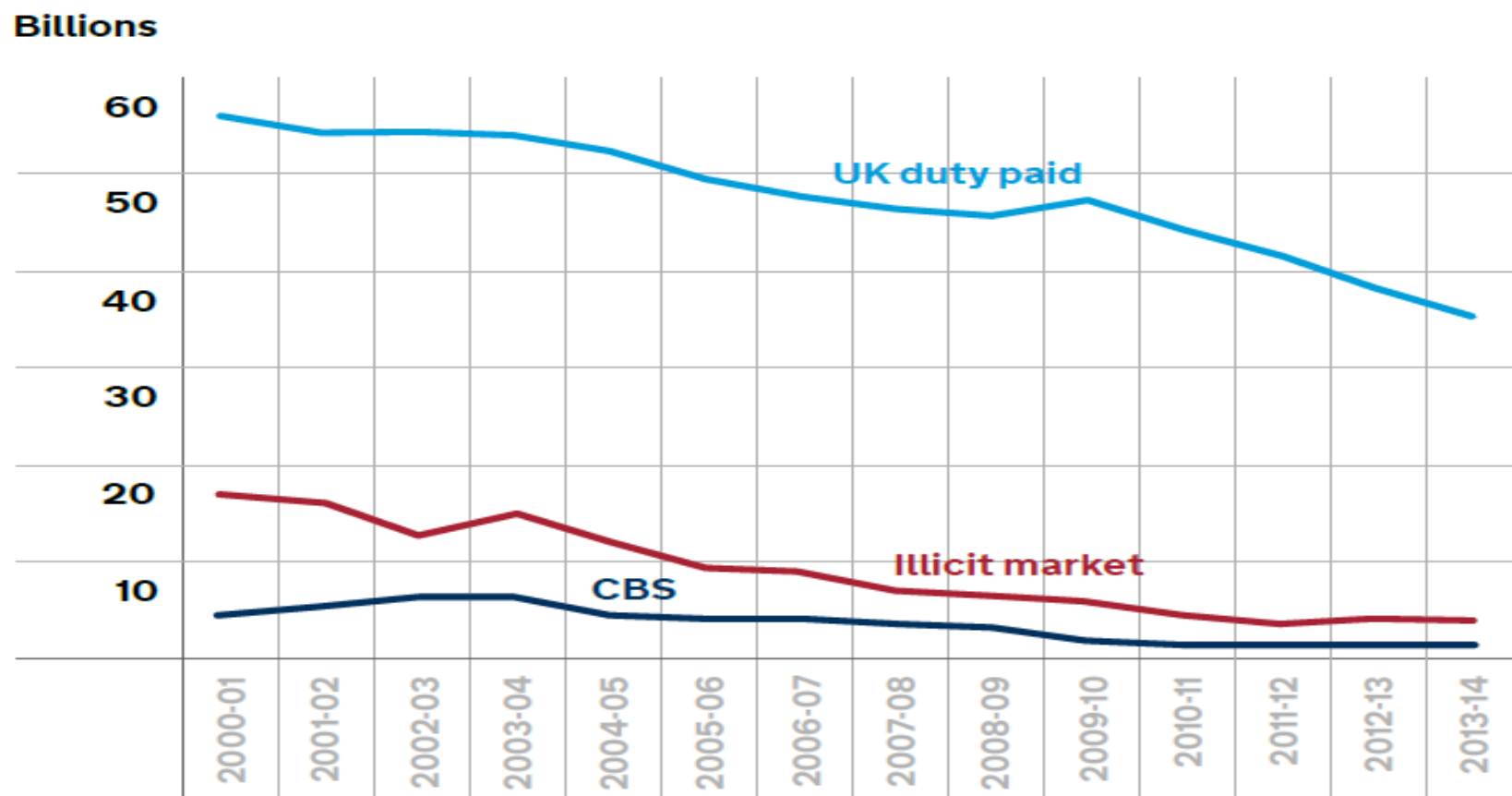
# Illicit Cigarette Market Share & Cigarette Prices, 2012

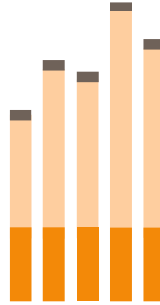


# Illicit Cigarette Market Share & Corruption, 2011



# Cigarette Consumption: Duty Paid, Illicit, and Cross-Border Shopping, United Kingdom, 2000-01 – 2013-14

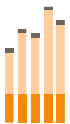




# Conclusions

# 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!

For more information:

Bridging the Gap

<http://www.bridgingthegapresearch.org>

Tobacconomics

<http://www.tobacconomics.org>

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