

tobacconomics

Economic Research Informing Tobacco Control Policy

The Economics of Tobacco Control: Increasing Taxes on Tobacco Products

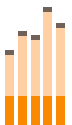
Frank J. Chaloupka, University of Illinois at Chicago

South Asian Tobacco Control Leadership Program

10 May 2017, Kathmandu, Nepal

Overview

- Economic costs of tobacco use
- Impact of tobacco taxes on tobacco use
- Myths & Facts on economic “costs” of tobacco control
- Cost-effectiveness of tobacco control




TOBACCO CONTROL

DEVELOPMENT IN PRACTICE

Curbing the Epidemic

Governments and the
Economies of Tobacco Control




A WORLD BANK PUBLICATION

The International Tobacco Control Policy Evaluation Project

Tobacco Price and Taxation

ITC Cross-Country Comparison Report



MARCH 2012

UNIVERSITY OF WATERLOO

itc
International Tobacco Control Policy Evaluation Project

International Agency for Research on Cancer
World Health Organization


IARC HANDBOOKS OF CANCER PREVENTION
Tobacco Control

Volume 14

Effectiveness of Tax and Price Policies for Tobacco Control

2011

The Economics of Tobacco Control: Evidence from the International Tobacco Control (ITC) Policy Evaluation Project



Guest Editor: John Taurus

itc
International Tobacco Control Policy Evaluation Project


tobaccocontrol.bmj.com **BMJ**



Tobacco control in developing countries

editors | Prabhat Jha | Frank Chaloupka

WHO Technical Manual on Tobacco Tax Administration



World Health Organization

World Health Organization

WHO REPORT ON THE GLOBAL TOBACCO EPIDEMIC, 2015
Raising taxes on tobacco

fresh and alive
mpower

NIH NATIONAL CANCER INSTITUTE

21

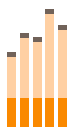
NCI TOBACCO CONTROL MONOGRAPH SERIES

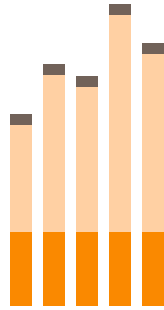
The Economics of Tobacco and Tobacco Control

IN COLLABORATION WITH WORLD HEALTH ORGANIZATION

Executive Summary

U.S. Department of Health & Human Services | National Institutes of Health

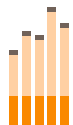




Economic Costs of Tobacco Use

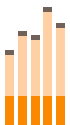
Why Study the Costs of Tobacco Use?

- To assess the economic impact of tobacco use on:
 - Society (macroeconomic impact)
 - Individuals (impact on households)
 - Government (state budgets)
 - Business/employers (private sector)
- Economic cost estimates can help spur adoption of effective tobacco control policies
 - “toolkit” for estimating economic costs available on WHO web-site



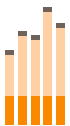
Categories of Costs

- Direct costs: reduction in existing resources
 - “Direct health care costs” (e.g., medicines)
 - “Direct non–health care costs” (e.g., transportation to clinic, time of family members providing care)
- Indirect or productivity costs: reduction in potential resources
 - Lost productivity due to morbidity and premature mortality



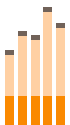
Categories of Costs

- External costs
 - costs that tobacco users impose on others (e.g., costs related to secondhand smoke)
- Internal costs
 - costs paid for by tobacco users (and their families) incurred as a result of tobacco use (e.g., out of pocket costs for health care to treat diseases caused by smoking)
- “Internalities”
 - the internal costs that result from the information failures in the market that can be thought of as external costs



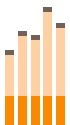
Other Classifications of Costs

- Tangible costs
 - resources with a market price (e.g., costs of treatment for smoking-related illness or reduced access to health care for others due to the diversion of limited resources)
- Intangible costs
 - do not reduce existing resources (e.g. pain and suffering)
 - are difficult to value (e.g., pain and suffering)
 - generally not captured in economic cost studies

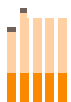
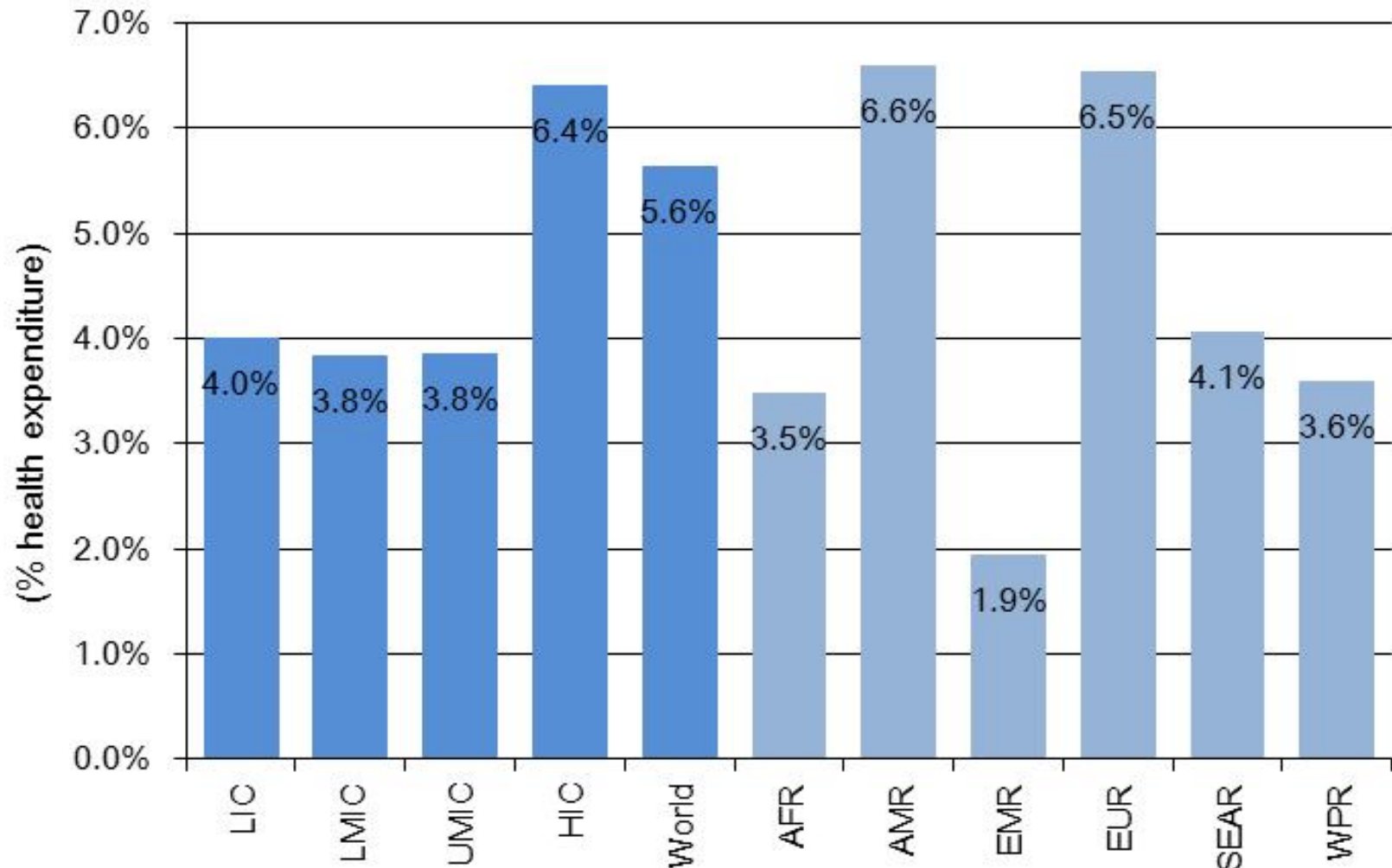


Estimating the Economic Costs of Tobacco Use

- Prevalence-based approach:
 - **Gross health care costs of smoking**
 - Actual expenditures for additional health care at a given time due to smoking
- Incidence-based approach:
 - **Net health care costs of smoking**
 - Additional costs across the full lifespan of a smoker, compared to costs for same person as a nonsmoker

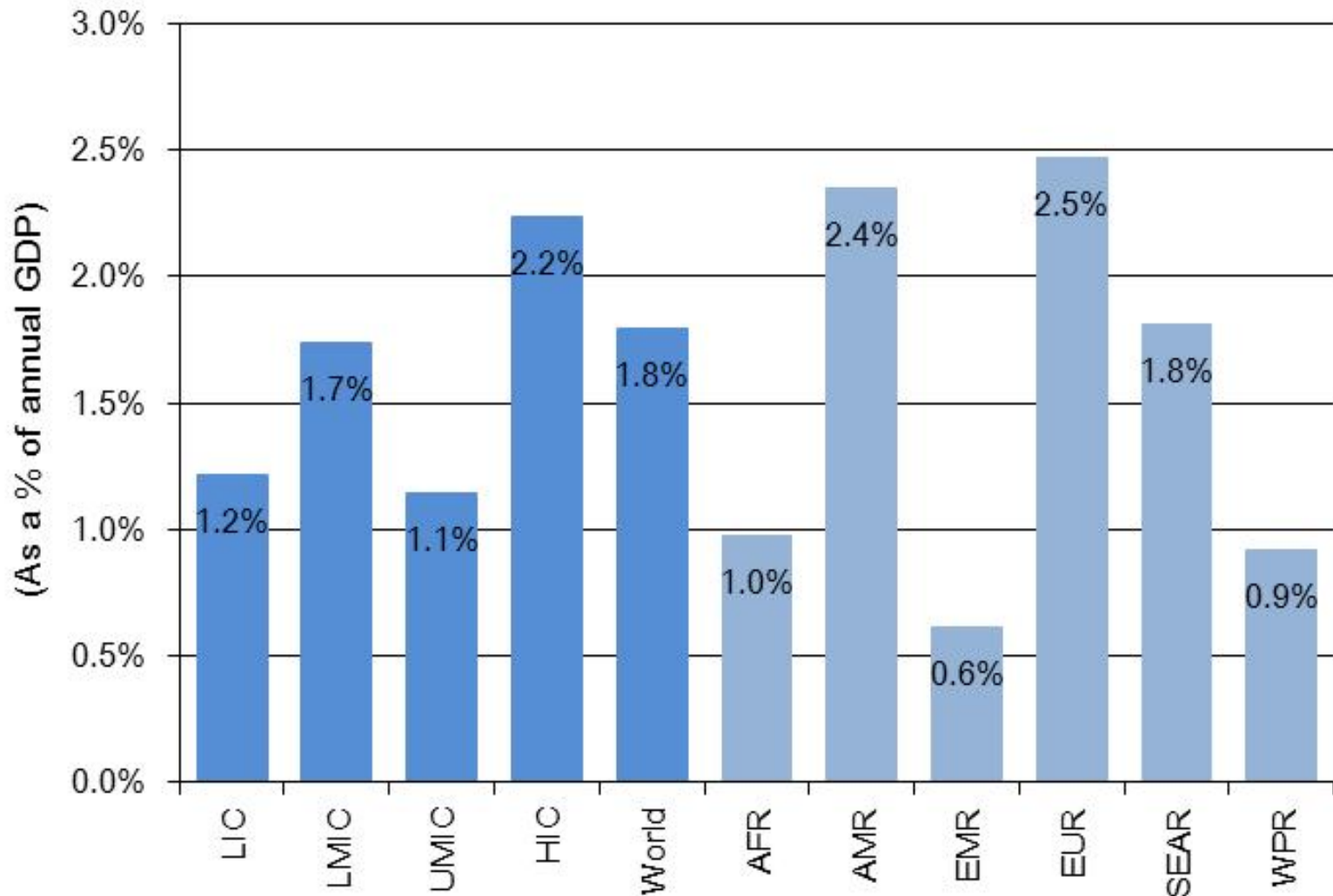


Smoking-Attributable Spending as Share of Total Health Expenditures, 2012, by Income Group and WHO Region

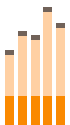


Source: Goodchild, et al., forthcoming

Economic Costs of Smoking-Attributable Diseases as Share of GDP, 2012, by Income Group and WHO Region

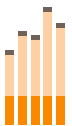


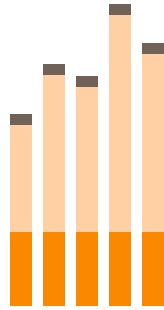
Source: Goodchild, et al., forthcoming



Global Evidence on Health Care Costs from Smoking

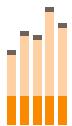
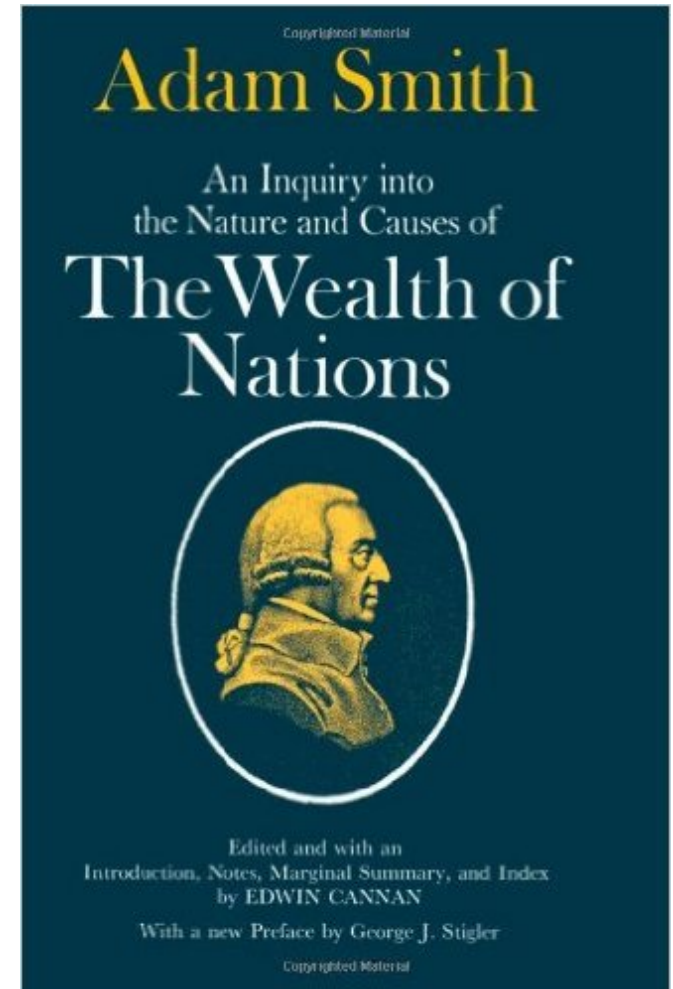
- Studies using the incidence-based approach
 - Differences in lifetime costs are smaller than annual costs
 - Most studies consider only health care costs, not the other internal, external, and intangible costs
 - Best studies do suggest that net lifetime costs for health care are higher for smokers





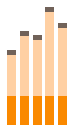
Impact of Tobacco Tax Increases

"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.**



Cigarette Price & Consumption

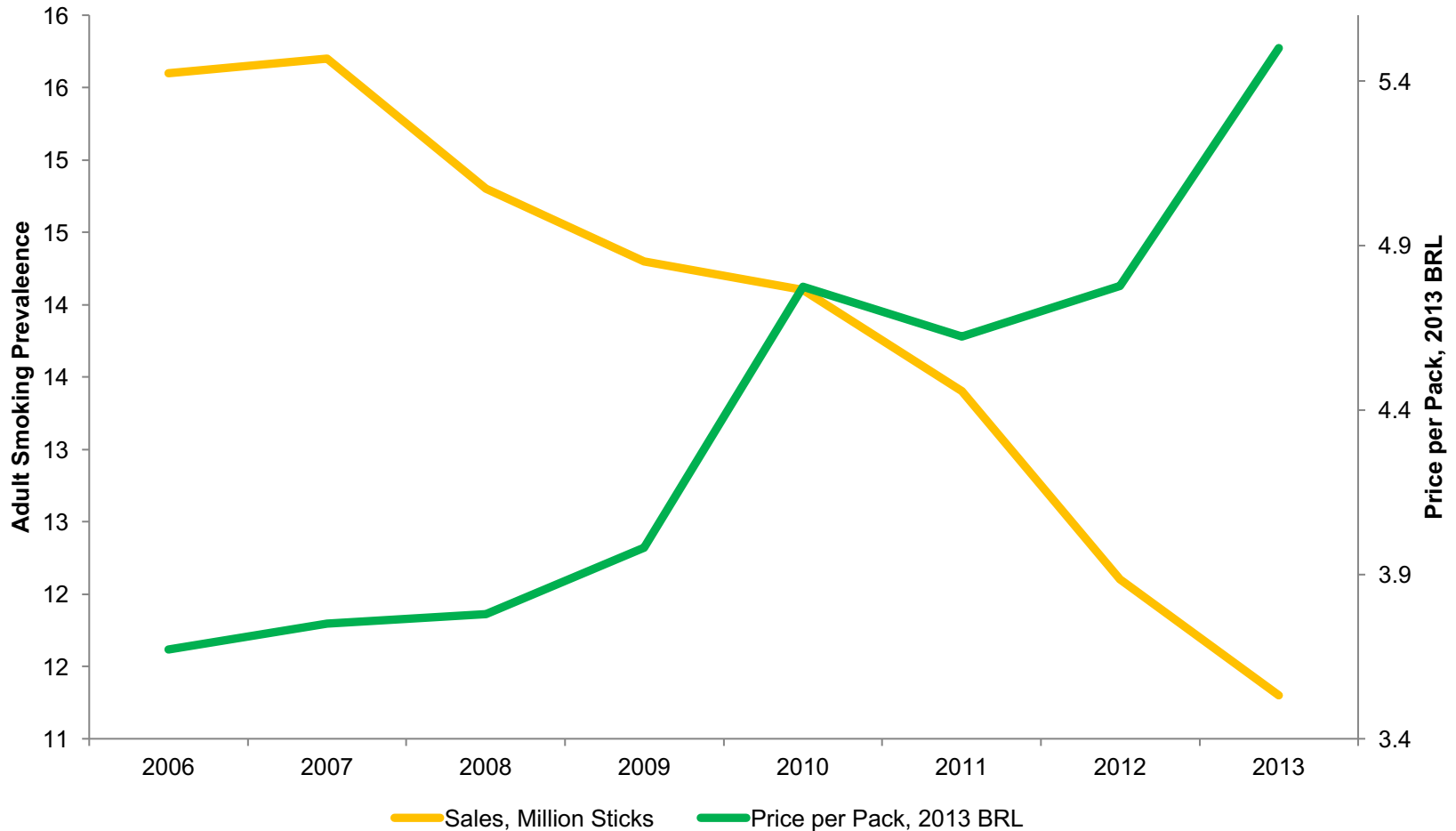
Republic of Korea, 2005-2015, Inflation Adjusted



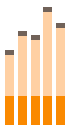
Sources: EIU, Euromonitor, and World Bank

Adult Smoking Prevalence & Price

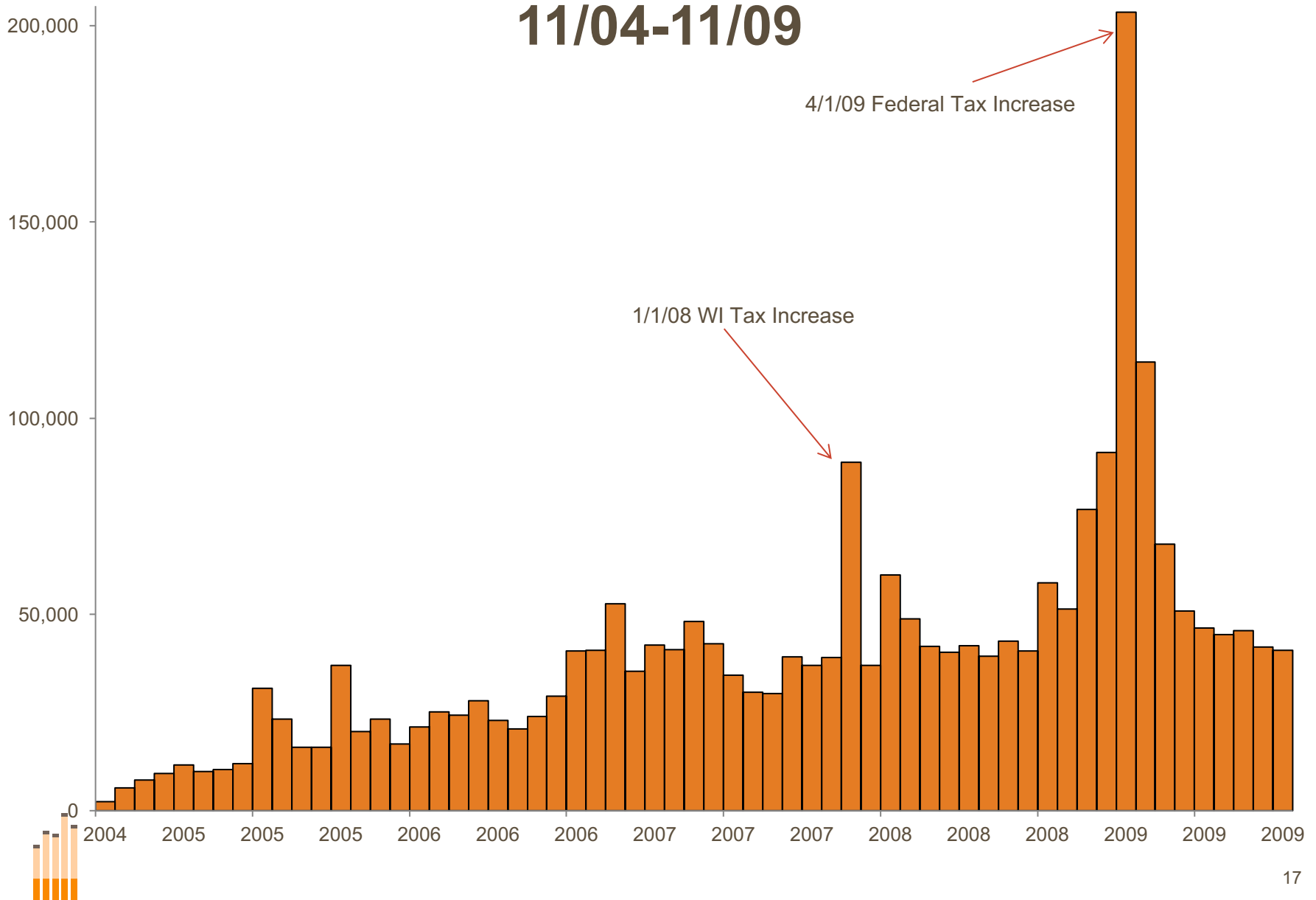
Brazil, Inflation Adjusted, 2006-2013



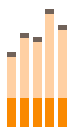
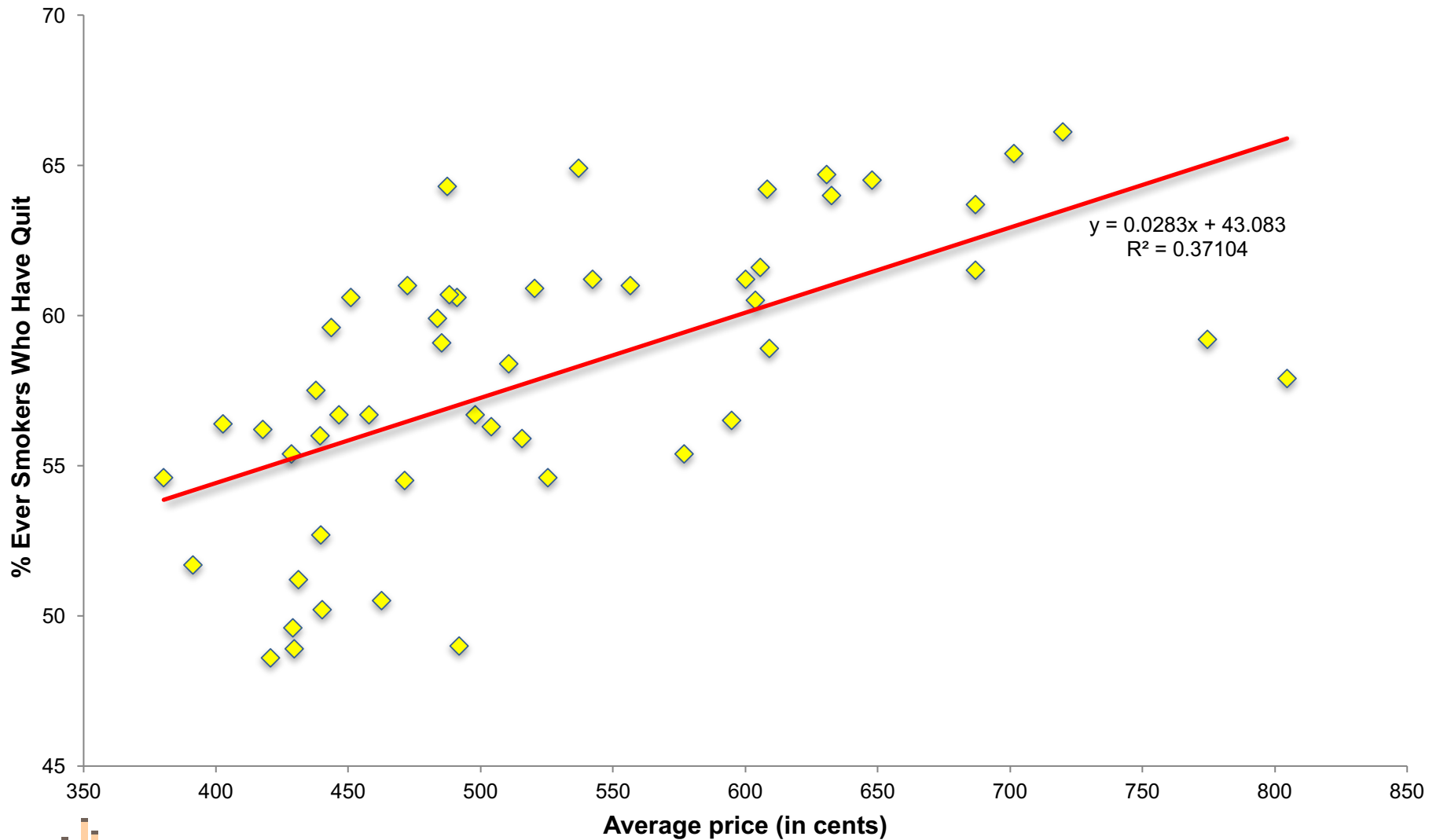
Sources: Ministry of Health, Brazil; EIU; World Bank



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

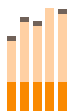
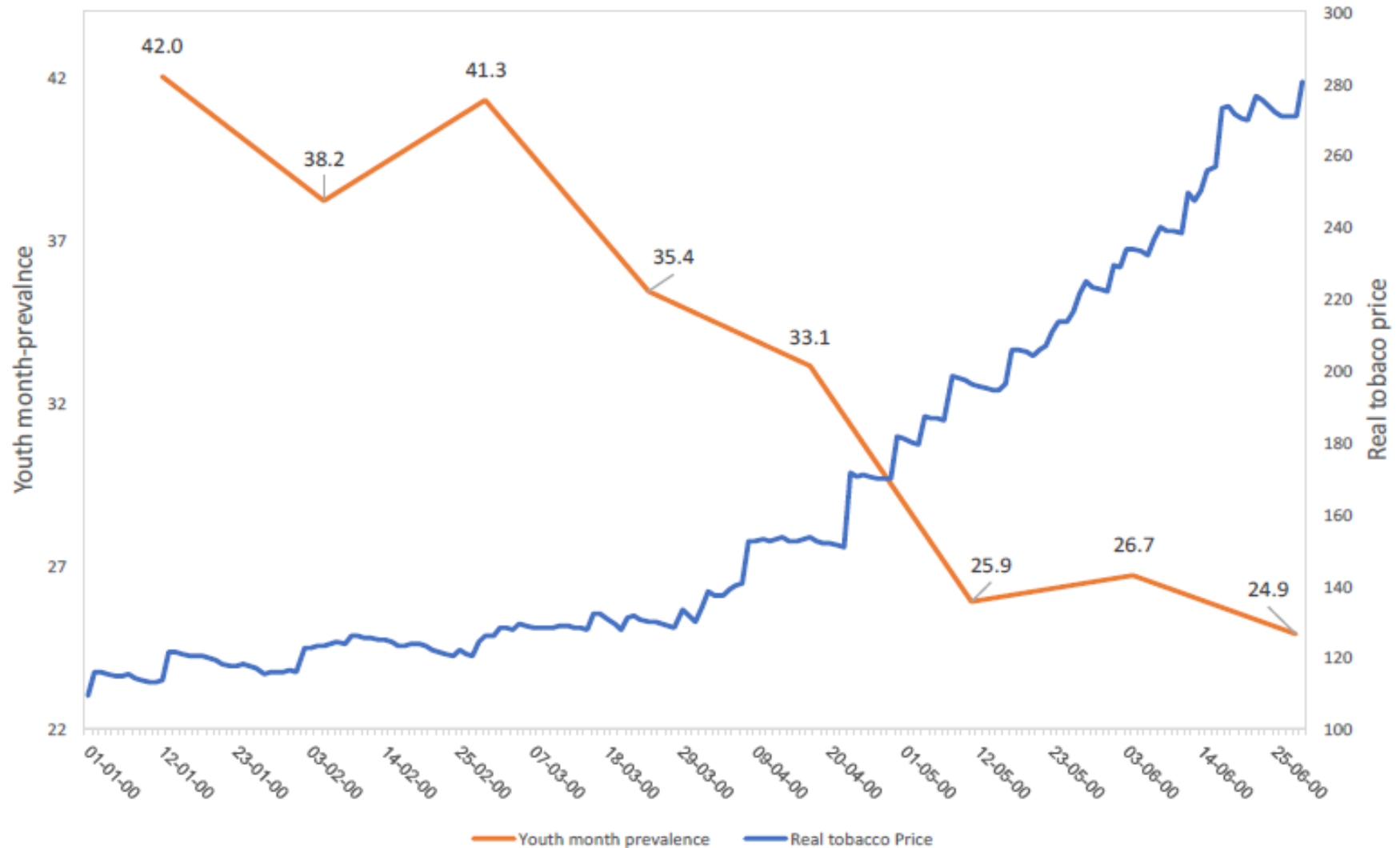


Cigarette Prices and Cessation US States & DC, 2009

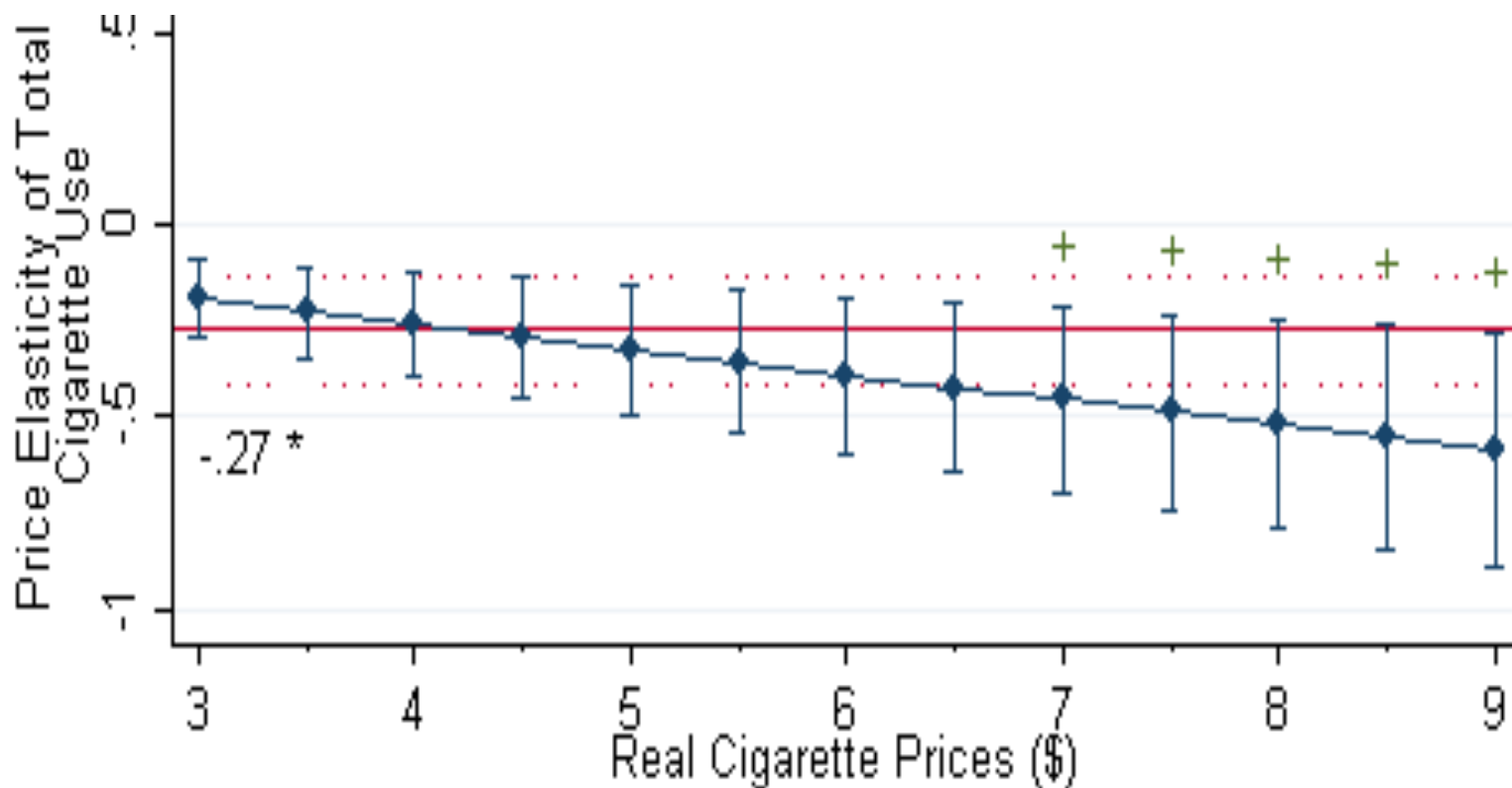


Source: BRFSS, *Tax Burden on Tobacco*, 2010, and author's calculations

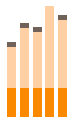
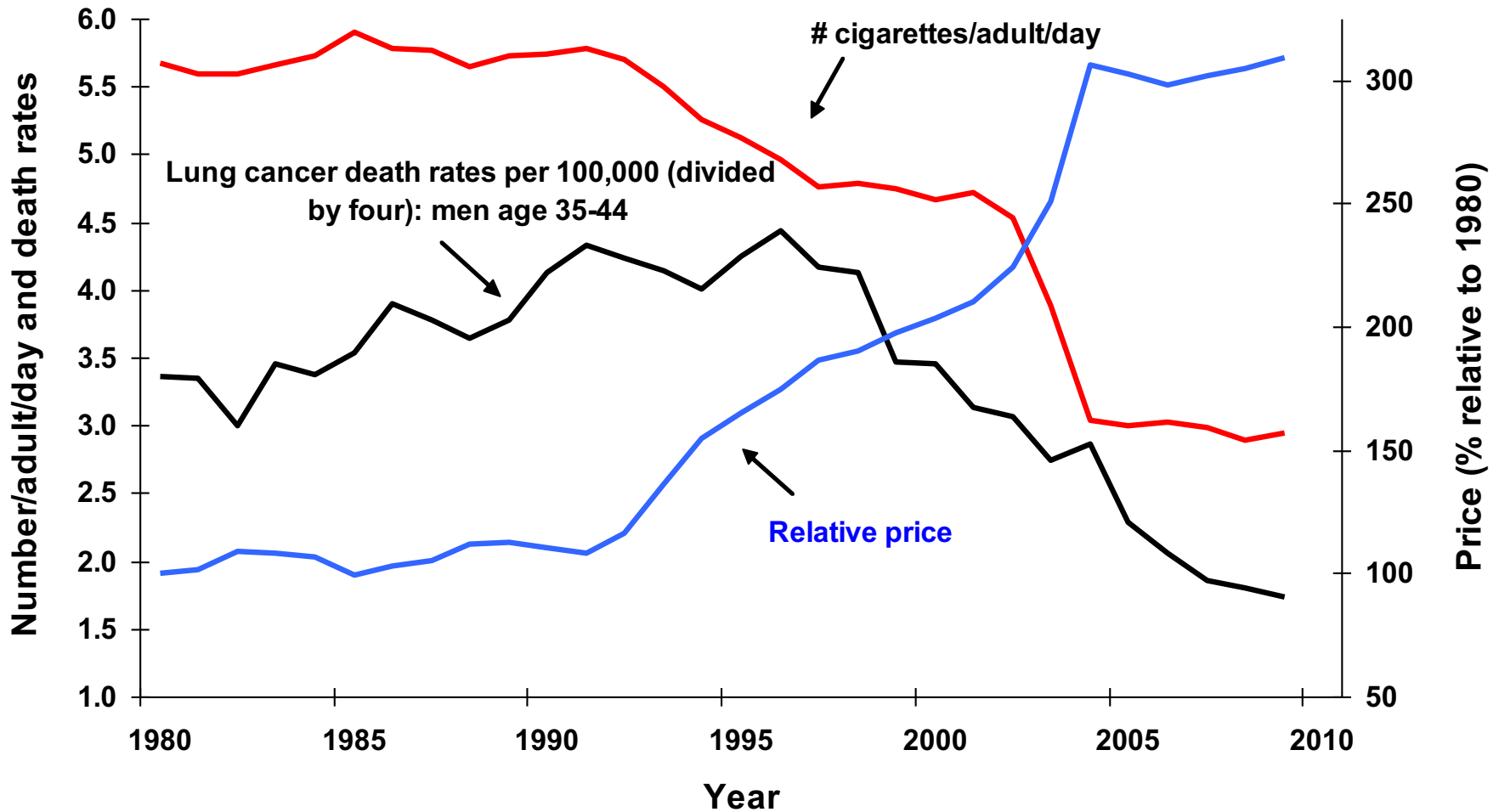
Cigarette Price & Youth Smoking Prevalence Chile, 2000-2015



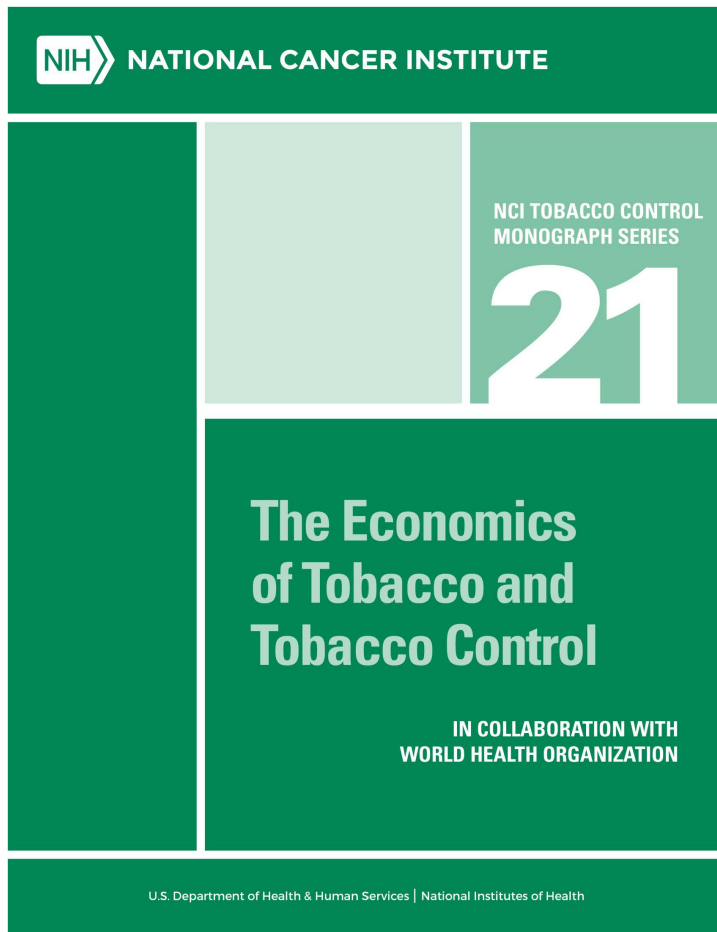
Increasing Elasticity with Increasing Price – U.S. TUS-CPS Data



Price, Consumption & Lung Cancer, France

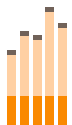


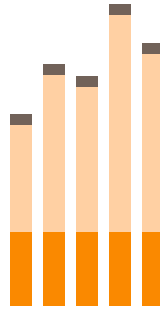
Effectiveness of Tobacco Taxes



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.**





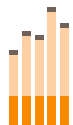
Best Practices in Tobacco Taxation

NCI TOBACCO CONTROL
MONOGRAPH SERIES

21

The Economics of Tobacco and T

U.S. Department of Health and Human Services



WHO REPORT ON THE GLOBAL TOBACCO EPIDEMIC, 2015 Raising taxes on tobacco

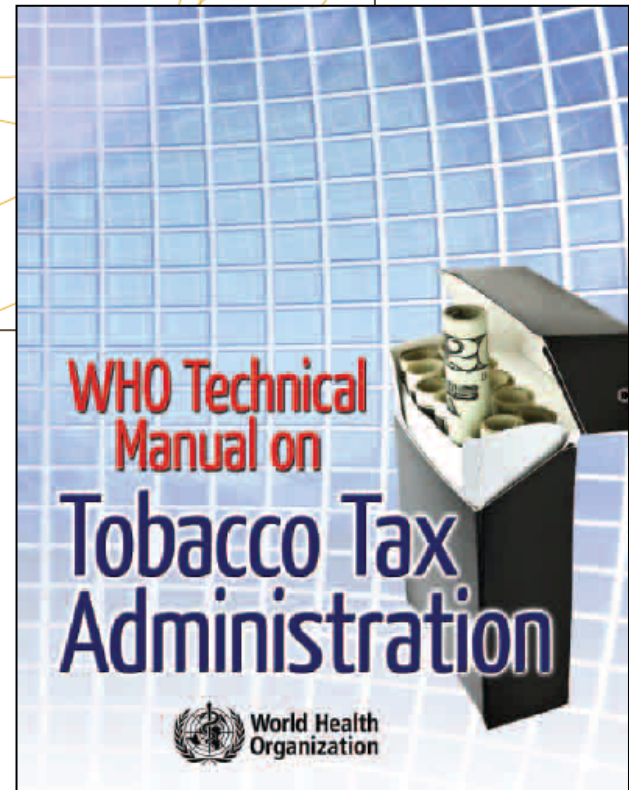


Guidelines for implementation of Article 6

Price and tax measures to reduce the demand for tobacco

Adopted by the Conference of the Parties at its sixth session (decision FCTC/COP6(5))

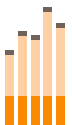
Online version available at http://www.who.int/fctc/treaty_instruments/Guidelines_article_6.pdf



Recommendations

Section 3 – Tobacco taxation systems

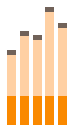
“Parties should implement the simplest and most efficient system that meets their public health and fiscal needs, and taking into account their national circumstances. **Parties should consider implementing specific or mixed excise systems with a minimum specific tax floor,** as these systems have considerable advantages over purely ad valorem systems.”



Excise systems for cigarettes

2014

	Number of countries (global)	Number of countries (Americas)
Total covered	186	33
Specific excise only	61	15
Ad valorem excise only	46	9
Mixture of both excises	61	7
No Excise	18	2



Source: WHO 2015

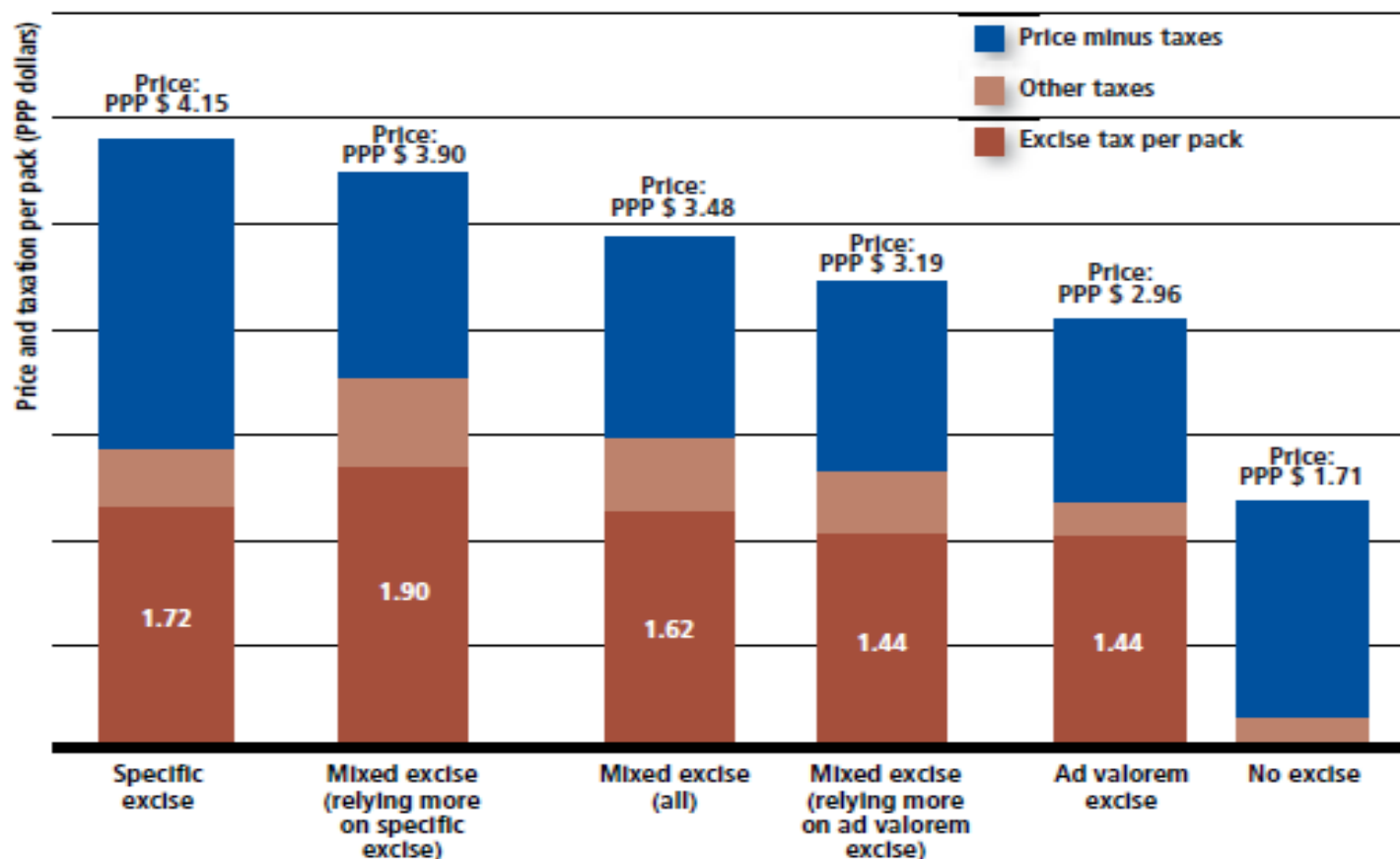
Excise systems on cigarettes

Base of tiers		Country	# of countries
Retail price		Bangladesh , Mozambique, Philippines, Belarus, Indonesia, Pakistan	6
High, standard and low end cigarettes		Burkina Faso, Senegal	2
Producer price		China	1
Production volume		Indonesia	1
Type	filter/non filter	Armenia, Belarus, India , Nepal, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Papua New Guinea, Tajikistan, Ukraine	11
	hand/machine made	Indonesia, India , Philippines	3
	kretek/white cigarette, cheerot/cigarette	Indonesia, Myanmar	2
	Tobacco content (dark/blonde or dark/light)	Andorra, Algeria	2
Packaging	soft/hard	Brazil, Mozambique, Uganda	3
Cigarette length		India , Nepal , Hong Kong, Sri Lanka	4
Trade (domestic/imported)		Andorra, Uzbekistan	2
Weight (tobacco content in cigarette)		Belize, New Zealand	2
Leaf content (domestic/imported)		Fiji	1



Excise tax structure: Specific and mixed relying more on the specific component tend to lead to higher prices

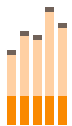
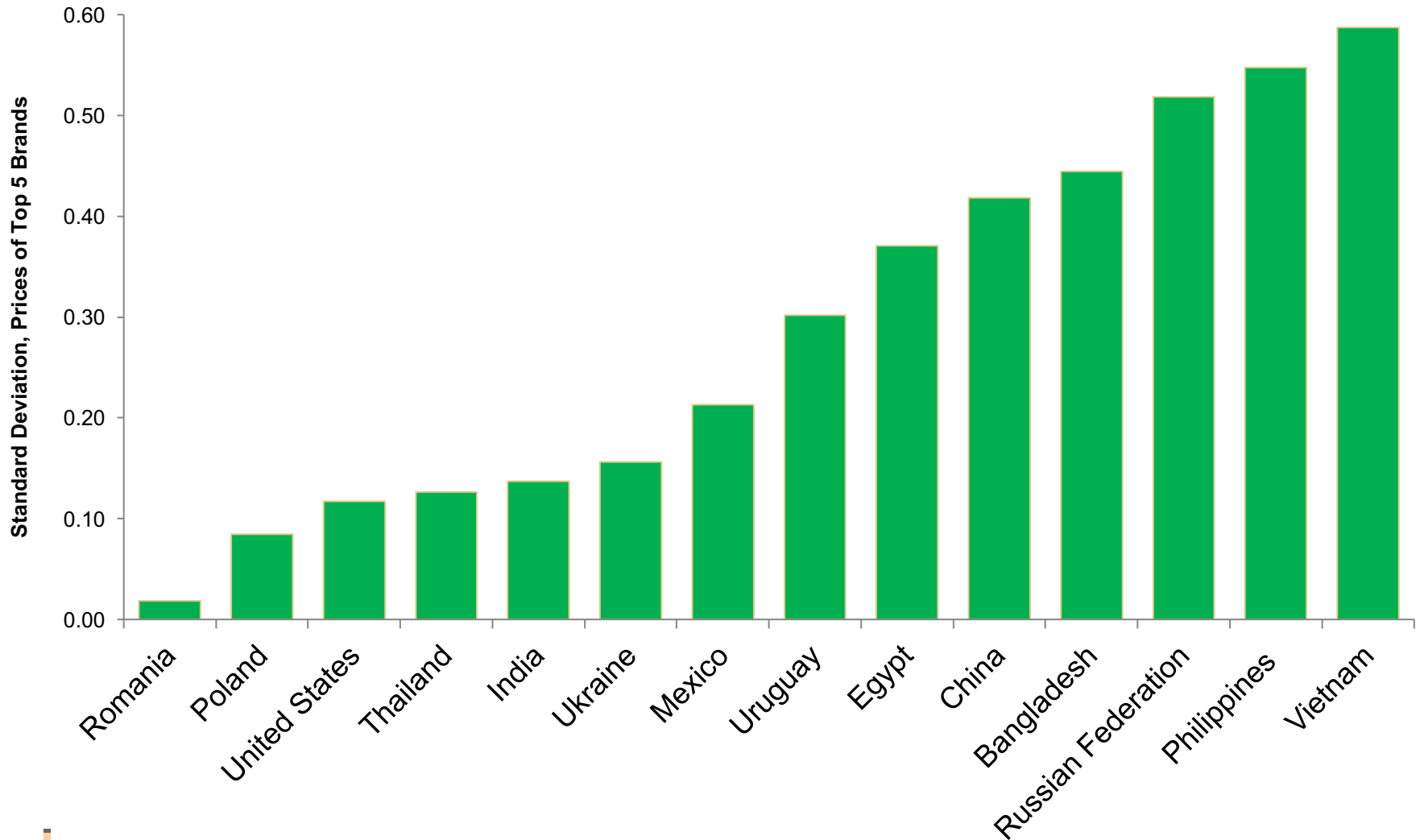
WEIGHTED AVERAGE PRICES AND TAXES PER PACK BY TAX STRUCTURE



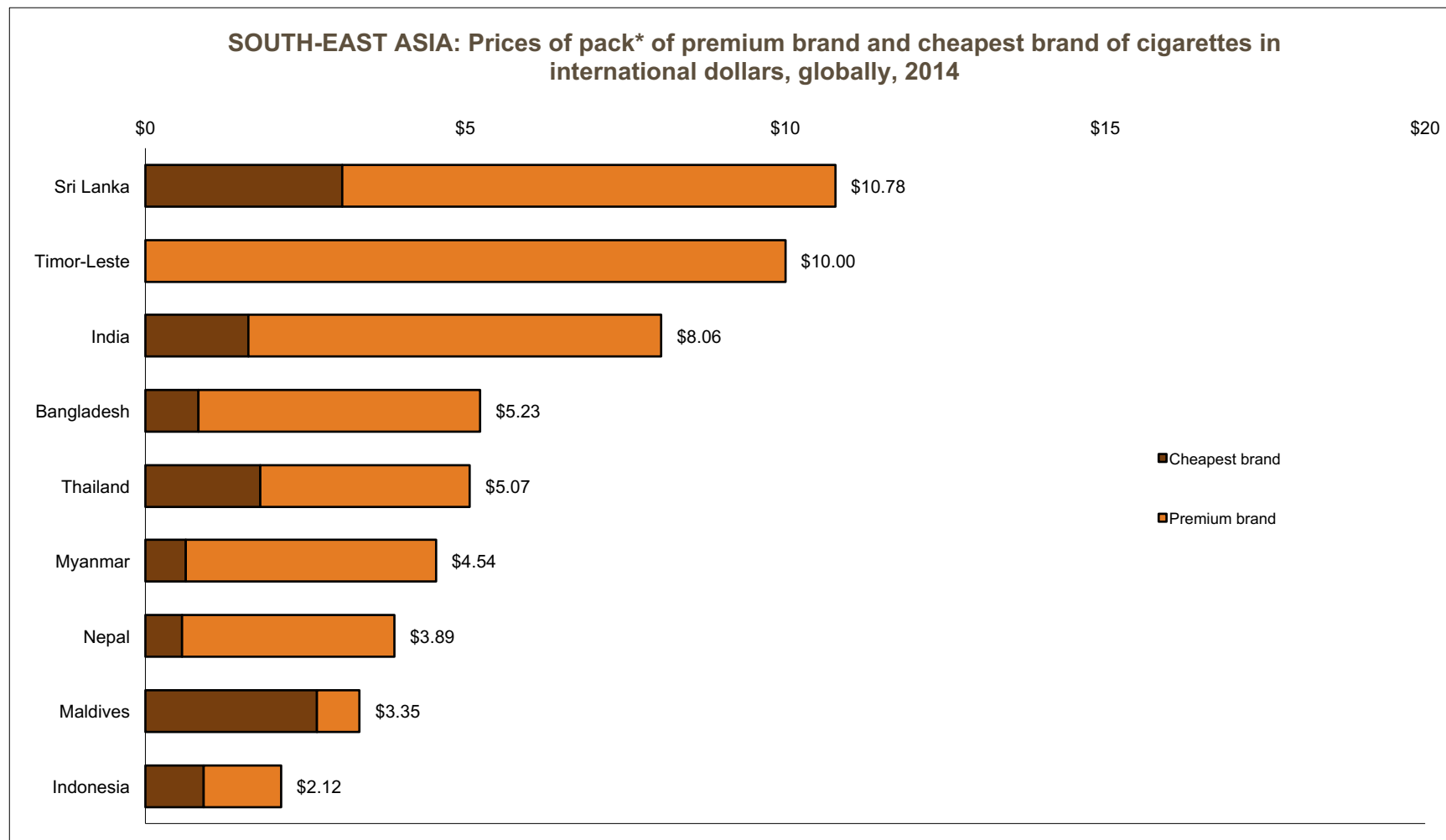
Note: Averages are weighted by WHO estimates of number of current cigarette smokers in each country. Prices are expressed in Purchasing Power Parity (PPP) adjusted dollars or international dollars to account for differences in the purchasing power across countries. Based on 53 high-income, 98 middle-income and 29 low-income countries with data on price of most sold brand, excise and other taxes, and PPP conversion factors.



Excise tax structure: Simple specific and mixed relying more on specific tax to lead to less variable prices

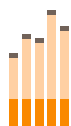


Excise tax structure: Specific and mixed relying more on the specific component tend to reduce price gaps



Source: WHO 2015

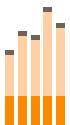
Notes: Data not reported/not available for: Democratic People's Republic of Korea. It is illegal to sell cigarettes in Bhutan.



Recommendations

Section 2 – Relationship between tobacco taxes, price and public health:

“When establishing or increasing their national levels of taxation Parties should take into account – among other things – both price elasticity and income elasticity of demand, as well as inflation and changes in household income, to **make tobacco products less affordable over time in order to reduce consumption and prevalence**. Therefore, Parties should consider having regular adjustment processes or procedures for periodic revaluation of tobacco tax levels.”

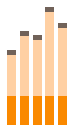


Recommendations

Section 3 – Tobacco taxation systems

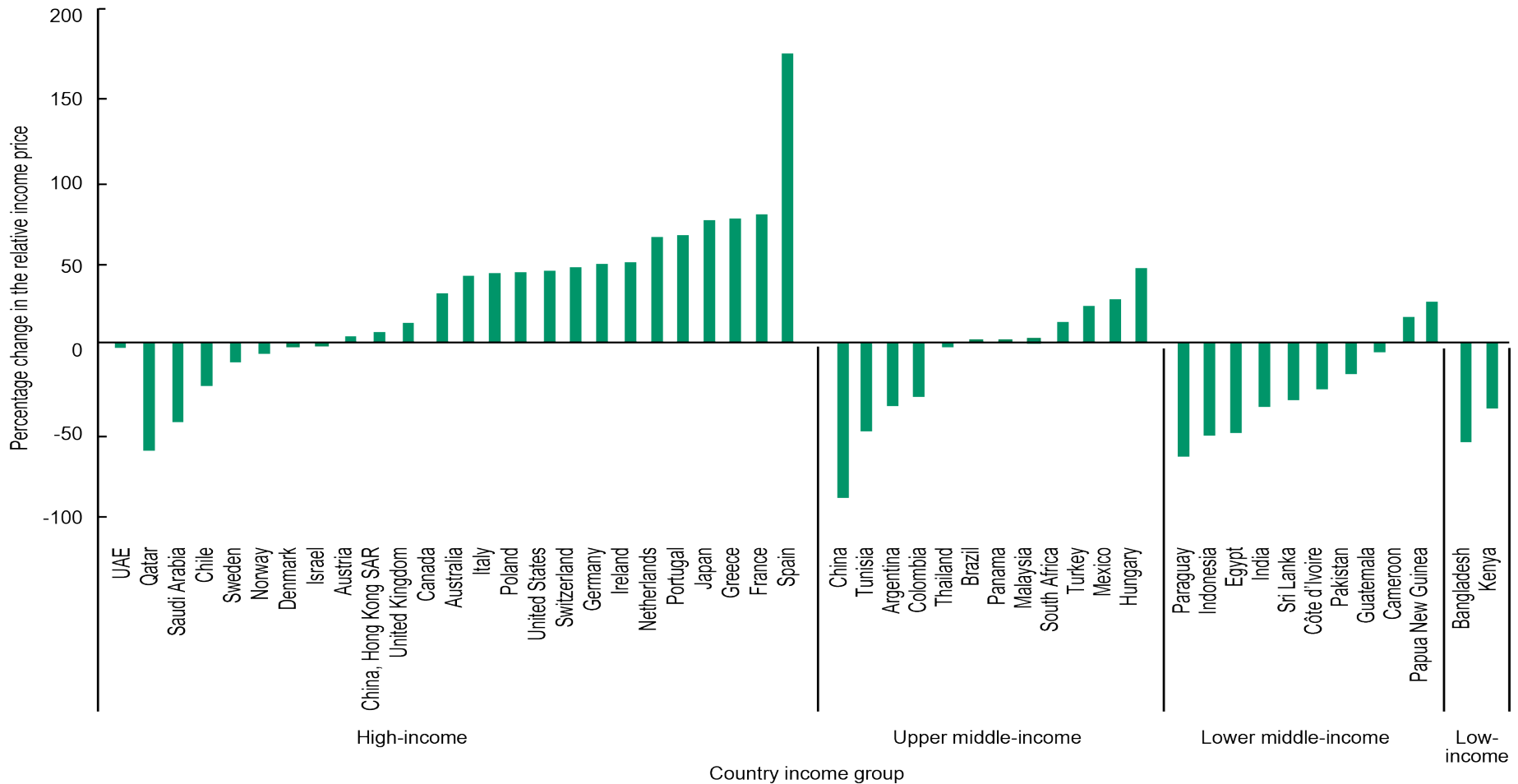
“Parties should establish coherent long-term policies on their tobacco taxation structure and monitor on a regular basis including targets for their tax rates, in order to achieve their public health and fiscal objectives within a certain period of time.”

“Tax rates should be monitored, increased or adjusted on a regular basis, potentially annually, taking into account inflation and income growth developments in order to reduce consumption of tobacco products.”



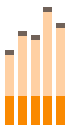
Cigarette Affordability

Selected Countries, by Country Income Group, 2000-2013



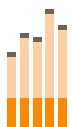
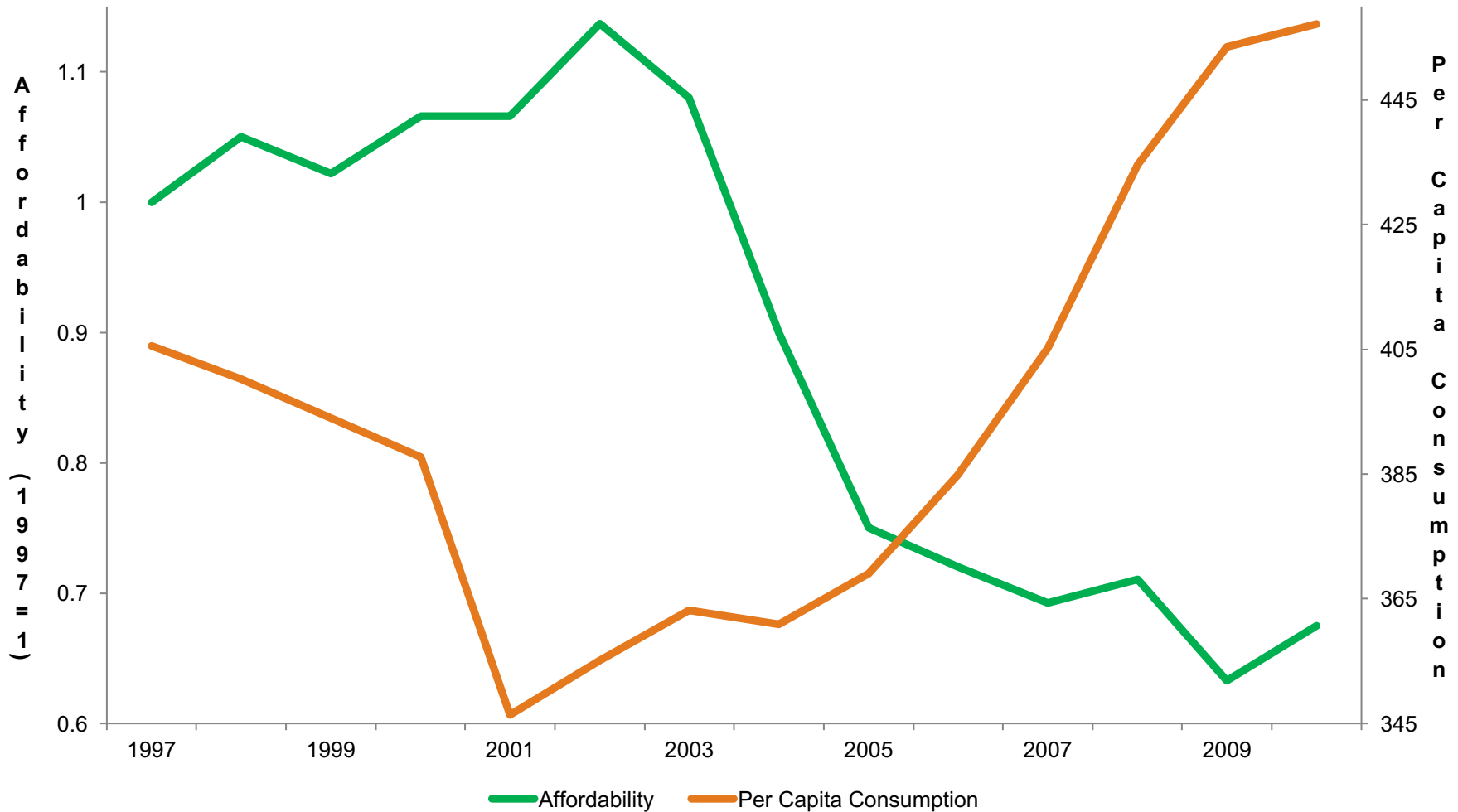
Notes: Relative income price is the percentage of annual per capita GDP required to buy 100 packs of cigarettes. Country income group classification based on World Bank Analytical Classifications for 2013.

Source: NCI & WHO 2016



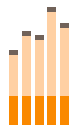
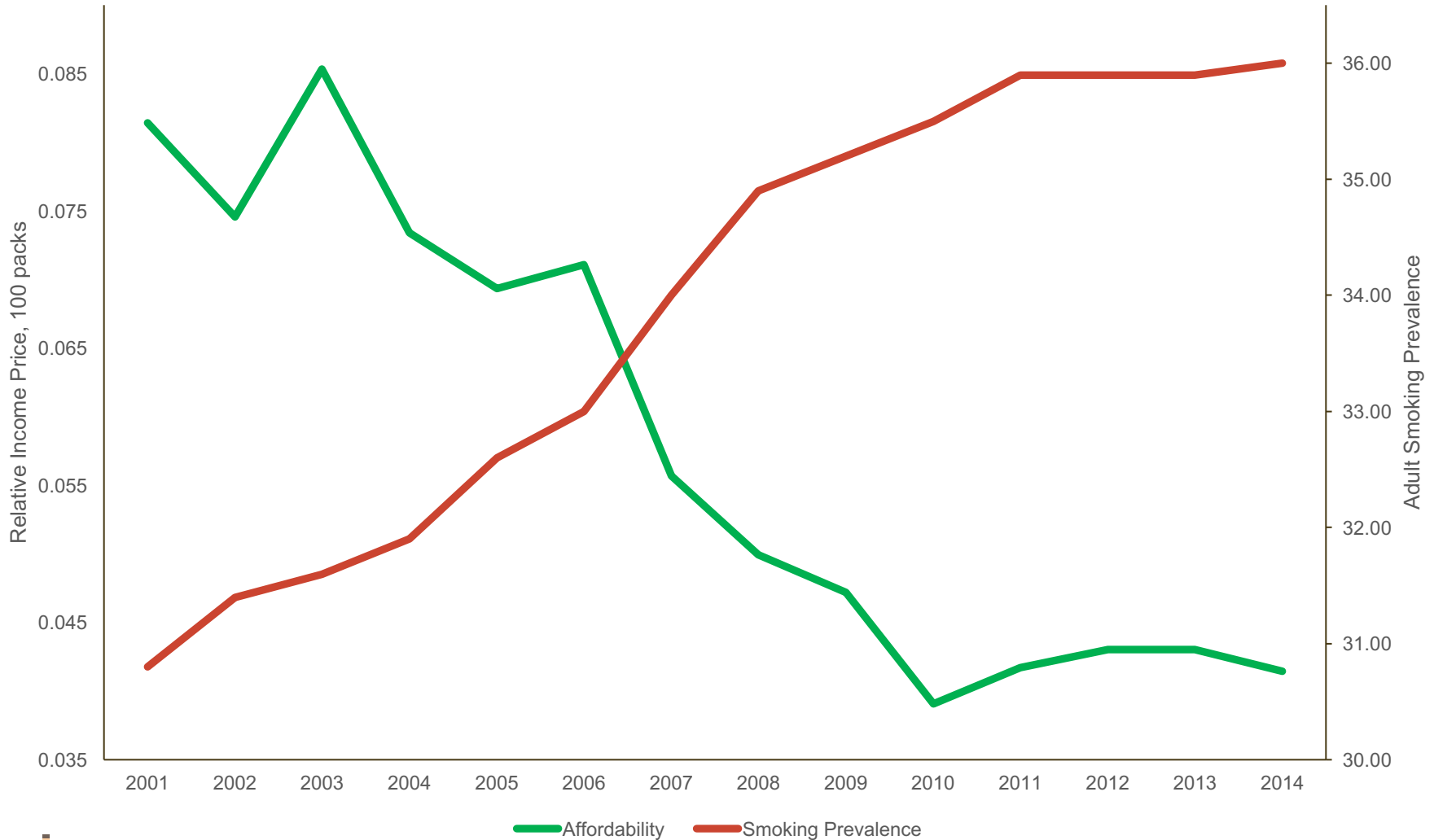
Affordability and Tobacco Use

Cigarette Sales, Bangladesh, 1997-2010



Affordability & Tobacco Use

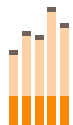
Adult Smoking Prevalence, Indonesia, 2001-2014



Text of Guidelines

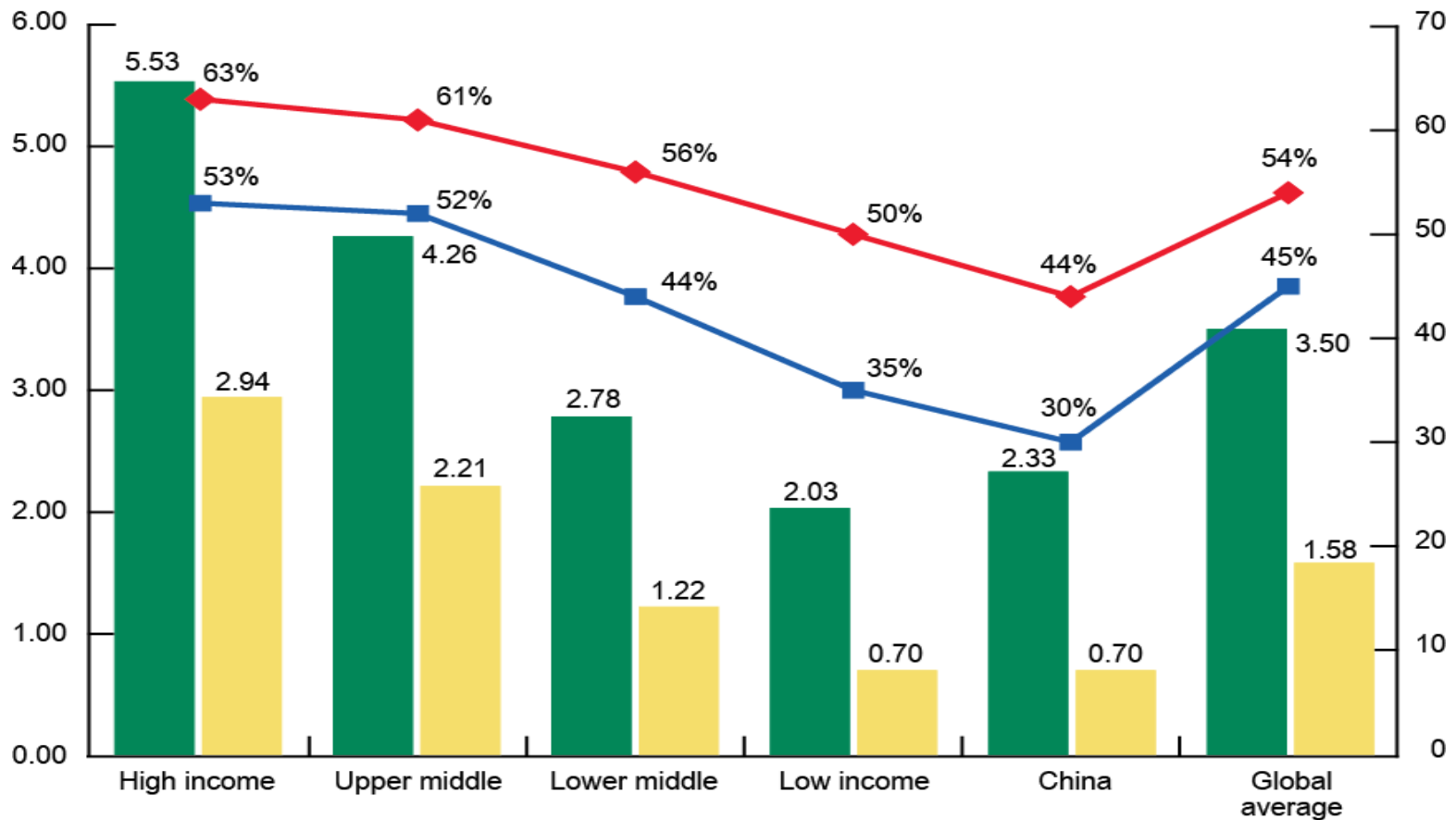
“As recognized in Guiding Principle 1.1, **Parties have the sovereign right to determine and establish their taxation policies, including the level of tax rates to apply.** There is no single optimal level of tobacco taxes that applies to all countries because of differences in tax systems, in geographical and economic circumstances, and in national public health and fiscal objectives. In setting tobacco tax levels, consideration could be given to final retail prices rather than individual tax rates. **In this regard, WHO had made recommendations on the share of excise taxes in the retail prices of tobacco products¹.**”

¹ WHO technical manual on tobacco tax administration. Geneva, World Health Organization, 2010. (Recommends that tobacco excise taxes account for at least 70% of the retail prices for tobacco products).

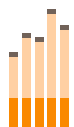


Average Price of the Most Sold Brand & Excise Tax per pack, and Excise Tax Share

By Income Group 2014

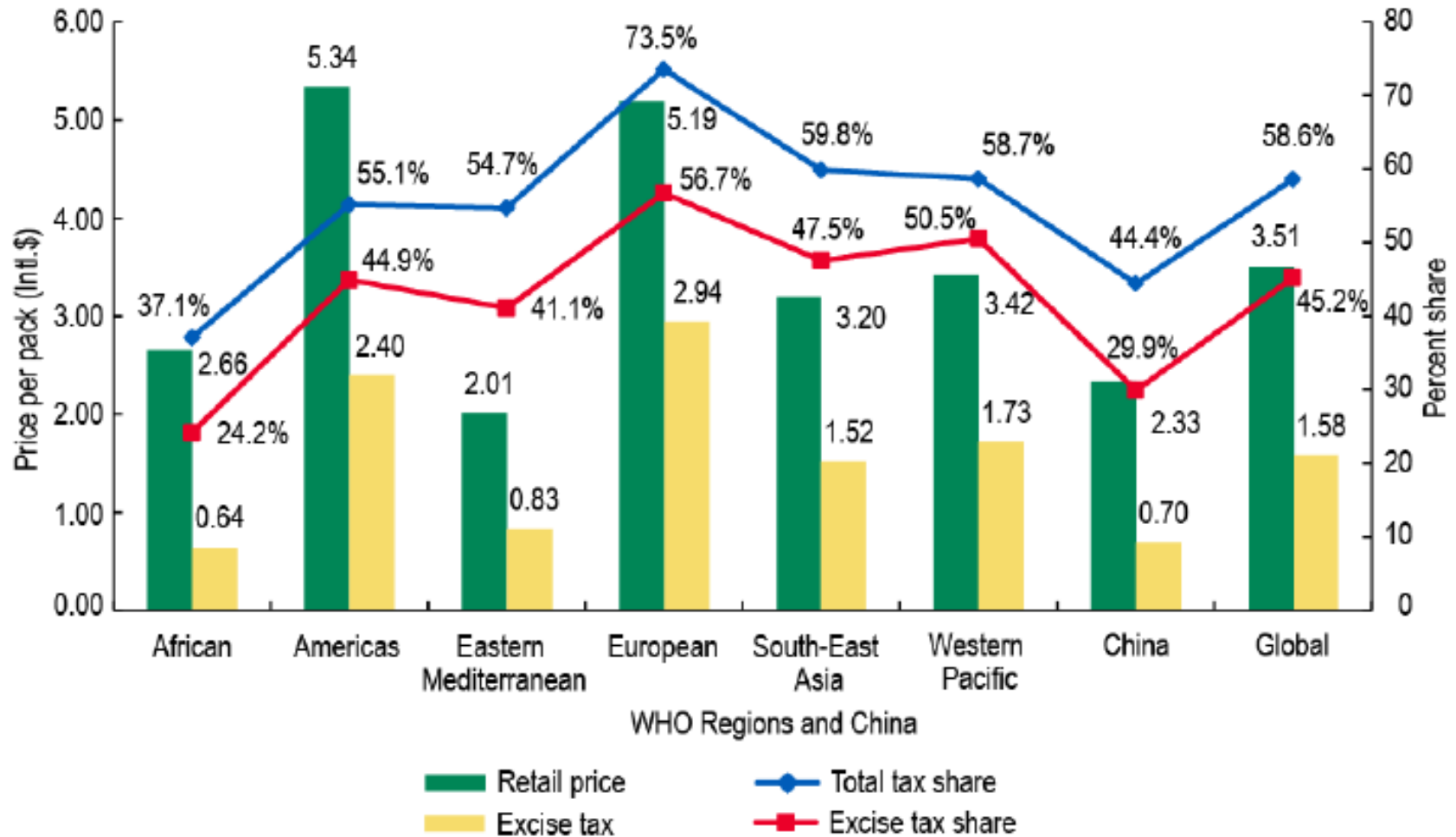


■ Retail price, PPP
 ■ Excise tax, PPP
 ■ Excise tax share
 ◆ Total tax share



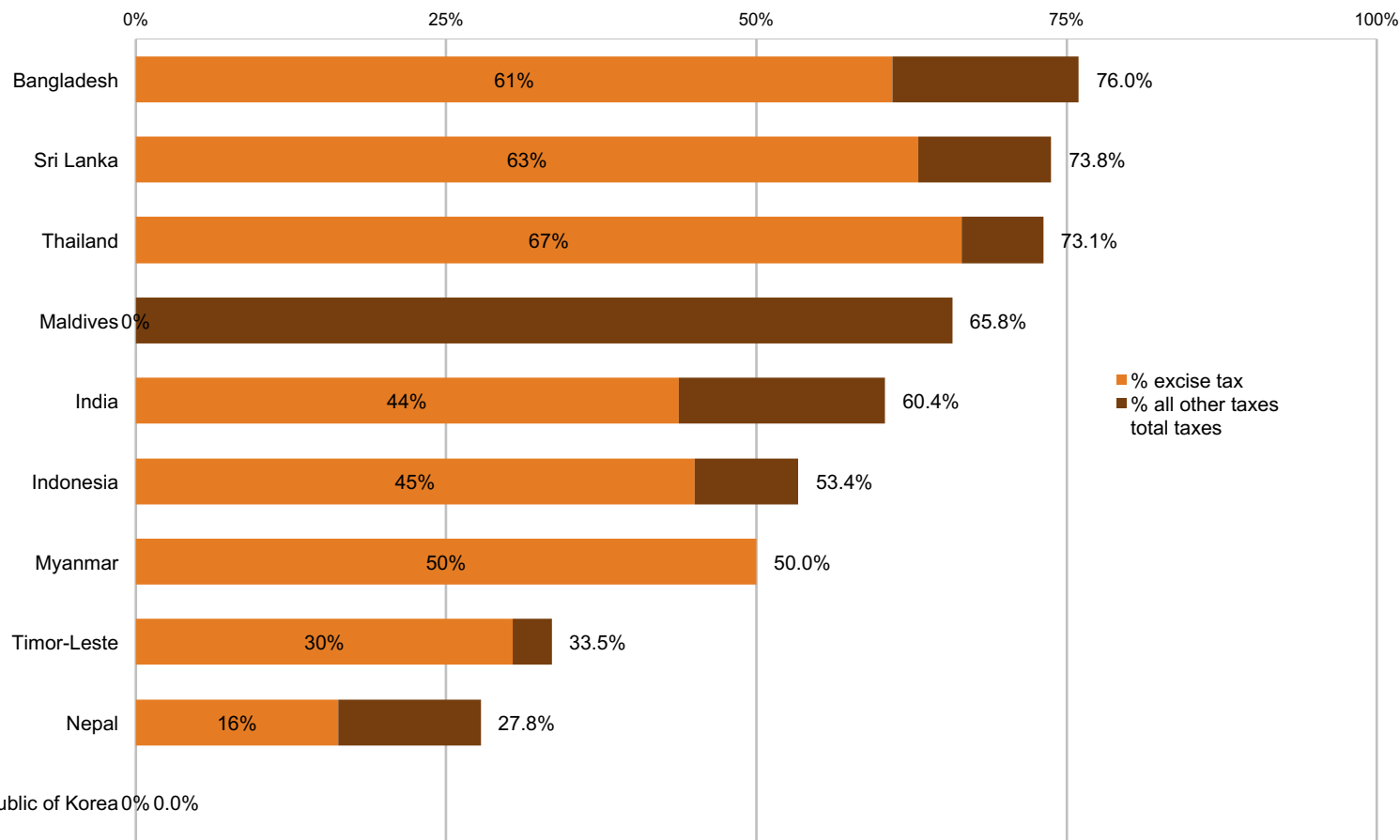
Average Price of the Most Sold Brand & Excise Tax per pack, and Excise Tax Share

By WHO Region 2014



Average Price of the Most Sold Brand & Excise Tax per pack, and Excise Tax Share

SOUTH-EAST ASIA: Share of total and excise taxes in the price of a pack* of the most sold brand of cigarettes, 2014



Democratic People's Republic of Korea 0% 0.0%



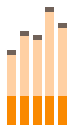
Recommendations

Section 3 – Tobacco taxation systems

“All tobacco products should be taxed in a comparable way as appropriate, in particular where the risk of substitution exists.”

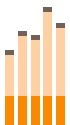
“Parties should ensure that tax systems are designed in a way that minimises the incentive for users to shift to cheaper products in the same product category or to cheaper tobacco product categories as a response to tax or retail price increases or other related market effects.”

“In particular, the tax burden on all tobacco products should be regularly reviewed and, if necessary, increased and, where appropriate, be similar.”

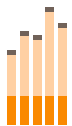
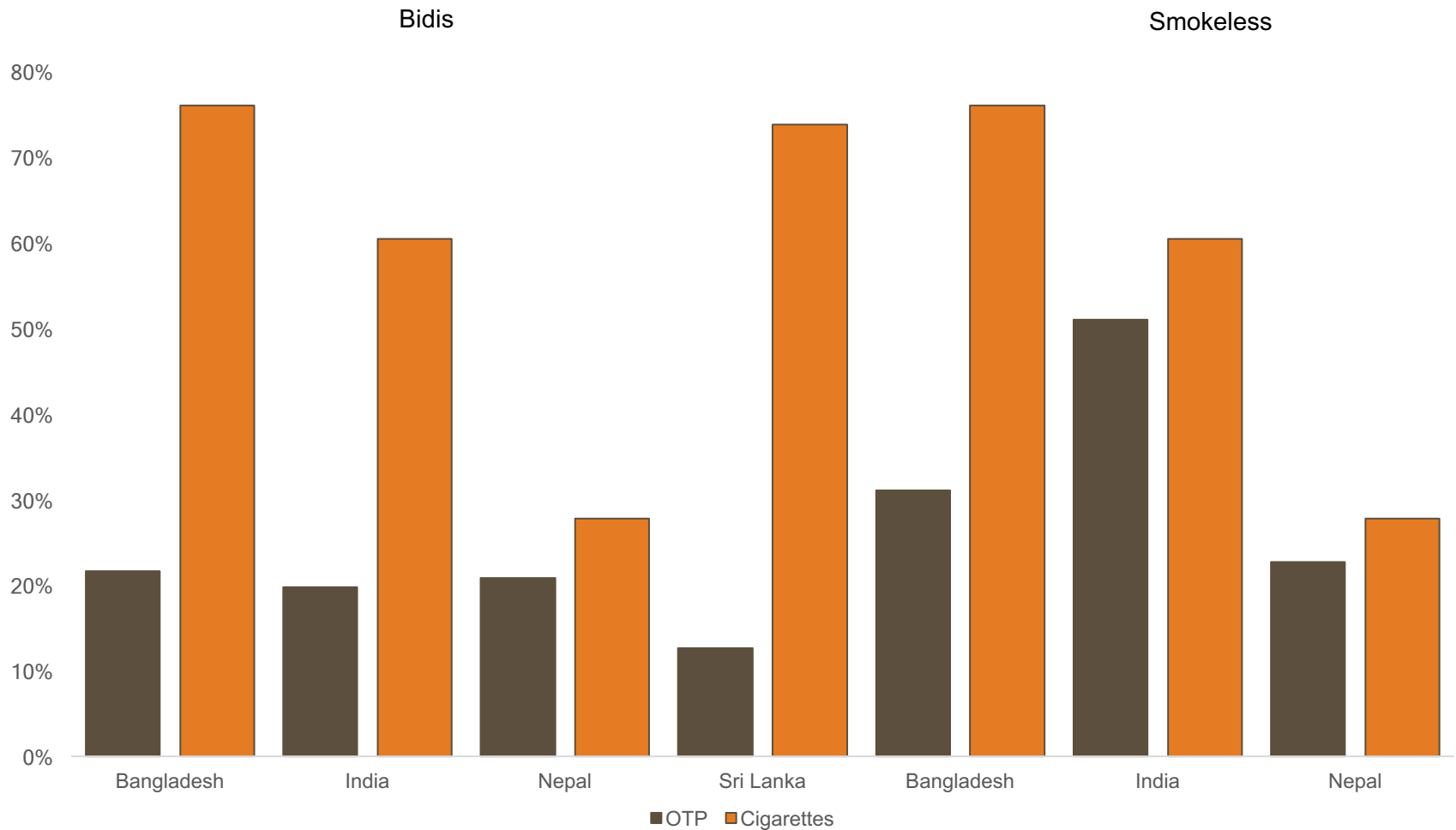


Price & Other Tobacco Product Use

- Consistent evidence on own-price effects
 - Generally find demand for OTP and vaping products more responsive to price than cigarette demand
- Mixed evidence on substitution among various products
 - Greater substitution among more similar products (e.g. cigarettes and other combustibles)
 - Some evidence of substitution between cigarettes and vaping products
 - Weak evidence of complementarity between combustibles and other non-combustibles



Cigarette & OTP Taxes as Percent of Price



Recommendations

Section 4 – Tax administration

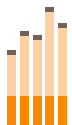
“Parties should ensure that transparent **licence or equivalent approval or control systems** are in place.”

“Parties are urged to adopt and implement **measures and systems of storage and production warehouses to facilitate excise controls** on tobacco products.”

“In order to reduce the complexity of tax collection systems, **excise taxes should be imposed at the point of manufacture, importation or release for consumption** from the storage or production warehouses.”

“Tax payments should be required by law to be remitted at fixed intervals or on a fixed date each month and should ideally include reporting of production and/or sales volumes, and price by brands, taxes due and paid, and may include volumes of raw material inputs.”

“Tax authorities should also allow for the public disclosure of the information contained within the reports, through the available media, including those online, taking into account confidentiality rules in accordance with national law.”



Recommendations

Section 4 – Tax administration

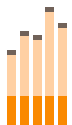
“In anticipation of tax increases **Parties should consider imposing effective anti-forestalling measures.**”

“Where appropriate, **Parties should consider requiring the application of fiscal markings** to increase compliance with tax laws.”

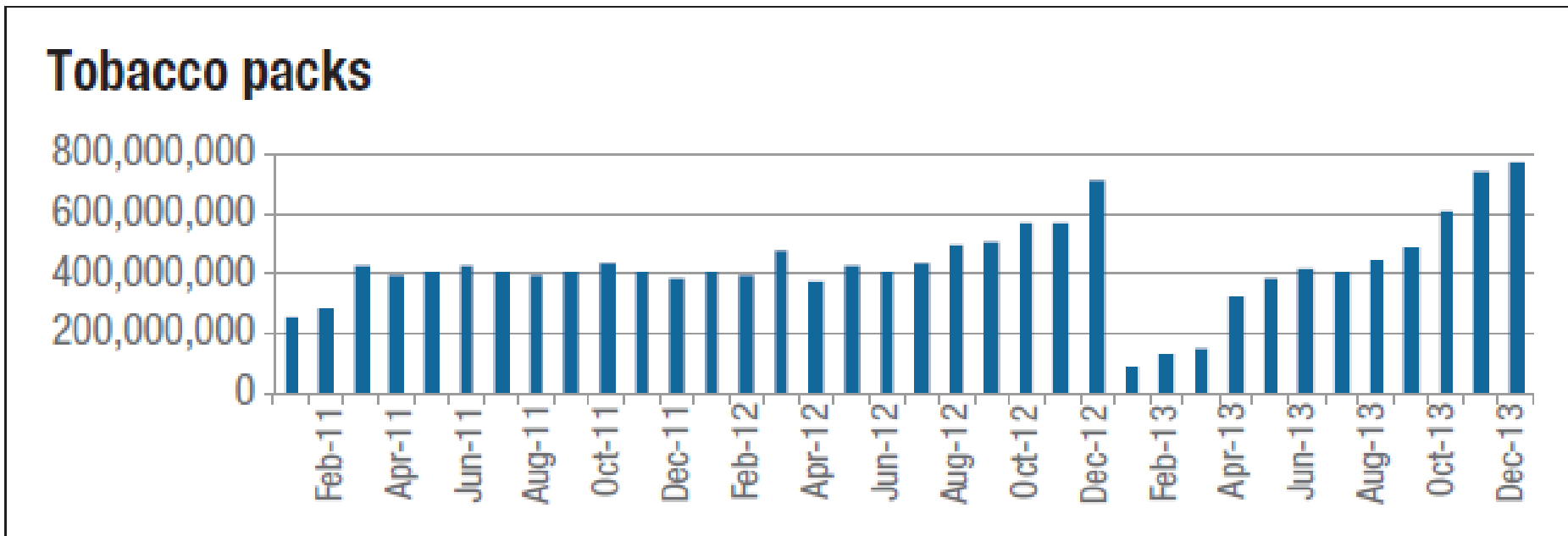
“**Parties should clearly designate and grant appropriate powers to tax enforcement authorities.**”

“Parties should also provide for information sharing among enforcement agencies in accordance with national law.”

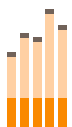
“In order to deter non-compliance with tax laws, **Parties should provide for an appropriate range of penalties.**”



Philippines Experience Stockpiling



Source: Ross & Tesche, 2015



California's Encrypted Cigarette Tax Stamps

2005-2010 →

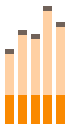


2011-present ↘

Stamp Front View
(ink appears green)

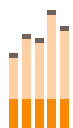
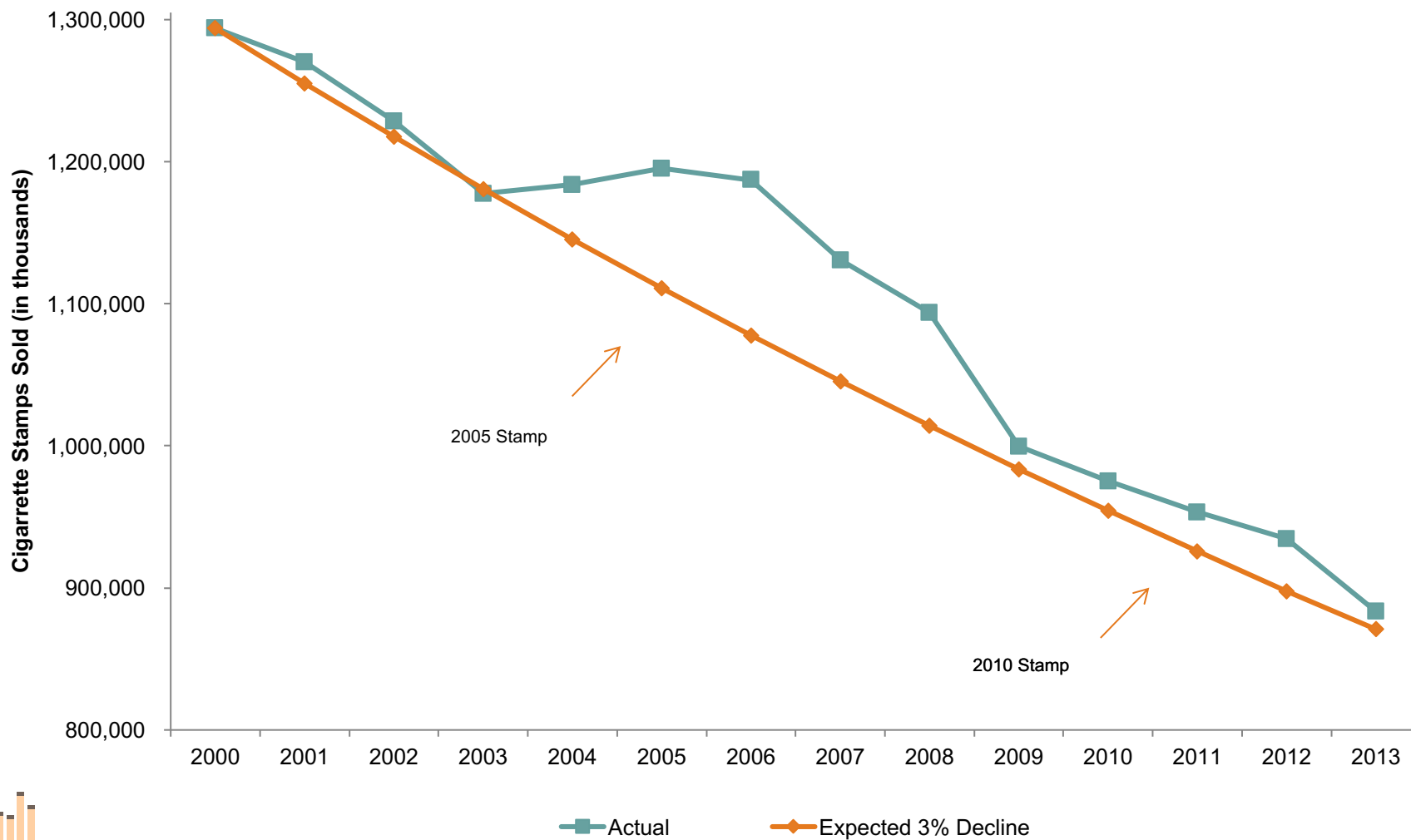


Stamp Angled View
(ink appears blue)



Cigarette Tax Stamps Sold

Projected and actual, California, 2000 - 2013

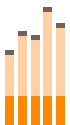


Source: Chaloupka, et al., 2015

Recommendations

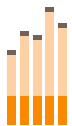
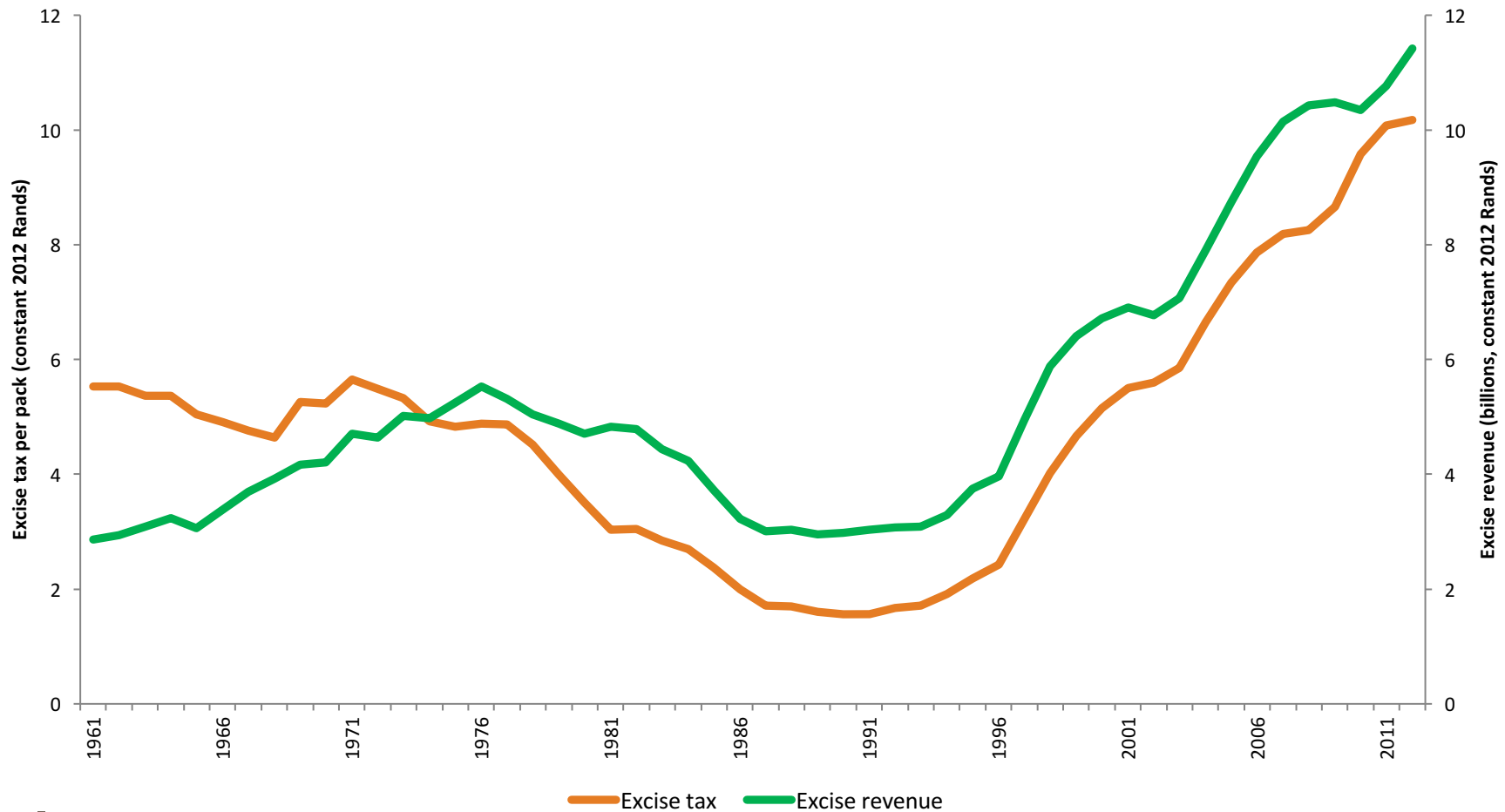
Section 5 – Use of Revenues – Financing of Tobacco Control

“Parties could consider, while bearing in mind Article 26.2 of the WHO FCTC, and in accordance with national law, **dedicating revenue to tobacco-control programmes, such as those covering awareness raising, health promotion and disease prevention, cessation services, economically viable alternative activities, and financing of appropriate structures for tobacco control.**”



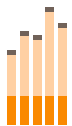
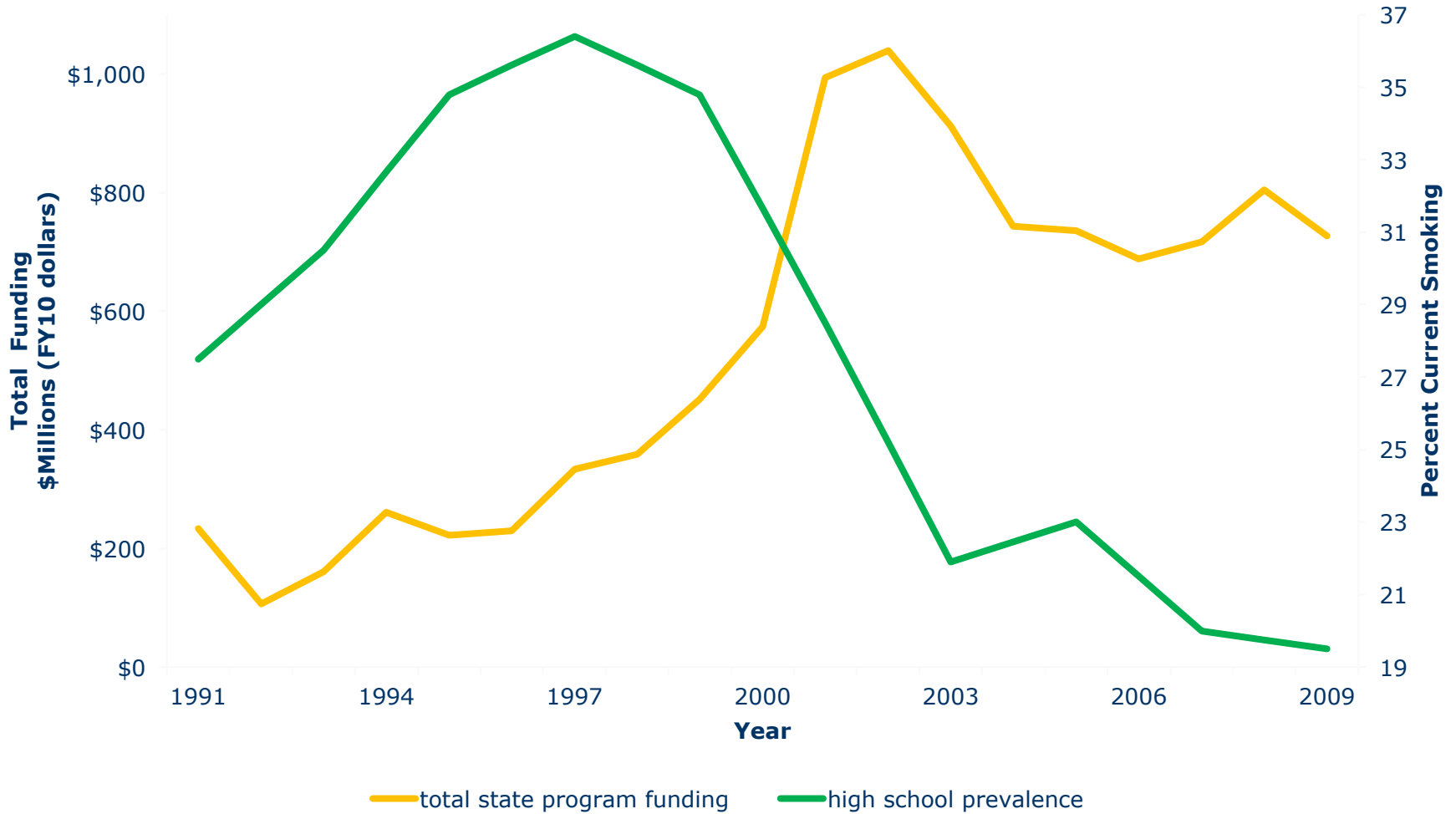
Taxes & Tax Revenues, South Africa

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



Sources: Blecher & Van Walbeek, 2014

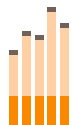
State Tobacco Control Program Funding and Youth Smoking Prevalence, United States, 1991-2009



Source: ImpacTeen Project, UIC; YRBS

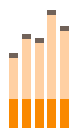
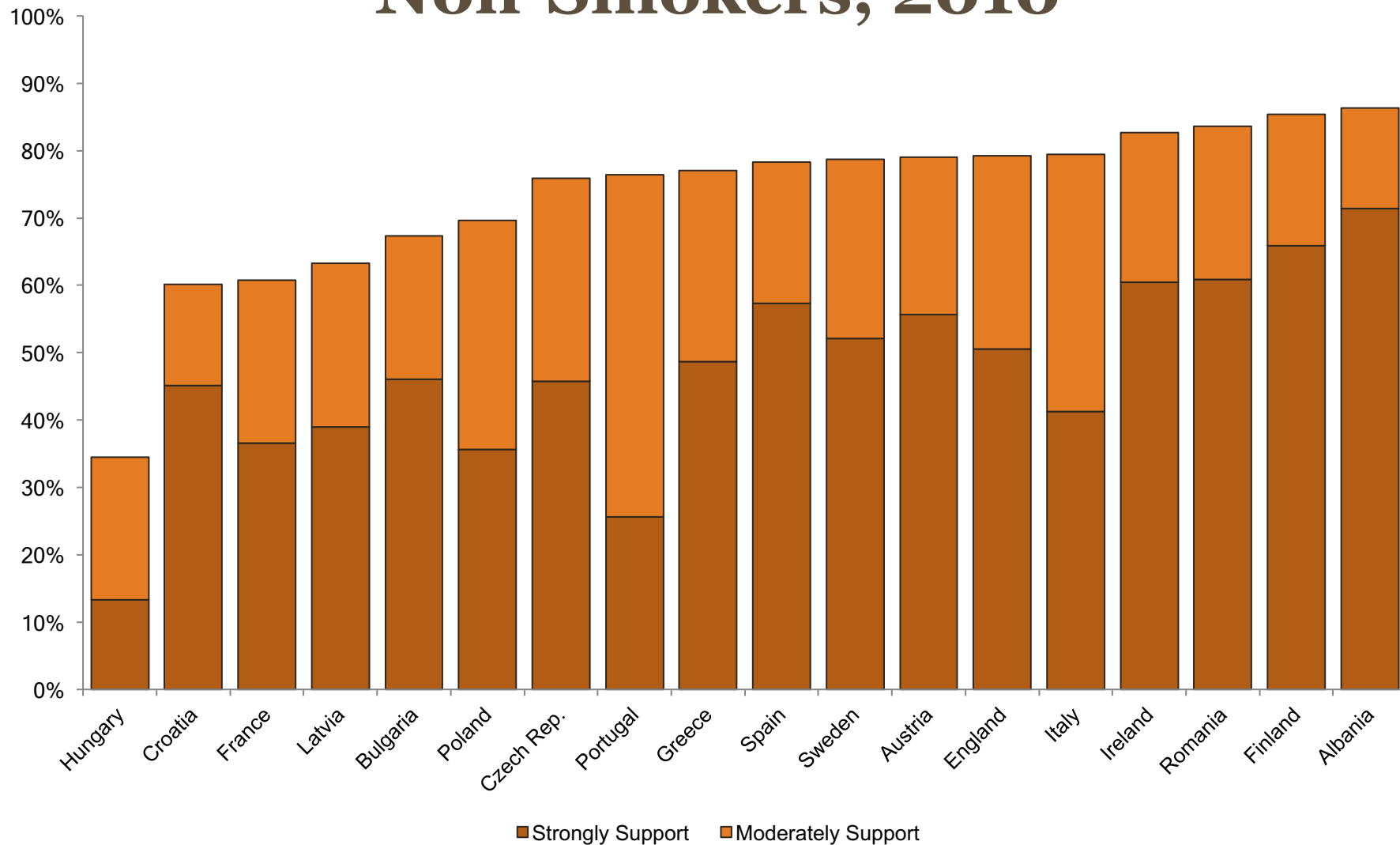
Tobacco Taxes Popular

- Tobacco Excise Tax Increases:
 - Generally supported by the public
 - Including significant number of smokers
 - 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



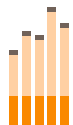
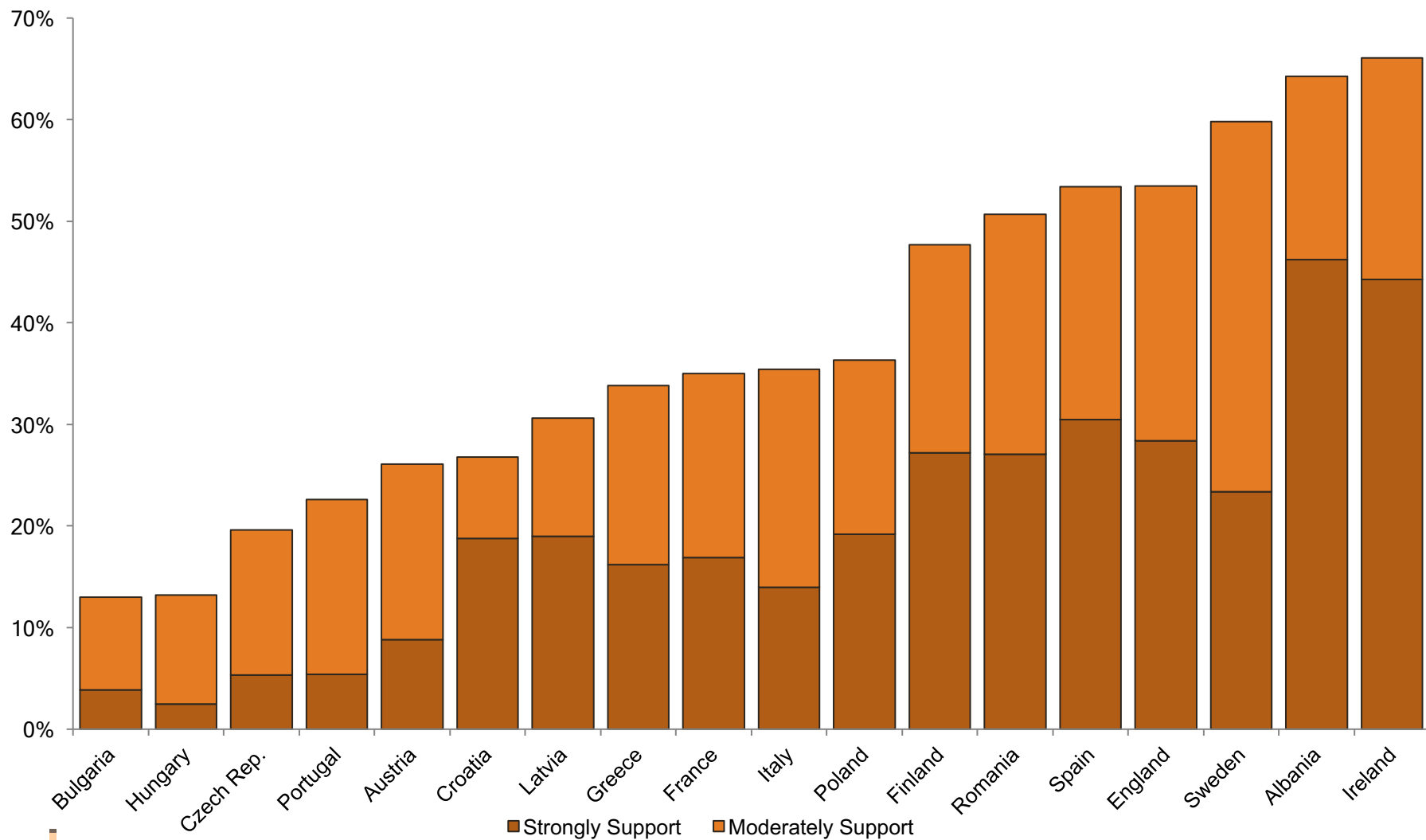
Support for 20% Price Increase

Non-Smokers, 2010



Support for 20% Price Increase

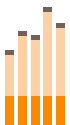
Current Smokers, 2010

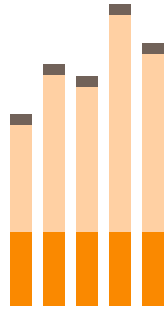


Recommendations

Section 6 – Tax-Free/Duty-Free Sales

“Parties should consider prohibiting or restricting the sale to and/or importation by international travellers, of tax-free or duty-free tobacco products.”





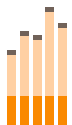
Economic Impact of Tobacco Control

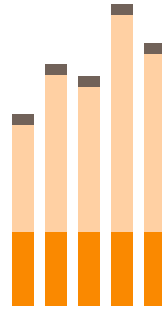
-

Dispelling the Myths

Oppositional Arguments

- Massive job losses as tobacco use falls in response to tobacco control policies
 - Impact of smoke-free policies on hospitality sector
- Poor adversely affected by higher tobacco taxes
- Increased tax avoidance and tax evasion in response to higher taxes





Oppositional Arguments

-

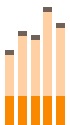
Impact on Jobs, Business

Impact on Jobs

March 9, 2009 – Vanguard, AllAfrica.com

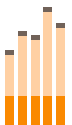
Nigeria Anti-Tobacco Bill – 400,000 Jobs on the Line

- **“if passed into law, The National Tobacco Bill which is currently on the floor of the National Assembly will lead to at least 400,000 Nigerians being thrown into the unemployment market.”**
- “This was the view expressed by the Chairman, Senate Committee on Industries, Senator Kamorudeen Adedbu, while speaking with reporters recently in Iselyn, Oyo State, while speaking at the 2008 Farmers Productivity Day Award Ceremony.”



Tobacco Control & Employment

- Tobacco control 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 tobacco tax revenues will be spent by government
 - Additional job gains in other sectors
- Net increase in jobs in most countries



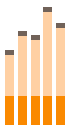
Tobacco Control & Business

Impact of smoke-free policies on hospitality sector

- No or small positive impact of smoke-free policies on bar and restaurant business (IARC Handbook 13)

Impact of tobacco control policies on convenience stores (Huang and Chaloupka 2012)

- More business activity where cigarette taxes are higher
- No impact of smoke-free policies
- Overshifting and replacement purchase

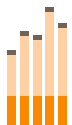
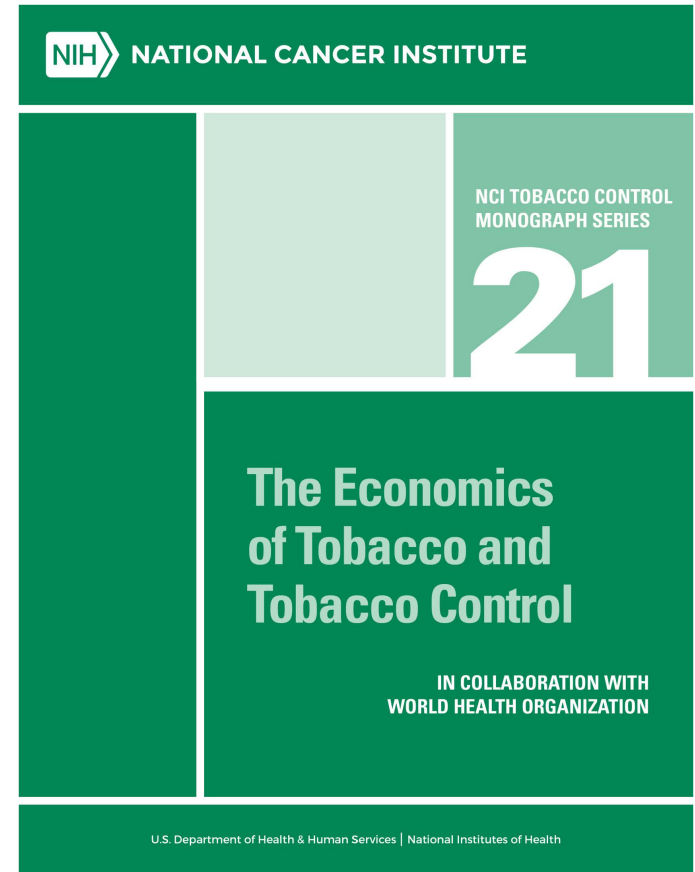


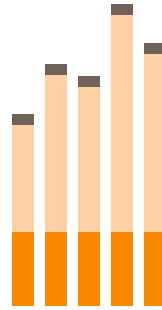
Economic Impact of Tobacco Control

Major Conclusion

#7:

Tobacco control
does not harm
economies.





Oppositional Arguments

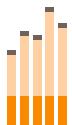
-

Impact on the Poor

Impact on the Poor

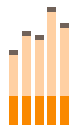
July 23, 2010 – San Francisco Examiner

- “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.

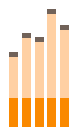
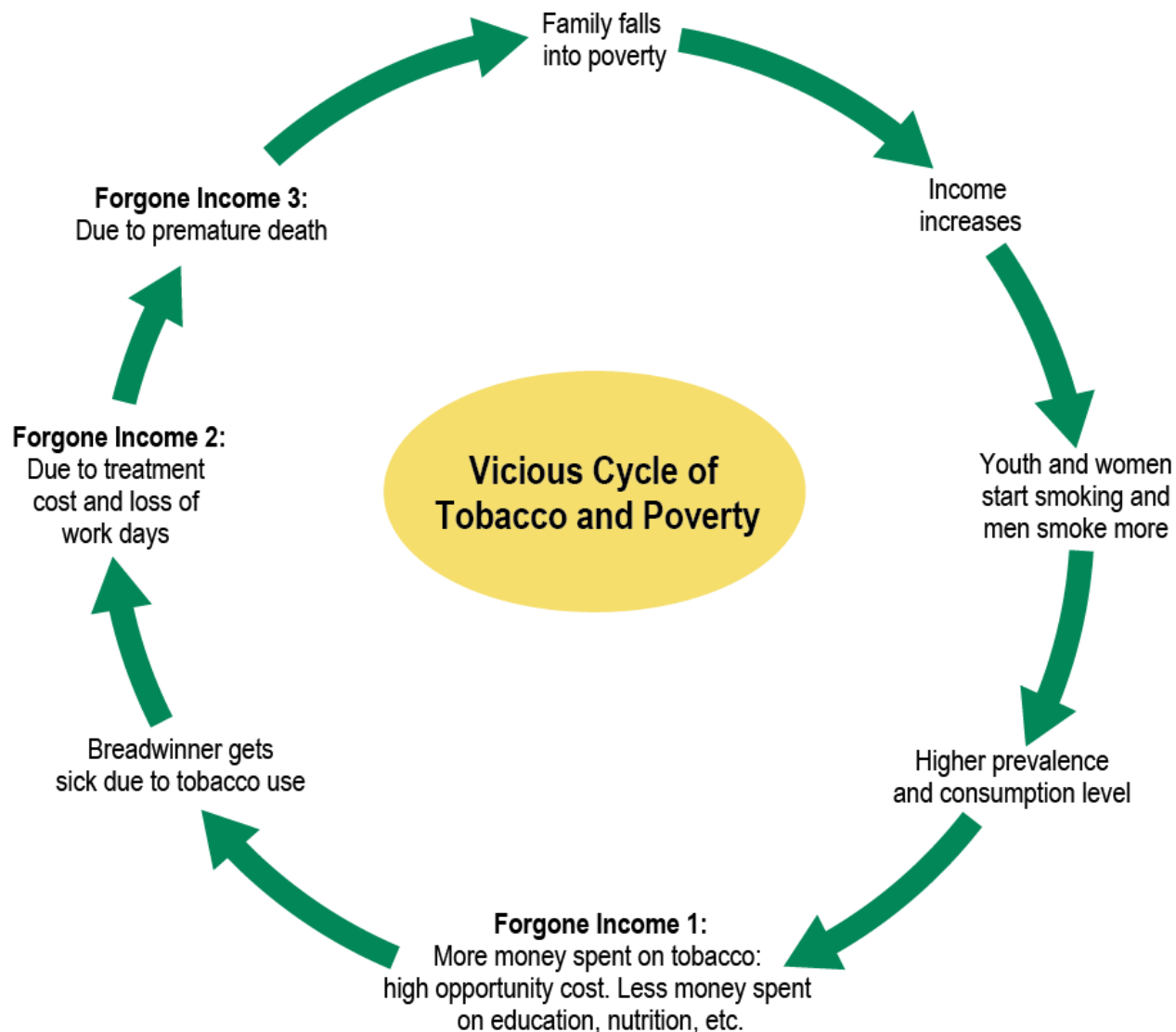


Impact on the Poor

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

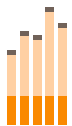
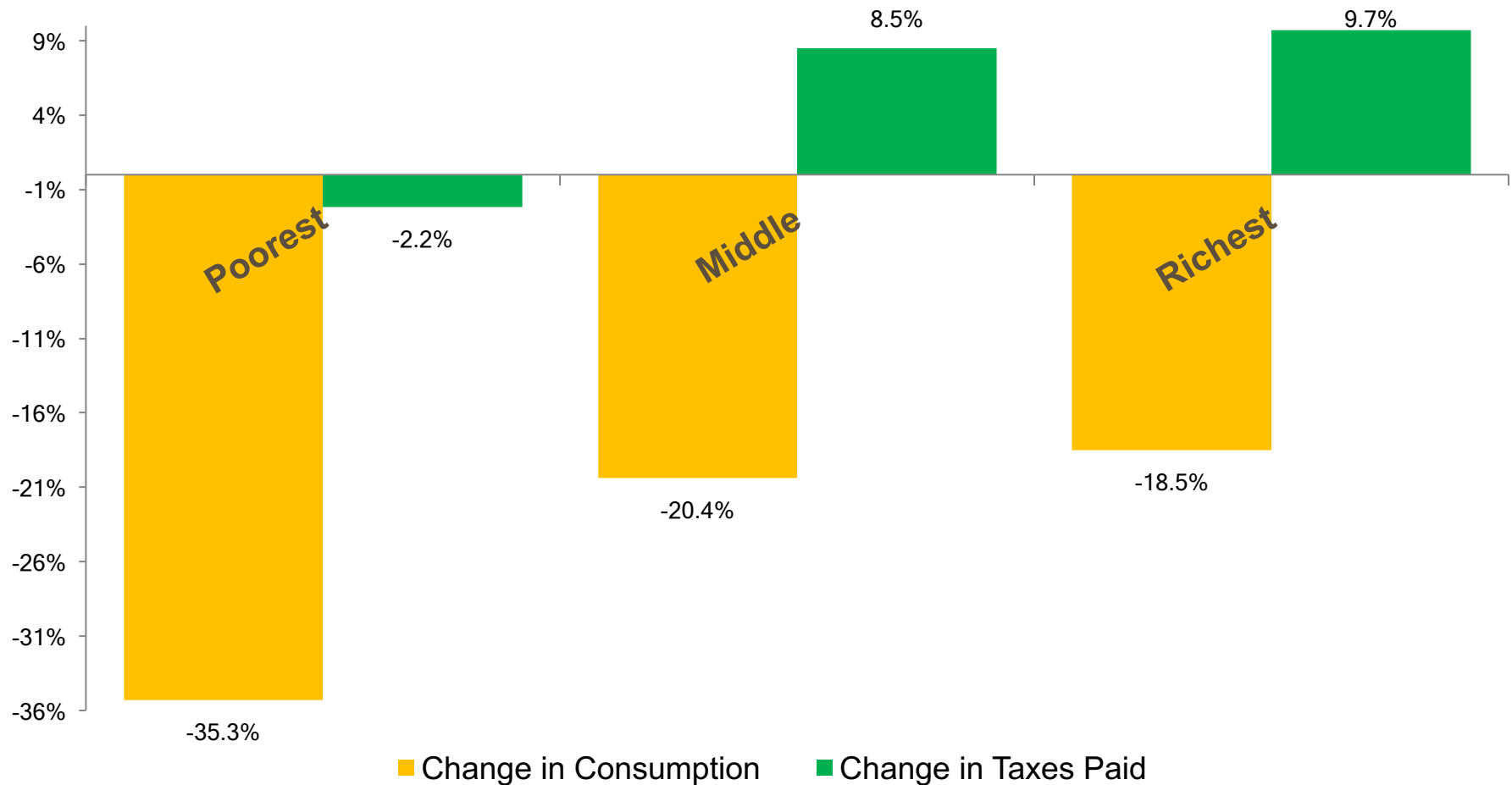


Tobacco & Poverty



Source: NCI & WHO 2016

Who Pays & Who Benefits Turkey - 25% Tax Increase

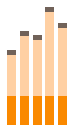


Source: Adapted from Önder & Yürekli, 2014

Impact of Tobacco Taxes on the Poor

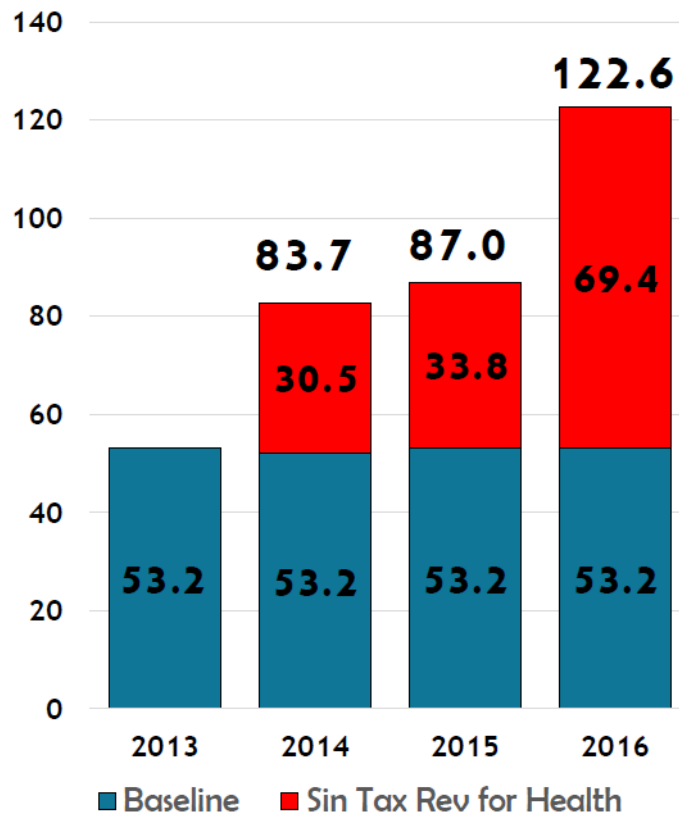
Also depends on use of new tax revenues:

- 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

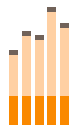


Philippines 'Sin Tax' Reform

Sin Tax Revenues for Health

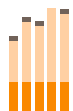
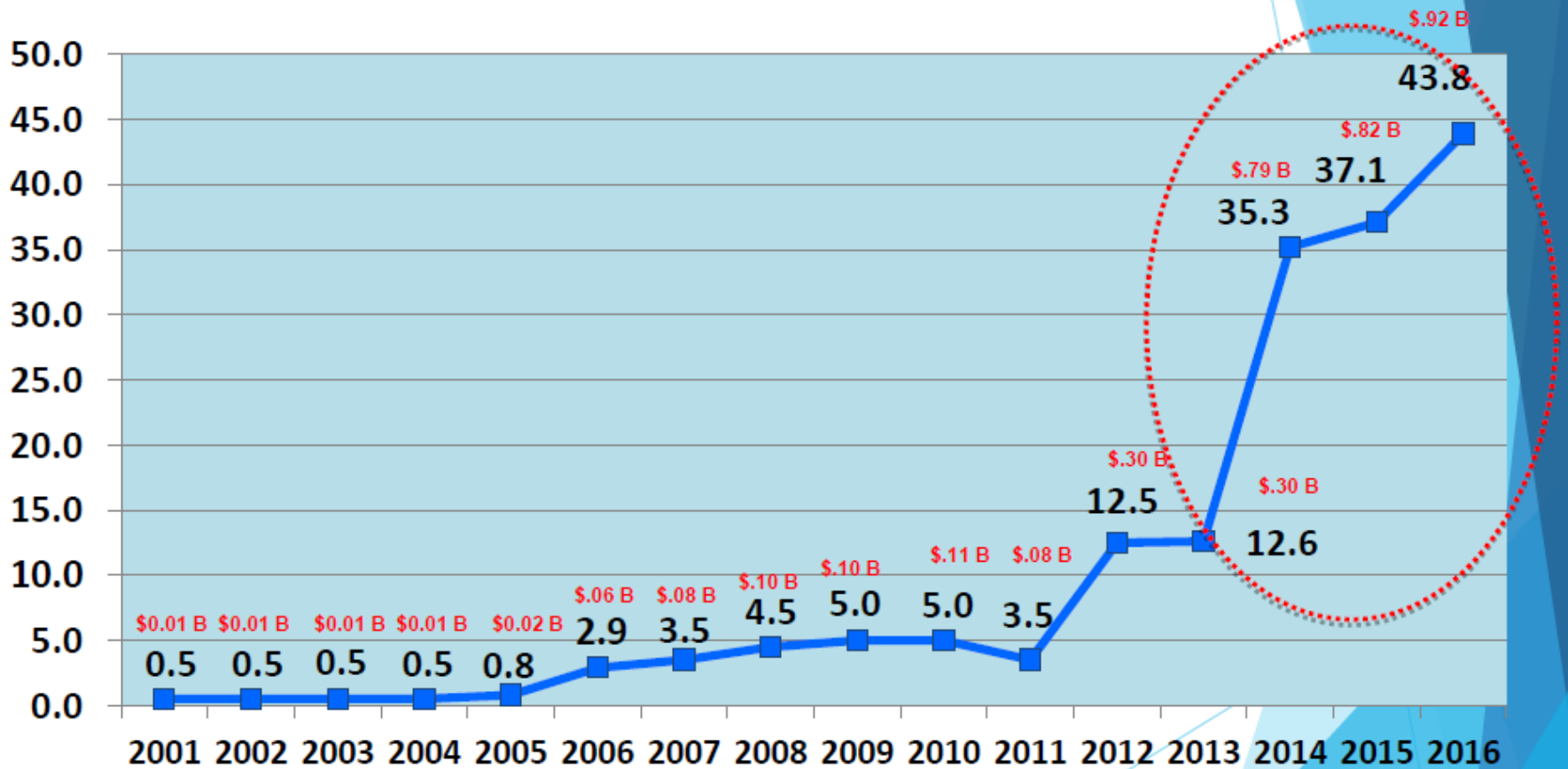


Prescribed Allocation		2016
Universal Health Care Expenditure	80%	55.5
Medical Assistance & HEFP	20%	13.9
Total		69.4

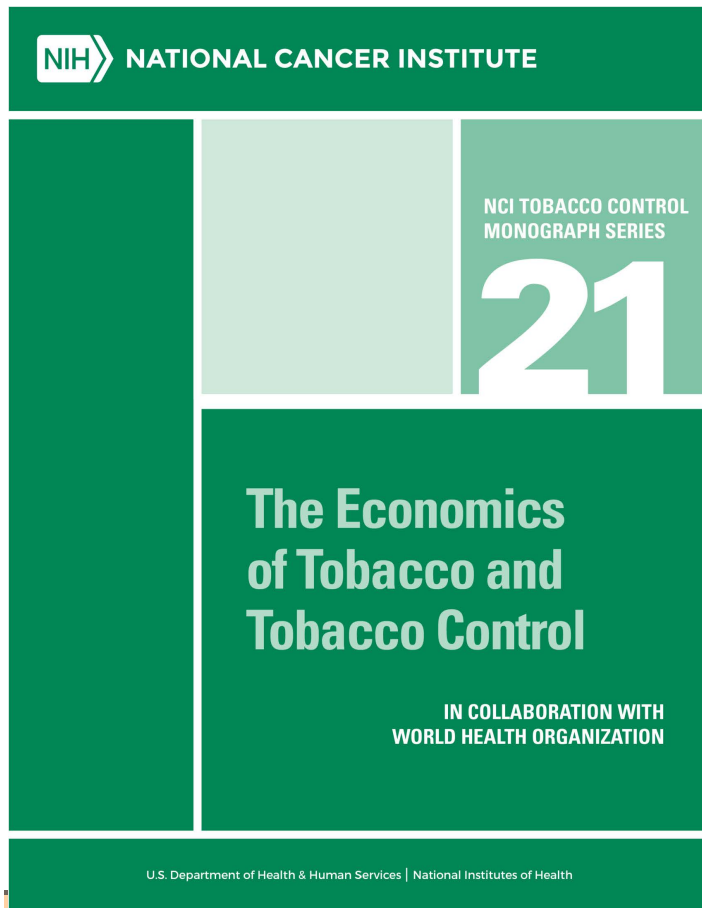


Philippines 'Sin Tax' Reform

National Government Allocation for Health Insurance Premiums for the Poor

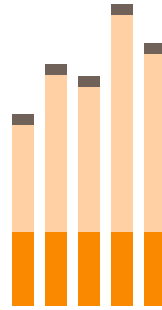


Impact of Tobacco Control on the Poor



Major Conclusion
#8:

Tobacco control
reduces the
disproportionate
burden that tobacco
use imposes on the
poor.



Oppositional Arguments

-

Illicit Trade

Impact on Illicit Trade

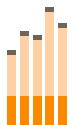
July 30, 2014 – PanAm Post

Costa Rica's Cigarette-Tax Regime a Gift to Black Markets

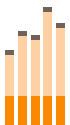
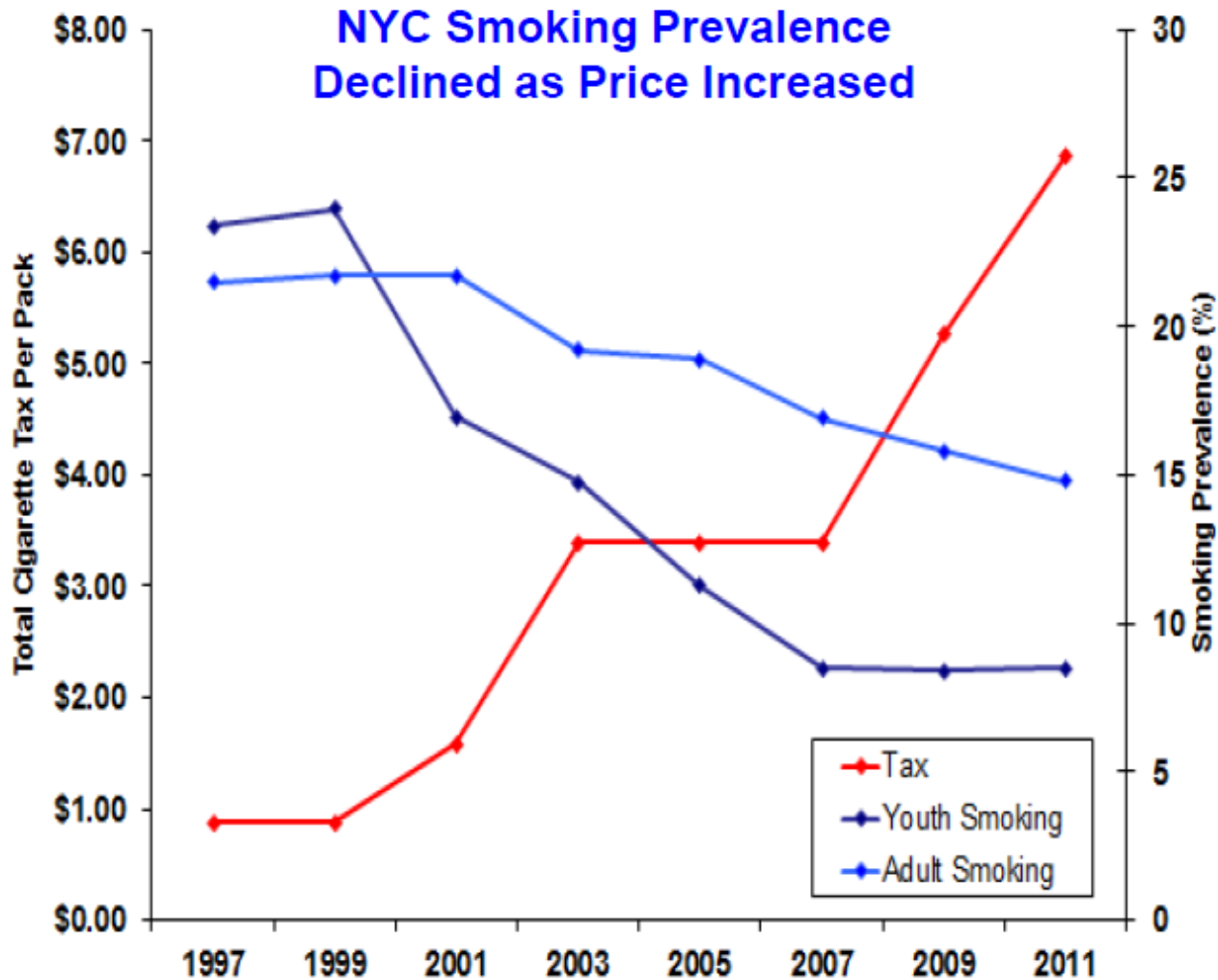
Franklin Murillo, the manager of British American Tobacco in Costa Rica, told *La Nación* on March 31 that **“In the face of higher taxes on a legal product ... an illicit market will arise that does not compete under equal conditions and provides products at lower prices and lower quality.”**

This is a phenomenon that merits our attention. Since the enactment of the [Anti-Tobacco Law](#) in Costa Rica on March 2012, we've been under the impression that cigarette use has gone down. However, in reality, we've seen a dramatic increase in illegal smuggling, and all because of a lack of understanding of how the market works.

In Costa Rica, it was thought that if taxes on cigarettes were increased, no one would buy them anymore because of higher prices. People failed to realize that doing this would only lead to tobacco users turning to the black market.



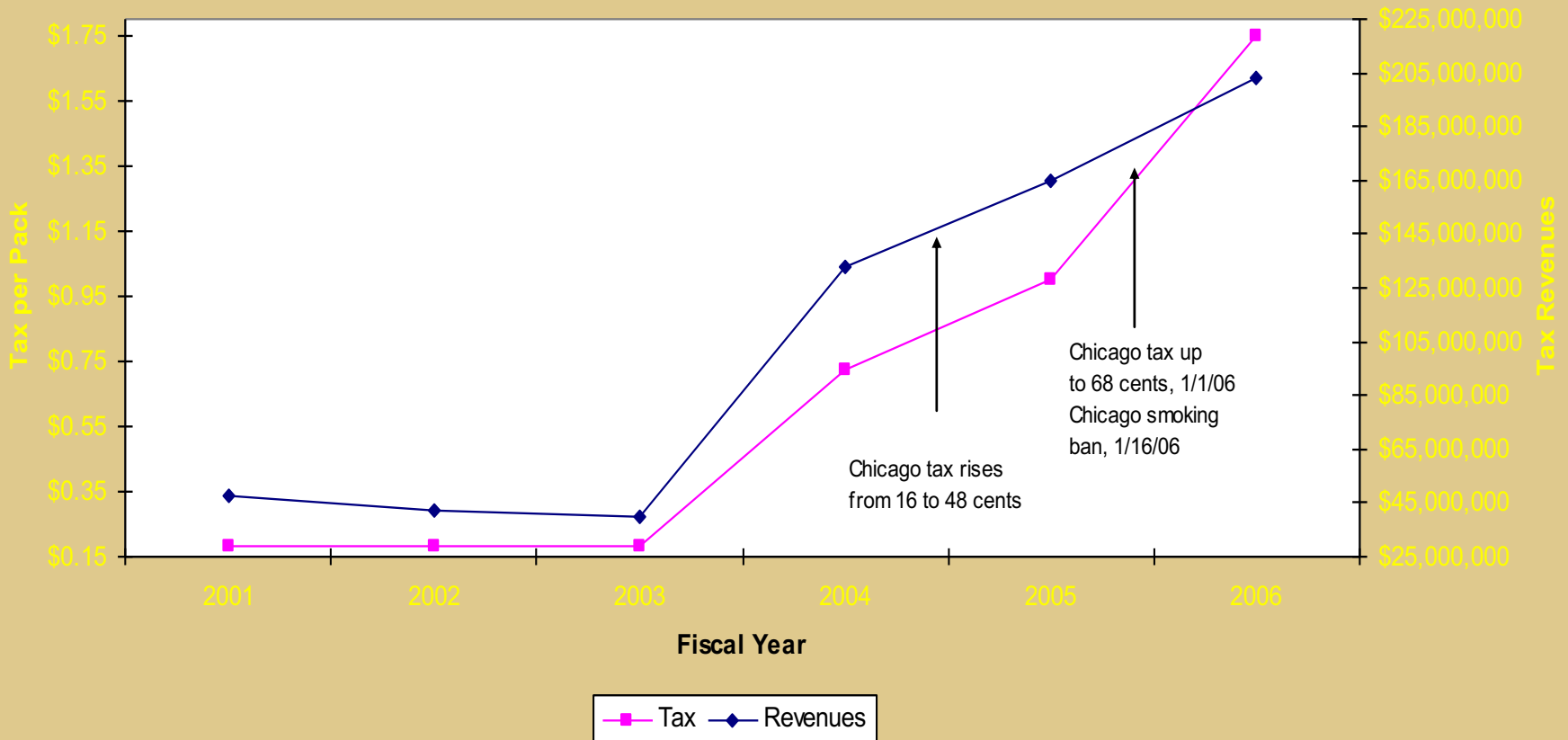
Tax Avoidance & Evasion Do NOT Eliminate Health Impact of Higher Taxes



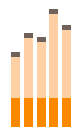
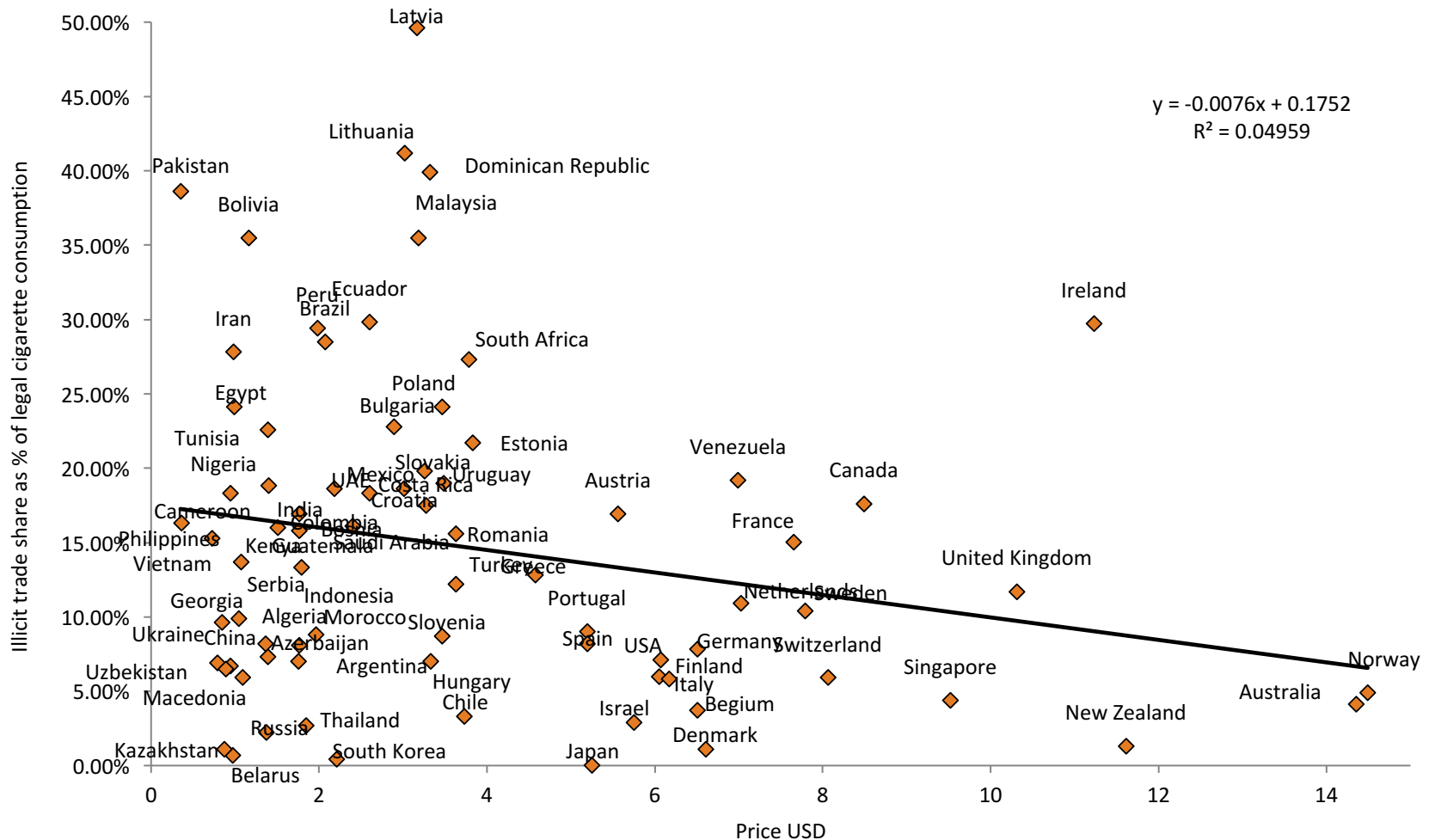
Tax Avoidance & Evasion

Do NOT Eliminate Revenue Impact of Higher Taxes

Cook County Cigarette Tax and Tax Revenues - FY01-FY06

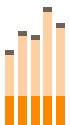


Illicit Cigarette Market Share & Cigarette Prices, 2012

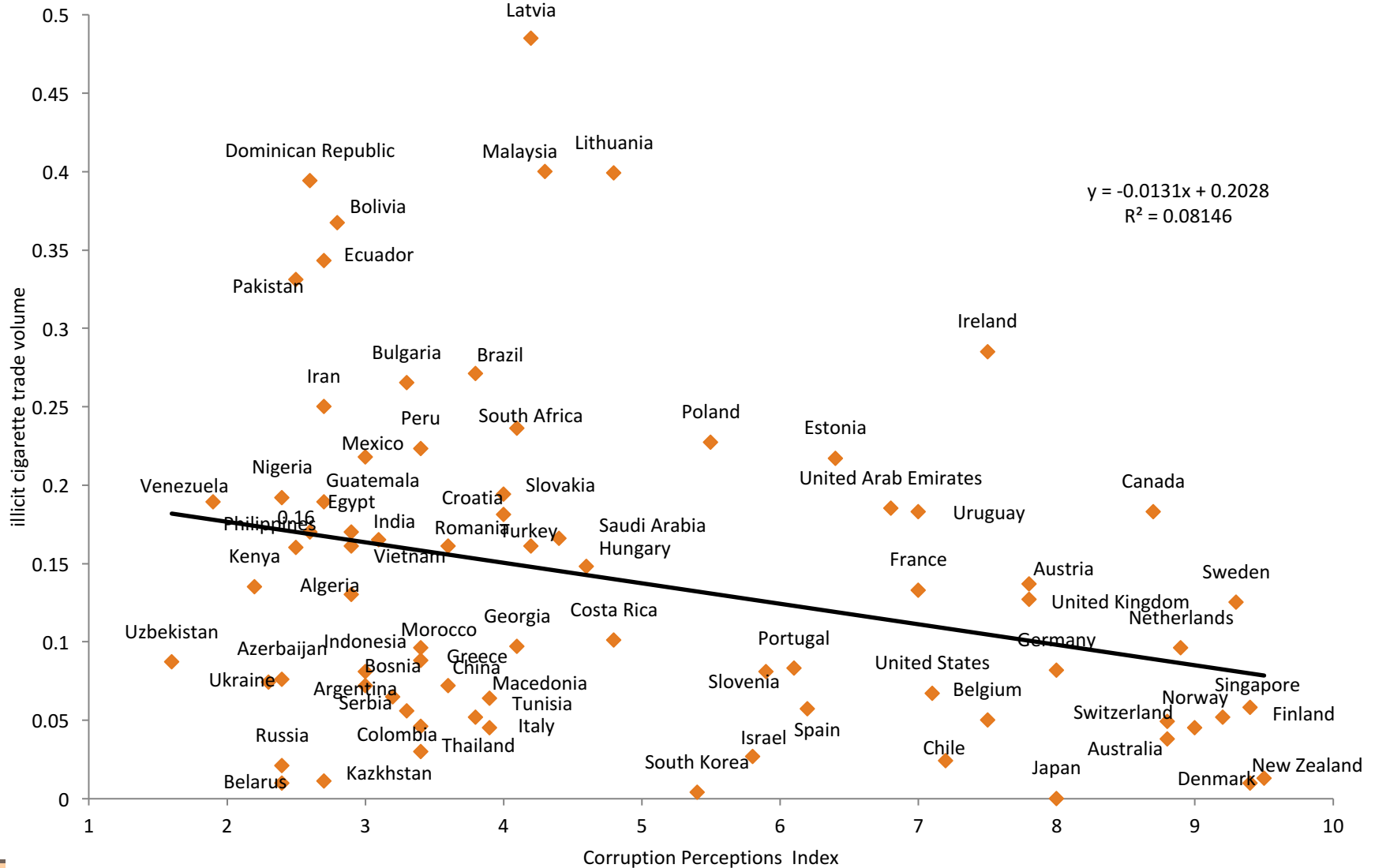


Determinants of Illicit Tobacco

- Corruption
- Weak tax administration
- Poor enforcement
- Presence of informal distribution networks
- Presence of criminal networks
- Access to cheaper sources



Smuggling and Corruption, 2011



Sources: Euromonitor, Transparency International

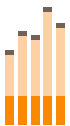
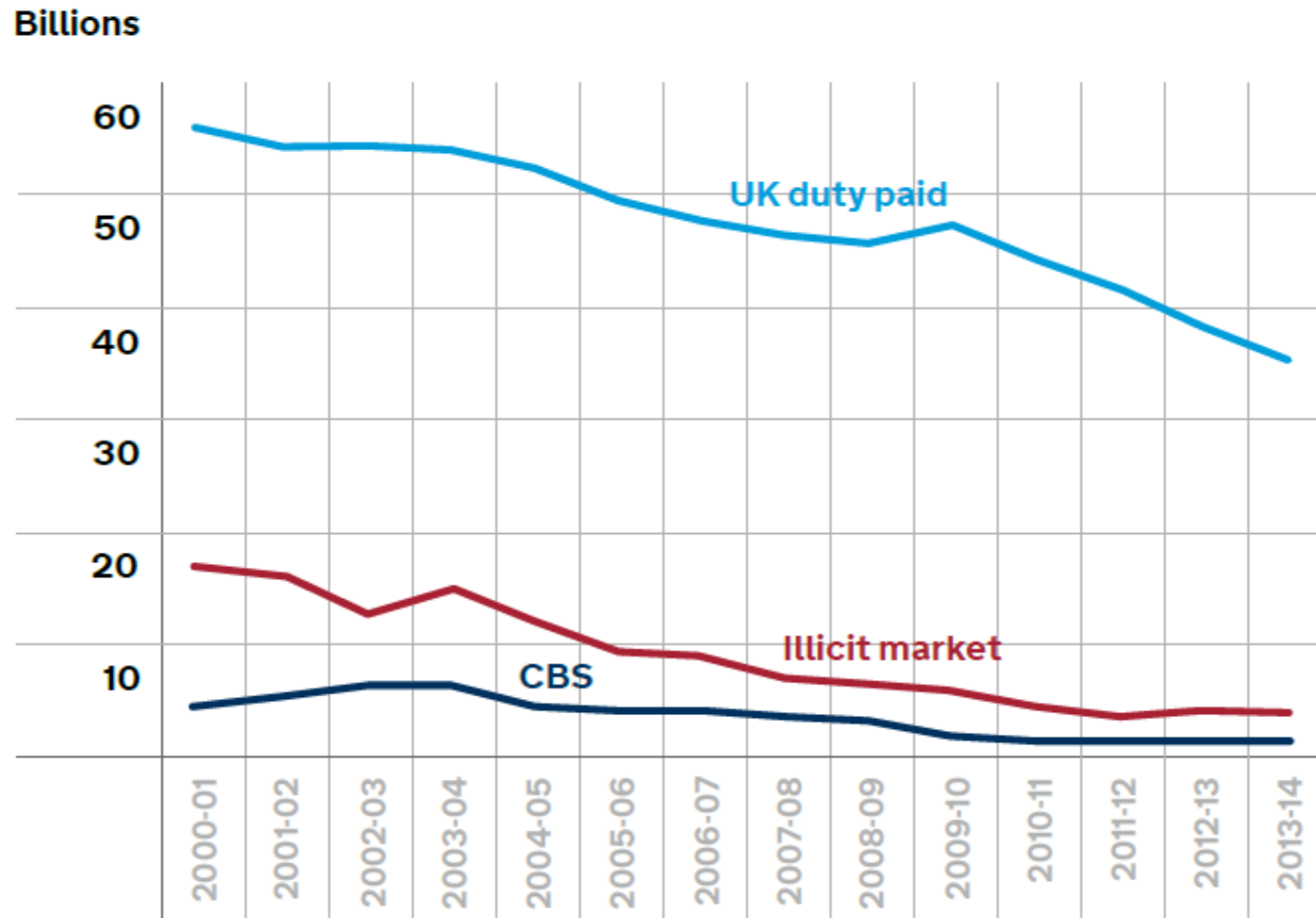
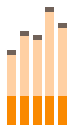


Figure 12 – Estimated Volumes of Cigarettes Consumed in the U.K. – Duty paid, illicit, and cross-border shopping, 2000-01 – 2013-14

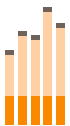


Source: HM Revenue & Customs, 2014

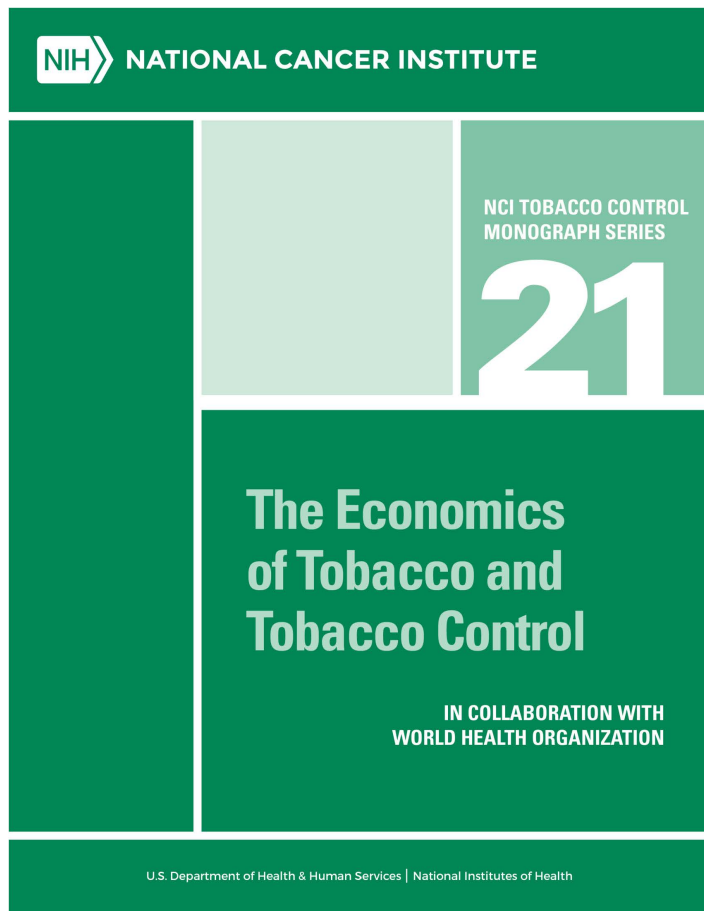


Combating Illicit Tobacco Trade

- Illicit trade protocol to the WHO FCTC
 - Adopted November 2012; currently in process of being signed/ratified; 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

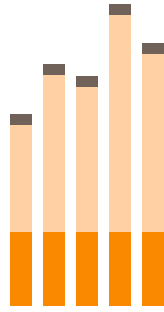


Control of Illicit Tobacco Trade



Major Conclusion #5:
Control of illicit trade in tobacco products, now the subject of its own international treaty, is the key supply-side policy to reduce tobacco use and its health and economic consequences.



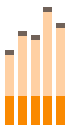


Summary

Economic Impact of Tobacco Control

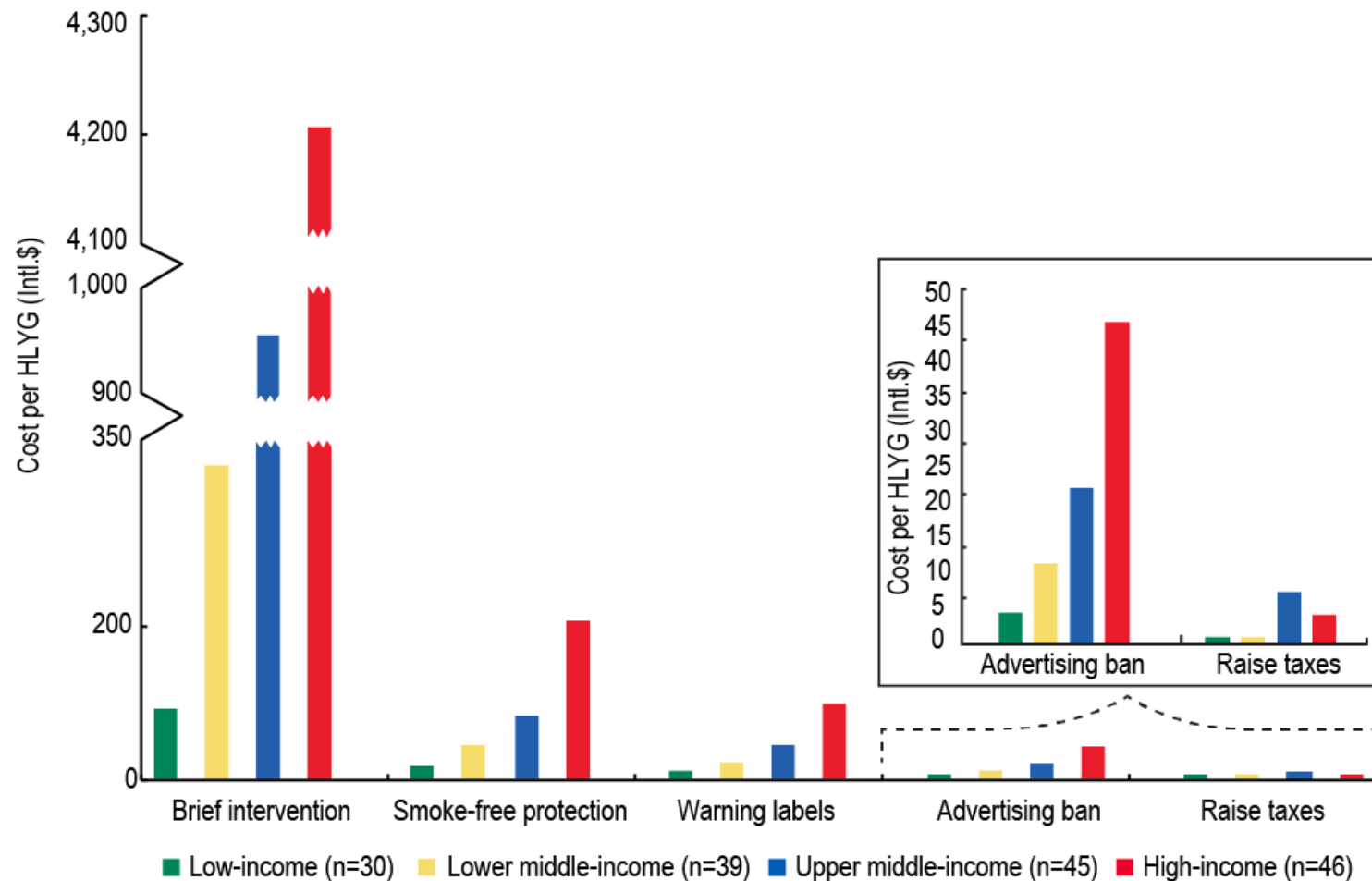
Tobacco tax increases and other effective tobacco control measures make good economic sense:

- Not just long-term public health, but near-term health and economic benefits
- Tobacco control will not harm economies
- Substantial impact in reducing health care costs, improving productivity, and fostering economic development.

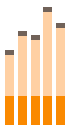


Key Tobacco Control Policies

Cost-Effectiveness

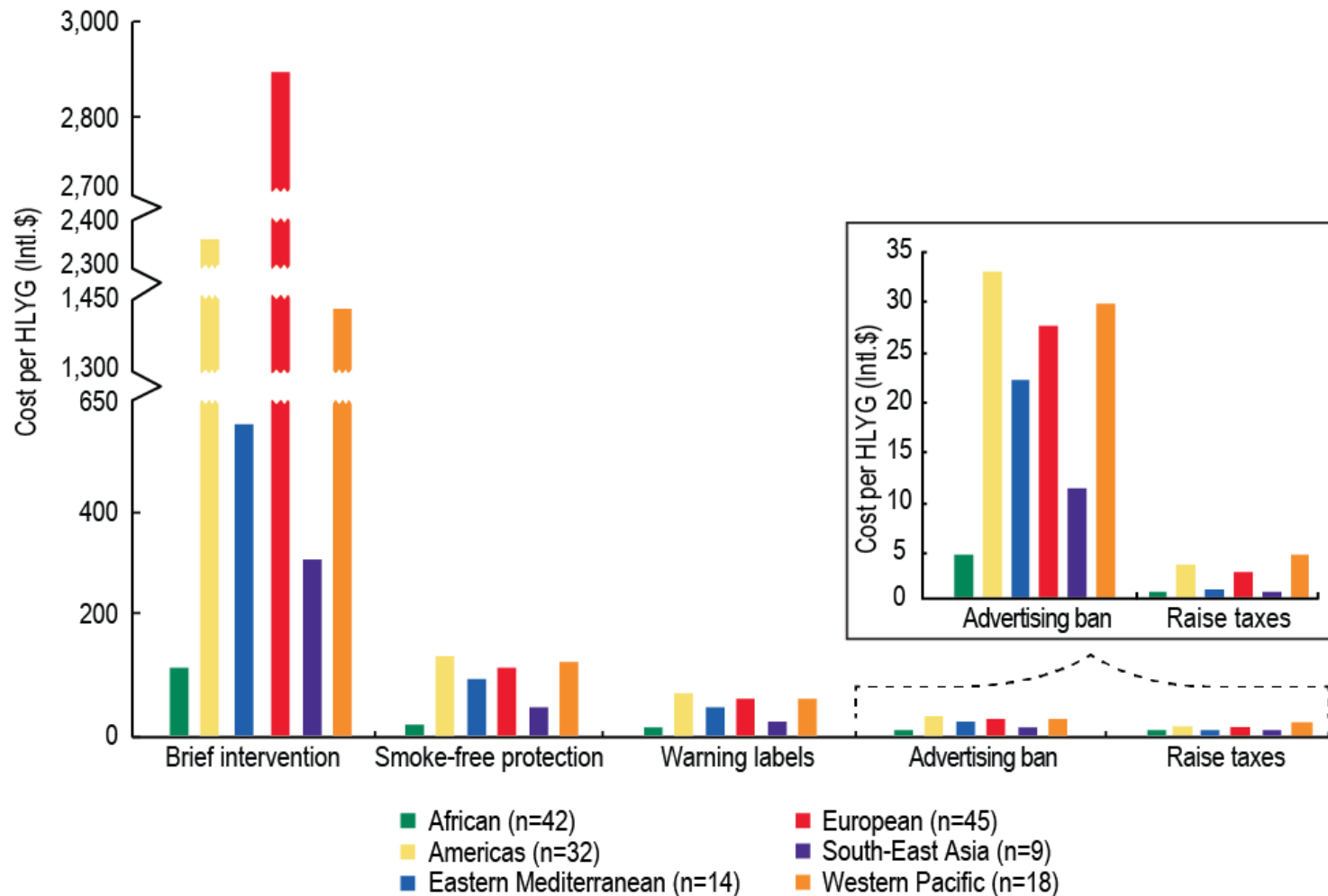


Notes: HLYG = healthy life-year gained. Country income group classification based on World Bank Analytical Classifications for 2014. Source: NCI & WHO, 2016

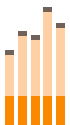


Key Tobacco Control Policies

Cost-Effectiveness



Notes: HLYG = healthy life-year gained. Country income group classification based on World Bank Analytical Classifications for 2014.
Source: NCI & WHO, 2016



For more information:

<http://www.tobacconomics.org>

@tobacconomics

Sign up for newsletter: bit.ly/tbxemail

fjc@uic.edu

