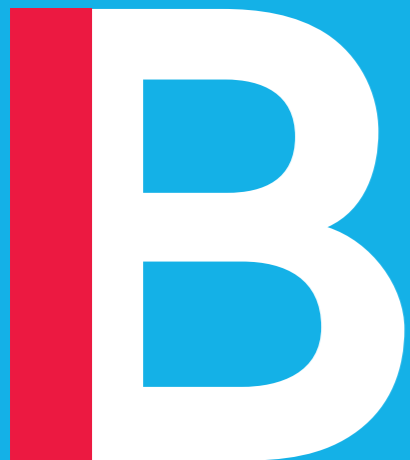


Price Measures and the Economics of NCD Prevention

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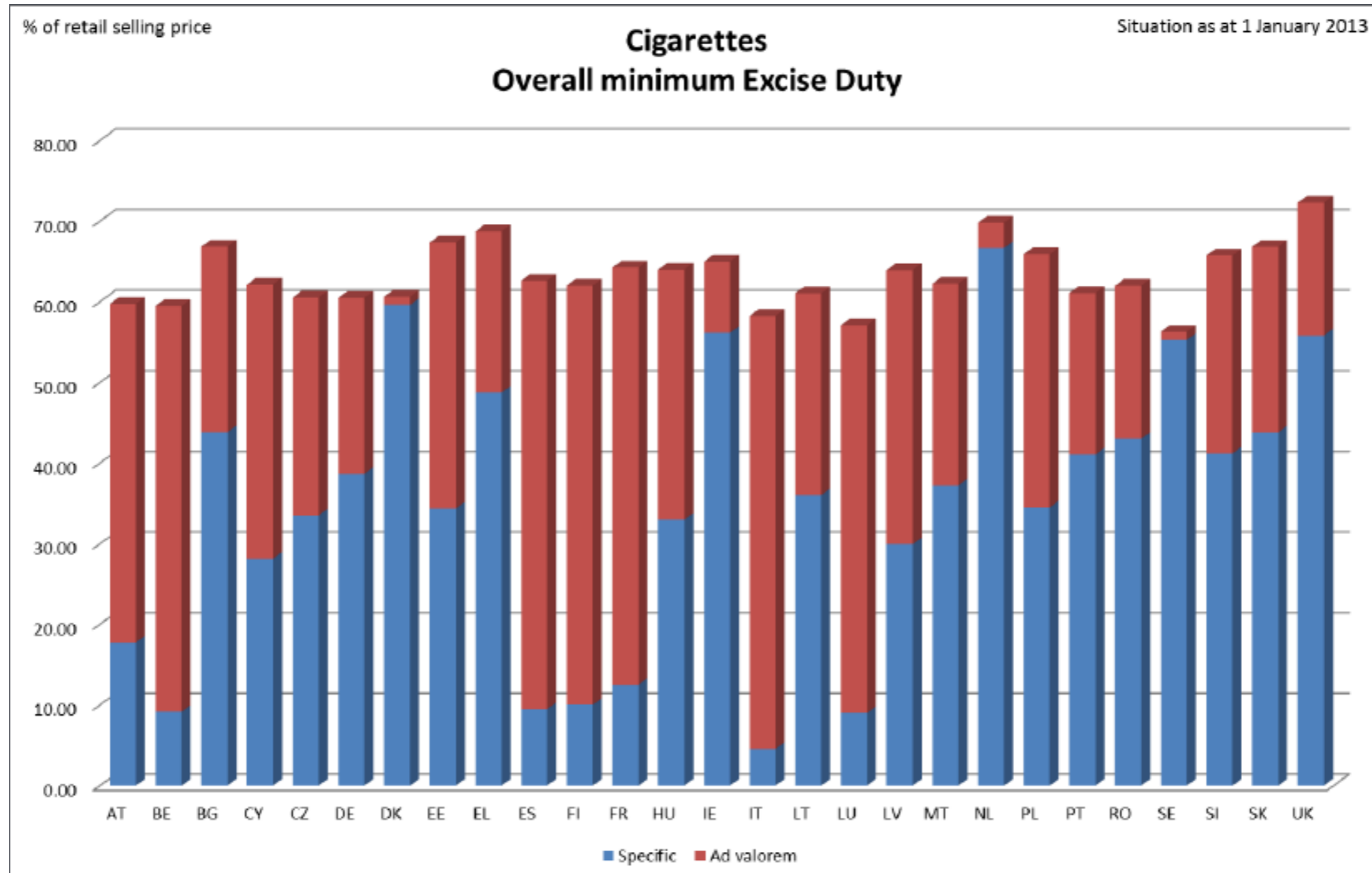
Prices, Economics and NCD Prevention

1. Do price measures increase social welfare?
2. Do they improve the distribution of welfare?

Taxes on Potentially Harmful Products

- Widespread use
- Taxes on tobacco, alcohol, salt have existed for centuries
- Recent surge of interest, particularly for sugar-sweetened beverage taxes
- Traditionally justified for revenues, externalities; public health rationale more recent

Tobacco Taxes in EU Countries



Source: European Commission

Food taxes in OECD countries

Country ¹	Nutrient/Product taxed
Denmark (2011-12)	Saturated fat content
Denmark	Sugar- and artificially-sweetened beverages, sweets, ice cream, chocolate
Finland	Sugar- and artificially-sweetened beverages, confectionary, chocolate, ice cream
France	Sugar- and artificially-sweetened beverages, energy drinks
Hungary	Sugar-sweetened beverages, energy drinks, salty snacks, biscuits, ice cream, chocolate
Ireland (1916-92)	Sugar- and artificially-sweetened beverages
Mexico	Sugar-sweetened beverages, high-calorie processed foods
Norway	Sugar- and artificially-sweetened beverages, chocolate, sugar
Berkeley, United States	Sugar-sweetened beverages

1. Currently in place unless otherwise stated.

Food Taxes in OECD Countries

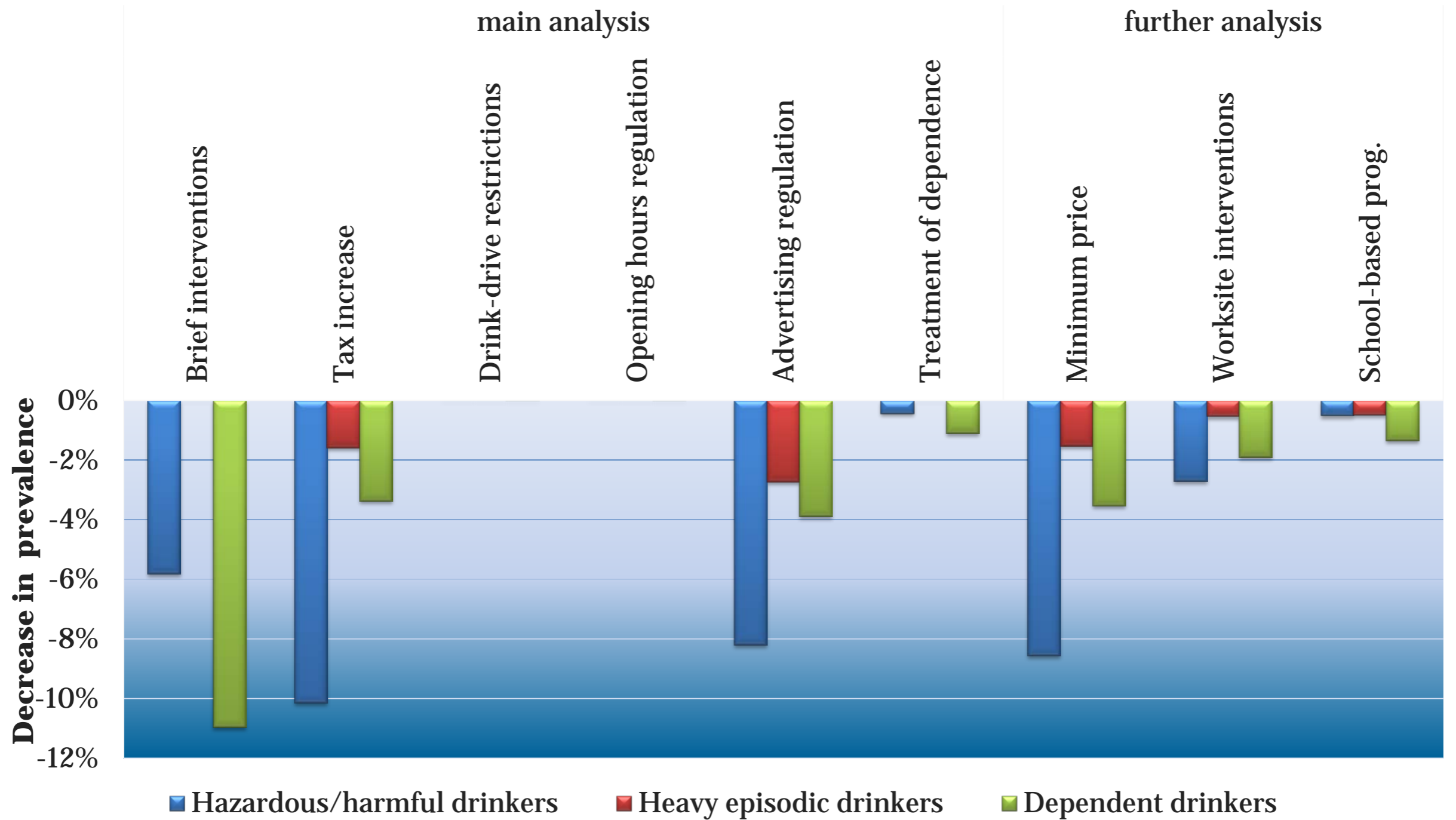
- **Denmark, 2011:** 16 kroner (EUR 2.15) per kg of saturated fat (on food with more than 2.3% of saturated fat), dropped in 2012
- **Finland, 2011:** EUR 0.75 per kg on confectionery products
- **France, 2012:** EUR 7.16 per hectoliter on drinks with added sugars and drinks with artificial sweeteners
- **Hungary 2011, Mexico 2014**
- Most OECD countries apply a **reduced VAT rate** or **sales tax exemptions** on most foods and beverages

Tax Revenues

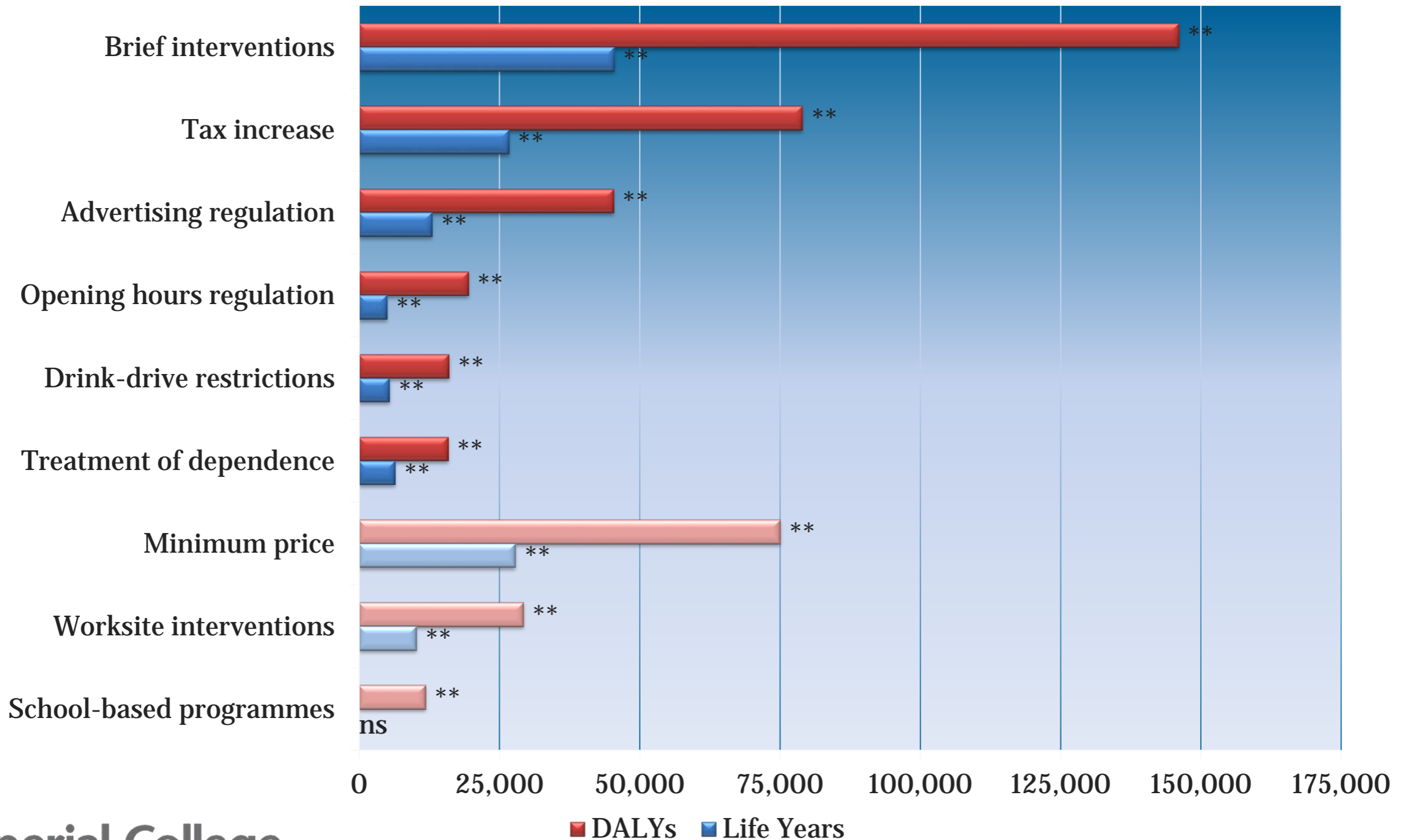
- Tobacco taxes (excise + VAT) 1% to 10% of tax revenues in countries at different levels of income
- Excises on alcohol and tobacco in 2000-10:
 - were **stable** in Germany (2.5%)
 - **slightly decreased** in Japan (from 3.0% to 2.6%) and in Finland (from 2.9% to 2.5%)
 - **slightly increased** in Hungary (3.2% to 3.4%)
- Excises on fatty products 0.14% of tax revenues in Denmark in 2012

Are Price Measures Effective?

Alcohol Policies, Effects on Drinking Patterns, Germany

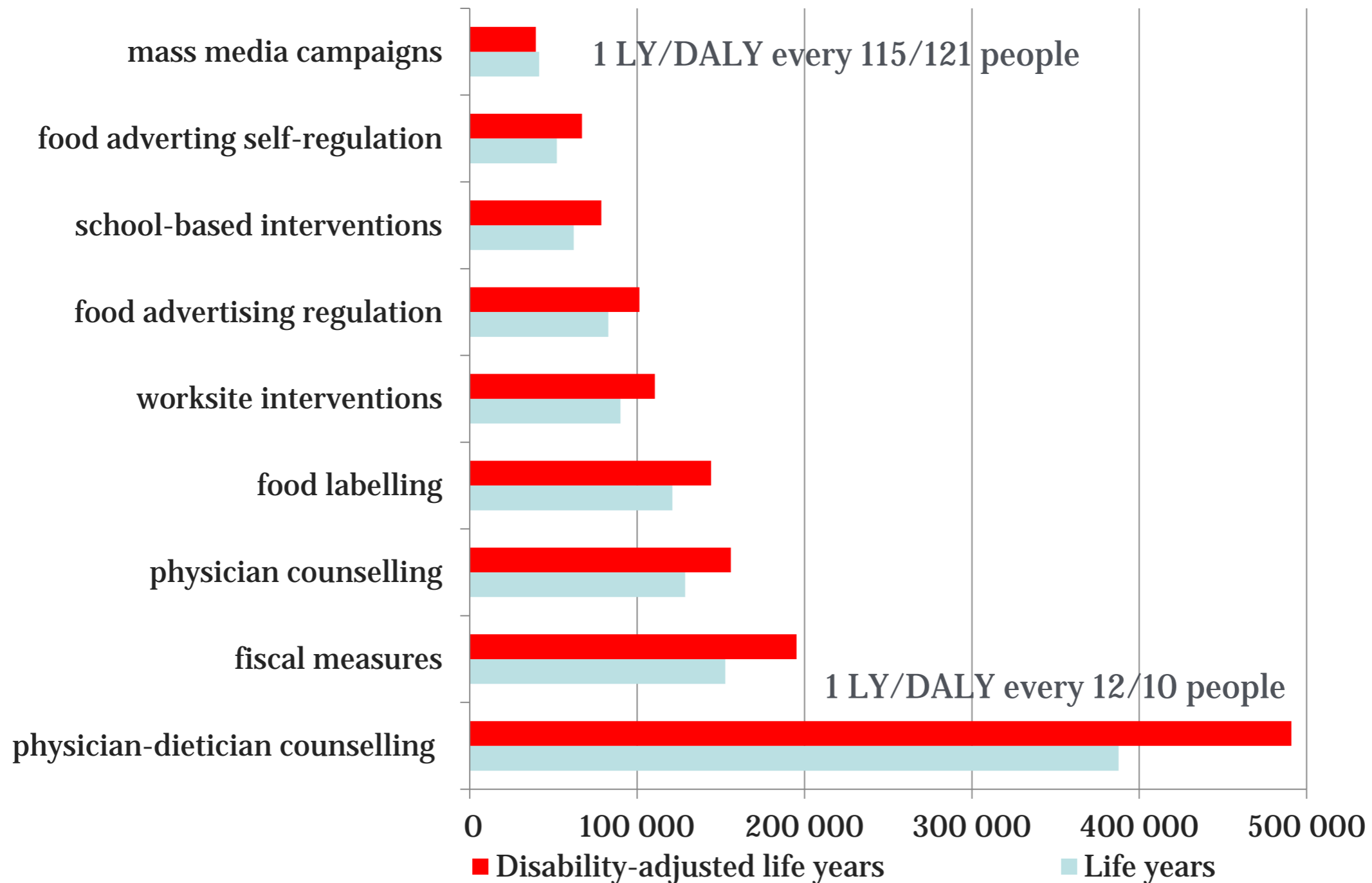


Health Outcomes of Alcohol Policies, Germany



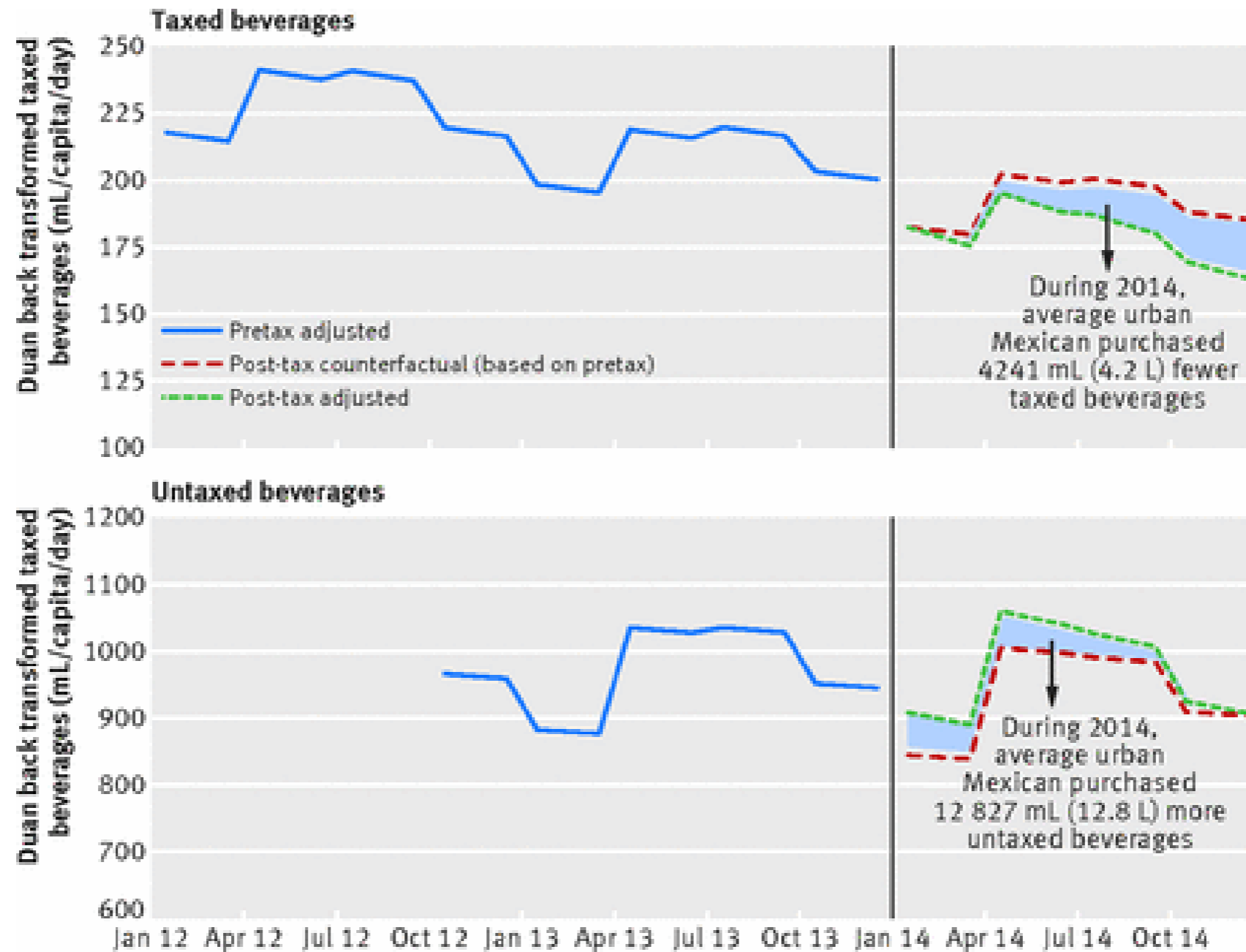
Health Outcomes of Obesity Prevention (LYs & DALYs)

Average effects per year, in West-central Europe



Source: OECD, Health Working Paper 48

What Impact? Effects in Mexico



Source: Colchero et al., BMJ, 2016

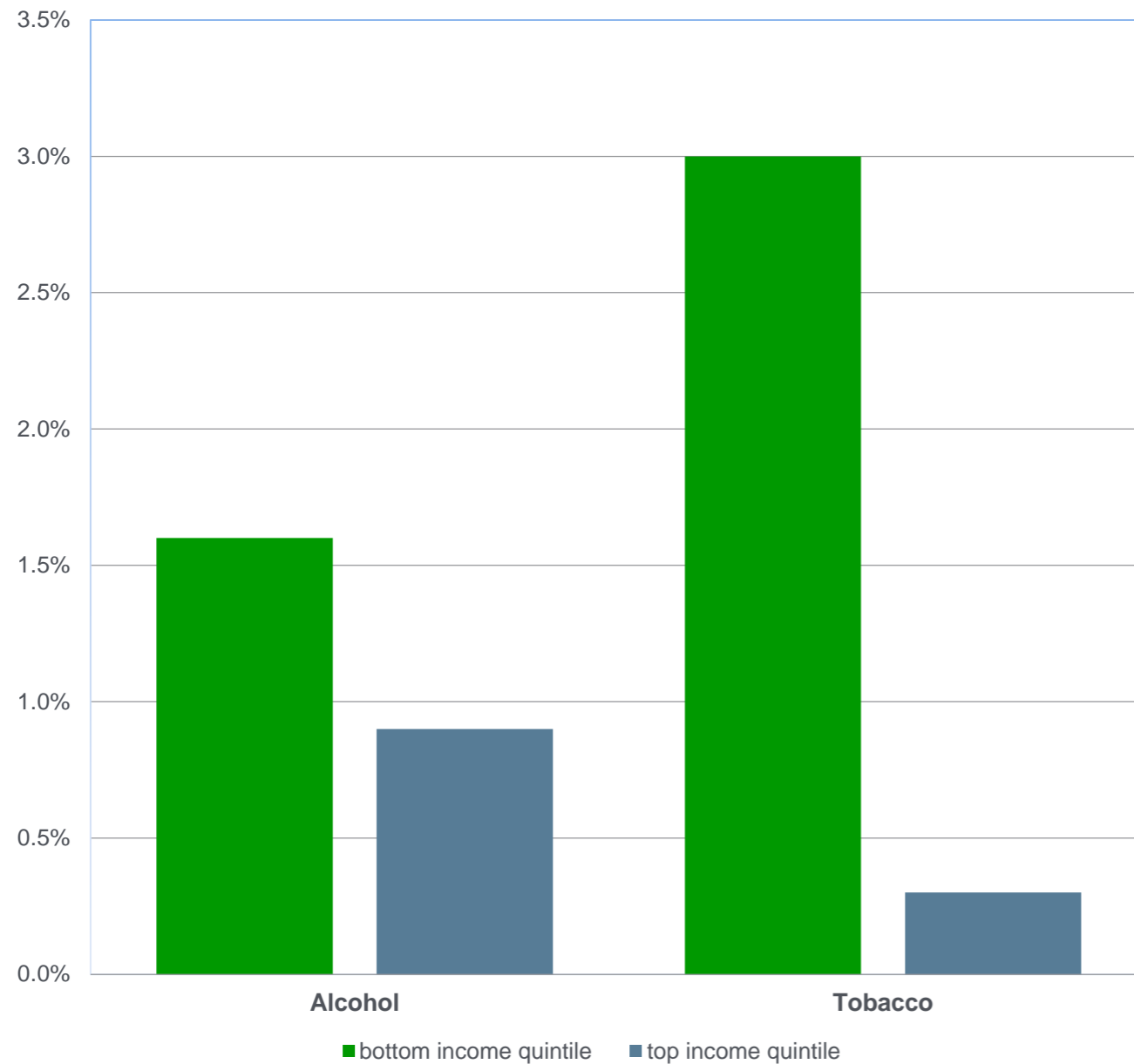
What Impact?

1. UK study (Ng et al., Br J Nutr, 2012) estimated a price elasticity of about -0.5
2. United States (Zhen et al., Amer J Agr Econ, 2013): own price elasticity of about -1
3. US: half cent per ounce tax would reduce average BMI by about 0.2 in 10 years
4. Average BMI has grown by 0.2-0.4 points every 10 years in recent decades

Are Price Measures Regressive?

Distributional Impacts

Alcohol and tobacco tax burden, UK



Source: ONS, 2011

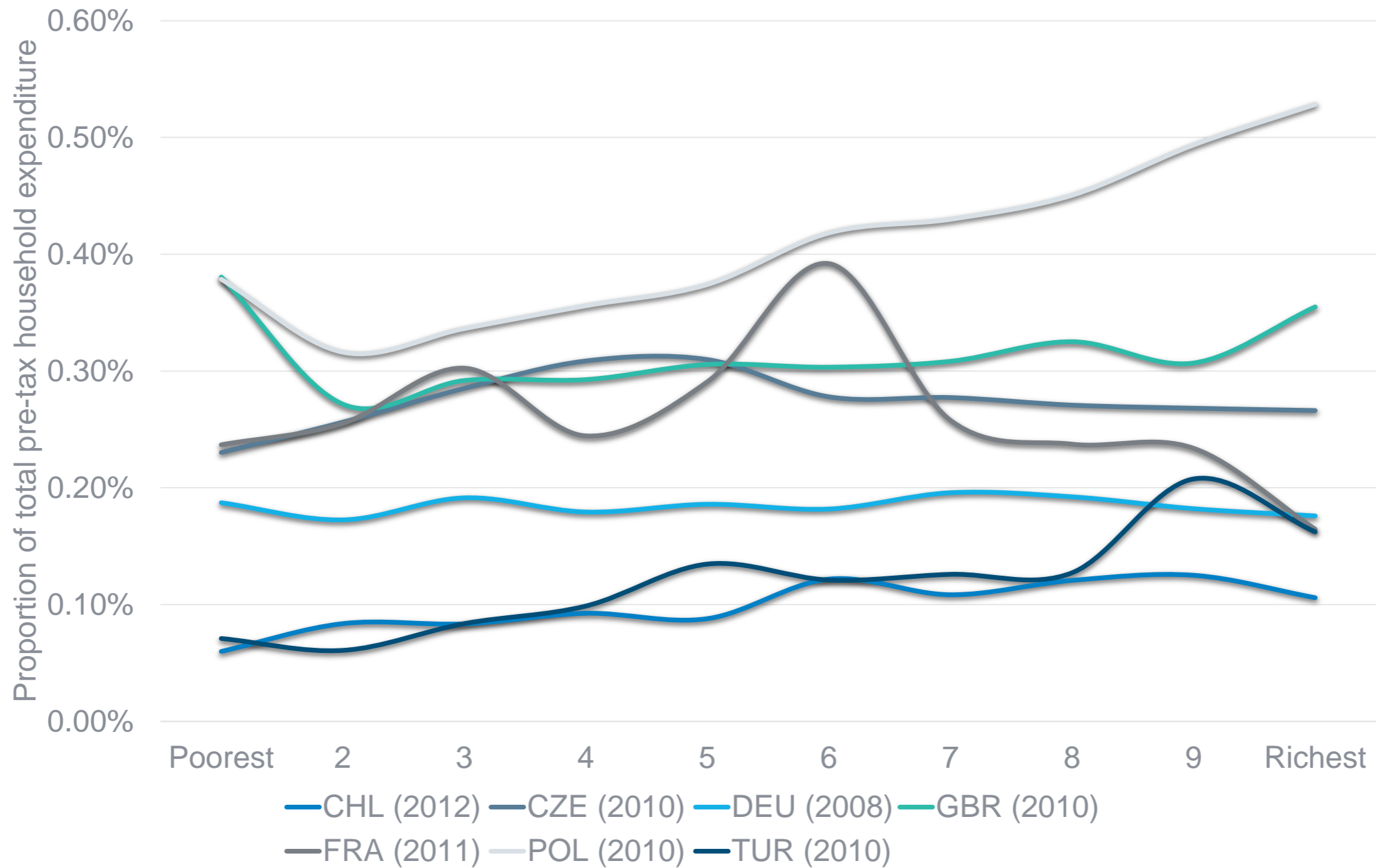
In US a 10% **fat tax** on dairy products would weigh 10 times more on household with an income of \$20,000 (0.24%) than on those with an income of \$100,000 (0.024%)

(Chouinard et al., 2007)

Difference would amount to \$19 vs. \$23 per year for a SSB tax, adding to welfare losses of 22 and 27 USD

(Zhen et al., 2013)

Alcohol Tax Burden by Income Decile



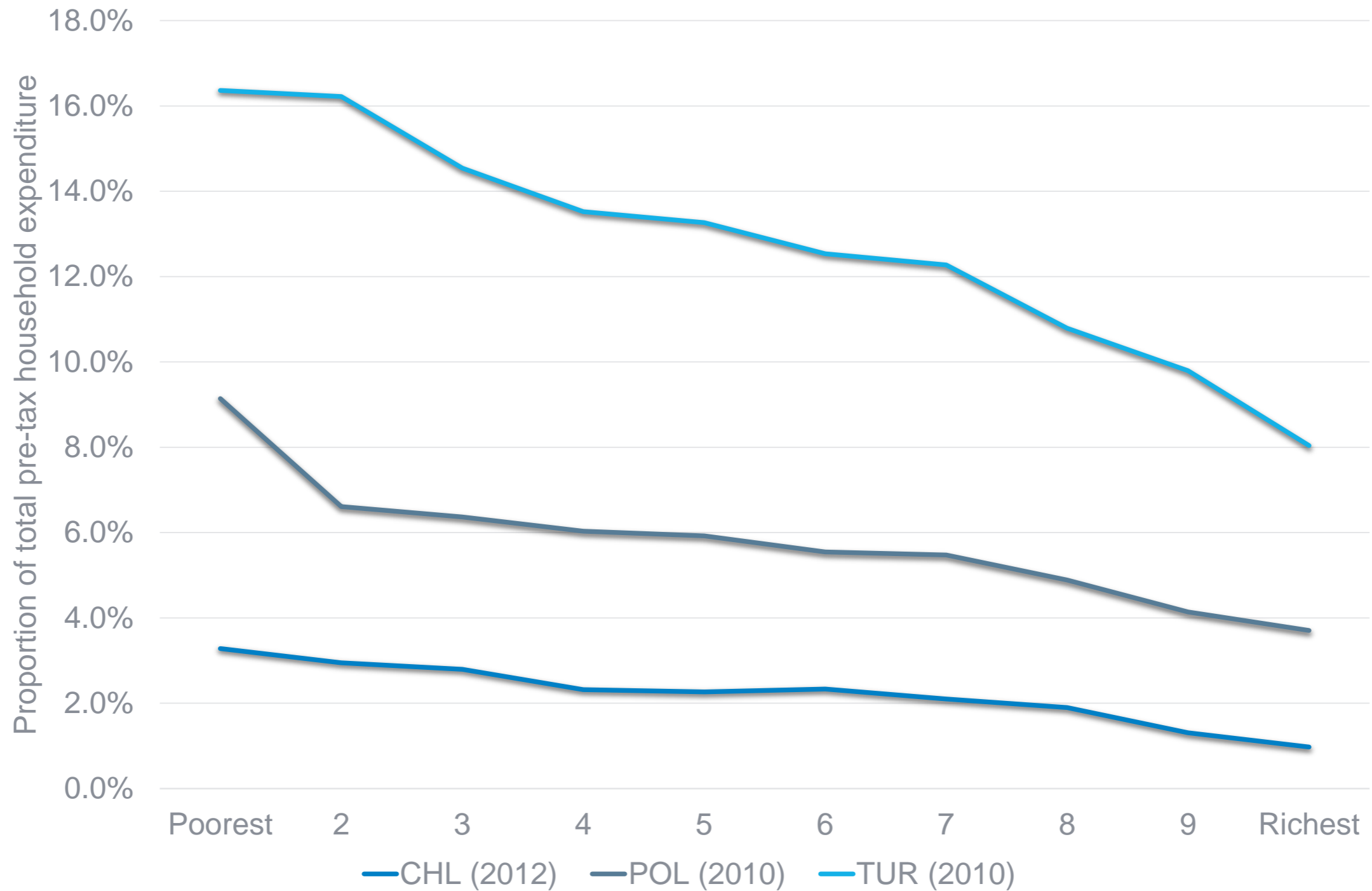
Households Consuming Alcohol

	CHL	POL	TUR
Income deciles	(2012)	(2010)	(2010)
Poorest	17.2%	40.8%	2.1%
2	24.9%	42.8%	3.0%
3	28.5%	47.1%	3.7%
4	33.3%	50.5%	4.5%
5	36.2%	54.9%	5.6%
6	43.6%	58.5%	7.7%
7	43.7%	63.5%	9.4%
8	48.1%	67.0%	10.6%
9	54.1%	69.7%	13.7%
Richest	57.8%	76.3%	21.2%

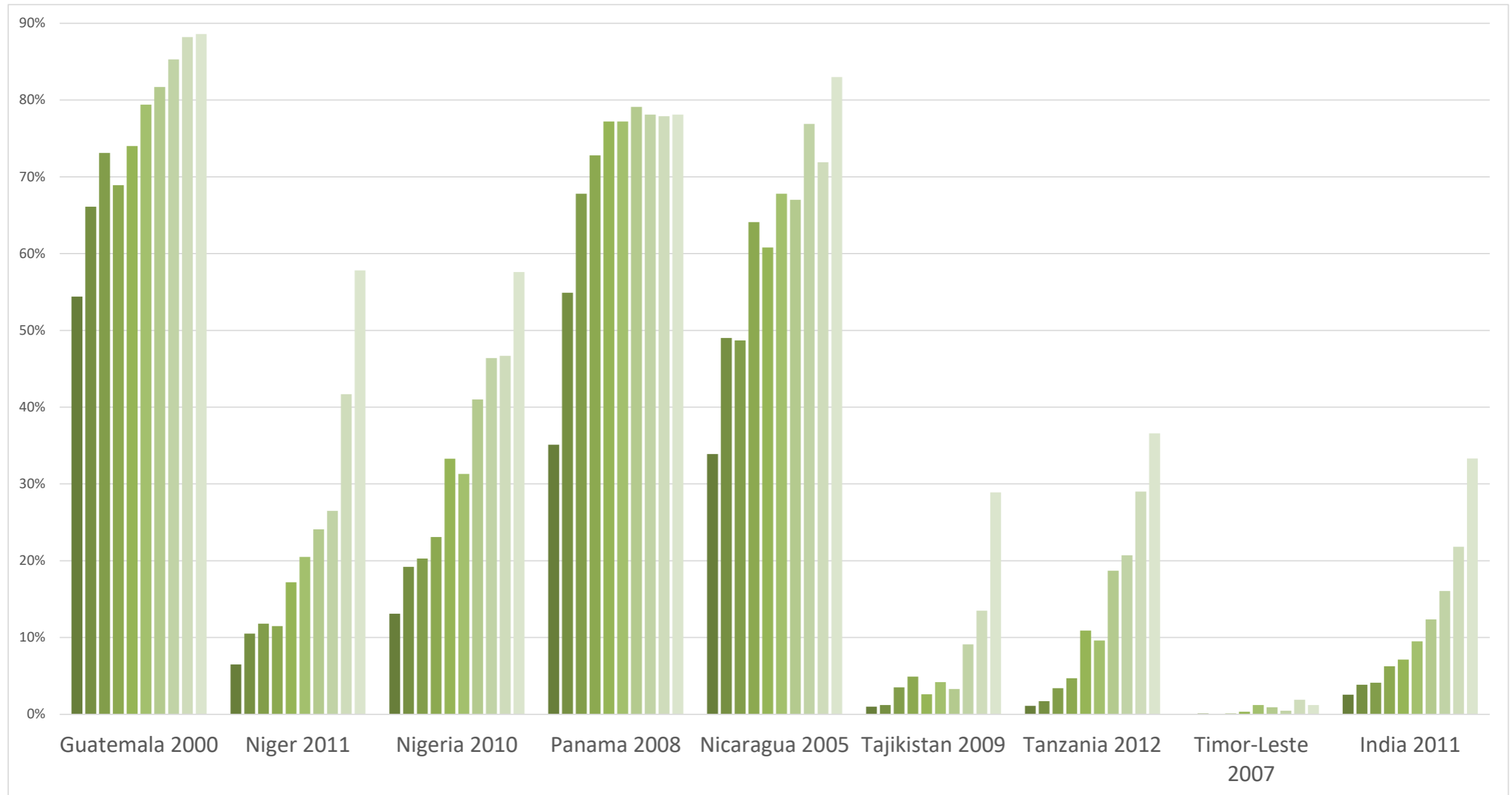
Distributional Impacts

- Low SES group likely to be more responsive to price
 - Greater welfare loss
 - Greater health effects
- Those most at risk are often less responsive to price (e.g. price elasticity for heavy drinkers is -0.21 and for moderate drinkers is -0.47)
 - Smaller welfare loss
 - Greater reduction of externalities and health improvement

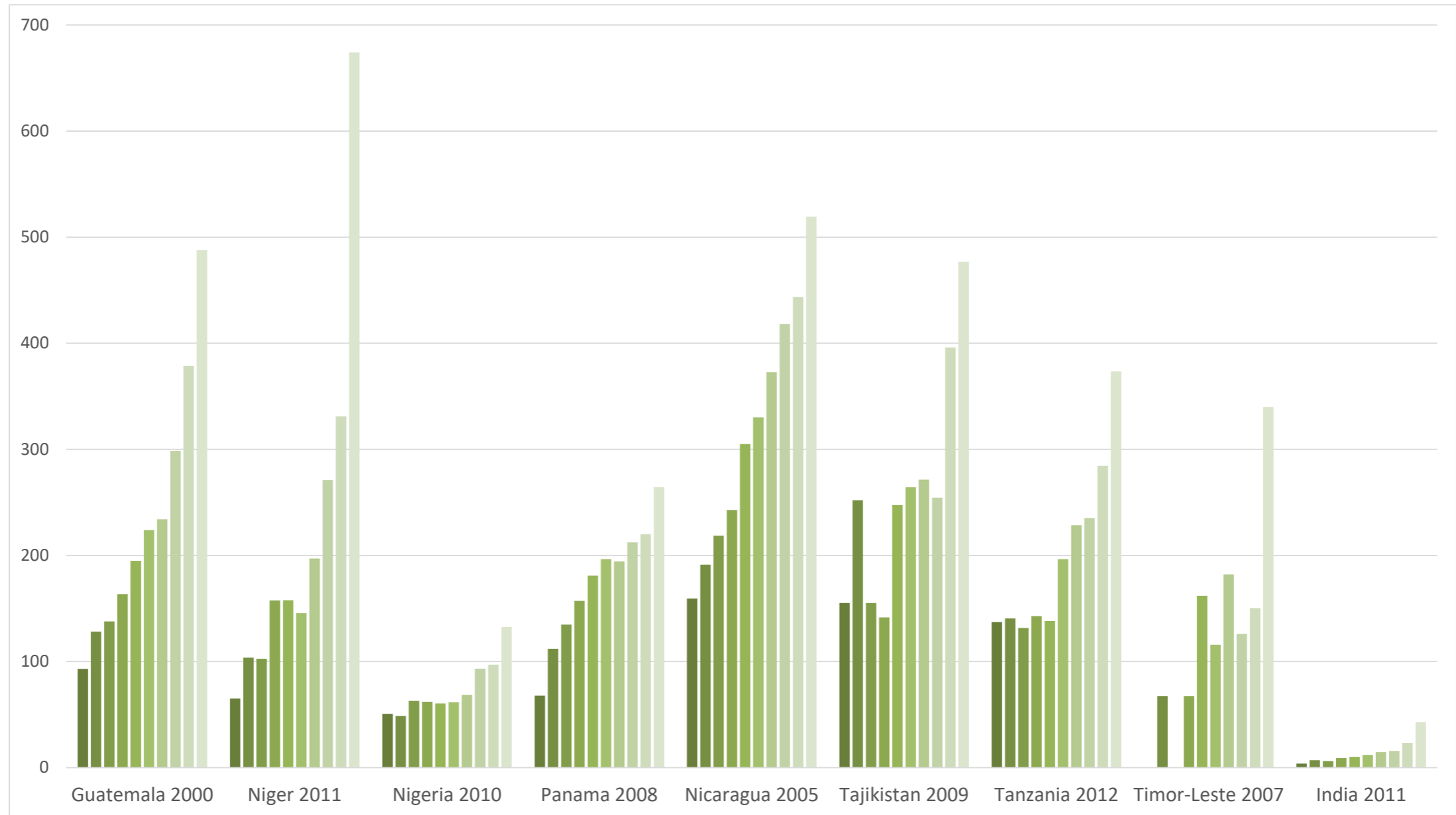
Distributional Impact of Tobacco Excises



Prevalence of Soft Drink Use in Households



Average Annual Expenditure on Soft Drinks

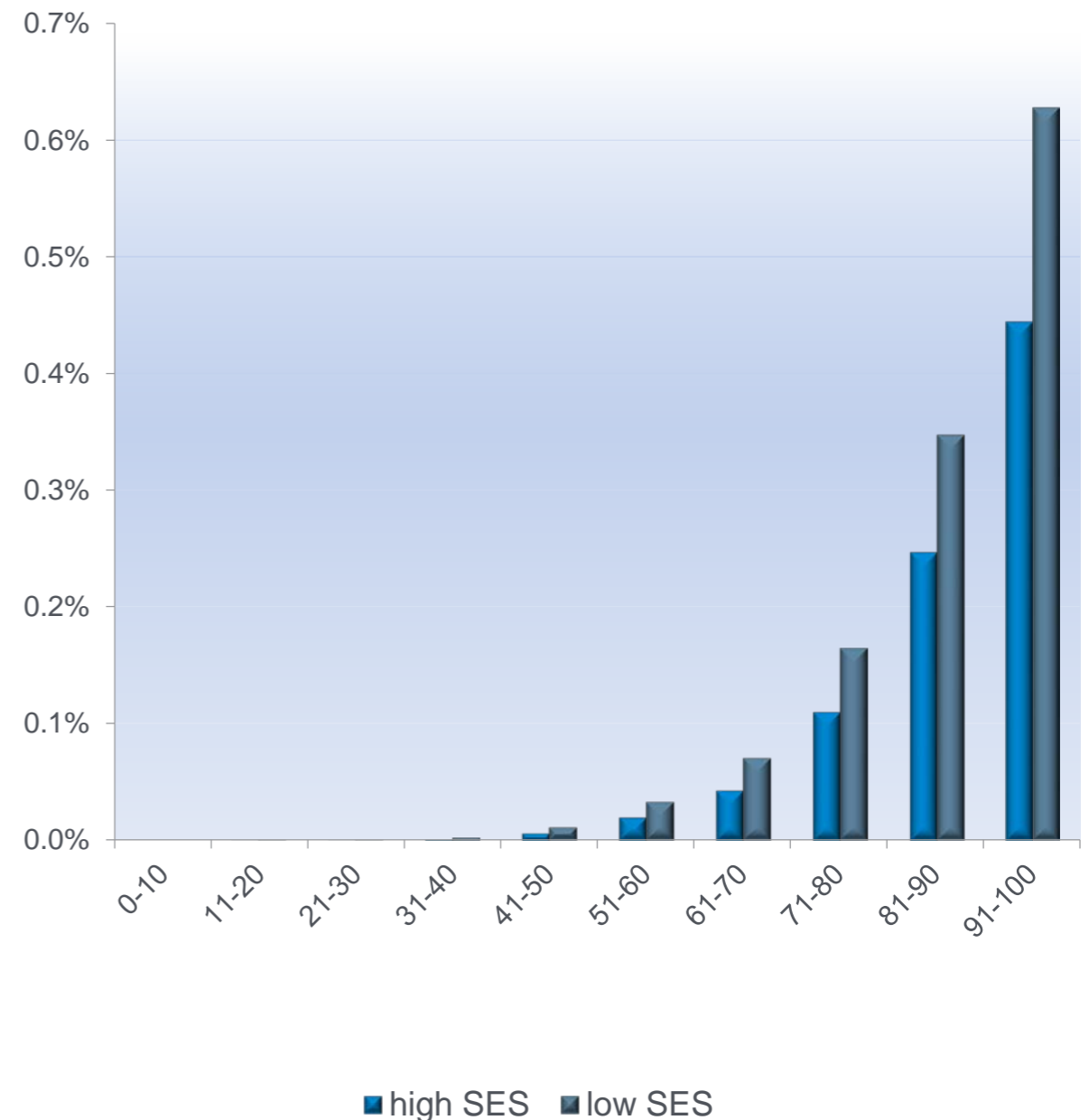


Distributional Impacts

Disadvantaged socio-economic groups will benefit the most in health terms because:

- a) they are more price responsive
- b) they have a greater prevalence of chronic diseases and risk factors

DALY Improvement by Age Group
Fiscal Policies (Food)



Conclusions

- Taxes are a powerful tool for public health policy
- Stronger economic arguments for alcohol and tobacco taxation than for food
- Concern about welfare loss
- Taxes not necessarily regressive and have greater health benefits
- Positive impact of fiscal policies on health and health expenditure
- Key role of tax design and synergistic measures