Economics of Prevention
Investment Cases and Beyond

Rachel Nugent, PhD
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RTI International
Overview: Investment cases for prevention

- What do we use economics for?
- SDGs
- Where the evidence is strong: tobacco
- Where the evidence is mixed: NCDs
- Where the evidence is weak: adolescents
- What have we learned?
Overview

Different lenses on the economics of prevention

- What do we use economics for?
- SDGs
- Where the evidence is strong: tobacco
- Where the evidence is mixed: NCDs
- Where the evidence is weak: adolescents
- What have we learned?
Progress on non-communicable diseases is linked to more than half of the Sustainable Development Goals, making NCD prevention and treatment central to achieving many 2030 targets.

_The Lancet Taskforce on NCDs and economics_
Transition – NCD investments

• Disease investment approach
  • Treatment centered
  • Individual level
  • Health sector exclusive (SDG3)
  • Economic losses borne by public and private sectors

• Health investment approach
  • Prevention centered
  • Population level
  • All sectors engaged (multiple SDGs)
  • Economic gains accrue to private and public sectors

Credit to UNDP/UNIATF (2 slides)
Ways to value the economic loss due to NCDs

**Negative impacts on the domestic workforce and GDP**
- Output lost due to absenteeism¹
- Output lost due to presenteeism²
- Replacement costs for workers who drop out of the workforce due to NCDs
- Decreased human capital

**Negative impacts to individuals and families**
- Lives lost
- Lost income
- Increased personal medical expenditures
- Lost time due to caretaking responsibilities

**Increased expenditures by the government & private sector**
- Increased government expenditure treatment
- Private sector expenditure on health
- Non-health sector expenditures

¹ Days absent from work
² Reduced productivity at work
Selected Evidence and Results from Investment Cases
Tobacco: where the evidence is strong
### Solid evidence on intervention effects

<table>
<thead>
<tr>
<th>Policy intervention</th>
<th>% reduction in prevalence in the short term (5 year horizon)</th>
<th>% reduction in prevalence in the long term (40 year horizon)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive smoke-free air laws, including all indoor worksites, restaurants, and bars</td>
<td>10%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Tax increase by 50% of current price with no value-added tax</td>
<td>9%</td>
<td>18%</td>
</tr>
<tr>
<td>Comprehensive programs, including media, other educational, and cessation programs</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>Media campaigns implemented at a high level</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Complete cessation policies include financial coverage of treatments, quit lines, and healthcare provider interventions</td>
<td>5.5%</td>
<td>11%</td>
</tr>
<tr>
<td>Health warnings: large, bold, rotating, and graphic</td>
<td>5%</td>
<td>10%</td>
</tr>
<tr>
<td>Marketing restrictions with direct bans on all advertising</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Financial coverage of treatments alone, especially pharmacotherapies</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Healthcare provider interventions alone</td>
<td>1.6%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Active quit lines alone</td>
<td>0.8%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

FCTC Investment Case Model

Standard FCTC Time-Bound Commitments
- Demand-reduction policy measures
  - Increase Tobacco Taxes
  - Indoor Smoking Ban
  - Graphic Warnings; Plain Packaging
  - Advertising, Sponsorship, Promotion
  - Cessation Services
  - Mass Media Campaigns

Policy / Intervention: Ex. 1

ΔPrev

Health-Related Components
- Outcomes = f(prevalence)
  - Mortality and Morbidity
  - Productivity Losses
  - Health Expenditures

ΔPrev

Economic outcomes
- Components:
  - Δ Healthcare expenditures
  - Δ Indirect costs
  - Premature mortality
  - Absenteeism,
  - Presenteeism,
  - Smoking breaks

≠ ΔPrev
Adding Country context
Additional considerations

“The public health law states that smoking is banned in all places, but there is a huge problem with enforcement.”

“It’s very important to include water pipes. They’re almost as prevalent as smoking, and unlike cigarettes, are widely used by women.”

There is a need to open up a dialogue with the ministry of tourism and restaurant association. Quantifying the impact of second-hand smoke exposure within these workforces may resonate.
Sri Lanka

Additional considerations

The President has announced a plan to stop tobacco cultivation by 2020, but we need to know the cost and benefits of eradication...what is the revenue of tobacco versus other crops? What is the environmental impact of tobacco compared to other crops?

What about bidis and smokeless tobacco?
NCDs: where the evidence is mixed
NCDs are preventable with known interventions that work

<table>
<thead>
<tr>
<th>WHO’s “best buys” for NCD prevention and control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tobacco Use</strong></td>
</tr>
<tr>
<td>• Reduce affordability of tobacco products</td>
</tr>
<tr>
<td>• Create, by law, completely smoke-free environments</td>
</tr>
<tr>
<td>• Health information and warnings</td>
</tr>
<tr>
<td>• Ban all forms of tobacco advertising, promotion and sponsorship</td>
</tr>
<tr>
<td><strong>Harmful use of Alcohol</strong></td>
</tr>
<tr>
<td>• Regulating commercial and public availability of alcohol</td>
</tr>
<tr>
<td>• Restricting or banning alcohol advertising and promotions</td>
</tr>
<tr>
<td>• Increase excise taxes on alcoholic beverages</td>
</tr>
<tr>
<td><strong>Unhealthy Diet and Physical Inactivity</strong></td>
</tr>
<tr>
<td>• Reduce salt intake</td>
</tr>
<tr>
<td>• Replace trans fats with unsaturated fats</td>
</tr>
<tr>
<td>• Implement public awareness programs on diet and physical activity</td>
</tr>
</tbody>
</table>

Source: Appendix 3, WHO Action Plan
NCDs are preventable with known interventions that work

WHO’s “best buys” for NCD prevention and control

<table>
<thead>
<tr>
<th>Cardiovascular Disease</th>
<th>• Counseling and drug therapy for those at high and moderate risk for heart attacks and strokes</th>
</tr>
</thead>
</table>
| Diabetes               | • Preventive foot care for people with diabetes  
|                        | • Screening for diabetes patients for prevention of blindness  
|                        | • Glucose monitoring for people treated with insulin |
| Cancer                 | • Vaccination against HPV  
|                        | • Cervical cancer screening for women ages 30 - 49 |

Source: Appendix 3, WHO Action Plan
Jamaica: Investment Case for the Prevention and control of NCDs

A return on investment analysis
### Return on Investment, by NCD package (JMD Billions)

<table>
<thead>
<tr>
<th>NCD intervention packages</th>
<th>Return on Investment by Package</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5-year period</td>
</tr>
<tr>
<td></td>
<td>Total costs</td>
</tr>
<tr>
<td>Tobacco</td>
<td>0.45</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1.80</td>
</tr>
<tr>
<td>CVD</td>
<td>1.49</td>
</tr>
<tr>
<td>Alcohol</td>
<td>0.48</td>
</tr>
<tr>
<td>All packages</td>
<td>4.22</td>
</tr>
</tbody>
</table>
Country context
Jamaica, Tanzania, and Mongolia

Additional considerations

“We can’t get the medicines to people and when we do, they don’t adhere. All we can do is try to educate and prevent.”

“Men like fluffy women.”

“Our traditional foods are very salt. People won’t change what they eat.”

“People have to drink to stay warm in the winter. What else can we offer to them?”
Adolescent NCD Risks: where the evidence is weak
Which risk factors?

1. Tobacco use
   Annual death toll from tobacco use is expected to reach 8 million by 2030, an increase from 2014 of 2 million deaths annually

2. Obesity
   There has been a tenfold increase in child and adolescent obesity over the past four decades, rising from 11 million in 1975 to 124 million in 2016

3. Alcohol use
   Harmful use of alcohol causes approximately 3.3 million deaths every year
Global investment case
# Global investment case results

## Health consequences of adolescent risk factor reduction over 2020-2070

<table>
<thead>
<tr>
<th>Global</th>
<th>50-year cumulative health benefits (thousands of premature deaths averted)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tobacco use</td>
</tr>
<tr>
<td></td>
<td>3,800</td>
</tr>
</tbody>
</table>

## Reducing worldwide adolescent NCD risk: range of benefit-cost ratios from interventions

<table>
<thead>
<tr>
<th>Tobacco</th>
<th>Increase in tobacco tax</th>
<th>Ban tobacco advertising</th>
<th>Combined intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 to 300</td>
<td>8 to 200</td>
<td>60 to 200</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>Increase in alcohol tax</th>
<th>Ban alcohol advertising</th>
<th>Combined intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 to 90</td>
<td>70 to 200</td>
<td>50 to 60</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Obesity</th>
<th>Addition of SSB tax</th>
<th>School-based obesity prevention</th>
<th>Combined intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0·6 to 1</td>
<td>0·1 to 0·3</td>
<td>0·1 to 0·3</td>
</tr>
</tbody>
</table>
Global investment case

Additional considerations

“We don’t know what influences the behavior of adolescents but it isn’t worry of premature death. How do we reach them?”

“How much should we trust evidence produced elsewhere about programs that we have not tried ourselves?”

“How can we justify spending money on prevention when the benefits are far off in the future and people are dying from lack of treatment now?”
What have we learned?
First things first

- Population interventions have bigger impact and are more affordable than individual interventions.

Context matters

- We must rely on the literature but consider local conditions and interests

Averages don’t tell the story

- Limited studies of effective interventions for particular populations, such as adolescents and children, and mostly from HICs

Data gaps are major

- Related to effect sizes, country settings, costs of interventions, and choices of interventions
The interplay between genes, environment, our health-care system, and the circumstances of our life such as socio-economic status “has the potential to transform our thinking about cancer prevention.”

Sanchia Aranda, *The Lancet* Aug 25, 2018
Thank You

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@RachelNugent
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 nowhere 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
Cigarette Prices and Cessation
US States, 2009

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

\[ y = 0.0283x + 43.083 \]

\[ R^2 = 0.371 \]
Cigarette Price & Youth Smoking Prevalence
Chile, 2000-2015

Source: Paraje, 2017
Price, Consumption & Lung Cancer, France

Lung cancer death rates per 100,000 (divided by four): men age 35-44

# cigarettes/adult/day

Relative price

Sources: Jha & Hill, 2012

www.tobacconomics.org
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.
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”
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

Source: 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 & 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

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

Source: Powell, et al., 2013
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

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


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

Source: Colchero, et al., Health Affairs, 2017
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

NYC Smoking Prevalence Declined as Price Increased

Source: Schroth, 2014
Tax Avoidance & Evasion Do NOT Eliminate Revenue Impact of Higher Taxes

Cook County Cigarette Tax and Tax Revenues - FY01-FY06

Chicago tax rises from 16 to 48 cents, 1/16/06
Chicago smoking ban, 1/1/06

Chicago tax up to 68 cents, 1/1/06

Fiscal Year

Tax per Pack

Tax Revenues

$0.15

$0.35

$0.55

$0.75

$0.95

$1.15

$1.35

$1.55

$1.75

$25,000,000

$45,000,000

$65,000,000

$85,000,000

$105,000,000

$125,000,000

$145,000,000

$165,000,000

$185,000,000

$205,000,000

$225,000,000
Illicit Cigarette Market Share & Cigarette Prices, 2012

Sources: Euromonitor, WHO
Smuggling and Corruption, 2011

Sources: Euromonitor, Transparency International

\[ y = -0.0131x + 0.2028 \]
\[ R^2 = 0.0815 \]

Source: HM Revenue & Customs, 2014

@tobacconomics
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

Source: Adapted from Jeremias Paul, 2017
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
Employment changes associated with the introduction of taxes on sugar-sweetened beverages and nonessential energy-dense food in Mexico

Carlos M. Guerrero-López, Mariana Molina, M. Arantxa Colchero

Center for Health Systems Research, Instituto Nacional de Salud Pública, Universidad No. 655 Colonia Santa Fe 62100, Cuernavaca, More., Mexico

ARTICLE INFO

Keywords: Employment, Taxes, Mexico, Evaluation, Policy, Obesity

ABSTRACT

We assessed changes in employment in Mexico using employment rates, with the first-ever internationally representative surveys. We also used a tax to model changes in number of employers in the beverage industry for nonessential energy-dense food in the post-tax period for employment in comparison with the pre-tax period. However, these changes are negligible and should not be a matter of concern. In conclusion, there were no employment reductions due to taxes on SSB and nonessential energy-dense food (SSNF).

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. From 1988–1994 to 1999–2004, average daily calorie intake of SSBs increased from 57 to 203 kilocalories among adults and from 204 to 234 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.5 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;104:872–877. doi:10.2105/AJPH.2013.301630)
Employment impacts of alcohol taxes

Roy Wadaa, Frank J. Chaloupka, Lisa M. Powell, David H. Jernigan

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, 804 S Wood St, Chicago, IL 60607, United States
d Department of Health, Behavior and Society, Bloomberg School of Public Health, The Johns Hopkins University, Baltimore, MD 21205, United States

ARTICLE INFO

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 are 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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The Political Economics of Prevention

The transferability of industrial vector marketing strategies from high resource countries to low resource countries

And then look at transferability of prevention strategies

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The world’s top 100 economies: 31 countries; 69 corporations

The campaigning NGO Global Justice Now (formerly World Development Movement) have done us all a favour by updating the table comparing the economic might of the largest countries and corporations. Headline finding? "The number of businesses in the top 100 economic entities jumped to 69 in 2015 from 63 in the previous year" according to the Guardian's summary.

The last such table that I know of was produced by the World Bank, and became one of FP2P's all time most read posts (it included cities as well as countries, which made it even more interesting).

People complained that the Bank table compared apples and pears – national GDP and corporate turnover. GJN have tried to do a better job by comparing government revenues (from the CIA World Factbook) and corporate turnover (Fortune Global 500 – ditto). That reduces the country figure – in the case of Argentina, revenues came to about 30% of GDP, generally a higher slice for developed, and lower for poorer countries, and so boosts the relative importance of transnationals. Is that a fairer comparison? Over to the number crunchers on that one.
<table>
<thead>
<tr>
<th>Country/Corporation</th>
<th>Revenue (US$, bns)</th>
<th>Country/Corporation</th>
<th>Revenue (US$, bns)</th>
<th>Country/Corporation</th>
<th>Revenue (US$, bns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>3,251</td>
<td>Austria</td>
<td>189</td>
<td>Ping An Insurance</td>
<td>110</td>
</tr>
<tr>
<td>China</td>
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<td>Nippon Telegraph &amp; Telephone</td>
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<td>Volkswagen</td>
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<td>Russia</td>
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<td>Japan Post Holdings</td>
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<td>Home Depot</td>
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<td>Venezuela</td>
<td>203</td>
<td>Costco</td>
<td>116</td>
<td>Citigroup</td>
<td>88</td>
</tr>
</tbody>
</table>
Top 10 highest-paid executives of Chinese listed companies

The 10 highest-paid CEOs in the U.S.
"We're no longer a neighborhood's beer or a country's beer. We're in fact a corporation representing the world."

Anheuser Busch Global Advisory Council


Mike Siegel
“By combining these two companies,” Durante said, “we’ll be creating a stronger, truly global tobacco and next-generation products company.”

https://www.bloomberg.com/news/features/2017-03-08/big-tobacco-has-caught-startup-fever
Annual growth rate (%) of volume consumption per person in low-income and middle-income countries, and high-income countries between 1997 and 2009

<table>
<thead>
<tr>
<th>Category</th>
<th>Low Income</th>
<th>High Income</th>
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<tbody>
<tr>
<td>Packaged food</td>
<td>1.9%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>5.2%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Processed food</td>
<td>2.0%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Oil and fats</td>
<td>1.6%</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Snacks and snack bars</td>
<td>2.4%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Alcohol</td>
<td>2.8%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Tobacco*</td>
<td>2.0%</td>
<td>0.1%</td>
</tr>
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</table>

* Tobacco data are in retail sales per person.
BAT ad from Malawi: "Your heart is contented" (but please, just don't mention heart disease)
<table>
<thead>
<tr>
<th>Risk factor / disease</th>
<th>Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco use</td>
<td>Tax increases, Smoke-free indoor workplaces and public places, Health information and warnings, Bans on tobacco advertising, promotion and sponsorship</td>
</tr>
<tr>
<td>Harmful alcohol use</td>
<td>Tax increases, Restricted access to retailed alcohol, Bans on alcohol advertising</td>
</tr>
<tr>
<td>Unhealthy diet and physical inactivity</td>
<td>Reduced salt intake in food, Replacement of trans fat with polyunsaturated fat, Public awareness through mass media on diet and physical activity</td>
</tr>
<tr>
<td>Cardiovascular disease (CVD) and diabetes</td>
<td>Counselling and multi-drug therapy for people with a high risk of developing heart attacks and strokes (including those with established CVD), Treatment of heart attacks with aspirin</td>
</tr>
<tr>
<td>Cancer</td>
<td>Hepatitis B immunization to prevent liver cancer (already scaled up), Screening and treatment of pre-cancerous lesions to prevent cervical cancer</td>
</tr>
</tbody>
</table>
National NCD ‘policies have not been adequately implemented due to inadequate political commitment, inadequate resources and technical capacity [and lack of data] as well as industry influence’.

Juma et al NCD prevention policy process in five African countries
BMC Public Health 2018
Advice on designing and implementing best buys in low resources settings

Be prepared with evidence – if not yours then from other countries

Carefully consider your own local context – political will, resources, data, technical capacity, industry presence

Be strategic
And incremental
Rome wasn’t built in a day

Prepare for industry interference

Develop thorough understanding of your legislative changes

Find friends, develop a broad base of support – locally and globally

Adapted from Bryony Sinclair
THE POLICY MAKING PROCESS AND TOBACCO INDUSTRY INTERFERENCE

Policy idea → Draft legislation → Public hearings → Plenary → Higher body Committee /Cabinet → Approval → Implementation

Manipulating science

Corporate social Responsibility Image building

Front Group

Scientific Research

Seek a seat

Pro Industry version

Delay & weaken

Avoiding economic Regulation Subverting the law

Deceiving the public Discrediting advocates

Front Groups

Making friends

Law suit

Source: WHO WPRO
What they will do (are doing)

Utilise existing and new forms of media

- Advergames
- Social networking sites (Facebook, Twitter, Instagram, Snapchat)
- Mobile marketing (text messages, website banner ads, QR codes, smartphone apps)
- Location based or geo-targeting
Thanks to Asher Hunter

Mental Availability + Physical Availability = Brand Growth

Probability of a consumer noticing, recognising, and thinking of your brand in a buying situation

Ability of a consumer to access your brand in time and space
MENTAL AVAILABILITY
BUILD AND REFRESH MEMORY STRUCTURES
PHYSICAL AVAILABILITY
BREADTH AND DEPTH OF DISTRIBUTION
So what we need to do............

Further advance the science of corporatology

Monitor upstream drivers of harmful consumption such as the
- production of tobacco, energy dense nutrient poor foods and beverages and alcohol,
- cost,
- availability,
- advertising,
- sponsorship,
- political donations,
- funding of research and the
- legislative and regulatory environment relevant to these commodities
Monitoring the behaviour of tobacco, alcohol and junk food and SSB industries must become a normal part of public health surveillance.
Tobacco Industry Interference Index


Tobacco Industry’s Interference in Indonesia highest in ASEAN

78 2014

82 2015
Figure 1: Tobacco Industry Interference in ASEAN Countries

Brunei: 29
Philippines: 38
Cambodia: 49
Malaysia: 49
Myanmar: 54
Thailand: 57
Lao PDR: 67
Vietnam: 76
Indonesia: 84
What we need to do

Please, please, please - don’t lump the private sector together as one homogenous group
Work with industries and businesses that want people to live long and healthy lives

- life insurance
- investment banking
- sustainable agriculture
- health insurance
- telecommunications
- active transport industries
- activity industries

Disinvest from those that don’t want people to live long and healthy lives - Tobacco free portfolios – Dr. Bronwyn King
Start Hugging – at least metaphorically

- Digital strategists and marketers who understand how we can adapt and utilise the rapidly changing and expanding online and virtual worlds

- Lobbyists who live and work in the corridors of power...

- Investigative researchers who revel in uncovering the shallow hypocrisy and constant deception of the SNCs

- Advocates – who enjoy the battle – you can smell it in the air – who are prepared to fight

- Public health lawyers

- International campaign groups