Fiscal Policy and Health

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Overview

• Health & Economic Impact of Non-Communicable Diseases
• Impact of Tobacco, Alcohol, and Sugary Drink Taxes on Use and Consequences of Use
• Tax Revenues, Structure & Earmarking
• Myths and Facts About Economic Impact of Taxes

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Health & Economic Impact of Non-Communicable Diseases
Top 10 Global Causes of Death, 2016

- Ischaemic heart disease
- Stroke
- Chronic obstructive pulmonary disease
- Lower respiratory infections
- Alzheimer disease and other dementias
- Trachea, bronchus, lung cancers
- Diabetes mellitus
- Road injury
- Diarrhoeal diseases
- Tuberculosis

Source: World Health Organization, 2018
Leading NCD Deaths
by Income Group, 2010 & 2016

Source: Task Force on Fiscal Policy for Health, 2019

Note: Includes deaths from cardiovascular and chronic respiratory diseases, cancers, and diabetes
## NCDs: Major Risk Factors

<table>
<thead>
<tr>
<th>Major NCD</th>
<th>Tobacco Use</th>
<th>Unhealthy Diet</th>
<th>Physical Inactivity</th>
<th>Harmful Use of Alcohol</th>
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<tbody>
<tr>
<td>Heart Disease &amp; Stroke</td>
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<td>✓</td>
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<tr>
<td>Chronic Lung Disease</td>
<td>✓</td>
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</tr>
</tbody>
</table>

Source: WHO, 2010; Mackay, 2012
Economic Consequences of NCDs

• Large economic burden from NCDs:
  • Large, growing health care costs from treating NCDs
  • Significant lost productivity
  • Cause of poverty
  • Account for much of inequalities in health
Significant Economic Costs

$26T \times 5 \rightarrow $140T

Global financial crisis
2008-2023

Cumulative cost of NCDs
2016-2030

Source: World Economic Forum & Harvard School of Public Health
Economic Costs of Unhealthy Behaviors

• Significant direct and indirect costs
  • Tobacco use: > $1.4 trillion in 2012
    • Equivalent to 1.8% of global GDP
  • Alcohol use: 2.1% - 2.5% of GDP
  • Obesity: ~$2 trillion in 2014
    • Equivalent to 2.5% of global GDP

Impact of Taxes & Prices on Unhealthy Behaviors
"Sugar, rum, and tobacco, are commodities which are nowhere necessaries of life, which have become objects of almost universal consumption, and which are therefore extremely proper subjects of taxation."
Taxes, Prices & Tobacco Use
Adult Smoking Prevalence and Price
Brazil, 2006-2016, inflation adjusted

% of total survey


index fixed base 2006 = 100

% adults (≥ 18 years) smokers.  Consumer Price Index (CPI) - tobacco

Source: Ribeiro and Pinto, 2019

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

4/1/09 Federal Tax Increase
1/1/08 WI Tax Increase
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
Affordability & Tobacco Use
Adult Smoking Prevalence, Indonesia, 2001-2014

Sources: Euromonitor, EIU, World Bank, and Authors’ Calculations
France: smoking, tax and male lung cancer, 1980-2010

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

Source: Jha, in progress
Figure 17.3   Tobacco Control Policies and Cost Per Healthy Life-Year Gained, by WHO Region

Note: HLYG = healthy life-year gained.
Source: Based on calculations from World Health Organization CHOICE model, 2016.
Taxes, Prices & Excessive Drinking
Alcohol Taxes, Prices & Drinking

Extensive econometric and other research shows that higher prices for alcoholic beverages significantly reduce drinking:

- 10 percent price increase would reduce:
  - Overall consumption by 5.1% to 7.7% in HICs
  - Overall consumption by 6.4% in LMICs
- Tax/price increases reduce all aspects of drinking
  - Prevalence, frequency, intensity
- Generally larger effects on youth and young adults

Source: Chaloupka, et al., forthcoming
Distilled Spirits Sales and Prices
Ukraine, 2002-2016, Inflation Adjusted

Sources: Euromonitor; World Bank; and author’s calculations
Beer Tax and Binge Drinking Prevalence
US States, 2010

Source: Xuan et al., 2013
Alcohol Prices & Consequences

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

Source: Xin & Chaloupka, 20129; Wagenaar et al., 2010
Taxes, Prices & Diet
Extensive economic research on the impact of food and beverage prices on consumption of various products; 10% price increase reduces:

- Soft drink consumption by 7.8%
- Sugary drinking consumption by 12%
- Sweets consumption by 3.5%
- Fast food consumption by 5.2%
- Fruit consumption by 4.9%
- Vegetable consumption by 4.8%

Source: Andreyeva, et al., 2010; 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

Selected Food Price & Adult Weight Trends
United States, 1961-2009, Inflation Adjusted

Prices and Weight Outcomes

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
Sugary Drink Taxes
Rationale for Sugary Drink 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
Sugary Drink Tax and Soft Drink Prices, Mexico, 2011-2014

Source: Colchero, et al., 2015
Impact of Sugary Drink Tax on Sales Mexico, 2007-2016


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

-11.7% (Lowest) - 2.1% (Untaxed)
-8.8% (Middle) - 2.1% (Untaxed)
-5.1% (Highest) - 1.2% (Untaxed)
-7.6% (Average) - 2.1% (Untaxed)

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
Taxes, Tax Revenues, and Earmarking Tax Revenues
Cigarette Tax and Tax Revenues
Ukraine: 2008-2015

Average excise rate for cigarettes – increased 10-fold
Cigarette Tax Revenue – increased 6-fold

Source: Syvak and Krasovsky, 2017
Figure 5: Excise tax structure: Specific and mixed relying more on the specific component tend to lead to higher prices

Source: WHO 2017 GTCR data; unpublished figure.
Notes: Averages are weighted by WHO estimates of number of current cigarette smokers ages 15+ in each country in 2015; 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 prices as of July 2016 for 53 high-income, 100 middle-income and 27 low-income countries with data on prices of most sold brand, excise and other taxes, and PPP conversion factors.
Beverage Tax Structure

- Volume-based specific taxes have same advantages for alcoholic beverage and sugary drink taxes
- Ingredient-based specific taxes more difficult to administer, but have greater health benefits
  - Ethanol-based alcohol taxes
  - Sugar-based beverage taxes
    - UK and Ireland two-tiered tax based on sugar content:
      - No tax on drinks with 5 or fewer grams/100 ml
      - 18p per liter for drinks with more than 5g/100 ml
      - 24p per liter for drinks with 8g/100ml or more
      - Projected revenue half of what was originally estimated
Earmarking Tax Revenues

• Using a portion of revenues to support other health promotion efforts
  – Increases the health impact of tax increases
  – Increases public support for tax increases
• Increasing interest in ‘soft’ earmarking of tobacco, alcohol, and/or sugary drink tax revenues
State Tobacco Control Program Funding and Youth Smoking Prevalence, United States, 1991-2009

Total Funding (FY10 dollars) vs. Percent Current Smoking

Source: ImpacTeen Project, UIC; YRBS

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Support for Earmarked Taxes

BROAD SUPPORT FOR CIGARETTE TAXES THAT IMPROVE HEALTH PROGRAMMES

Source: WHO 2015

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Cigarette Excise Tax per Pack
Philippines, 2012-2018
Cigarette Sales and Prices
Philippines, 2002-2016, Inflation Adjusted

Sources: Euromonitor, World Bank, and Authors' Calculations
Incremental Revenues for Health and the Poor, Philippines, 2001-2016

Source: Adapted from Jeremias Paul, 2017
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”
Oppositional Arguments
Sugary Drink Taxes Globally
November 15, 2018

Source: University of North Carolina, Global Food Research Program, 2018
Common Oppositional Arguments

- Industries and allies use several common arguments in opposition to tax increases:
  - Will lead to extensive tax avoidance and tax evasion
  - Will harm poor and working class consumers
  - Will lead to massive job losses
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 up to 68 cents, 1/1/06
Chicago smoking ban, 1/16/06
Chicago tax rises from 16 to 48 cents
Illicit Cigarette Market Share & Cigarette Prices, 2012

Sources: Euromonitor, WHO
Drivers of Illicit Tobacco

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

Sources: NRC/IOM 2015; NCI/WHO 2016
**Smuggling and Corruption, 2011**

Sources: Euromonitor, Transparency International

The graph shows a scatter plot with countries plotted on the x-axis as the Transparency Index and on the y-axis as illicit cigarette trade volume. A regression line is fitted to the data points, indicated by the equation:

\[ y = -0.0131x + 0.2028 \]

with an R² of 0.0815.
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

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Combating Illicit Tobacco Trade

- Illicit trade protocol to the WHO FCTC
  - Adopted November 2012; entered into force September 2018; 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

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Impact on the Poor
Tobacco & Poverty

Forgone Income 1: More money spent on tobacco; high opportunity cost. Less money spent on education, nutrition, etc.

Forgone Income 2: Due to treatment cost and loss of work days

Forgone Income 3: Due to premature death

Breadwinner gets sick due to tobacco use

Income increases

Youth and women start smoking and men smoke more

Higher prevalence and consumption level

Family falls into poverty

Vicious Cycle of Tobacco and Poverty

Source: NCI & WHO 2016

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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
    • Reduced health care spending, increased productivity, higher incomes
Who Pays & Who Benefits
Turkey, 25% Tax Increase

Source: Adapted from Önder & Yürekli, 2014
Who Pays & Who Benefits Chile, 25% Tax Increase

Figure 6: Total Income Effect: Direct and Indirect Effect of Taxes
(tobacco price increase, medical expenditure and working years gained)

Source: Author’s estimation using a price shock of 25%

Source: Fuchs, et al., 2017
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

• 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

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Impact on the Economy
Industries argue that production and consumption of their products makes a significant economic contribution:

- Employment in farming, manufacturing, distribution, retailing, and related sectors.
- Multiplier effects as income earned in these jobs is spent on other goods & services.
Excise Taxes and Jobs

Industry-sponsored studies tell only part of the 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
Figure 2. Employees and hours worked in commercial establishments. Mexico, EMEC, 2011-2015

Guerrero-Lopez CM, Molina M, Colchero MA (2017). Employment changes associated with the implementation of the sugar-sweetened beverage and the nonessential energy dense food taxes in Mexico.
Guerrero-Lopez CM, Molina M, Colchero MA (2017). Employment changes associated with the implementation of the sugar-sweetened beverage and the nonessential energy dense food taxes in Mexico.
Conclusions

• Higher tobacco and alcohol taxes, and new sugary drink taxes significantly reduce consumption and raise new revenue

• Reduced consumption leads to fewer cases of cancer, cardiovascular disease, diabetes, and other diseases, reducing health care and other economic costs of NCDs

• Counterarguments about negative economic impact false or greatly overstated

• Taxes generally considered one of the “best buys” in NCD prevention

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"We have strong evidence from around the world that raising taxes on products like tobacco, sugar sweetened beverages and alcohol is highly effective at reducing harmful consumption and saving lives. I’m grateful for the commitment of this impressive group of leaders, whose expertise and experience will help the Task Force bring attention to the enormous potential of fiscal policies for health."
LARRY SUMMERS

"Noncommunicable diseases are a growing global crisis, especially in low-and-middle income countries. There’s substantial evidence that taxes and fiscal policies are essential to confronting this health threat. This Task Force will explore which policies can make the biggest difference and help them spread, saving millions of lives."
MIKE BLOOMBERG
Impact of tax increases that raise prices by 50%:

<table>
<thead>
<tr>
<th>Cumulative Effects Over 50 Years:</th>
<th>Deaths Averted (millions)</th>
<th>Increase in Tax Revenues (trillions of 2016 dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>27.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Alcohol</td>
<td>21.9</td>
<td>16.7</td>
</tr>
<tr>
<td>SSBs</td>
<td>2.2</td>
<td>1.4</td>
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<tr>
<td>Total</td>
<td>51.3</td>
<td>21.1</td>
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</tbody>
</table>

Task Force on Fiscal Policy for Health, 2019
THANK YOU!

For more information:

Bridging the Gap  
http://www.bridgingthegapresearch.org

Tobacconomics  
http://www.tobacconomics.org

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Tobacco Taxation Can Reduce Tobacco Consumption and Help Achieve Sustainable Development Goals

Introduction

A substantial body of research shows that significantly increasing the taxes and prices of tobacco products is the single most effective way to reduce tobacco use and its devastating health consequences. A tax increase that raises prices by 10% can reduce tobacco consumption on average by 9% in low and middle income countries (LMICs). Tobacco also poses a threat to development, especially in the LMICs that have the highest rates of tobacco use. The global economic cost from tobacco due to medical expenses and lost productivity in 2012 alone totaled over $1.4 trillion dollars. Besides the growing recognition of the obvious harmful effects of tobacco on health and healthcare, there is a notable international movement recognizing the harmful effects of tobacco use on sustainable development. The United Nations (UN) 2030 Agenda for Sustainable Development has set 17 Sustainable Development Goals (SDGs) and 169 related targets. One of those targets focuses specifically on tobacco, and urges "strengthened implementation of the Framework Convention on Tobacco Control (FCTC)." The FCTC is an international treaty created under the auspices of the World Health Organization (WHO). It focuses on reducing the demand and supply of tobacco products. In order to finance the SDGs, the Addis Ababa Action Agenda of the Third International Conference on Financing for Development noted that "price and tax measures on tobacco can be an effective and important means to reduce tobacco consumption and healthcare costs and represent a revenue stream for financing for development in many countries".

Raising tobacco excise tax by 1 International Dollar (about US$ 0.80) in all countries would:

- Increase average cigarette prices by 42% globally
- Increase excise revenue by 47%, representing an extra US$ 141 billion
- Global increase in public health expenditures
- Reduce smoking prevalence by 4%, representing 66M fewer smokers

SOURCE: WHO