Fiscal Policy & Health

Frank J. Chaloupka, University of Illinois at Chicago
World Cancer Congress
4 October 2018, Kuala Lumpur, Malaysia
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
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

\[ y = 0.0283x + 43.083 \]
\[ R^2 = 0.371 \]

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

Relative price
# cigarettes/adult/day

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”
Taxes, Prices & Excessive Drinking
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
Distilled Spirits Sales and Prices
Ukraine, 2002-2016, Inflation Adjusted

Sources: 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 and Alcohol-Related Traffic Fatalities, US, All Ages, 1987-1993

Alcohol Prices and Alcohol-Related Traffic Fatalities, US, Ages 16-20, 1987-1993

Source: NHTSA, BLS, and author’s calculations
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


Diagram showing trends in food prices for Fruits & Veg, Fresh Fruits & Veg, and % Obese from 1961 to 2009.
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

@tobacconomics
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
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


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

Ng SW, Rivera J, Popkin B, Colchero MA. Did high purchasers respond differently to the excise tax on sugar-sweetened beverages in Mexico?
Oppositional Arguments
Tax Avoidance & Evasion
Tax Avoidance & Evasion Do NOT Eliminate Health Impact of Higher Taxes

NYC Smoking Prevalence Declined as Price Increased

Source: Schroth, 2014
Chicago tax up to 68 cents, 1/1/06
Chicago smoking ban, 1/16/06
Chicago tax rises from 16 to 48 cents

Tax Avoidance & Evasion Do NOT Eliminate Revenue Impact of Higher Taxes
Illicit Cigarette Market Share & Cigarette Prices, 2012

Sources: Euromonitor, WHO
Smuggling and Corruption, 2011

Sources: Euromonitor, Transparency International

y = -0.0131x + 0.2028
R² = 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

www.tobacconomics.org
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

Change in Consumption
Change in Taxes Paid

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
Impact on the Economy
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

www.tobacconomics.org
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 María 62100, Cuernavaca, Morelos, Mexico

ARTICLE INFO

Keywords:
Employment
Taxes
Mexico
Evaluation
Policy
Obesity

ABSTRACT

We assessed changes in employment in Mexico to model changes in number of employment establishments selling beverages and find no significant changes in employment. Our results show that there were no significant changes in employment. However, these changes are negligible and may not be significant in the long run. In conclusion, there were no employment reductions associated with the introduction of SSB and nonessential energy-dense food taxes in Mexico.

Employment Impact of Sugar-Sweetened Beverage Taxes

Lisa M. Powell, PhD, Roy Wada, PhD, Joseph J. Persky, PhD, and Frank J. Chaloupka, PhD

Sugarsweetened 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 1989-1994 to 1999-2004, average daily calorie intake of SSBs increased from 157 to 203 kilocalories among adults and from 204 to 224 kilocalories among children aged 2 to 19 years. 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, in 2008-2010, SSB consumption remained relatively stable.

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 6954 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 non-beverage 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 Wada, Frank J. Chaloupka, Lisa M. Powell, David H. Jernigan

Boston Public Health Commission, 1010 Massachusetts Avenue, 6th Floor, Boston, MA 02118, United States
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
Health Policy and Administration, School of Public Health, University of Illinois at Chicago, 801 S. Wood Street, Chicago, IL 60608, United States
Department of Health, Behavior and Society, Bloomberg School of Public Health, The Johns Hopkins University, Baltimore, MD 21205, United States

ABSTRACT

Keywords:
Alcohol taxes
Excise taxes
Sales taxes
Employment

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 (5 cents 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 false or greatly overstated

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

www.tobacconomics.org
THANK YOU!

For more information:

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

Tobacconomics
http://www.tobacconomics.org

@BTGResearch
@tobacconomics
fjc@uic.edu