## Taxation as Public Health Policy

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Impuestos al Tobacco en Centro América
Ciudad de Guatemala, 14 Mayo, 2012
"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.

Adam Smith, An Inquiry into the Nature and Causes of The Wealth of Nations, 1776

## Overview

- Overview of tobacco and alcohol taxation
- Impact of taxes/prices on tobacco and alcohol use, consequences of use
- Industry price marketing \& policy options
- Counterarguments - Myths \& Facts
- Implications for obesity prevention


## Overview of Tobacco and Alcohol Taxation

## Why Tax?

- Efficient revenue generation
- Primary motive historically and still true in many countries today
- Very efficient sources of revenue given:
- Historically low share of tax in price in many countries
- Relatively inelastic demand for tobacco products, alcoholic beverages
- Few producers and few close substitutes
- One of many goods/services that satisfies the "Ramsey Rule"
- "This vice brings in one hundred million francs in taxes every year. I will certainly forbid it at once - as soon as you can name a virtue that brings in as much revenue" - Napoleon III on tobacco tax


## Federal Cigarette Tax and Tax Revenues Inflation Adjusted, 1955-2010



## Federal Beer Tax and Tax Revenues

 Inflation Adjusted, 1940-2009

Source: Brewers Almanac, 2010, and author's calculations

## Why Tax?

- Promote public health
- Increasingly important motive for higher tobacco taxes in many high income countries
- Less so for alcoholic beverage taxes
- Based on substantial and growing evidence on the effects of tobacco taxes and prices on tobacco use
- Particularly among young, less educated, and low income populations
- "... We [] have a package of six policy measures, known as MPOWER, that can help countries implement the provisions in the Convention. All six measures have a proven ability to reduce tobacco use in any resource setting. But tobacco taxes are by far the most effective." Director General Dr. Margaret Chan, WHO, 2008


## France: smoking, tax and male lung cancer, 1980-2000



## Why Tax?

- Cover the external costs of tobacco and excessive alcohol use
- "Pigouvian" tax
- Less frequently used motive
- Account for costs resulting from tobacco, alcohol use imposed on non-users
- Increased health care costs, lost productivity, property damage, criminal justice costs, etc. caused by exposure to tobacco smoke among nonsmokers, harms incurred by non/moderate drinkers
- Can also include "internalities" that result from addiction, imperfect information, and time inconsistent preferences


## Types of Taxes

- Variety of tobacco, alcohol taxes
- Taxes on value of production
- Customs duties on tobacco leaf, tobacco products, alcoholic beverage imports and/or exports
- Sales taxes/Value added taxes
- Implicit taxes when government monopolizes production and/or distribution
- Excise taxes (or similar taxes)
- Many of these are applied to variety of agricultural and/or consumer goods and services
- Excise taxes are of most interest given specificity to tobacco products, alcoholic beverages


## Types of Taxes

## - Excise Taxes

- Two types of excises
- Specific Taxes: excises based on quantity or weight (e.g. tax per pack of 20 cigarettes, wine gallons)
- Ad Valorem taxes: excises based on value of products (e.g. a specific percentage of manufacturer's prices for tobacco products, alcoholic beverages)
- Federal, state, and local cigarette taxes and federal alcoholic beverage taxes all specific taxes
- State taxes on other tobacco products, alcoholic beverages are mix of specific and ad valorem


## Federal Cigarette Taxes, United States,


\$1.00
$\$ 0.80$
$\$ 0.60$
\$0.40
\$0.20
$\$ 0.00$


Federal Tax
Source: Burden on Tobacco, 2011, and author's calculations

## Federal Alcoholic Beverage Taxes per Drink Inflation Adjusted, 1953-2009



## State Cigarette Excise Tax Rates - 2000



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2001



## State Cigarette Excise Tax Rates - 2002



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2003



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2004



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2005



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## State Cigarette Excise Tax Rates - 2007



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2008



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2009



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2010



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## State Cigarette Excise Tax Rates - 2011



CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.

## Decade of Last Change in Beer Excise Tax



Number of State Cigarette and Beer Excise Tax Increases, 2000-2009


## Average State and Federal Cigarette and Beer Taxes



Source: Tax Burden on Tobacco (2010), Brewers Almanac (2010) and author's calculations

## Alcoholic Beverage \& Tobacco Product Prices Relative to CPI, 1953-2010



## Impact of Tax and Price on Tobacco Use

## Prices and Tobacco Use

- Increases in tobacco product prices:
- Induce current users to try to quit
- Many will be successful in long term
- Keep former users from restarting
- Prevent potential users from starting
- Particularly effective in preventing transition from experimentation to regular use
- Reduce consumption among those who continue to use
- Lead to other changes in tobacco use behavior, including substitution to cheaper products or brands, changes in buying behavior, and compensation


## Cigarette Prices and Cigarette Sales, United States, 1970-2009



Source: Tax Burden on Tobacco, 2009, and author's calculations

## Cigarette Prices and Adult Smoking Prevalence, United States, 1970-2008



## Monthly Quit Line Calls, United States



## Cigarette Prices and Youth Smoking Prevalence US States \& DC, 2009



## Taxes, Prices and Health: US, 1980-2005

## Medscape



Impact of Tax and Price on Alcohol Use

## Alcohol Prices and Drinking

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

- 10 percent price increase would reduce:
- Beer consumption by 1.7 to 4.6 percent
- Wine consumption by 3.0 to 6.9 percent
- Spirits consumption by 2.9 to 8.0 percent
- Overall consumption by 4.4 percent
- Heavy drinking by 2.8 percent
- Generally larger effects on youth and young adults


## Beer Taxes and Binge Drinking

Graph 7. Current beer excise taxes and the percentage of 18-20 year olds that binge drink.


Source: CSPI Factbook on State Beer Taxes

## Alcohol Prices and 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
- 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 suicides
- Other consequences of drinking, including work-place accidents, teenage pregnancy, and incidence of sexually transmitted diseases


## Popular Support for Tobacco \& Alcohol Taxes

## Popular with Voters

- Tobacco Excise Tax Increases:
- Generally supported by voters
- Supported by those likely to vote for either party
- 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
- Comprehensive state tobacco control programs
- Expanded public health insurance programs (e.g. SCHIP; Arkansas)
- Greater support than for other revenue sources


## Earmarking for Youth Smoking Prevention Increases Support For Tobacco Tax Hikes

Would you favor or oppose an increase in the state tobacco tax?

... as part of an effort to help reduce smoking, particularly among kids

...if part of the money is used to fund programs to reduce tobacco use, particularly
among kids


## Similar Support for Alcoholic Beverage Taxes

## A Majority Also Supports Increasing the Tax on Alcohol, and 4 in 10 Voters Strongly Favor the Increase

## Initial

Strongly Support Somewhat Support
Strongly Oppose $\square$ Somewhat Oppose


Some leaders in New York State are considering increasing the tax to 10 cents per drink on alcoholic beverages, including beer, wine and liquor, and using a portion of the money to prevent youth alcohol use and provide for the treatment of alcohol abuse. Based on what you know, would you support or oppose this new tax?

## Industry Price Marketing

## Cigarette Company Marketing

 Expenditures, by Type, 1975-2008

## Cigarette Company Marketing Expenditures, \% of Total by Type, 2008



## Tobacco Industry Efforts to Offset Tax Increase

On February 4th, 2009, the Federal Government enacted legislation to fund the expansion of the State Children's Health Insurance Program (SCHIP) that increases excise taxes on cigarettes by $158 \%$.

As a result, you will see the price of all cigarettes, including ours, increase in retail stores.

We know times are tough, so we'd like to help. We invite you to register at Marlboro.com to become eligible for cigarette coupons and special offers using this code: MAR1558

Thank You,
Philip Morris USA

## Restricting Marketing?

- Family Smoking Prevention and Tobacco Control Act, 2009
- Eliminates federal pre-emption of stronger state, local restrictions on tobacco company marketing
- Allows limits on time, place or manner of tobacco company marketing
- Comprehensive state and/or local marketing bans possible?


## Minimum Pricing Policies

- 25 states with minimum pricing policies
- Typically mix of minimum markups to wholesale and retail prices
- Median wholesale markup 4\%
- Median retail markup 8\%
- 7 states prohibit use of price promotions in minimum price calculation
- Little impact on actual retail prices
- Greater impact where promotions excluded


# Common Oppositional Arguments 

## Myths \& Facts

## Impact on Revenues

By J Scott Moody, 4/2/08, from an AP story:
AUGUSTA - "A coalition of health groups today urged lawmakers to increase the cigarette tax by a $\$ 1$ per pack, saying the increase will encourage more people to quit smoking and generate more money for health programs.

Translation: Fewer people smoking equals more cigarette tax revenue? Someone needs a math lesson."

## Cigarette Tax and Tax Revenues Georgia, 1965-2009



## Positive Effect of Tax I ncrease on Revenue Results from:

Low share of tax in price:

- state taxes account for about 25\% of price
- total taxes account for less than half of price - Implies large tax increase has much smaller impact on price

Less than proportionate decline in consumption:

- 10\% price increase reduces consumption by 4\%


## Positive Effect of Tax I ncrease on Revenues

Example - with significant tax avoidance

- Price $\$ 4.00$, State tax $\$ 1.00$, Sales 500 million packs
- Revenues: = \$500 million
- Double tax to $\$ 2.00$; price rises to $\$ 5.00$
- 100\% tax increase; 25\% price increase
- 25\% price increase reduces sales by 20\% (reduced consumption plus tax avoidance)
- new sales 400 million packs
- $80 \%$ of original sales at double the tax increases revenues by 60\%
- new revenues $=\$ 800$ million


## Revenue Impact

- Increases in alcoholic beverage taxes:
- Increase government tax revenues
- Even smaller share of tax in price
- Less than proportionate reductions in consumption in response to price increase
- Broader tax base implies greater potential revenues
- Revenue increases sustained over time
- Changes in revenues gradual and predictable


## New York Beer Tax and Tax Revenues, 1990-2008, Not Inflation Adjusted



Source: Brewers' Almanac, 2009, and author's calculations

## Impact on Jobs

JULY, 14, 2010 - The Associated Press

- RICHMOND, Va. - The tobacco industry is running a full-court press ahead of a federal scientific panel's meeting to discuss how to regulate menthol cigarettes, a still-growing part of the shrinking cigarette market.
- The union representing nearly 4,000 tobacco workers sent a letter to the Food and Drug Administration committee examining the public health effects of the minty smokes, warning that a ban could lead to "severe jobs loss" and black market cigarettes.


## Impact on Jobs

- Tobacco excise tax 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 tax revenues will be spent by government
- Additional job gains in other sectors
- Net increase in jobs in most states


## Tax Avoidance \& Evasion

April 1, 2008 - New York Sun

- A pack of premium cigarettes in New York City now costs $\$ 7$ or $\$ 8$; prices would rise to above $\$ 9$. Opponents of the tax increase argue that higher prices would drive smokers to seek ways to evade the law and purchase cheaper cigarettes from smugglers or in neighboring states, blunting potential revenue gains for the state. "It's a black market gold mine," a senior fellow at the Manhattan Institute, E.J. McMahon, said of the proposed tax.


## Tax Avoidance

## US Smokers, Last Purchase, November 2002-J une

 2011

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

 Cigarette Prices and Adult Prevalence, New York, 1995-2007

Source: Tax Burden on Tobacco, 2008 and BRFSS

## Tax Avoidance \& Evasion Do NOT Eliminate Revenue Impact of Higher Taxes

Cook County Cigarette Tax and Tax Revenues - FY01-FY06


## Combating Tax Evasion

- High-tech tax stamps
- Licensing of all involved in distribution and sale
- Strong enforcement
- Swift, severe penalties
- Focus on large scale, criminal activity
- Coordinated efforts
- NAAG efforts targeting Internet
- Agreements with tribes



## 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


## Who Pays\& Who Benefits

 Impact of Federal Tax Increase, U.S., 2009

Source: Chaloupka et al., in progress; assumes higher income smokers smoke more expensive brands

## Impact on the Poor

- Need to consider overall fiscal system
- Key issue with tobacco taxes is what's done with the revenues generated by the tax
- 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


## Taxation and Obesity?

## Selected Food Price \& Adult Weight Trends



## Selected Food Price \& Youth Weight Trends




## Selected Food Price \& Youth Weight Trends



## Food Prices and Consumption

Extensive economic research on the impact of food and beverage prices on consumption of various products; estimates suggest 10\% ownprice increase would reduce:

- Cereal consumption by $5.2 \%$
- Fruit consumption by 7.0\%
- Vegetable consumption by 5.9\%
- Soft drink consumption by 7.8\%
- Sweets consumption by 3.5\%
- Food away from home consumption by 8.1\%


## Food Prices and Weight Outcomes

Relatively limited research to date on impact of food and beverage prices and weight outcomes:

- Higher prices for sugary foods would significantly reduce prevalence of overweight and obesity among adults (Miljkovic et al., 2008)
- $10 \%$ increase in fast food prices would reduce prevalence of adolescent obesity by almost 6\% (Powell, et al., 2007)
- Weight outcomes among low-income populations and those with higher BMI more responsive to prices
- BMI of kids in families below poverty level about 50\% more responsive to F\&V prices
- BMI for kids at unhealthy weight levels 39\% more responsive to

F\&V prices

- BMI of adolescents at unhealthy weight levels about 4 times more responsive to F\&V and fast food prices.


## Policy Options

Emerging evidence on prices suggests that significant changes in relative prices of healthy and unhealthy foods could reduce BMI and likelihood of obesity

- Increases in prices of less healthy foods and beverages
- taxes
- elimination of corn subsidies
- disallow purchases under food assistance programs
- Reductions in prices of more healthy foods and beverages
- subsidies
- expanded or favored treatment under food assistance programs


## Sugar Sweetened Beverage Taxes

## Public Health 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 California Counties, 2005



Carbonated Beverage Prices \& Youth Obesity 1995-2009, Inflation Adjusted


## State Regular, Sugar-Sweetened Soda Sales Tax Rates (as of July 1, 2011 )



Data Source: Bridging the Gap Program, University of Illinois at Chicago, 2011

## Existing evidence

- Growing literature demonstrating the higher prices for SSBs lead to reductions in SSB consumption
- Andreyeva, et al.'s (2010) comprehensive review concluded that price elasticity of soft drink consumption was -0.78
- Price elasticity: \% change in consumption resulting from 1\% price change
- $10 \%$ increase in soft drink prices would reduce consumption by nearly 8\%
- Limited, mixed evidence on impact of taxes/prices on weight outcomes


## Bridging the Gap Research

- Empirically examine associations between statelevel soda taxes and consumption and weight outcomes, using nationally representative data sets including:
- A.C. Nielsen Homescan Data
- Early Childhood Longitudinal StudyKindergarten Cohort (ECLS-K)
- Monitoring the Future (MTF)
- National Longitudinal Survey of Youth 1997 (NLSY97)


## Policy Implications of Empirical Results

- Generally very small associations between soda taxes and consumption or weight outcomes based on the existing low tax rates which range up to just $7 \%$ in the study samples.
- Larger associations for populations at greater risk for obesity.
- Substantial increases in soda tax rates may have some measureable effects on outcomes and even greater effects at the population level.


## Alternative SSB Tax Structures

- From a public health perspective, specific excise tax preferable to sales tax or ad valorem excise tax for several reasons:
- More apparent to consumer
- Easier administratively
- Reduces incentives for switching to cheaper brands, larger quantities
- Revenues more stable, not subject to industry price manipulation
- Greater impact on consumption; more likely impact on weight outcomes
- Disadvantage: need to be adjusted for inflation


## SSB Taxation \& Revenues

- Revenue generating potential of tax is considerable
- SSB Tax calculator at:
- http://www.yaleruddcenter.org/sodatax.aspx
- Tax of one cent per ounce could generate:
- $\$ 14.9$ billion nationally if on SSBs only
- $\$ 24.0$ billion if diet included
- Tax of two cents per ounce:
- $\$ 21.0$ billion nationally, SSBs only
- $\$ 39.0$ billion if diet included
- Earmarking tax revenues for obesity prevention efforts would add to impact of tax


## Voters Prefer Taxes on Alcohol and Sugar-Sweetened Beverages over Cuts in Government Services by Margins of More than 3 to 1

- As you may know, New York state faces a $\$ 14$ billion budget shortfall. Let me read you some statements about possible new taxes to generate revenue and proposed cut-backs to deal with this crisis. Please tell me which statement comes closer to your view.



## Voters Prefer Taxes on Alcohol and Sugar-Sweetened Beverages over Increased Property or Sales Taxes



As you may know, New York state faces a $\$ 14$ billion budget shortfall. Let me read you some statements about possible new taxes to generate revenue and proposed cut-backs to deal with this crisis. Please tell me which statement comes closer to your view.

## Counterarguments

- Same as have been raised against tobacco and alcohol taxes
- Employment impact
- Ongoing research assessing impact of reduced SSB consumption on employment
- Impact on the poor
- Tax avoidance/evasion


## For more information: <br> http:// www,bridgingthegapresearch.org/ research/ sodasnack taxes/



## bridging the gap

Research Informing Policies and
Practices for Healthy Youth


District Wellness Policies Elementary School Survey Soda/Snack Taxes

## Soda/Snack Taxes

This page highlights our research around state-level taxes on snack foods, soda, and other sweetened beverages.
To see products from other BTG research activities, click on the "Research" tab above.

Sugar-Sweetened Beverage Taxes and Public Health: Research Brief

This 2009 research brief provides an overview of the current research on the health impacts of sugar-sweetened beverage (SSB) consumption, how food and beverage prices affect consumption and related weight outcomes, and the potential impact of both large and small SSB taxes.

Research Brief (PDF)
State Sales Taxes on Soda and Snack Foods This file contains annual data on sales tax rates for each of the 50 states and the District of Columbia for sodas and selected snack products sold

## DEFINITIONS

These files contain definitions of food and food products for use in conjunction with the snack tax data. These definitions were compiled beginning with the 2008 tax data file year and reflect codified state law as of January 1 of each year. Additional variables include state abbreviation, enacted and effective date (where applicable or if able to be determined), and the statutory/administrative law citations. The data were compiled by The MayaTech Corporation for the Bridging the Gap Program at the University of Illinois at Chicago.
L. 2008 DEFINTTIONS >
\& 2009 definitions ?

## Summary

## Summary

- Tobacco tax increases have significantly reduced tobacco use in the US
- Similar evidence for effectiveness of higher alcoholic beverage taxes to reduce alcohol use and its consequences
- Few governments have done so
- Potential for using excise taxes on sugarsweetened beverages to curb SSB consumption and reduce obesity


## Summary

- Taxes generate significant revenues and revenues increase when tax increases
- Added reductions in use/consequences when revenues earmarked for prevention/control efforts
- Generally more public support than for other taxes or budget cuts
- Particularly when revenues earmarked for prevention and control
- Adverse economic impact false or overstated


## For more information:

## www.bridgingthegapresearch.org

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