Taxation as Public Health Policy

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American Heart Association/American Stroke Association
Advocacy Coordinating Committee
Dallas TX, June 26, 2012
"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.

Overview

- Brief overview of tobacco taxation
- Impact of taxes/prices on tobacco use, consequences of use
- Implications for obesity prevention
  - Sugar-Sweetened Beverage Taxation
Overview of Tobacco Taxation
Why Tax?

- **Efficient revenue generation**
  - Primary motive historically and still true for many governments today

- **Promote public health**
  - Increasingly important motive for higher tobacco taxes in many states

- **Cover the external costs of tobacco use**
Types of Tobacco Excise Taxes

- **Specific Taxes**: excises based on quantity or weight (e.g. tax per pack of 20 cigarettes)
  - Federal, state, and local cigarette excise taxes, and most federal other tobacco product excise taxes are specific taxes

- **Ad Valorem taxes**: excises based on value of products (e.g. a specific percentage of manufacturer’s prices for tobacco products)
  - Many state excise taxes on other tobacco products are either *ad valorem* taxes or a mix of specific and *ad valorem* taxes
Federal Cigarette Taxes, United States, 1954-2010
(August 2011 dollars)

Source: Burden on Tobacco, 2011, and author’s calculations
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 – 2003

CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.
State Cigarette Excise Tax Rates – 2006

CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.
CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.
State Cigarette Excise Tax Rates – 2012

CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.
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 Sales & Cigarette Prices, United States, Inflation Adjusted, 1970-2011

Source: *Tax Burden on Tobacco*, 2012, and author's calculations
Source: NHIS, *Tax Burden on Tobacco*, 2012, and author’s calculations
Note: green data points for prevalence are interpolated assuming linear trend
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 & DC, 2009

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

\[ y = 0.0283x + 43.083 \]

\[ R^2 = 0.371 \]
Cigarette Price and Youth Smoking Prevalence, United States, 1991-2011

Source: MTF, *Tax Burden on Tobacco*, 2012, and author’s calculations
Taxes, Prices and Health: US, 1980-2005

Source: Nat Rev Cancer © 2009 Nature Publishing Group
Federal Cigarette Tax and Tax Revenues
Inflation Adjusted, 1955-2010

Source: Tax Burden on Tobacco, 2011, and author’s calculations
Cigarette Tax and Tax Revenues 
Inflation Adjusted, Iowa, 1965-2010 

Source: Tax Burden on Tobacco, 2011, and author’s calculations
State Tobacco Control Program Funding and Youth Smoking Prevalence

- **Total State Program Funding**
- **High School Prevalence**

Source: ImpacTeen Project, UIC; YRBS
Earmarking for Youth Smoking Prevention Increases Support For Tobacco Tax Hikes

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

Favor: 52% (41% strong)
Oppose: 27% (27% strong)
No Opin: 14%

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

Favor: 69% (55% strong)
Oppose: 24% (18% strong)
No Opin: 7%

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

Favor: 70% (58% strong)
Oppose: 22% (18% strong)
No Opin: 8%

RWJF, National survey of registered Voters - June 2002
The Mellman Group/Market Strategies; from McGoldrick 2010
Taxation and Obesity Prevention?
Selected Food Price & Adult Weight Trends
1961-2009, Inflation Adjusted

Selected Food Price & Youth Weight Trends
1971-2009, Inflation Adjusted

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

Selected Food Price & Youth Weight Trends
1971-2009, Inflation Adjusted

Extensive economic research on the impact of food and beverage prices on consumption of various products; estimates suggest 10% own-price 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%

Source: Andreyeva, et al., 2010
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.

Source: Powell and Chaloupka, 2009; Chaloupka et al., 2009
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

Source: Powell and Chaloupka, 2009; Chaloupka et al., 2009
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

\[ y = 16.44\ln(x) + 6.1142 \]

\[ R^2 = 0.6656 \]

Source: Babey, et al., 2009 and authors' calculations.
Carbonated Beverage Prices & Youth Obesity
1995-2009, Inflation Adjusted

Source: BLS; YRBS
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 state-level soda taxes and consumption and weight outcomes, using nationally representative data sets including:
  - A.C. Nielsen Homescan Data
  - Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K)
  - Monitoring the Future (MTF)
  - National Longitudinal Survey of Youth 1997 (NLSY97)
Key Findings & Policy Implications

• 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
  - Lower income, less educated, minority, younger, and/or those at higher weight

• Substantial increases in SSB tax rates likely to have measureable effects on key outcomes and greater effects at the population level
Alternative SSB Tax Structures

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

- Revenue generating potential of tax is considerable
  
  - SSB Tax calculator at:
  
  - 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.

- Tax Sugar-Sweetened Beverages: 68%
- Cut Govt Services & Programs: 21%

- Increase Alcohol Tax: 75%
- Cut Govt Services & Programs: 17%

I would prefer to tax sugar-sweetened beverages. / I would prefer to cut government services and programs.

I would prefer to increase the alcohol tax. / I would prefer to cut government services and programs.

Citizens’ Committee for Children of New York, Inc.
Voters Prefer Taxes on Alcohol and Sugar-Sweetened Beverages over Increased Property or Sales Taxes

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Summary
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- Tobacco tax increases have significantly reduced tobacco use in the US
  - Promote adult cessation, prevent youth initiation, and reduce consumption

- Potential for using excise taxes on sugar-sweetened 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
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 Increase 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 Increase 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

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
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-June 2011

Source, ITC project, US survey, Waves 1-8
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

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

Tax per Pack

2001 2002 2003 2004 2005 2006

Fiscal Year

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
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
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
Industry Price Marketing
Cigarette Company Marketing Expenditures, by Type, 1975-2008

Source: author’s calculations from data reported in FTC (2011)
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

Sources: CDC, 2010; Feighery, et al., 2005
Popular Support for Tobacco 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. S-CHIP; Arkansas)
  - Greater support than for other revenue sources
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http://www.bridgingthegapresearch.org/research/sodasnack_taxes/