Optimizing the Impact of Tax and Price Policies for Tobacco Control

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Preventing and Reducing Illicit Tobacco Trade in the United States
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- Centers for Disease Control and Prevention, Office on Smoking and Health
- Robert Wood Johnson Foundation
- American Cancer Society, Cancer Action Network
- Truth Initiative

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Impact of Tax and Price on Tobacco Use
Source: Tax Burden on Tobacco, 2015, and author’s calculations
Source: NHIS, *Tax Burden on Tobacco*, 2015, and author's calculations
Cigarette Prices and Cessation
US States & DC, 2009

\[ y = 0.0283x + 43.083 \]
\[ R^2 = 0.37104 \]

Source: BRFSS, *Tax Burden on Tobacco*, 2010, and author's calculations
Cigarette Price and Youth Smoking Prevalence
Seniors, United States, 1991-2014

Price per Pack (2014 Dollars)

- Cigarette Price
- 12th grade prevalence

Year:
- 1991
- 1992
- 1993
- 1994
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014

Source: MTF, *Tax Burden on Tobacco*, 2015, and author's calculations

<table>
<thead>
<tr>
<th>Year</th>
<th>Price per Pack (2014 Dollars)</th>
</tr>
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<tr>
<td>1991</td>
<td>$2.75</td>
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<td>1993</td>
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</tr>
<tr>
<td>1995</td>
<td>$5.75</td>
</tr>
<tr>
<td>1996</td>
<td>$6.50</td>
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Notes:
- *Source:* MTF, *Tax Burden on Tobacco*, 2015, and author's calculations
Increasing Elasticity with Increasing Price

![Graph showing price elasticity vs. real cigarette prices.](image-url)
Prices and Tobacco Use

– Similar evidence for variety of other tobacco products and for electronic nicotine delivery systems
  • Generally see evidence of substitution between similar products (e.g. cigarettes, little cigars, roll-your-own
  • Some evidence of complementarity between combustibles and non-combustibles
Prices and Tobacco Use

– But tax/price increases lead to other changes in tobacco use behaviors:
  • “Downtrading” to cheaper brands
  • Substitution to cheaper products
  • Tax avoidance and evasion
  • Increase in use of price reducing promotions
  • Purchase of larger quantities
Optimizing Tobacco Taxation - Curbing Tax Avoidance & Tax Evasion
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.
State Cigarette Excise Tax Rates – 2012

CDC, Office on Smoking and Health. State Tobacco Activities Tracking and Evaluation (STATE) System.
State Cigarette Excise Tax Rates
September 1, 2016

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State Tobacco Taxes

• Differences across jurisdictions create opportunities for tax avoidance and evasion
  – NRC (2015) – estimated range from 8.5% to 21%
  – Low-end based on comparisons of self-reported consumption and tax-paid sales
    – Underestimate - captures ‘net’ effects of ‘importing’ and ‘exporting’
  – High-end based on pack collection estimates
    – Overestimate – reflects tourism, commuting
Trends in Net Tax Avoidance & Evasion in the United States

Source: National Research Council, 2015
Estimated State Cigarette ‘Importing’ and ‘Exporting’, 2010-11

Note: “Importing states” are those where some consumers avoid or evade taxes by obtaining their tobacco products from states or federal tribal lands where taxes are lower. “Exporting states” are those where some tobacco products intended for consumption within that state are purchased by consumers from outside of the state to avoid or evade their “home” taxes.

Source: Created from data in National Research Council and Institute of Medicine, 2015.

Source: CDC, 2015
Tax Avoidance & Evasion Do NOT Eliminate Health Impact of Higher Taxes

NYC Smoking Prevalence Declined as Price Increased

Source: Schroth, 2014
Cook County Cigarette Tax and Tax Revenues - FY01-FY06

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

Tax Avoidance & Evasion Do NOT Eliminate Revenue Impact of Higher Taxes
Optimizing the Impact of Tobacco Taxes

• Harmonize tobacco taxes across states
  – reduce incentives for cross-border shopping and bootlegging
  – Done with other policies (minimum legal ages for tobacco & alcohol; *per se* illegal BAC level)
  – Could reduce Medicaid match for states that do not adopt the minimum match

• Setting tax floor most appropriate approach to maximize public health, revenue impacts
Optimizing Tobacco Taxation
- Implementing Pack Markings, Licensing & Enforcement
Types of State Cigarette and OTP Tobacco Stamps, 2014

- High tech stamp including one or more OTP (N=1)
- High tech stamp cigarettes only (N=2)
- Low tech stamp including one or more OTP (N=5)
- No stamp (N=3)
- Low tech stamp cigarettes only (N=39)
- High tech stamp authorized but not implemented (N=1)
California’s Encrypted Cigarette Tax Stamps

2005-2010

2011-present

<table>
<thead>
<tr>
<th>Stamp Front View (ink appears green)</th>
<th>Stamp Angled View (ink appears blue)</th>
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</thead>
<tbody>
<tr>
<td><img src="image1" alt="Stamp Front View" /></td>
<td><img src="image2" alt="Stamp Angled View" /></td>
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</tbody>
</table>
Cigarette Tax Stamps Sold
Projected and actual, California, 2000 - 2013

Cigarette Stamps Sold (in thousands)

Source: Chaloupka, et al., 2015
Optimizing the Impact of Tobacco Taxes

• Adopt the “Three-Legged Stool” approach
  – License of all involved in tobacco product manufacture, import, distribution, and retail sales
  – Apply high-tech tax stamps
  – Increase enforcement resources and levy strong penalties on violators
Optimizing Tobacco Taxation - Addressing Tribal Sales
Tax Avoidance

US Smokers, Last Purchase, November 2002-June 2011

Source, ITC project, US survey, Waves 1-8
Percent of Smokers Buying on Reservations – 2010/11

- <5%
- 5-10%
- 10-20%
- >20%
Tribal Tobacco Sales Laws, 2014

- Use both compacts and other sales laws (N=11)
- Use compacts only (N=3)
- Use sales laws only (N=6)
- Use no tribal-specific tobacco sales laws (N=14)
- No tribal reservations within state borders (N=17)
Limits on Amount of Tax-Exempt Tobacco Tribes May Receive

- **No Limit (13)**
- **Limit – Coupon/Voucher System (2)**
- **Limit – No Coupon System (3)**
- **No Exemption (3)**
Optimizing the Impact of Tobacco Taxes

• Case studies of state efforts to address tribal sales suggest:
  – Compacts critical to ensuring success of efforts to reduce reservation-based tax avoidance and evasion
  – Most effective systems appear to be those that apply state tax to all tribal sales
  – Rebate/quota schemes somewhat effective
    • Often based on formulas that are likely to overstate tribal consumption
    • Can be combined with efforts to limit purchase quantities
Optimizing Tobacco Taxation

- Prioritizing Efforts to Curb Tax Evasion
Coordinating & Prioritizing

• In US, control of illicit trade is fragmented, under-resourced, and low priority
  – Multiple federal agencies, including: Bureau of Alcohol, Tobacco, Firearms, and Explosives; Immigration and Customs Enforcement; Customs and Border Protection; Alcohol and Tobacco Tax Bureau; and Food and Drug Administration
  – Variety of state and local agencies also involved, including: state and local police; tobacco control agencies; departments of revenue; alcohol control boards; and others
Illicit Tobacco Enforcement: A Low Federal Priority

ATF tobacco investigations initiated and closed, 1998-2014

Number of investigations initiated

Number of investigations closed

Source: National Research Council, 2015
Coordinating & Prioritizing

• United Kingdom implemented comprehensive approach:
  – Made it a priority with adoption of the “Tackling Tobacco Smuggling” strategy in 2000
  – Coordination among key agencies, led by Her Majesty’s Revenue and Customs
  – Focus on large scale smuggling
  – Enhanced penalties
  – Increased resources for enforcement
  – Required pack warnings
  – Public education campaigns
  – Adapted over time as illicit market changed

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Source: HM Revenue & Customs, 2014
Optimizing Tobacco Taxation - Tracking & Tracing
Tracking & Tracing Systems

• Implementation of tracking & tracing in Turkey accompanied by:
  – Increased compliance checks and other enhanced enforcement efforts
  – Stronger penalties on violators
  – Improved coordination among revenue authorities, Ministries of Justice, Foreign Affairs, Economy, and Internal Affairs
    – 31.5% increase in revenue in first year, with no increase in taxes
• Early success followed by significant tax increases
Optimizing the Impact of Tobacco Taxes

• Implement a national tracking and tracing system
  – FDA has authority to implement national tracking & tracing system
    • But no authority on taxation
  – Pending legislation requiring Treasury Department to implement a national tracking & tracing system
    – Encrypted state tax stamps have limited tracking and tracing features
Optimizing Tobacco Taxation - Public Education
Public Education Campaigns

• Several countries have implemented public education campaigns targeting illicit tobacco
  – Generally run by governments, but in some run by retailer associations or advocacy groups
  – Typically one component of a comprehensive strategy to reduce illicit trade
  – Multiple themes:
    • Attack culture of tolerance for illicit tobacco and perception that tobacco smuggling is a victimless crime
    • Encourage citizens to report illicit tobacco sales
    • Highlight harms of tobacco use
      – Some concerns with campaigns that suggest that illicit products are more dangerous than licit products
Public Education Campaigns

• Extensive evidence of success of mass media campaigns in reducing tobacco use in the US
  – National campaigns (truth, TIPS, Real Cost.....)
  – Campaigns run by comprehensive state tobacco control programs in many states (CA, MA, AZ.....)

• Few efforts to address illicit tobacco
  – Mostly limited to promoting citizen activism (Chicago’s “Check the Stamps” program; Cook County’s “Cigarette Tax Reward Program”
    • Appear to be relatively cost effective
    • Chicago campaign also highlights negative impact on legitimate businesses, contribution to youth tobacco use, and lost tax revenues
Optimizing Tobacco Taxation
- Limiting Tobacco Industry’s Price- Reducing Promotions
Cigarette Company Marketing Expenditures, by Category, 1975-2012

Source: author’s calculations from data reported in FTC (2015)
Cigarette Company Marketing Expenditures
% of Total by Type, 2012

Source: author’s calculations from data reported in FTC (2015)
Smokeless Tobacco Company Marketing Expenditures
% of Total by Type, 2012

Source: author’s calculations from data reported in FTC (2015)
Optimizing Tobacco Taxes

• Prohibit price-reducing promotions
  – FSPTCA (FDA regulation) eliminated federal pre-emption of stronger state, local restrictions on tobacco company marketing
• Allows restrictions on the “time, place, or manner” of tobacco marketing
• Providence – first to ban redemption of coupons, multi-pack deals (January 2013)
  – New York City followed in August 2014
  – Have withstood industry legal challenges

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Optimizing Tobacco Taxation
- Minimum Pricing Policies
State Minimum Cigarette Pricing Policies, 2015

- Minimum Markup
- Minimum Pricing
- No minimum pricing laws
State MPLs - Factors That Decrease the Base Cost of Cigarettes

- Competitor Price-Matching Allowed: 26 states
- No Restrictions on Combination Sales: 22 states
- Below-Cost Coupons Allowed*: 22 states
- Trade Discounts Used to Reduce Base Cost: 21 states
- Consumers Can Receive Below-Cost Coupons: 20 states
- Below-Cost Combo Sales Allowed: 9 states
- No Restrictions on Competitor Price-Matching: 5 states
- Trade Discounts Include Manuf. Discount Programs: 3 states

Notes: Data are not mutually exclusive; 31 states with some MPL; * Includes states silent on coupons
Optimizing the Impact of Tobacco Taxes

• Implement minimum pricing policies:
  – with high minimum prices
  – that do not include loopholes for reducing prices below minimum
  – that cover all tobacco products

• Also helpful in detecting illicit products
  – Primary motivation for NYC minimum pricing law
Optimizing Tobacco Taxation

- Use of Tax Revenues
Tobacco Industry is Outspending Prevention Efforts 20.5:1 — FY2016

State Tobacco Revenue (taxes and settlement funds) $25.6 billion

Tobacco Industry Marketing & Promotion Expenditures (2012) $9.6 billion

Total CDC-Recommended Spending Level $3.3 billion

State Tobacco Program Budgets $0.5 billion

Campaign for Tobacco Free Kids, Federal Trade Commission, American Heart Association, American Cancer Society, American Lung Association, SmokeLess States National Tobacco Policy Initiative
Tobacco Program Funding, FY16, as Percentage of CDC Recommendation

States that are spending 50% or more of CDC recommendation on tobacco prevention programs.
States that are spending 25% - 49% of CDC recommendation on tobacco prevention programs.
States that are spending 10% - 24% of CDC recommendation on tobacco prevention programs.
States that are spending less than 10% of CDC recommendation on tobacco prevention programs.

Source: CTFK, et al. 2015
State Tobacco Control Program Funding and Youth Smoking Prevalence, United States, 1991-2009

Total State Program Funding and High School Prevalence of Smoking, United States, 1991-2009

Source: ImpacTeen Project, UIC; YRBS

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Optimizing the Impact of Tobacco Taxes

• Earmark tobacco tax revenues for comprehensive tobacco control programs
  – Adds to reductions in tobacco use
  – Enhances public support for tax increases

• Earmark tobacco tax revenues for other health promotion efforts
  – Can address concerns about impact of tax increases on low-income tobacco users

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Optimizing Tobacco Taxation
- Differential Taxation
Differential Taxation

- WHO Technical Manual on Tobacco Tax Administration:
  - “Adopt comparable taxes and tax increases on all tobacco products”
- WHO FCTC Article 6 Guidelines:
  - “All tobacco products should be taxed in a comparable way as appropriate, in particular where the risk of substitution exists.”
Differential Taxation

- Federal tobacco taxes
  - Roll-your-own vs. pipe tobacco
- Federal taxes before 4/1/2009
  - Both taxed at $1.0969/lb
- After 4/1/2009
  - roll-your-own tobacco $24.78 per pound
  - pipe tobacco: $2.83 per pound
Taxable RYO and Pipe Tobacco
US, 2008-2009

Source: US Treasury Department, Alcohol and Tobacco Tax and Trade Bureau
Non-Combustible Tobacco Products
States Taxing Other Tobacco Products, 2005 & 2014

Source: Tobacconomics 2015
Youth E-Cigarette and Tobacco Use High School Students, 2011-2014

* Defined as preceding 30-day use of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.
† Defined as preceding 30-day use of two or more of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.

Source: CDC, 2015
Youth E-Cigarette and Tobacco Use
Middle School Students, 2011-2014

* Defined as preceding 30-day use of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.
† Defined as preceding 30-day use of two or more of cigarettes, cigars, smokeless tobacco, e-cigarettes, hookahs, tobacco pipes, snus, dissolvable tobacco, and/or bidis.

Source: CDC, 2015

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Public Health Impact?

• Concerns:
  – Gateway to combustible tobacco products for youth?
  – Dual use, not cessation, among adult smokers?
  – Impact of ‘second-hand vaping’?
  – Nicotine poisoning
  – Use for vaping other substances (particularly THC)
  – Lack of evidence on long term health consequences of use
  – Impact of nicotine on the developing brain
  – Renormalization of smoking
E-cig companies say vaping will set you free. But nicotine addiction is the opposite of freedom. Wake up.

IT'S THE NEXT GENERATION CIGARETTE.*
*FOR THE NEXT GENERATION OF ADDICTS.

Source: California Department of Public Health, 2015
“An expert review of the latest evidence concludes that e-cigarettes are around 95% safer than smoked tobacco and they can help smokers to quit.”
ENDS Taxation in the US

- Minnesota, North Carolina, Louisiana and DC currently tax ENDS
  - 95% of wholesale price in MN; 67% in DC; 40% in PA
  - 5 cents per ml in NC, LA; 7.5 cents/ml in WV; 20 cents/ml in KS
- Local ENDS taxes:
  - Petersburg AK (45% of wholesale price)
  - Mat Su Borough, AK (55% of wholesale price)
  - Chicago (80 cents per unit, plus 55 cents per ML)
- Many others have proposed or are considering
ENDS Taxation

- Low ENDS tax relative to cigarette, OTP taxes
  - Little impact in reducing use, uptake
  - Encourages dual use
  - Maximize incentives to switch from combustibles to ENDS
  - Minimal new revenue

- ENDS tax equivalent to cigarette tax
  - Significant impact on use, uptake
  - Little incentive to switch from combustibles to ENDS
  - Modest new revenue
Optimizing ENDS Taxation

- Significant tax on ENDS coupled with increased taxes on cigarettes and other combustible tobacco products
  - Maintain or increase relative price of combustibles
  - Maximize switching while discouraging initiation and dual use
  - Generates significant new revenues
For more information:

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