The Economics of Tobacco Taxation

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CDC Office on Smoking and Health Net Conference, March 16, 2011

Overview

- Overview of tobacco taxation
- Impact of taxes/prices on tobacco use
- Earmarking revenues for tobacco control
- Industry price marketing
 - Marketing restrictions
 - Minimum pricing policies
- Counterarguments Myths & Facts

Overview of Tobacco Taxation

Why Tax Tobacco?

"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

Why Tax Tobacco?

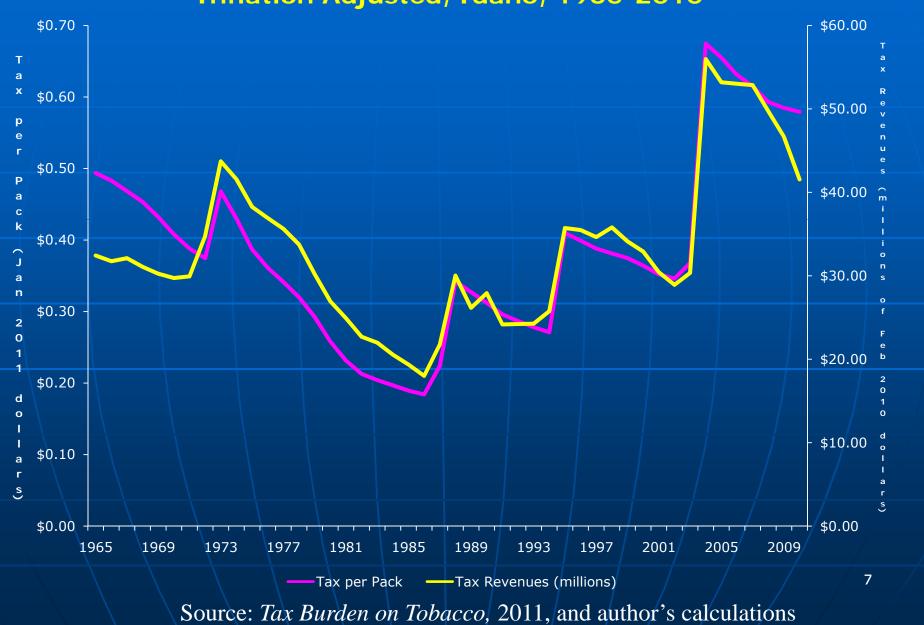
- Efficient revenue generation
 - Primary motive historically and still true in many countries today
 - Very efficient source of revenue given:
 - Historically low share of tax in price in many countries
 - Relatively inelastic demand for tobacco products
 - Few producers and few close substitutes
 - One of many goods/services that satisfies the "Ramsey Rule"

Federal Cigarette Tax and Tax Revenues Inflation Adjusted, 1955-2009



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





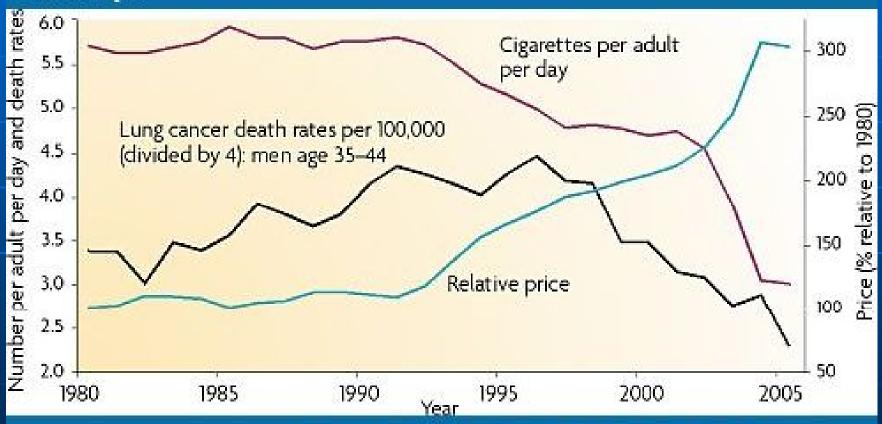
Why Tax Tobacco?

Promote public health

- Increasingly important motive for higher tobacco taxes in many high income countries
 - Emerging as important factor in some low and middle income countries
- 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

Taxes, Prices and Health: US, 1980-2005

Medscape



Source: Nat Rev Cancer @ 2009 Nature Publishing Group

Why Tax Tobacco?

- Cover the external costs of tobacco
 - "Pigouvian" tax
 - Less frequently used motive
 - Account for costs resulting from tobacco use imposed on non-users
 - Increased health care costs, lost productivity from diseases/death caused by exposure to tobacco smoke
 - Increased financial costs from publicly financed health care to treat diseases caused by tobacco use
 - Can also include "internalities" that result from addiction, imperfect information, and time inconsistent preferences 10

Types of Tobacco Taxes

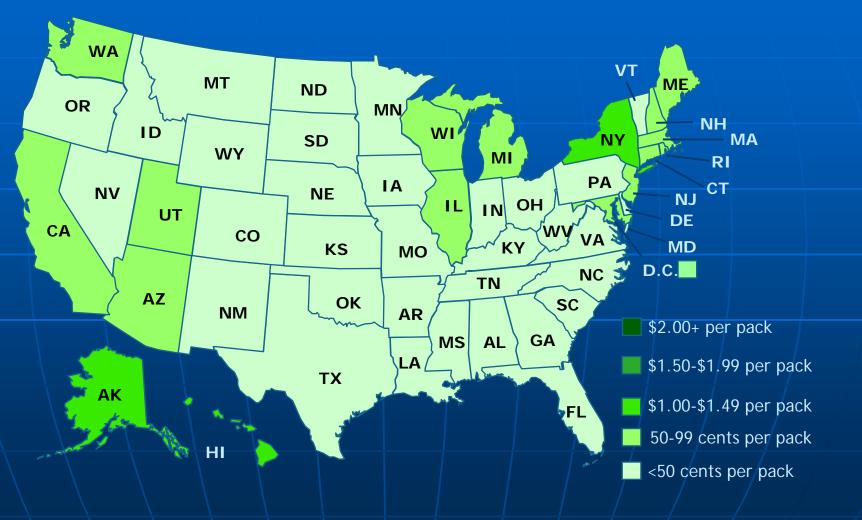
Tobacco Excise Taxes

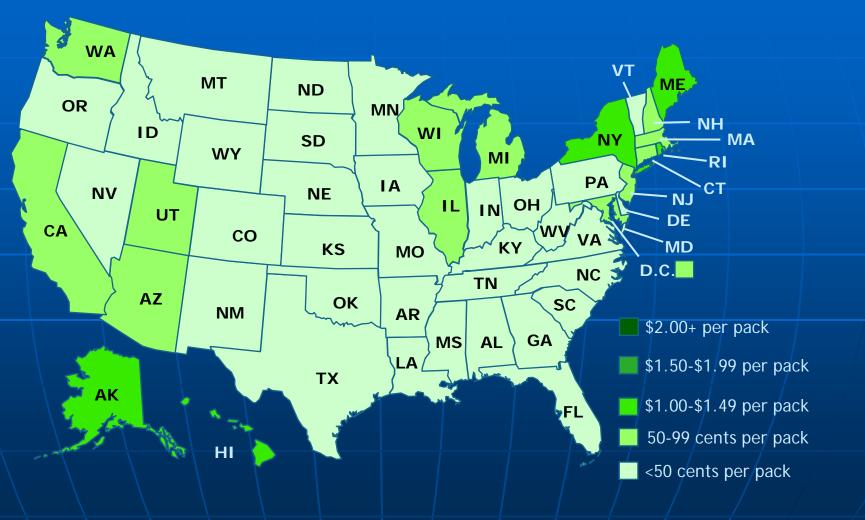
- Two types of excises
 - Specific Taxes: excises based on quantity or weight (e.g. tax per pack of 20 cigarettes)
 - Ad Valorem taxes: excises based on value of tobacco products (e.g. a specific percentage of manufacturer's prices for tobacco products)
 - Federal, state, and local cigarette taxes all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

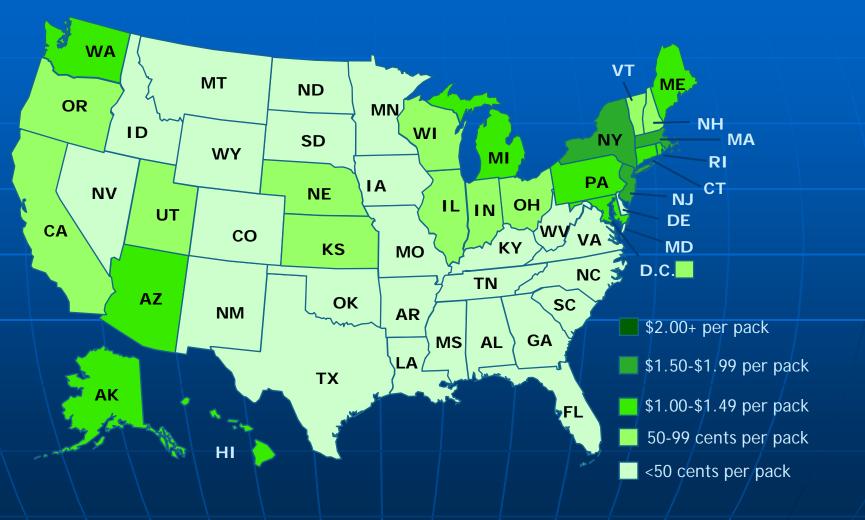
- Federal cigarette tax
 - Specific (per unit) excise tax
 - initially adopted in 1864
 - Raised during war time/lowered during peace time
 - Set at 8 cents per pack in 1951
 - Doubled to 16 cents per pack in 1983
 - Eventually raised to 39 cents per pack in 2002
 - Less than 60% of inflation adjusted value of 1951 tax
 - Significant increase 61.66 cents April 1, 2009
 - Earmarked for S-CHIP expansion

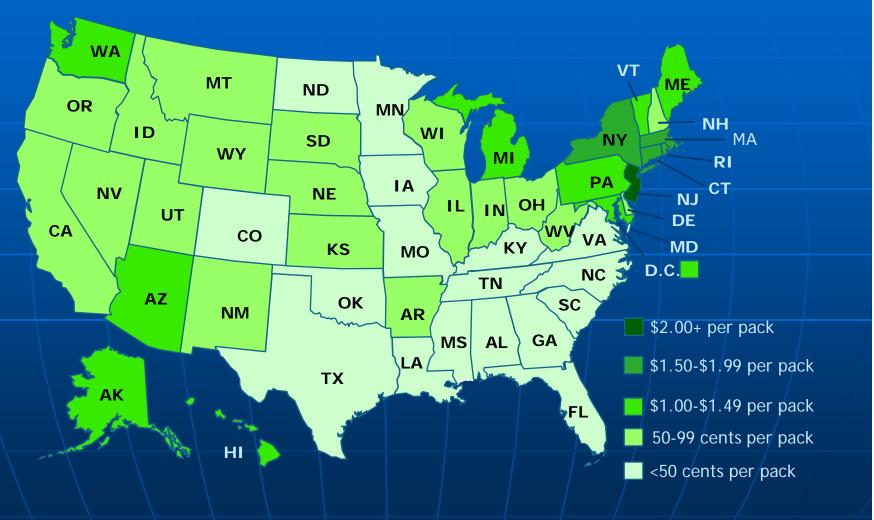
- Specific federal excise taxes on most other tobacco products, including
 - cigars: \$1.0066 per pack on small cigars;
 52.75% of price for low priced cigars; cap of 40.26 cents per cigar for high priced cigars
 - chewing tobacco: 3.1 cents per ounce
 - moist snuff: \$1.51 per pound
 - roll-your-own tobacco \$24.78 per pound
 - pipe tobacco: \$2.83 per pound
 - rolling papers: 1.26 cents per pack
 - Until latest increases, most were lower than cigarette tax; more equivalent now
 - Similarly infrequent increases in taxes

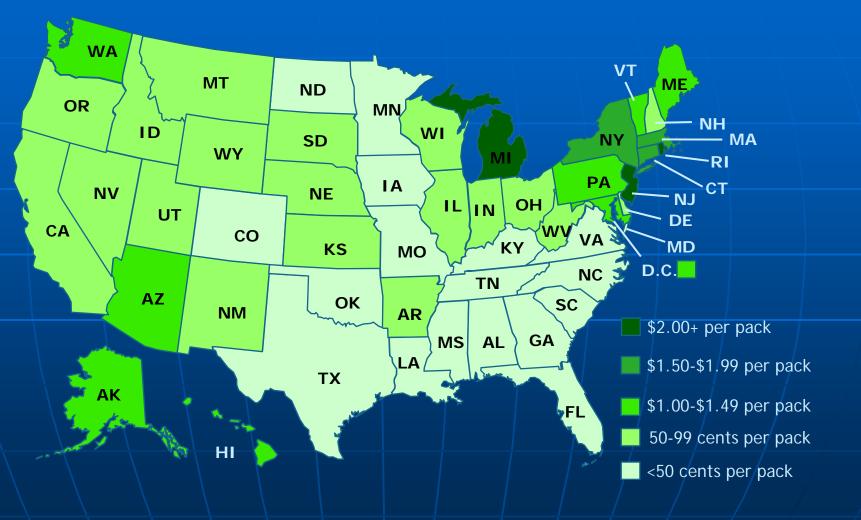
- State cigarette taxes
 - First adopted by IA in 1921; NC last to adopt in 1969
 - Specific excise tax in all states
 - Currently: 17.0 cents/pack (MO) to \$4.35/pack (NY)
 - Average \$1.45 per pack (48.5 cents in tobacco growing states; \$1.57 in other states)
 - Several proposing additional increases

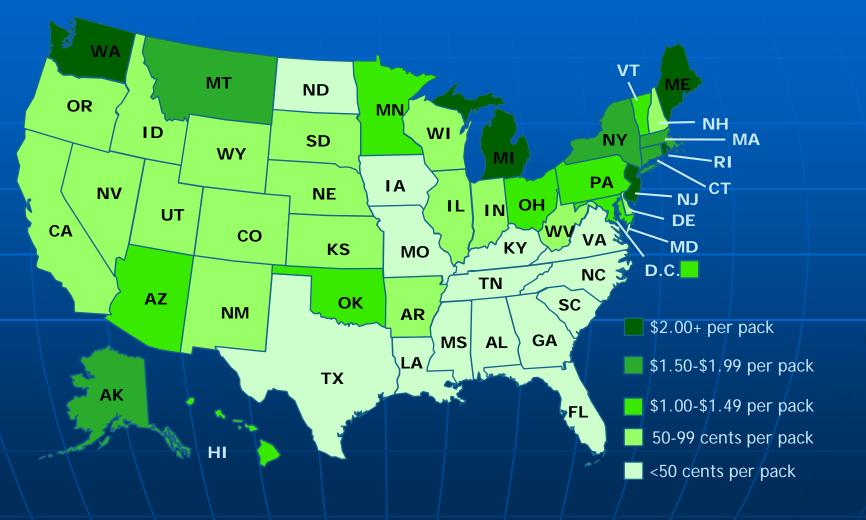


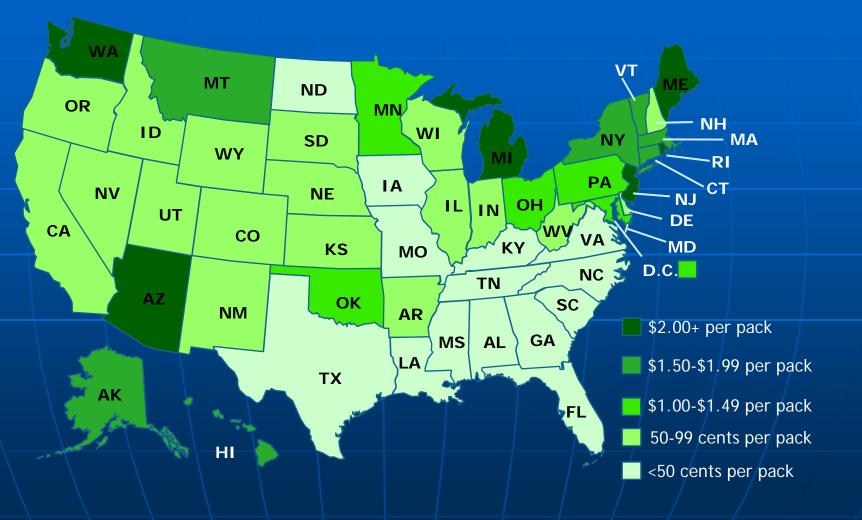


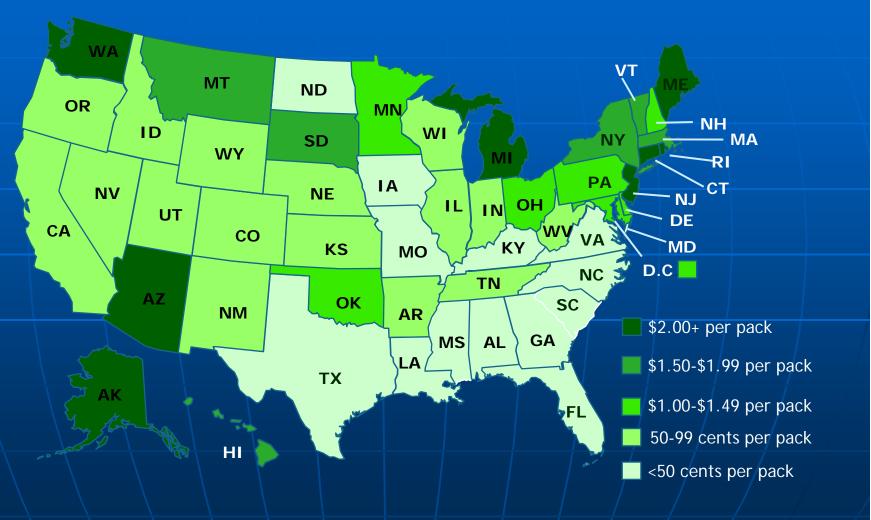


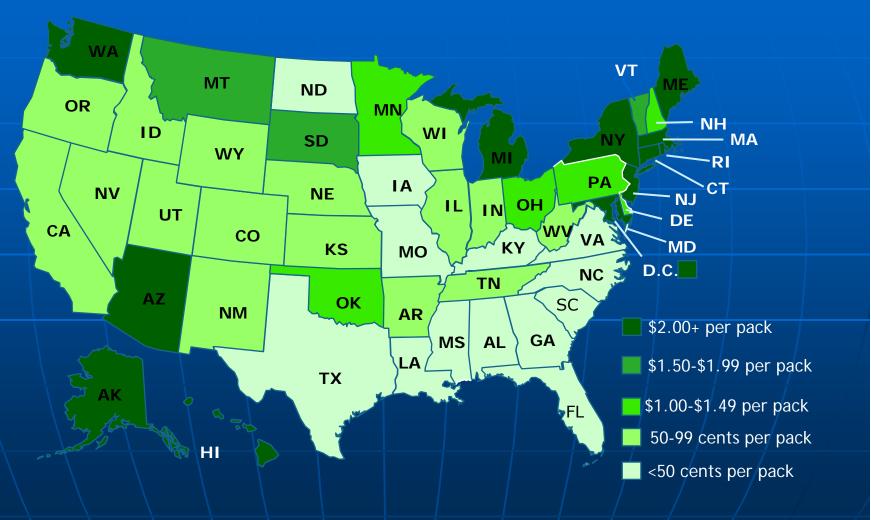


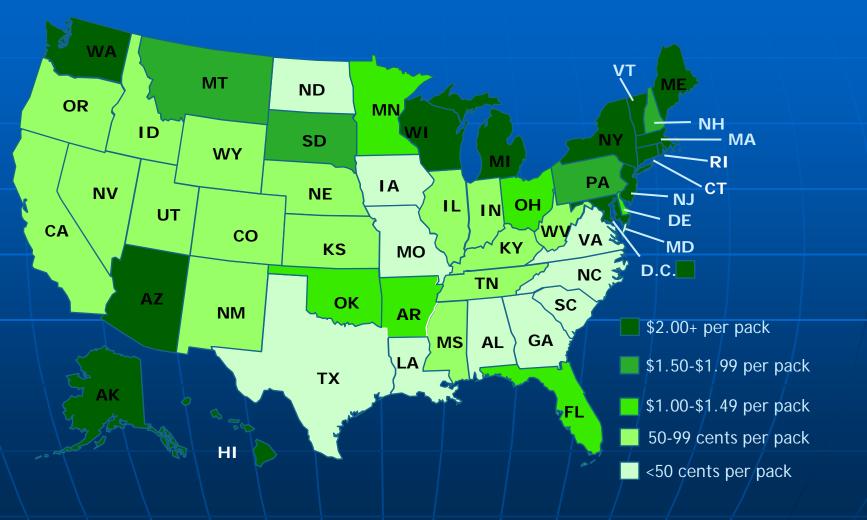


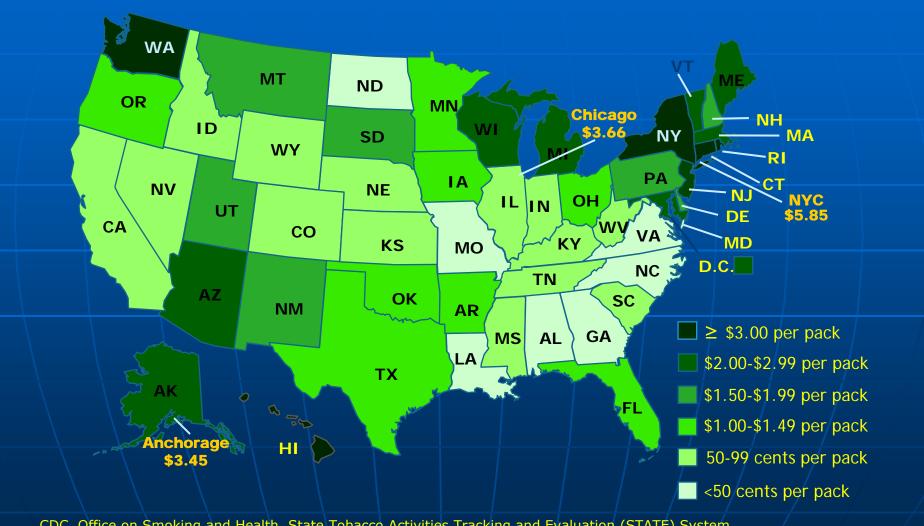






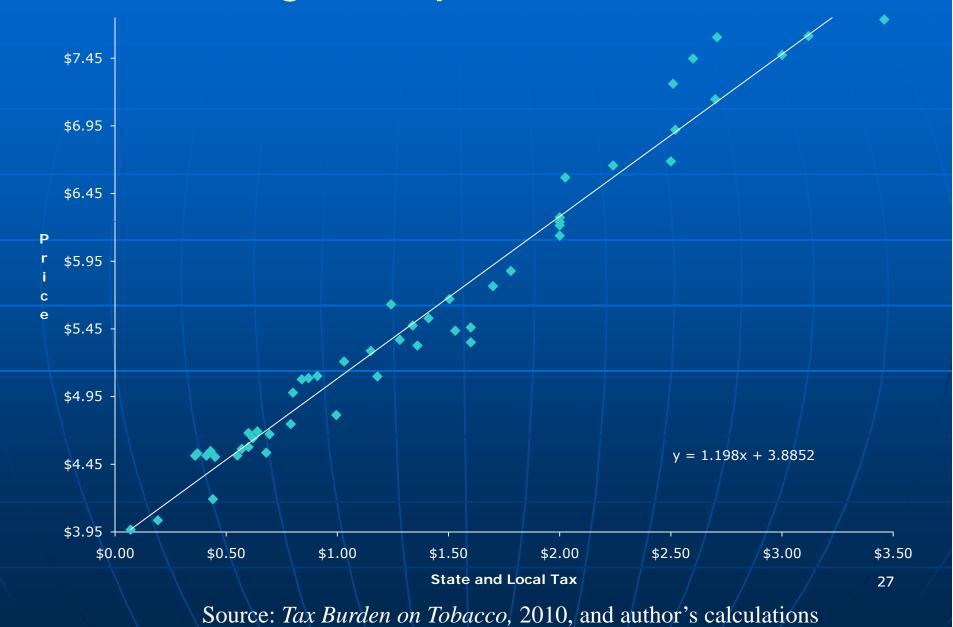


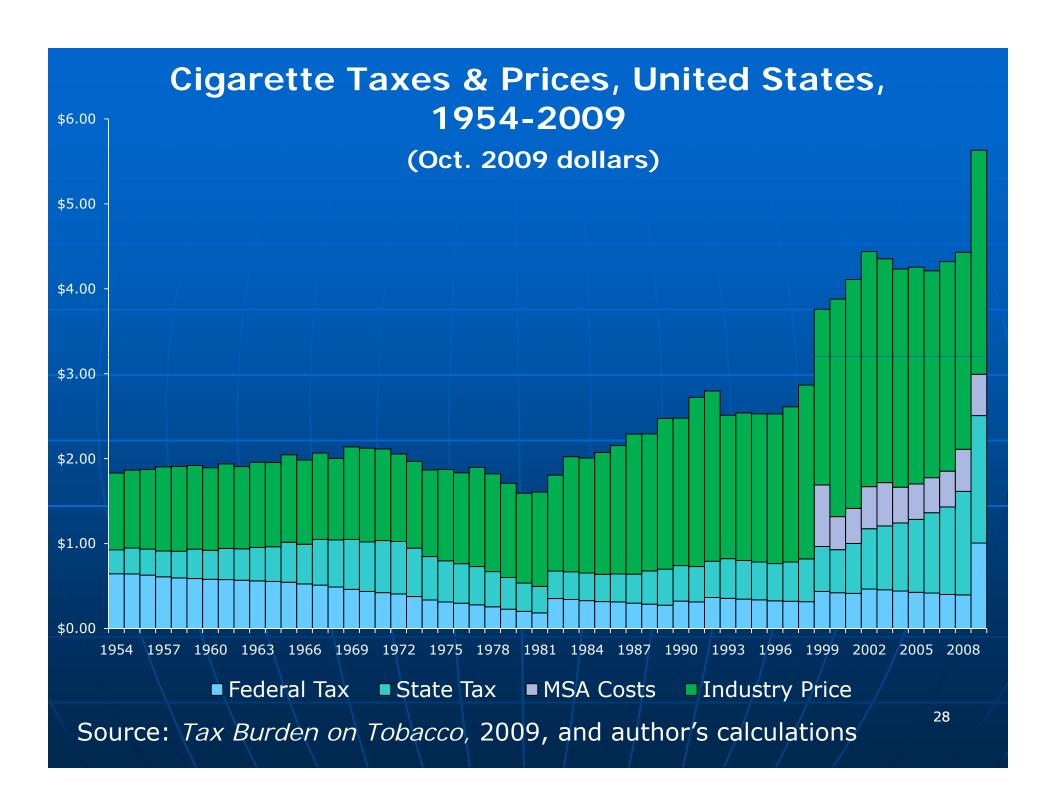




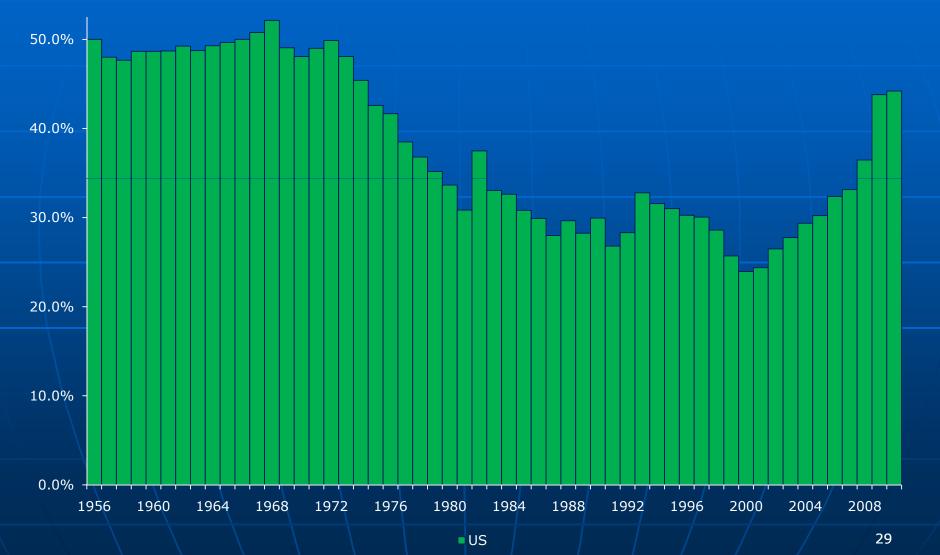
- -Local Taxes
 - Many localities add additional tax
 - -Typically a few cents/pack, with some exceptions:
 - » \$1.50 in New York City
 - »\$2.68 in Chicago/Cook county
 - » Many AK communities \$1.00 or more
 - » Many VA communities \$0.50 or more
- Sales tax applied to tobacco products in most states
 - Usually, but not always, applies to price inclusive of excise taxes







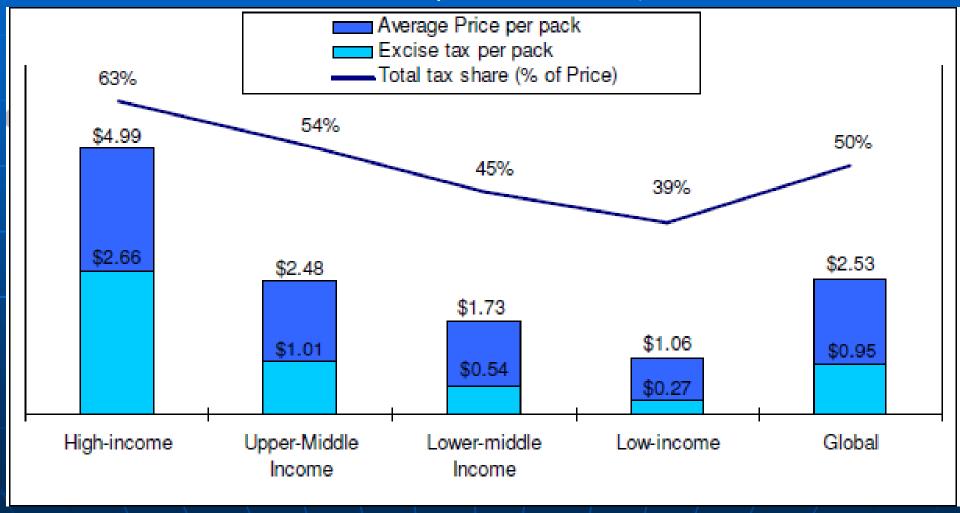




Source: Tax Burden on Tobacco, 2011, and author's calculations

Taxes and Tobacco Product Prices Globally

Tax levels and prices, vary widely across countries
 Price and Tax by Income Level, 2008



Source: World Health Organization, 2009

- State taxes on other tobacco products
 - All but PA tax other tobacco products
 - Mostly ad valorem taxes, but increasing movement towards specific taxes
 - Typically applied to wholesaler/distributor price
 - Highest taxes include:
 - Wisconsin 100%; Washington 95%
 - Lowest taxes include:
 - South Carolina 5%; Tennessee 6.6%
 - Average about 35%
 - Generally below equivalent rate on cigarettes

Other Issues on Tobacco Taxes

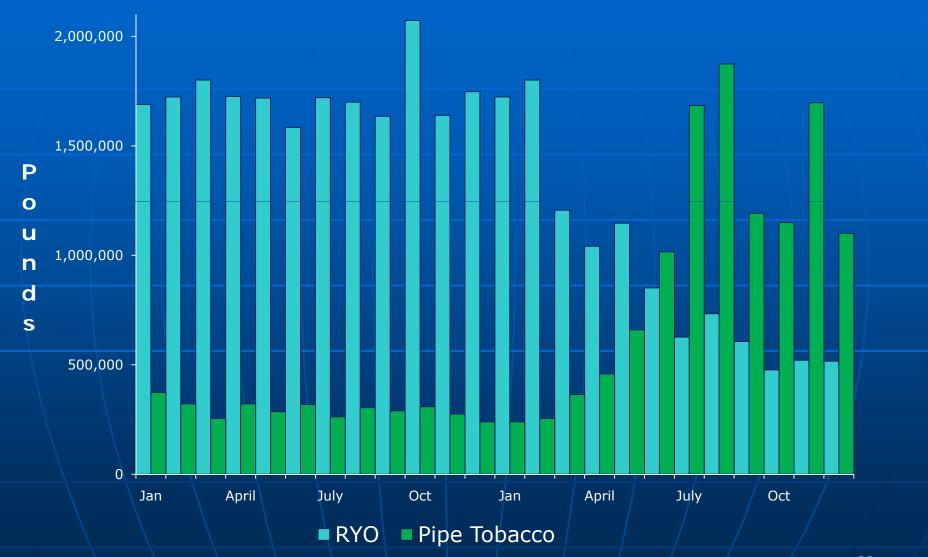
- Product definitions
 - Roll-your-own vs. pipe tobacco
 - Federal taxes before 4/1/2009
 - Both taxed at \$1.0969/lb
 - After 4/1/2009
 - roll-your-own tobacco \$24.78 per pound
 - pipe tobacco: \$2.83 per pound











Source: US Treasury Department, Alcohol and Tobacco Tax and Trade Bureau

Other Issues on Tobacco Taxes

- Product definitions
 - Little cigars
 - Include tobacco remnants in the paper so as to not meet the typical definition of a cigarette:
 - A roll of tobacco wrapped in any substance other than tobacco
 - Any substance containing tobacco that, because of its appearance, the type of tobacco used in the filler, or its packaging and labeling is likely to be offered to or purchased by consumer as a cigarette

CIGARETTES VS. "SMALL CIGARS"



Source: Eric Lindblom, Campaign for Tobacco-Free Kids

Other Issues on Tobacco Taxes

- Little cigars
 - Results in
 - Lower taxes in many states
 - Exempt from various product regulations related to flavorings, packaging, marketing
 - Can be avoided by redefining cigarettes to include:
 - "any roll of tobacco that weighs no more than four and a half pounds per thousand (unless wrapped in whole tobacco leaf and does not have a cellulose acetate or other cigarette-like filter
 - Redefine cigars as "any roll of tobacco that is not a cigarette"

- Product definitions
 - Non-combustible tobacco products



- Product definitions
 - Non-combustible tobacco products redefine smokeless tobacco products (or 'other tobacco products'), to include:
 - "any other product containing tobacco that is intended or expected to be consumed without being combusted"

- Product definitions
 - Smokeless tobacco product taxes
 - Particularly challenging when it comes to specific taxation
 - In recent years, UST pushing states to move from ad valorem to specific, weight based taxes
 - A few states and Federal smokeless taxes currently weight based

LOW-WEIGHT MOIST SNUFF



Camel Snus 1 tin (15 pouches) = 0.32 oz.



Stonewall Hard Snuff 1 box of 20 "Pieces" = 0.335 OZ.



Traditional Moist Snuff Smokeless 1 tin = 1.2 to 1.5 oz.





UST Skoal Pouches 1 tin (20 pouches) = 0.82 oz



Marlboro Snus 1 "foil pack" (6 pouches) = 0.1 oz.



Camel Orbs 1 box of 15 "Pieces" = 0.12 oz.

Weights of other Camel Dissolvables unavailable

Source: Eric Lindblom, Campaign for Tobacco-Free Kids

- Smokeless tax options:
 - Ad valorem
 - Relatively easy administratively
 - Creates large price gaps within a given product category
 - Taxes more consistent across different types of smokeless products
 - Tax increases with inflation

- Smokeless tax options:
 - Specific
 - Relatively easy administratively
 - Minimizes price gaps within a given product category
 - Taxes can differ significantly across different types of smokeless products
 - Need for product specific rates
 - Tax needs to be regularly increased to keep pace with inflation

- Smokeless tax options:
 - Mixed system ad valorem with specific minimum
 - Somewhat more difficult administratively
 - Reduce price gaps within a given product category
 - Limit differences in taxes and prices across different types of smokeless products
 - Specific component of tax needs to be regularly increased to keep pace with inflation

- "Inventory" or "Floor" tax
 - Collect increase in taxed on products in inventory taxed under old tax rate to avoid stockpiling in anticipation of tax increase



- When increasing tax, adjust "discount" or "rebate" provided to stampers
 - Avoids windfall for distributors who apply stamps; revenues go to state instead

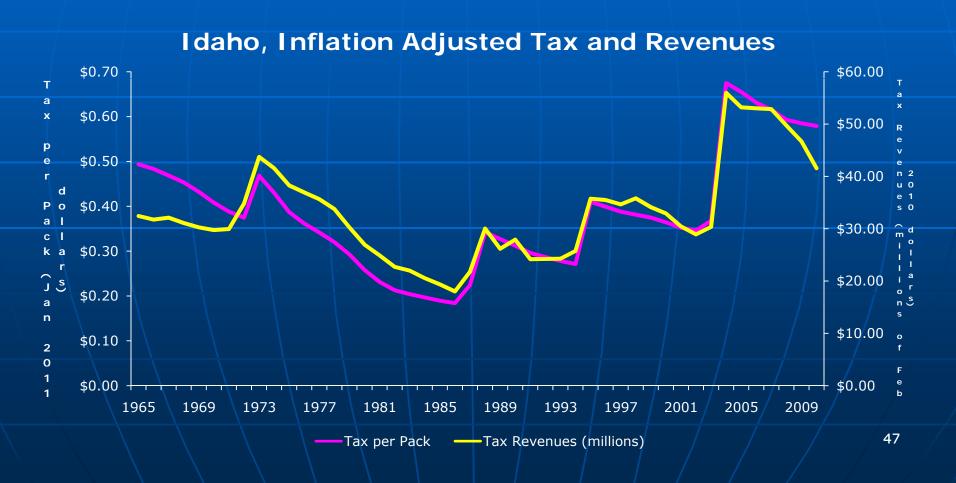
Other Issues when Increasing Tobacco Taxes

- Adopt high tech tax stamp, license all involved in distribution, and enforce
 - Reduces tax evasion
 - More than pays for itself with increases in revenues



Other Issues when Increasing Tobacco Taxes

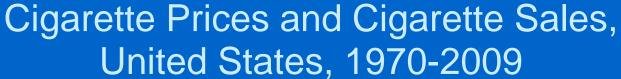
Need to automatically adjust for inflation

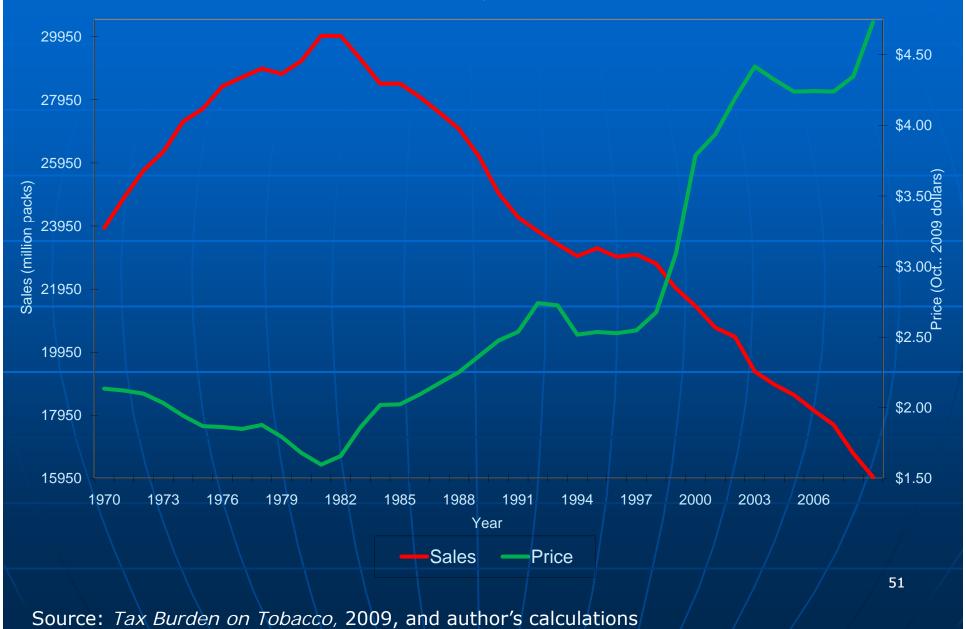


Impact of Tax and Price on Tobacco Use

- 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

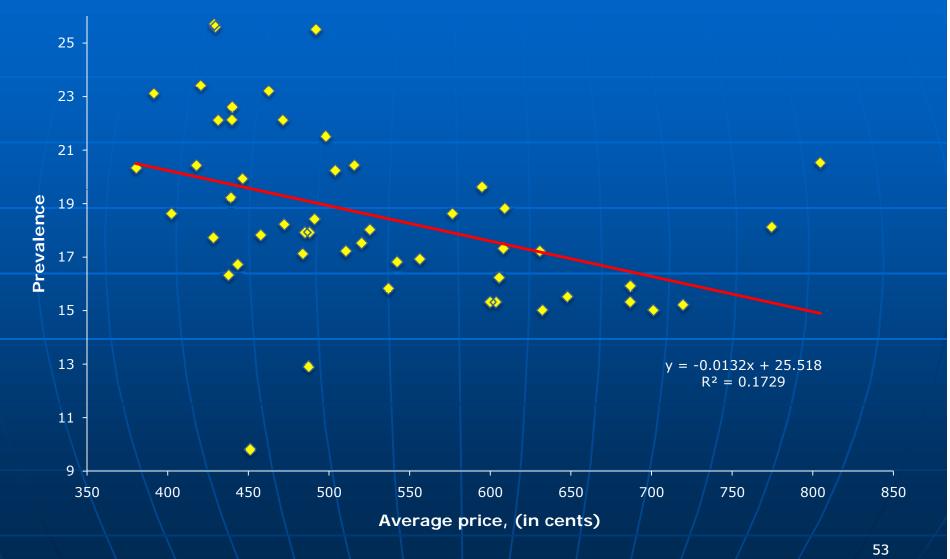
- Increases in tobacco product prices:
 - 10% price increase reduces consumption by 4%





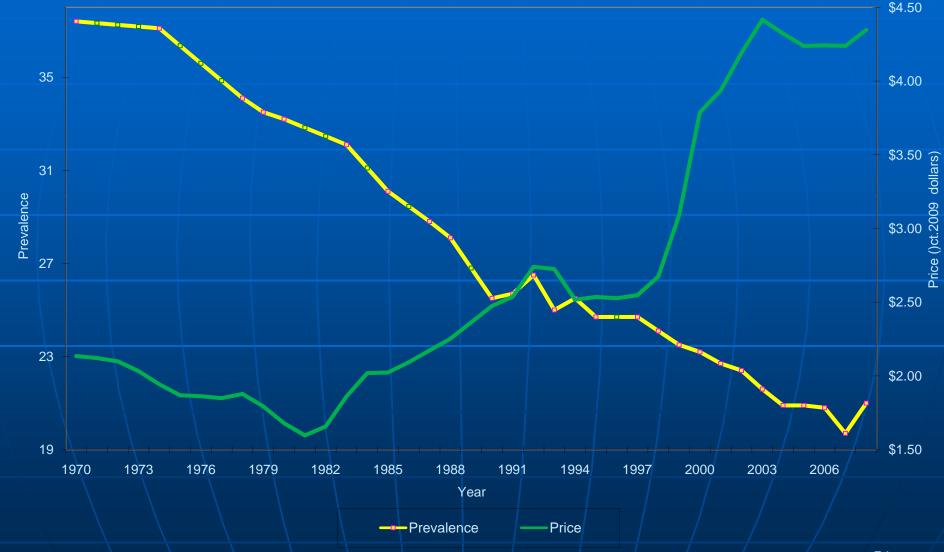
- Increases in tobacco product prices:
 - About half of impact on smoking prevalence
 - 10% price increase reduces prevalence by 2%

Cigarette and Adult Smoking Prevalence US States & DC, 2009



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





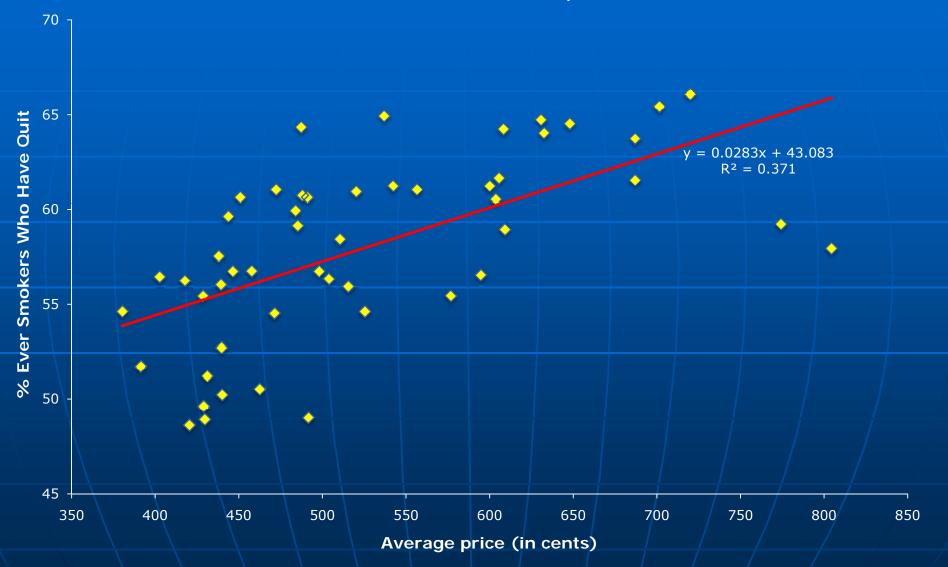
Source: NHIS, Tax Burden on Tobacco, 2009, and author's calculations

Note: green data points for prevalence are interpolated assuming linear trend

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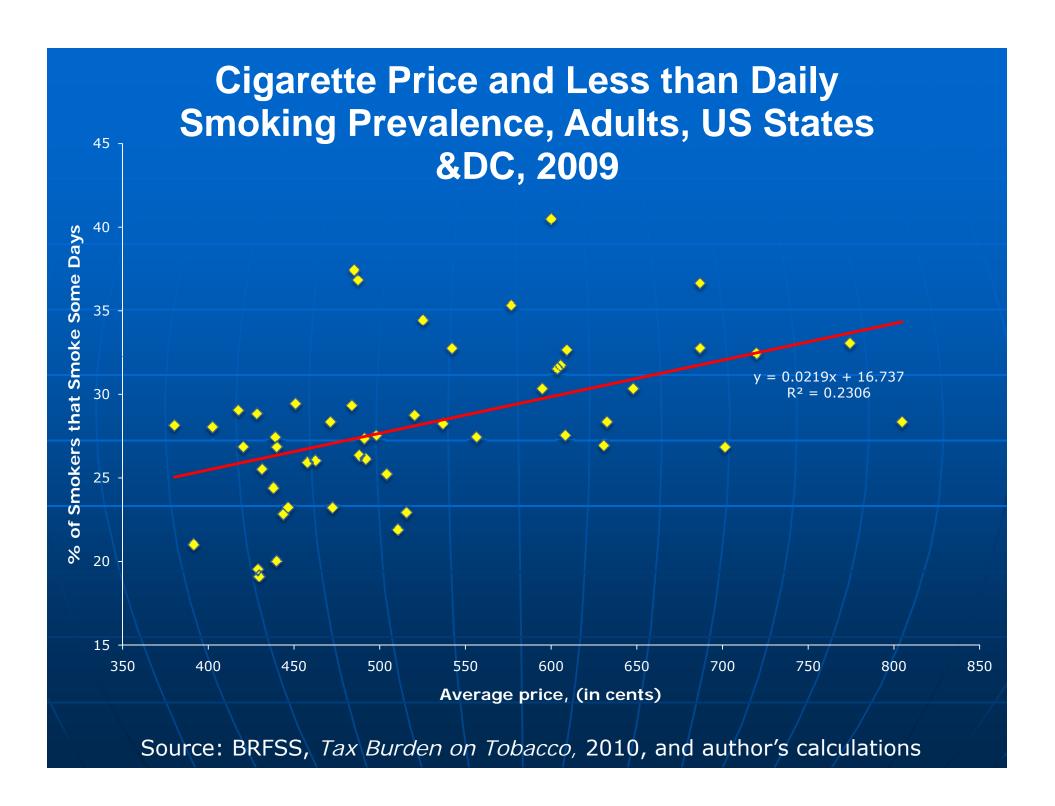
- Increases in tobacco product prices:
 - Prevalence reductions result of adult users quitting
 - 10% price increase leads about 10% of smokers to try to quit
 - About 1 in 5 successfully quit



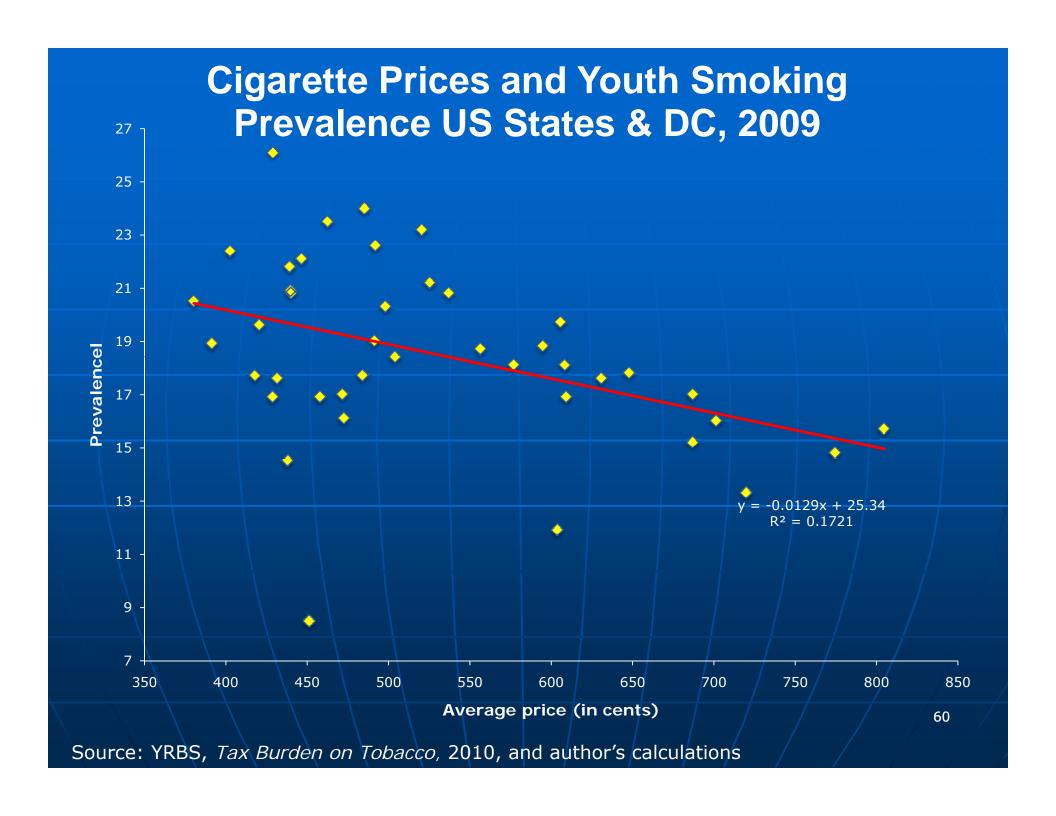


Source: BRFSS, Tax Burden on Tobacco, 2010, and author's calculations

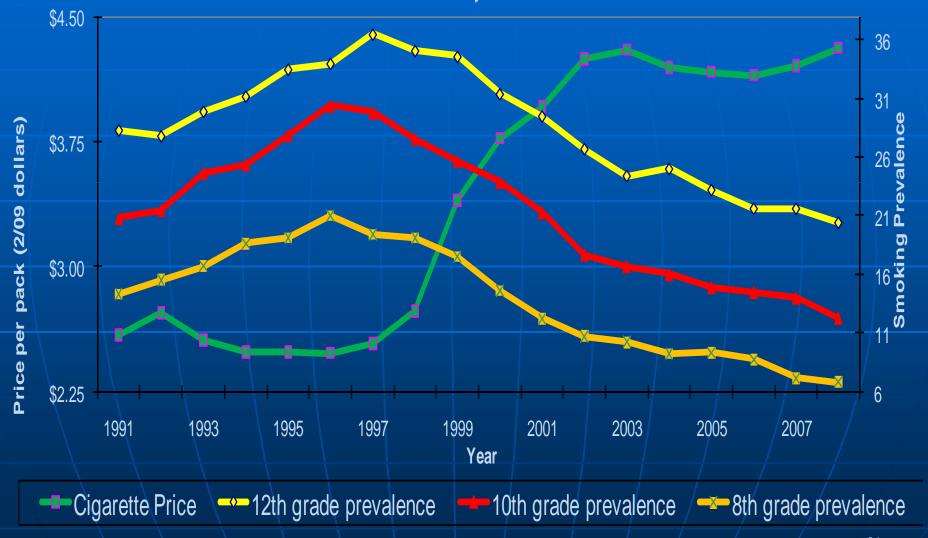
- Increases in tobacco product prices:
 - Reductions in smoking intensity among those who continue to smoke
 - Smoke fewer days
 - Smoke fewer cigarettes on smoking days



- Increases in tobacco product prices:
 - Prevent youth from taking up tobacco use
 - Youth 2-3 times more responsive to price than adults
 - Lower incomes, peer influences, shorter smoking histories, greater emphasis on present costs
 - Greatest impact in preventing youth from moving beyond experimentation into more regular smoking



Cigarette Price and Youth Smoking Prevalence, United States, 1991-2008



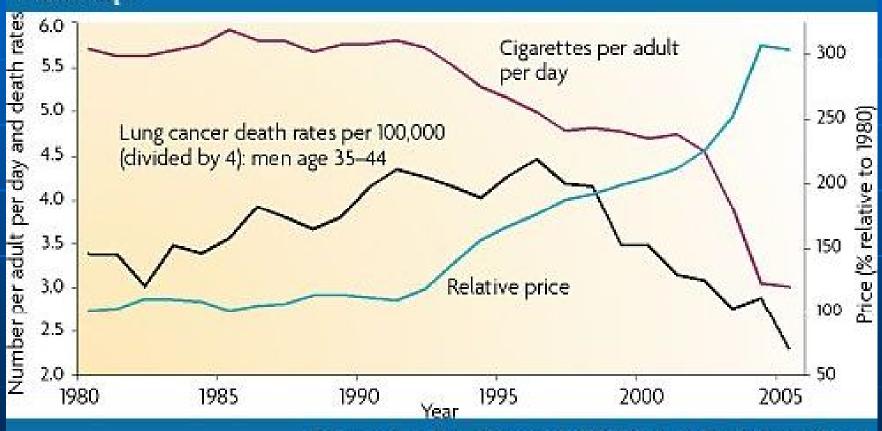
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Source: MTF, Tax Burden on Tobacco, 2009, and author's calculations

- Increases in tobacco product prices:
 - Reduce death and disease caused by tobacco use

Taxes, Prices and Health: US, 1980-2005

Medscape



Source: Nat Rev Cancer @ 2009 Nature Publishing Group

Earmarking Tobacco Tax Revenues for Tobacco Control

Comprehensive Programs

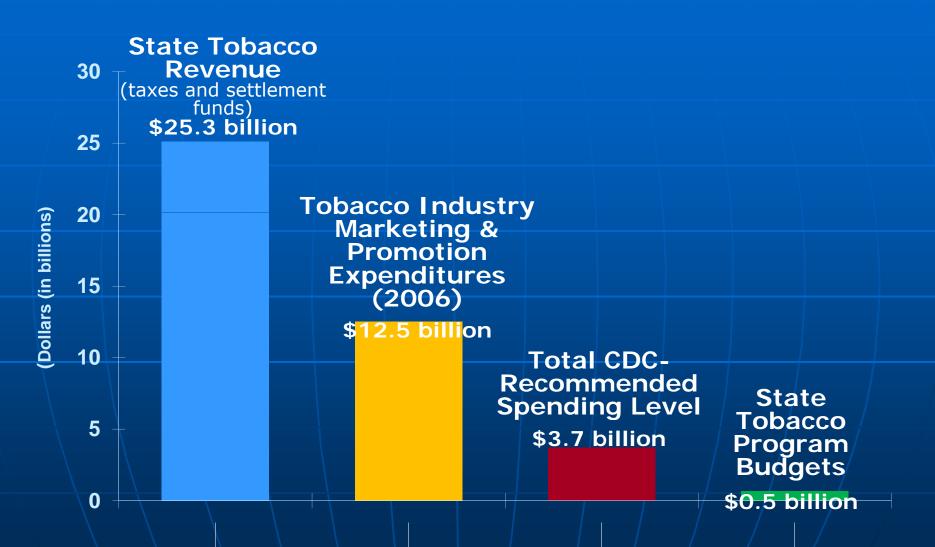
General aims:

- Prevent initiation of tobacco use among young
 - Increased prices, reduced access
 - Increased antitobacco messages, reduced protobacco
- Promote cessation among young adults, adults
 - Better access to cessation services
 - Increased prices and strong smoke-free policies
 - Increased antitobacco messages, reduced protobacco
- Eliminate exposure to secondhand smoke
 - Strong smoke-free policies
 - Strengthened anti-smoking norms
- Identify and eliminate disparities
 - Intertwined with others; need for targeted approaches

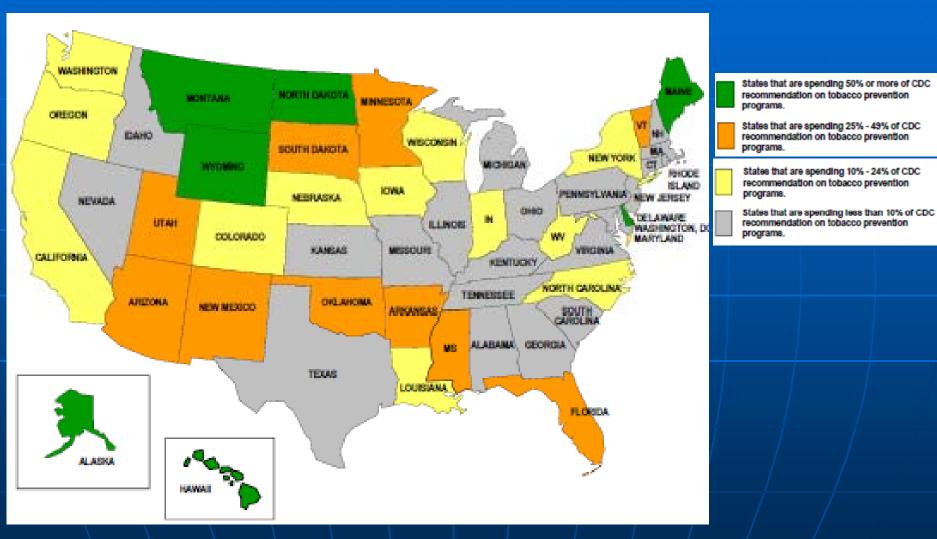
Comprehensive Programs

- Components of a comprehensive program:
 - State and community interventions
 - Support for policy development and implementation
 - Efforts to strengthen norms against tobacco
 - Targeted efforts to reduce youth tobacco use, disparities
 - Health communication interventions
 - Mass-media countermarketing campaigns
 - Efforts to replace tobacco industry sponsorship/promotion
 - Targeted messaging/delivery
 - Cessation interventions
 - Array of policy, health system, and population-based measures
 - Surveillance and Evaluation
 - Administration and Management

Tobacco Industry is Outspending Prevention Efforts 24:1—FY2011



Program Funding

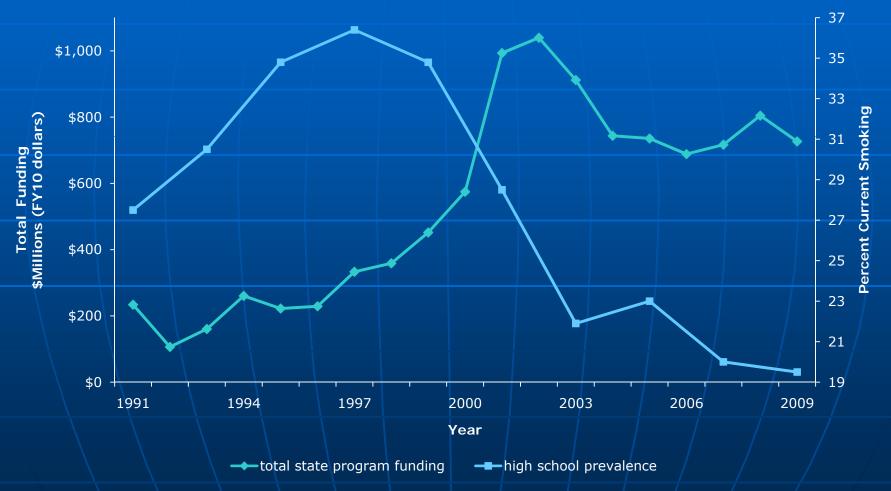


Source: Tobacco Free Kids, 2010

Comprehensive Programs

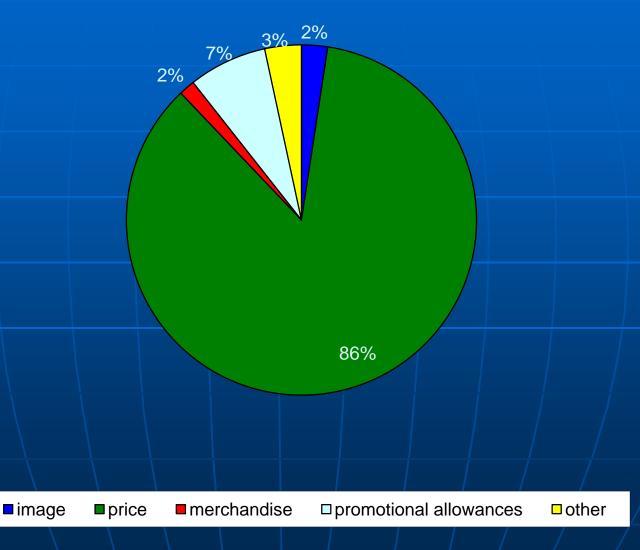
- Impact of state program funding
 - Increased funding associated with:
 - Reductions in overall cigarette sales
 - Lower youth smoking prevalence
 - Lower adult smoking prevalence
 - Increased interest in quitting, successful quitting
 - Much of impact results from large scale mass-media anti-smoking campaigns

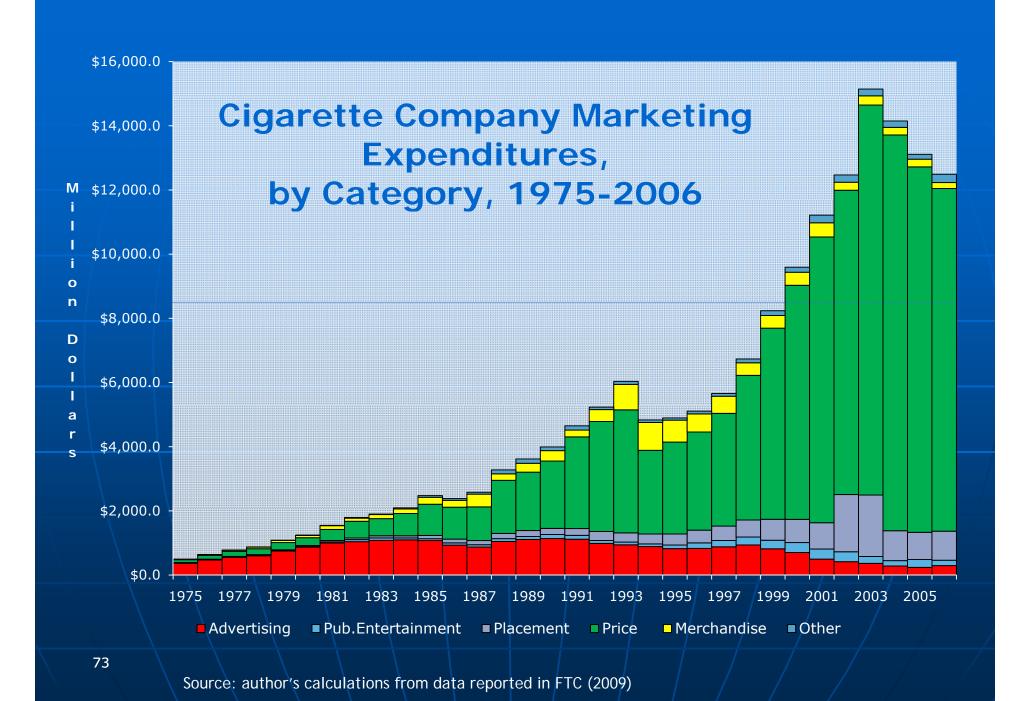
State Tobacco Control Program Funding and Youth Smoking Prevalence



Industry Price Marketing

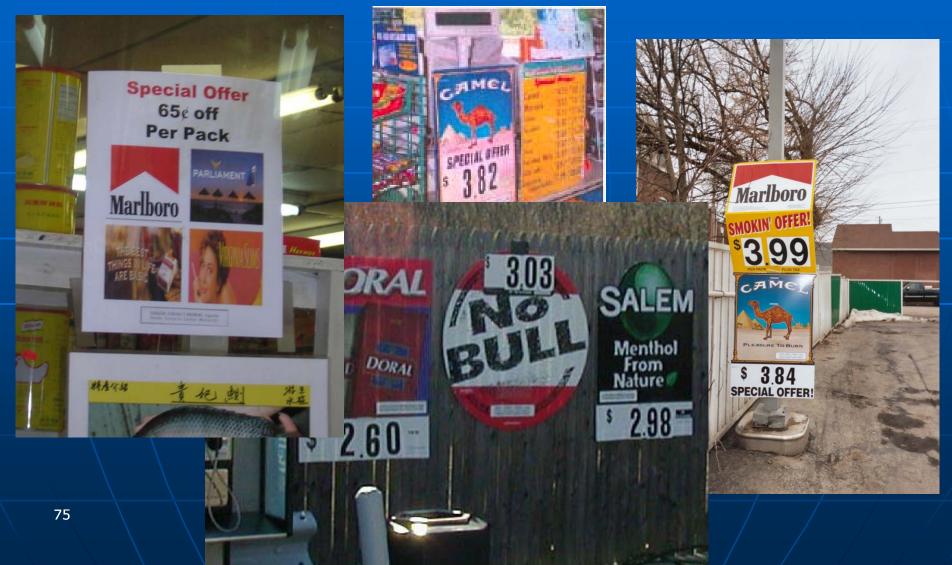
2006 Cigarette Marketing Expenditures by Category, United States



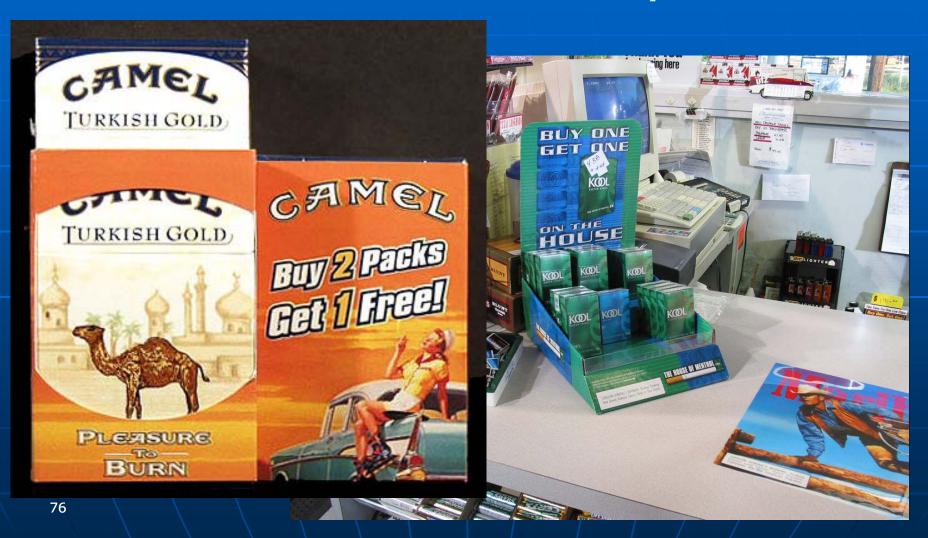




Price-Related Marketing: Price Discounts



Price-Related Marketing: Retail Value Added - product



Price-Related Marketing: Coupons



Price-Related Marketing: Other Value Added



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 <u>Marlboro.com</u> to become eligible for cigarette coupons and special offers using this code: **MAR1558**

Thank You,

Philip Morris USA

Price-Related Cigarette Marketing and Tobacco Control

- Greater price-related marketing since the Master Settlement Agreement and related price increases (Ruel, et al., 2004; Loomis et al., 2006; FTC, 2007)
- More price-related marketing in states with greater spending on comprehensive tobacco control programs (Loomis, et al., 2006; Slater et al., 2001)
- •Growing use of point-of-sale ads to highlight sales promotions (e.g. special price, special offer, cents off, reduced price, multi-pack special) (Feighery et al., 2008)

Sufficient Evidence that:

Tobacco industry price discounting strategies, pricereducing marketing activities, and lobbying efforts mitigate the impact of tobacco excise tax increases.

IARC HANDBOOKS OF CANCER PREVENTION

Tobacco Control



International Agency for Research on Cancer
World Health Organization

Volume 14

Effectiveness of Tax and Price Policies for Tobacco Control

> 1ARC 2011



This Handbook was produced within the EC-funded grant (HEALTH-F2-2009-223323): Pricing Policies and Control of Tobacco in Europe (PPACTE)



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

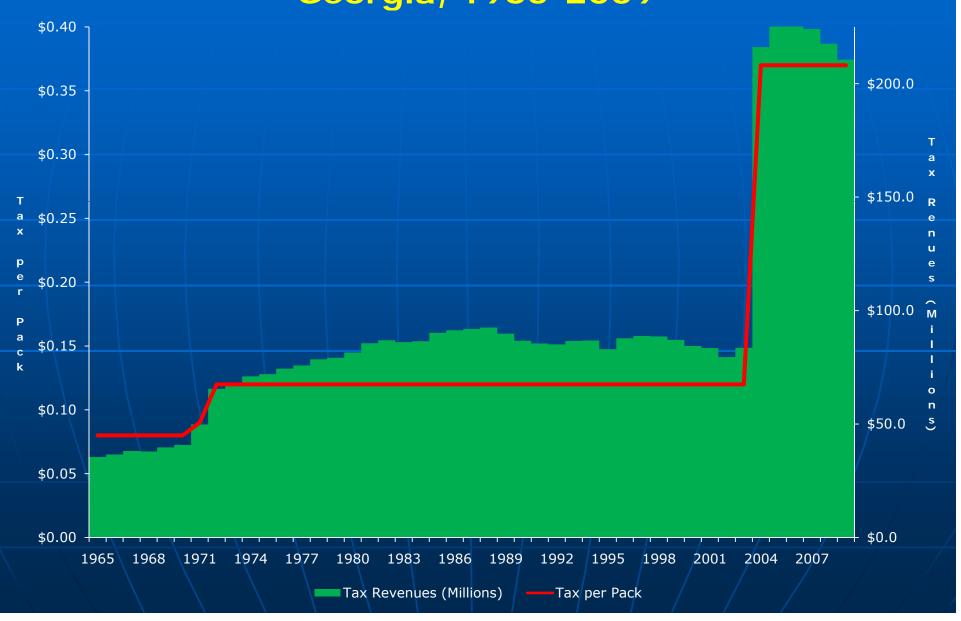
Impact on Revenues

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."





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

- 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 10%
 - new sales 450 million packs
 - 90% of original sales at double the tax increases revenues by 80%
 - new revenues = \$900 million

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

Sustainability of Cigarette Tax Revenues

Some suggest increases in revenues won't be sustained over time

- Looked at significant state tax increases over past 20 years where increase was maintained for at least 5 years
- Separately for states with major tobacco control programs

Sustainability of Cigarette Tax Revenues

- Conclusion:
 - All significant state tax increases resulted in significant increases in state tax revenues
 - Nominal increases in revenues sustained over time in states without tobacco control programs
 - Nominal revenues decline in states with tobacco control programs, but are significantly higher than before tax increase
 - Tobacco tax revenues more predictable than other revenues

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

Impact on Businesses

- More recent argument that higher taxes will harm convenience stores
- New analysis
 - Number of convenience stores (convenience only, gas stations, both), by state, 1997-2009
 - State cigarette tax rates and smoke-free air policies
 - Economic conditions (income, unemployment, gas prices)
 - Multivariate, fixed effects econometric models

Impact on Businesses

Results:

- Positive association between state cigarette tax and number of convenience stores
 - "overshifting" of cigarette tax in retail price
 - Substitution of spending on cigarettes to spending on other products
 - \$1.00 tax increase associated with increase of 11 stores per million population
- No impact of smoke-free policies
- Robust to alternative specifications and empirical methods

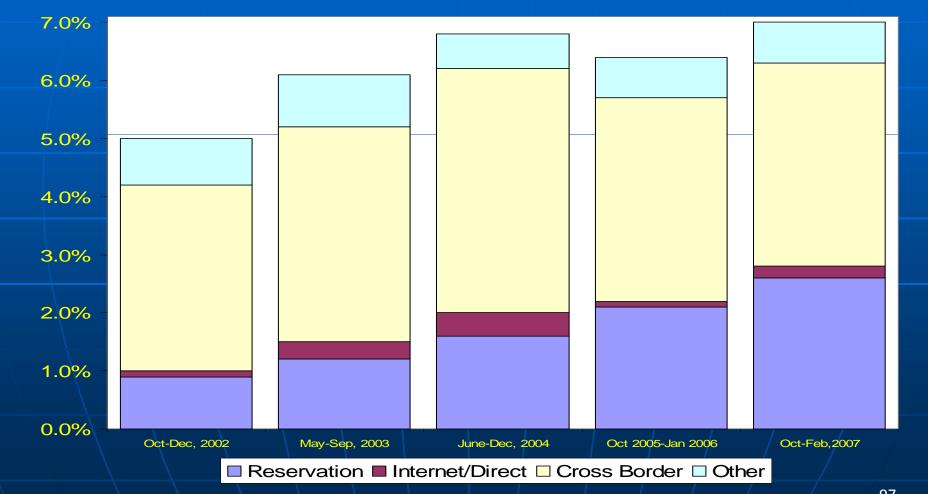
Tax Avoidance & Evasion

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.

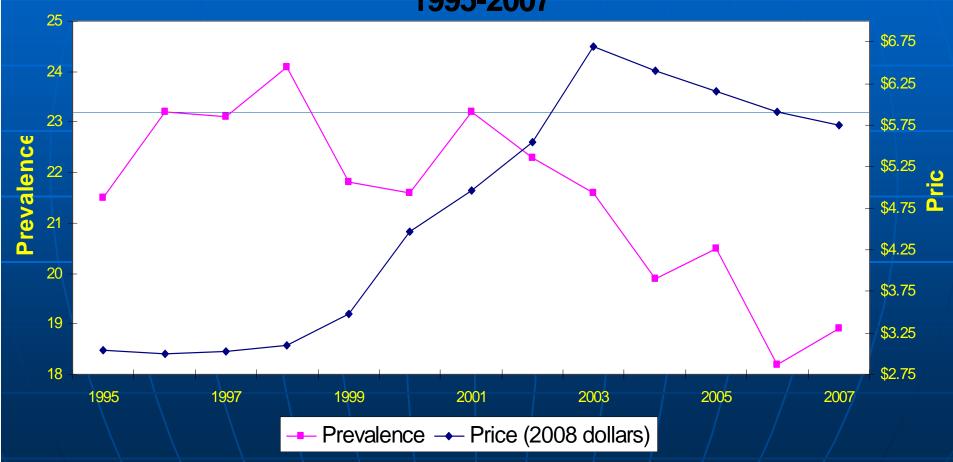
Tax Avoidance

US Smokers' Tax Avoidance, Last Purchase, 2002-2007



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

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

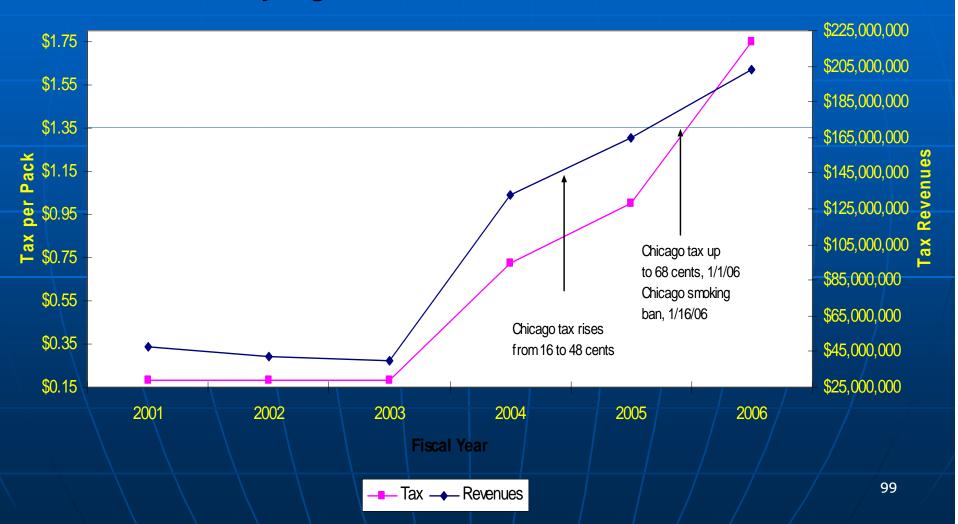


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Source: Tax Burden on Tobacco, 2008 and BRFSS

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

Cook County Cigarette Tax and Tax Revenues - FY01-FY06



Combating Tax Evasion

- California's high-tech tax stamp
 - Adopted 2002; fully implemented 2005
 - Coupled with better licensing standards
 - Examined with hand-held scanners
 - Thousands of compliance checks, hundreds of citations
 - Generated over \$124 million in revenues during 20 month period (mid-2004 through late 2005)



Efforts to Curb Tax Avoidance

Many US efforts focused on Internet, phone and mail order sales:

- Outright ban on direct sales (e.g. New York)
- Major shipping companies (e.g. UPS, Federal Express) agree not to ship cigarettes to consumers
 - USPS finally adopted similar policy last year
- Major credit card companies agree to ban use of credit cards for direct cigarette purchases
- States apply Jenkins Act to identify direct purchasers and to collect taxes due
 - Effective based on early data from several states
 - e.g. MA collected over \$4.6 million in FY07

Efforts to Curb Tax Avoidance

Reservation sales similar focus in some states

- Some states (e.g. MN) impose tax on reservation sales with refund to reservation residents
- Other states (e.g. WA) enter into "compacts" with tribes that result in comparable taxes imposed on reservation sales with most/all of revenues kept by tribe
- Others apply different tax stamps for cigarettes sold to residents and non-residents of reservations
 - Quota on distributor sales to reservation outlets to reflect expected resident consumption (e.g. NY)

Impact on the Poor

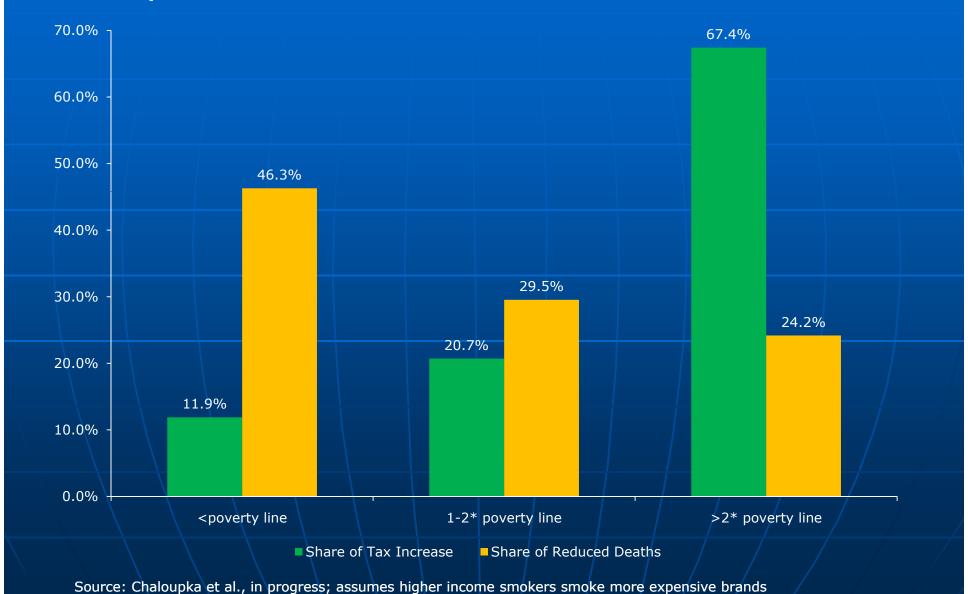
July 23, 2010 – San Francisco Examiner

"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



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

Summary 107

Summary

- Increases in tobacco prices lead to significant reductions in tobacco use
- Higher tobacco taxes are most direct option for increasing prices
- Restricting price-reducing marketing would add to impact of tax increases
- Claims of negative economic impact of tax and price increases false or greatly exaggerated

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