

Taxing the Poor

**A Report on Tobacco, Alcohol, Gambling, and Other Taxes and Fees
That Disproportionately Burden Lower-Income Families**

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Executive Summary

The income tax is highly progressive. It takes a higher portion of the income of the rich than the poor. But federal, state and local governments raise revenues in a number of ways that are regressive, taking a greater portion of the incomes of the poor than the rich. In some cases, the total dollar amounts paid by the poor are higher than the amounts paid by the rich.

One popular way of raising state revenue is through a state-run lottery (coupled with a prohibition on competing private lotteries). This way of raising funds is highly regressive:

- The dollar amount spent on the lottery by the lowest-income individuals (earning less than \$10,000 annually) is twice as much as the highest earners (earning more than \$100,000 annually).
- But lotteries have worse odds than other forms of gambling; in fact, states retain some 33 cents of each dollar of lottery revenue — whereas privately owned casinos keep just 4.4 percent of the take.

Another popular revenue source is taxes on tobacco. Yet:

- One-third of lower-income adults smoke versus one-fifth of middle- and high-income earners, according to the Centers for Disease Control and Prevention.
- High school graduates who smoke spend some \$1,453 on tobacco products each year, versus just \$1,248 for smokers with professional degrees.
- High school dropouts who smoke spend three to four times as much of their income on tobacco products as professionals who smoke (4.47 percent and 1.27 percent, respectively).

In addition to direct taxation, state governments have imposed indirect costs on tobacco users through litigation. The Master Settlement Agreement between the major tobacco companies and 46 states requires the tobacco companies to pay the states \$200 billion over 25 years to compensate for state health care costs attributed to smoking. More than 90 percent of the settlement costs are passed on to consumers. In fact, the settlement raised the price of cigarettes about 45 cents per pack.

Taxes on beer, wine and liquor also burden the poor disproportionately. Consider:

- The portion of income spent on alcoholic beverages by the lowest fifth of earners is double that of middle earners and more than three times that of the highest earners, on the average.
- Lower-income earners who actually purchase alcohol spend an average of \$1,158 a year — more than the \$1,092 spent by middle earners — and 10 times the portion of their total income as the highest earners.

Some advocates claim taxes on harmful behaviors — like smoking and excessive drinking — are justified to recoup the costs those activities impose on others, such as secondhand smoke and drunk driving. Although the evidence is mixed, it appears that taxes on tobacco already more than compensate for the social costs of smoking. Even though alcohol consumers as a group do not pay for all the costs imposed on society by alcoholism, there is no reason to punish moderate drinkers for the behavior of alcoholics.

Advocates also claim these taxes encourage people to change their behaviors in socially desirable ways, because the taxes are almost entirely passed on to consumers. However, when prices for tobacco and alcohol products rise due to tax increases, demand for these products does not go down much. A few consumers will quit and many will substitute lower-cost brands, but most lower-income smokers and drinkers will continue to use tobacco and alcohol. Thus, raising taxes on these products makes the tax burden even more regressive.

Furthermore, the evidence indicates that these taxes are designed to raise revenue, rather than discourage unhealthy behavior. For example, if the true purpose of taxes on tobacco products is to recoup the external costs to society, states should levy lower taxes on smokeless products. While smokeless tobacco is not safe, studies suggest it is safer than smoking cigarettes. Yet, about a fifth of the states charge higher taxes on smokeless tobacco than cigarettes:

- Per \$1 of wholesale price, taxes in Massachusetts are 90 cents for smokeless products versus 68 cents for cigarettes; in Minnesota, 70 cents versus 55.4 cents; and in Oklahoma, 60 cents versus 46.4 cents.
- In Texas, smokeless tobacco taxes are nearly twice as high as cigarette taxes, 35 cents versus 18 cents.

Poorer taxpayers are also disproportionately burdened by excise taxes imposed on “necessities,” such as gasoline, utilities and telephone services. Since lower-income households spend more of their incomes on these items, they pay a greater share of these taxes. For instance:

- People making \$24,000 a year spend more than twice as much of their income on gasoline as those earning five times as much.
- People making less than \$10,000 a year spend nearly one-fifth of their incomes (18.8 percent) on necessities subject to excise taxes, including utilities and public services, and they pay almost six times as much of their incomes on these taxes as the highest earners.

The lowest fifth of income earners spend nearly one-third of their income on alcohol, tobacco, utilities and gasoline, on the average. By contrast, the highest earners spend just 6 percent of their income on these items. Thus taxes on these products are especially burdensome to the poor.

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Introduction

“The art of taxation consists in so plucking the goose as to obtain the largest amount of feathers with the least amount of hissing.”

-- *Jean-Baptiste Colbert*

Governments have many ways to finance their activities. Unfortunately, the desire to adopt a tax policy that will meet the least resistance leads many lawmakers at the federal, state and even local level to pursue policies that have a disproportionately negative impact on lower-wage earners. For example, selective consumption taxes, or excise taxes, have been used to raise government revenue in America since before the Colonies became the United States. In recent years, excise taxes have become popular instruments in state leaders’ fiscal toolboxes. However, the research presented in this report demonstrates that such taxes are regressive because they tend to take a higher percentage of the income of lower-income households — in some cases significantly higher.

This report examines excise taxes in several interesting ways. The first three sections deal with “sin taxes,” or taxes on tobacco products, alcohol (including beer, wine and spirits) and gambling. The fourth section examines excise taxes on necessities. Taxes on these activities have a long history, are economically significant and are often controversial. Thus, this report is guided by an extensive body of literature examining the impact of excise taxes.

What Are Excise Taxes?

Excise taxes are fees levied on specific products like cigarettes, beer and gasoline. Unlike broad-based taxes, such as general sales or income taxes, excises are often paid by a narrow subset of the population, for example, smokers, consumers of alcohol and so forth. These taxes are often hidden from consumers because they are embedded in a product’s retail price.

Some excise taxes are referred to as “sin taxes,” because they purportedly discourage undesirable behaviors such as smoking, drinking and gambling. Others are levied on necessities like gasoline, air travel and utilities. Excise taxes are attractive to lawmakers because they are easy to identify, easy to collect and, in the case of taxes on sinful products, it is easy to summon the political will to pass them. By hiking sin taxes, policymakers have been able to raise revenues without encountering the voter backlash that would come with an overt hike in broad-based tax rates. Further, because close substitutes for addictive or indispensable products are difficult to find, demand for the product will likely not change much in response to higher taxes.

Excise taxes are a significant source of public revenue, especially at the state and local level:

“Excise taxes are regressive — meaning the tax burden falls disproportionately on lower earners.”

- The federal government collected \$79 billion in excise tax revenues in 2004 (the last year for which comprehensive data are available).¹
- In 2004, state and local governments collected more than \$17.6 billion in tobacco and alcohol taxes alone.
- In 2005, state governments collected almost \$100 billion in excise taxes, and collected an additional \$42.7 billion in state liquor license fees and other licenses and fees.²

Policymakers repeatedly attempt to raise more revenue with excise taxes — particularly at the state level, and particularly from sin taxes. For example:

- In recent years, 42 states have increased cigarette taxes.³
- In the 2006 elections alone, voters approved ballot measures to increase tobacco taxes in Arizona and South Dakota (and to require smoke-free workplaces and public places in Arizona, Nevada and Ohio).⁴
- The last two deficit reduction measures at the federal level — in 1989 and 1993 — included a large dose of excise tax hikes on tobacco, alcohol and gasoline. [See the sidebar “Excise Taxes throughout American History.”]

Who Pays Taxes, the Rich or the Poor?

There is little doubt that excise taxes are regressive. Because they are simply narrowly-focused consumption taxes, they drain a larger share of the incomes of lower earners than of higher earners. Consider two families, one earning \$10,000 a year and the other earning \$100,000. If both spend \$100 a year on cigarette taxes, the amount constitutes 1 percent of the lower earner’s salary, but only 0.1 percent for the higher earner. Consider:⁵

- People in the lowest-earning quintile (average income \$9,168) spend 31.1 percent of their incomes on alcohol, tobacco, utilities and gasoline, on average.
- By contrast, the highest earners spend just 6 percent of their income on the same items.
- Since excise taxes on these items are paid as a percent of the purchase price, the taxes paid are also regressive.

Further, looking just at smokers and gamblers, those with lower incomes actually spend more in real dollars than higher-income people, on the average, making the regressivity problem even worse.

This report focuses primarily on the effect of excise taxes on people with different incomes. However, some scholars suggest that examining

“Low earners spend a higher percentage of their incomes on excise-taxed goods than higher-income people.”

excise taxes alone is misleading because the tax system as a whole is progressive. Consider:⁶

- The top 0.1 percent of taxpayers earn 9.1 percent of the income, but pay 17.4 percent of all federal taxes.
- The top 1 percent of taxpayers earn 19 percent of the income but pay 36.9 percent of the taxes.
- The top 5 percent earn 33.4 percent but pay 57.1 percent, while the bottom 50 percent earn 13.4 percent but only pay 3.3 percent of federal taxes.

The story is much the same at the state level. The system looks even more progressive when one considers government transfers to lower earners through the Earned Income Tax Credit, Food Stamps, Medicaid and other welfare programs.

Other researchers go one step further and suggest the targeted spending of excise tax revenues on smoking cessation programs, education, alcohol abuse prevention and roads make the taxes much less regressive — and maybe even progressive. The reason: Lower earners receive large portions of their income in the form of government transfers, and these transfers are implicitly or explicitly tied to the taxes collected. In other words, if people pay higher excise taxes and revenues increase, so do transfers. However, new excise tax revenue seldom finds its way to its promised objectives, and there is no guarantee that the revenue does not simply replace funding that was going to be spent anyway.

Take, for example, alcohol taxes. Recently proposed alcohol tax increases are supposed to have gone toward alcohol awareness and abuse prevention programs, but much of the money was actually slated for other projects, such as offsetting income tax reductions, pay raises for teachers and education.⁷ If the new money generated by higher taxes on alcohol funds non-alcohol-prevention-related general budget items, then state legislatures are punishing alcohol consumers. Thus, they are burdening lower-income people and adding cash to state coffers.

These perspectives are valid and deserve further study. However, federal and state decision-makers increasingly rely on excise taxes for new revenue, rather than broader-based taxes like a general sales tax or income tax. Thus, an examination of excise taxes — and their effects on lower-income populations — is both interesting and important.

Why Excise Taxes? Why Not?

Advocates of higher excise taxes pursue them for two purposes. First, like any tax, excises are intended to raise revenues for government programs.

“Policymakers increasingly rely on excise taxes, rather than broader-based taxes, for new revenue.”

Excise Taxes throughout American History¹

Excise taxes have been a part of American history since well before the country's founding. Excise taxes like the Stamp Tax, Tea Tax and others helped spur the colonists to revolt against the British, igniting the American Revolution and contributing to a national wariness toward taxation in American culture.

This wariness was reflected in the 1781 Articles of Confederation, which gave the federal government little power to tax aside from donations it collected from the sovereign states. As the new federal government struggled to pay debts incurred by the Revolutionary War, Congress levied excise taxes on distilled spirits, tobacco and snuff, refined sugar, carriages, property sold at auctions, and various legal documents.

In addition to raising revenue, these selective tax hikes reflected social influences of the day. The whiskey tax in Pennsylvania, for example, was imposed in part to "restrain persons in low circumstances from an immoderate use thereof." This tax fell heavily on the Scots-Irish immigrants in the region for whom whiskey was an important economic commodity, and who felt the tax was a discriminatory burden meant to help wealthy landowners avoid property taxes. The government sent troops to put down the Whiskey Rebellion that ensued, and excise taxes remained as the young federal government's main source of revenue.

Still without constitutional means to establish an income tax, the federal government imposed additional excise taxes to fund the War of 1812, and again half a century later to fund the Civil War. These excise taxes were on items believed to be luxuries, like pianos and yachts, but also on playing cards, medicines and, of course, alcohol and tobacco. In 1898, to fund the Spanish-American War, new luxury taxes were imposed, which doubled the beer and tobacco tax and gave rise to the federal telephone excise that remained intermittently in place throughout the last century.

By 1868, liquor and tobacco taxes were the government's main source of revenue, and until 1913 almost 90 percent of revenue was collected from excise taxes.

With the passage of the 16th Amendment in 1913, the federal government gained clear power to levy an income tax. Still, excise taxes were particularly important in funding both World Wars. Although Congress imagined it chose goods to tax that indicated a capacity to pay — such as jewelry and furs — it quickly realized that excises were highly regressive taxes on consumption and often burdened the poor.

Even with the modern development of the income tax and creation of a general sales tax in most states, specific excises on alcohol, tobacco, gas and other goods have continued to serve an integral role in raising funds. Today some excises take the form of flat "per unit" rates, such as alcohol taxes, whereas others are a percentage of the total cost, like airline taxes. The mid-20th century saw a shift toward the creation of trust funds to which receipts from specific taxes are deposited and from which they are spent on particular purposes. Many excise taxes came to be seen not as discouraging certain behaviors but as "user taxes" that would be invested in the continuation and improvement of the originating industry, such as the motor fuels tax or the tax on airline tickets.

The more an individual consumes of a good, the more tax he pays. Many legislators justify support of excises on this seemingly fair principle. But the country has come a long way from the luxury taxes on pianos and yachts during the Revolutionary War. Although the American people might have a long history with this practice, that does not guarantee excises are fairly distributed or based on sound economic principle.

¹ See Tax History Project at Tax Analysts, "Tax History Museum." Available at <http://www.tax.org/Museum/default.htm>. Also see U.S. Department of the Treasury, "Fact Sheet: History of the U.S. Tax System." Available at <http://www.ustreas.gov/education/fact-sheets/taxes/ustax.shtml>. Further, see J. Fred Giertz, "Excise Taxes," in *The Encyclopedia of Taxation and Tax Policy* (Washington, D.C.: Urban Institute, October 1, 1999), pages 133-34. Available at <http://www.urban.org/UploadedPDF/1000527.pdf>.

“Many excise taxes are intended to discourage ‘sin.’”

Second, they are intended to recoup the cost of “externalities,” or in the case of sin taxes, to encourage people to commit less sin.

An externality is a cost not paid by the person who enjoys the benefit. Smokers create externalities by exhaling second-hand smoke. Cars that belch exhaust create externalities by polluting the air. Taxes are one way of forcing someone who creates externalities to bear the costs. But how high should the excise tax be? The problem comes in identifying the “correct” tax rate. For example, the research in this report indicates that smokers already pay their own way, yet tobacco taxes continue to rise each year. And high taxes on alcohol will likely harm moderate drinkers who cause no externalities. While some of these externalities arguments are considered in this report, the primary focus is on the burden of these excise taxes on the poor.

Appeals to Efficiency. Most proponents of excise taxes acknowledge their regressive nature, but justify them on the basis of efficiency. All taxes distort the relative prices of goods and impede the flow of goods and services to their best use. A tax on gasoline, for example, may increase the cost of transportation to the point where someone is prevented from seeking a better but more distant job. A tax on cigarettes may increase the cost of smoking to a smoker who cannot quit the habit. In the terminology of economics, an efficient tax is one that induces minimal distortion. A significant amount of published research on excise taxes explores the question of efficiency, often concluding that these taxes are efficient. One of the reasons they are efficient is that such taxes are difficult to evade, since they are collected by service providers or at the point of sale. Further, because there are few substitutes for sinful products or necessities, demand for the good doesn’t change much in response to an increase in price. That is one reason they have been so popular with state and local governments. Of course, heavily taxing a good might result in a black market, diverting funds from both the government and the industry.

Paternalism. An additional consideration in this report is the role of the government in protecting people from their own choices. Despite America’s tradition of independence and freedom, there is also a strong strain of moral paternalism in American life. Certain religious and cultural traditions have long-standing objections to alcohol and gambling. More recently, some states claim the right to regulate unhealthy choices, in particular the use of tobacco. Questions of paternalism may be inextricably linked to an analysis of the burden of the tax. While many of these paternalistic arguments seem arrogant and condescending, they should be addressed.

Nowhere is this more apparent than in the case of sin taxes. Not only is there a patchwork quilt of charges and fees on tobacco, alcohol and gambling products, but states also regulate every aspect of their sale. The clearest example is gambling: States regulate where people can gamble, the games

available and how much people can spend. In addition, regulations in some states impose an even larger implicit tax on alcohol than stated in this paper. For example, some states require certain types of alcohol to be purchased from state-sponsored or state-operated stores, which imposes a large cost in convenience as well as price. And it is easy for politicians to gin up support for sin taxes, since they can trumpet an altruistic intent to stamp out smoking, drinking and so forth.

“States increasingly rely on sin taxes for revenue.”

But sin taxes present a bit of a conundrum for the state. Some policymakers advocate higher sin taxes to discourage harmful behaviors, but there is no doubt states have become increasingly reliant on sin taxes as a base of revenue. Thus, states are in the awkward position of trying to wean people off “bad behavior” while also depending on said behavior to fund state programs. Cynics might conclude that state leaders pay lip service to reducing bad behavior but, in reality, see excise taxes as a politically expedient way to raise more money in a Byzantine tax system.

By any measure, excise taxes place a heavier burden on lower-income families; as a result, they are regressive. Policymakers who consider raising excise taxes at the federal, state or local level — regardless of the good they think they are doing — should consider the disproportionate burden their lower-income constituents will bear.

Notes

¹ Tax Foundation, “Federal Excise Tax Collections, 1940-2006,” Fact Sheet, April 28, 2006. Available at <http://www.taxfoundation.org/taxdata/show/240.html>.

² U.S. Census Bureau, “State Government Tax Collections: 2005,” May 22, 2006. Available at <http://www.census.gov/govs/statetax/0500usstax.html>.

³ Statement by William V. Corr, Executive Director of the Campaign for Tobacco-Free Kids, “Voters Across America Rebuff Big Tobacco, Approve Ballot Measures to Reduce Smoking, Save Lives,” Campaign for Tobacco-Free Kids, Press Release, November 8, 2006. Available at <http://www.tobaccofreekids.org/Script/DisplayPressRelease.php3?Display=954>.

⁴ Ibid.

⁵ “Consumer Expenditure Survey, 2004,” U.S. Department of Labor, Bureau of Labor Statistics.

⁶ Thomas Piketty and Emmanuel Saez, “How Progressive Is the U.S. Federal Tax System? A Historical and International Perspective,” National Bureau of Economic Research, Working Paper No. 12404, July 2006.

⁷ Alcohol Policies Project, Center for Science in the Public Interest.

Section I: Excise Taxes and Tobacco

Introduction

Tobacco taxes have become a way for policymakers to increase state revenues without encountering the voter backlash that would come with an overt hike in tax rates. Besides, tobacco taxes are often perceived as a win-win: The tax is only paid by those who engage in socially undesirable behavior and, if smokers quit to avoid the tax, they — and society — are better off. But policymakers should also be concerned with the economic well-being of their lower-income constituents. One must question the *fairness* of hiking taxes that are known to disproportionately burden poor families.

Like many other popular ways of raising government revenue, excise taxes on tobacco are regressive. In fact, tobacco taxes are more regressive than almost any other tax. People with lower incomes spend a larger share of income on tobacco products than the wealthy. If rich and poor people consume the same amounts of a good, the poor necessarily spend a greater portion of their income on that good. But in the case of tobacco, smokers are much more likely to have lower incomes than nonsmokers, making the regressivity problem even worse.

“Tobacco taxes are more regressive than almost any other tax.”

History of Tobacco Taxes

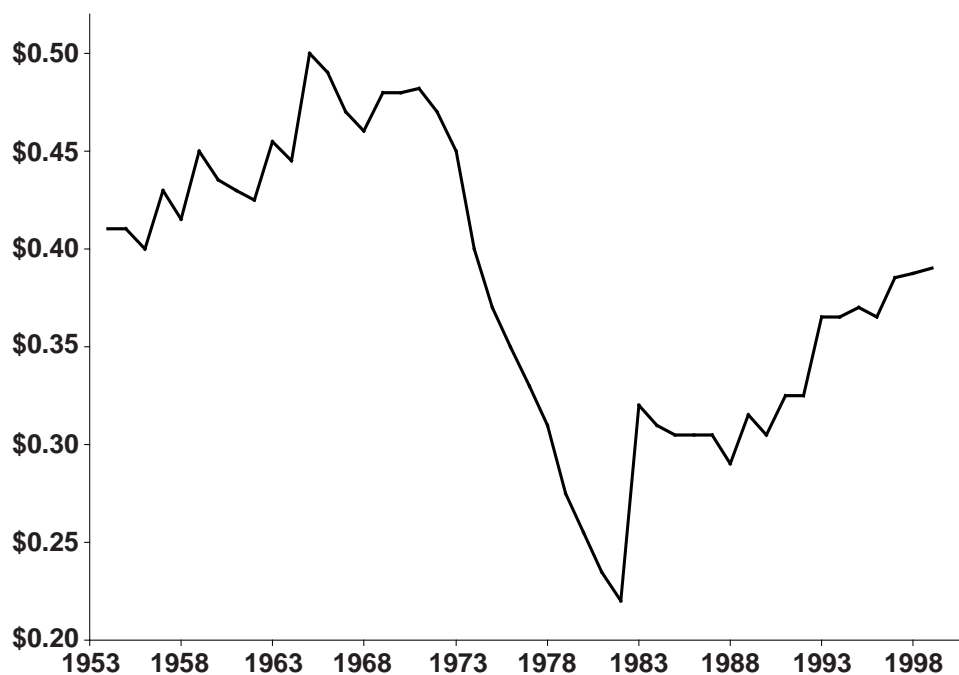
Excise taxes are levied by both the federal and state governments — and in some cases, by municipal governments, too. While the United States has flirted with taxes on tobacco products since its founding, the federal government began vigorously taxing tobacco in 1862 to meet the fiscal demands of the Civil War.

Iowa imposed the first state tax on tobacco in 1921. Soon after, a number of other state legislatures, recognizing that tobacco taxes carried minimal political costs, imposed their own taxes:

- By 1950, 40 states and the District of Columbia charged between 1 cent and 8 cents for a package of 20 cigarettes.
- Between 1950 and 1962, 40 of the 47 states taxing cigarettes raised their rates at least once.
- In 1969, North Carolina became the last state to begin collecting excise taxes on cigarettes and other tobacco products.

Figure I-1 depicts the recent history of state and federal tobacco excise taxes. Real (inflation-adjusted) taxes per pack rose about 10 percent from 1955 through the early 1970s, then declined steadily for a decade before a federal excise tax increase in 1983.¹ They remained relatively constant in real terms until federal excise taxes were increased again in 1991 and 1993. Since then, excise taxes have continued to rise, largely due to state actions.

FIGURE I-1
**Real Value of State and Federal
 Excise Taxes on Cigarettes, 1953-1999**
 (per pack)



“Taxes per pack of cigarettes have been increasing since 1983.”

Source: Jonathan Gruber, “Tobacco at the Crossroads: The Past and Future of Smoking Regulation in the United States,” *Journal of Economic Perspectives*, Vol. 15, No. 2, Spring 2001, pages 193-212.

Tobacco Taxes Today. The current federal excise tax on cigarettes is 39 cents per pack; other tobacco products are subject to similar levies. Federal tobacco taxes raised about \$7.8 billion in 2005, or about 0.36 percent of total federal revenues.² State governments raised about \$11.4 billion from tobacco taxes in 2005.³ New York and California each collected more than \$1 billion, while Michigan and Pennsylvania each collected almost \$900 million.⁴ State levies on cigarettes are shown in Table I-1. The wide variation is striking:

- States in the Northeast have the highest rates — \$2.46 per pack in Rhode Island and \$2.40 per pack in New Jersey.
- States with close ties to the tobacco industry have the lowest rates; Kentucky and North Carolina charge 3 cents and 5 cents per pack, respectively.
- The median rate is about 70 cents per pack.

Since the mid-1990s, states have also collected billions of dollars from tobacco companies in lawsuit settlements. As the sidebar shows, the costs are largely borne by consumers via higher prices. [See the sidebar, “The Tobacco

Tort Tax.”] In essence, the costs imposed by lawsuit settlement payments can be viewed as a tax, although it is difficult to determine the cost per pack, since recent price increases appear to exceed the settlement costs.

TABLE I-1

State Excise Tax Rates on Cigarettes (January 1, 2005)

State	Tax Rate (cents per pack)	Rank	State	Tax Rate (cents per pack)	Rank
Alabama (1)	42.5	39	Nebraska	64	27
Alaska	160	5	Nevada	80	23
Arizona	118	13	New Hampshire	52	36
Arkansas (2)	59	23	New Jersey	240	2
California	87	21	New Mexico	91	20
Colorado	87	22	New York (1)	150	8
Connecticut	151	6	North Carolina	5	50
Delaware	55	32	North Dakota	44	38
Florida	33.9	44	Ohio	55	32
Georgia	37	41	Oklahoma	103	15
Hawaii	140	10	Oregon	118	13
Idaho	57	30	Pennsylvania	135	11
Illinois (1)	98	19	Rhode Island	246	1
Indiana	55.5	31	South Carolina	7	49
Iowa	36	42	South Dakota	53	35
Kansas	79	24	Tennessee (1) (2)	20	45
Kentucky (2)	3	51	Texas	41	40
Louisiana	36	42	Utah	69.5	26
Maine	100	16	Vermont	119	12
Maryland	100	16	Virginia (1) (3)	20	45
Massachusetts	151	6	Washington	142.5	9
Michigan	200	3	West Virginia	55	32
Minnesota	48	37	Wisconsin	77	25
Mississippi	18	47	Wyoming	60	28
Missouri (1)	17	48	Dist. of Columbia	100	16
Montana	170	4			
			U. S. Median	69.5	

Source: Compiled by Tax Policy Center from various sources.

(1) Counties and cities may impose an additional tax on a pack of cigarettes in Ala, 1¢ to 6¢; Ill., 10¢ to 15¢; Mo., 4¢ to 7¢; New York City \$1.50; Tenn., 1¢; and Va., 2¢ to 15¢.

(2) Dealers pay an additional enforcement and administrative fee of 0.1¢ per pack in Ky. and 0.05¢ in Tenn. In Ariz., a \$1.25/1,000 cigarette fee is imposed.

(3) Tax rate is scheduled to increase to 30 cents per pack on July 1, 2005.

“While taxes on cigarettes vary widely, the median rate is about 70 cents per pack.”

The Tobacco Tort Tax

Lawsuits against tobacco companies seeking damages for the health effects of smoking began in the 1950s. As the number of Americans smoking declined and the health implications of smoking became clearer, lawyers became more aggressive. In fact, by some estimates, each year the tobacco industry spends half a billion dollars for legal fees and billions of dollars for settlements.¹

The stakes rose dramatically in 1994 when the state of Mississippi sued tobacco manufacturers. The promise of an enormous revenue windfall without overtly raising taxes, as well as the opportunity to “punish” an unpopular industry, was too alluring; attorneys general in almost every other state soon followed suit.

In 1998 the nation’s four largest tobacco companies settled with the states by signing the Master Settlement Agreement (MSA).² The MSA requires the companies to pay the 46 states party to the suit more than \$200 billion over 25 years as reimbursement for past tobacco-related health care expenditures.³

- The states reported receiving about \$5.8 billion in 2005 and expected to receive about \$5.4 billion in 2006.⁴
- Over the previous five years, on the average, states received \$9.3 billion per year.

The agreement allows states to use their tobacco settlement payments for any purpose:

- States used the largest portion of the payments in 2005 (32 percent) to fund health-related programs and the next largest portion (24 percent) for debt service on bonds (to fund other spending) issued in expectation of future tobacco payments.⁵
- States expect health programs to account for the same proportion of funds in fiscal year 2006, while they expect the portion going to debt service to increase to 29 percent.

The tobacco industry has seemed resigned to the prospect of paying hundreds of billions of dollars. However, almost all the settlement costs will be passed on to consumers. In a Brookings Institution study, Jeremy Bulow and Peter Kepler estimated that only about \$1 billion of every \$13 billion in annual transfers would come from the pockets of the industry.⁶ In fact, the settlement raised the price of cigarettes by about 45 cents per pack, bringing the real tax on cigarettes nationwide close to 66 cents (not including state and local taxes), instead of the commonly accepted figure of 39 cents per pack.⁷

An examination by the Joint Committee on Taxation of the U.S. Congress provides insight into the regressive nature of the settlement as originally proposed.⁸

- In the first year, 1999, the federal tax burden of people earning less than \$10,000 would rise by an estimated 34.5 percent, versus only 1.4 percent for all taxpayers.
- By 2003, the increase in taxes paid by lower-income workers would rise to 44.6 percent, versus only 1.5 percent for all taxpayers. [See the Table.]

By contrast, taxes paid by top earners — those earning more than \$100,000 — would rise only 0.1 percent by 2003.

Tobacco Lawsuits as a Tax

Change in Federal Taxes* Due to Proposed Tobacco Payment Provisions
in Year Five (2003)

Income	Percent Change
Less than \$10,000	44.6%
\$10,000 to \$20,000	12.3%
\$20,000 to \$30,000	5.4%
\$30,000 to \$40,000	3.3%
\$40,000 to \$50,000	2.2%
\$50,000 to \$75,000	1.5%
\$75,000 to \$100,000	0.7%
\$100,000 to \$200,000	0.1%
More than \$200,000	<0.02%

* “Federal taxes” includes income, employment and excise taxes.

Source: Joint Committee on Taxation, “Distributional Effects of S.1415,” JCX-40-98, May 18, 1998; available at www.house.gov/jct/x-40-98.htm.

¹ James Surowiecki, “Up in Smoke,” *New Yorker*, November 21, 2005, page 46.

² The settlement was criticized because it applied only to the large firms and did not include the small “fringe” producers — these fringe producers would then receive a windfall as a consequence of the higher tobacco prices.

³ Joy Johnson Wilson, National Conference of State Legislatures, Director, AFI Health Committee, “Summary of the Attorneys General Master Tobacco Settlement Agreement,” March 1999. Available at <http://academic.udayton.edu/health/syllabi/tobacco/summary.htm>.

⁴ Government Accountability Office, “Tobacco Settlement: States’ Allocations of Fiscal Year 2005 and Expected Fiscal Year 2006 Payments,” GAO-06-502, April 11, 2006.

⁵ *Ibid.*

⁶ Jeremy Bulow and Peter Kepler, “The Tobacco Deal,” in Martin N. Baily, Peter C. Reiss and Clifford M. Winston, eds., *Brookings Papers on Economic Activity, Microeconomics: 1998* (Washington, D.C.: Brookings Institution Press, 1999), pages 323-94.

⁷ Jonathan Gruber, “Tobacco At the Crossroads: The Past and Future of Smoking Regulation in the United States,” *Journal of Economic Perspectives*, Vol. 15, No. 2, Spring 2001, pages 193-212.

⁸ Joint Committee on Taxation, Congress of the United States, “Distributional Effects of S.1415,” JCX-40-98, May 18, 1998. Available at <http://www.house.gov/jct/x-40-98.htm>.

The Regressive Nature of Tobacco Taxes

Most tax studies assume tobacco taxes will be passed on to consumers in the form of higher prices. Are they right? This assumption is consistent with standard microeconomic theory suggesting that any event that drives up the costs of all producers in a competitive market will, after a period of adjustment, be completely reflected in the price of the good.⁵ In markets that are not perfectly competitive, the impact of a price increase will depend on the level of market power enjoyed by each firm, the market demand and the nature of the interaction between firms. For example, if one producer monopolizes the industry, and the demand for the product remains constant, an excise tax might actually raise prices by more than the amount of the tax. In an oligopolistic industry, such as tobacco, a few dominant firms might coordinate price increases around any changes in taxes.

The flurry of tobacco tax increases imposed by local, state and federal governments over the past 30 years provides a natural experiment for testing the effect of taxes on prices. A number of researchers have done so and found that almost all (and sometimes more) of a tax increase is passed on in the form of higher prices.⁶

Who Smokes? If both the rich and the poor consume the same amounts of a good, the poor necessarily spend a greater portion of their income on that good. But in the case of tobacco, lower-income individuals are more likely to be smokers than those with higher incomes. As a result, no matter how tobacco taxes are measured, lower earners spend more on tobacco products and necessarily bear a heavier burden. Consider:

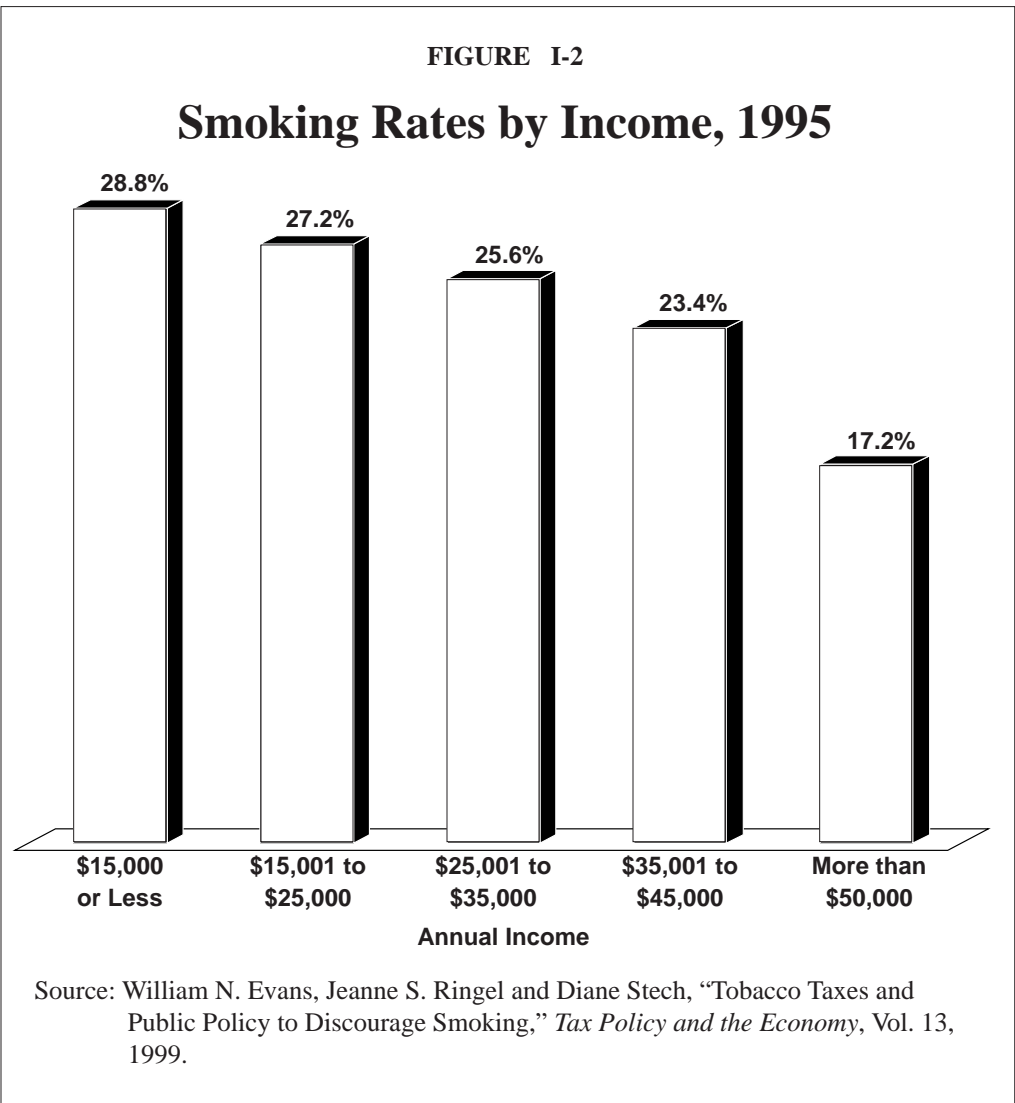
- Almost 29 percent of adults with incomes of less than \$15,000 are smokers; by contrast, only 17.2 percent of people with incomes higher than \$50,000 smoke. [See Figure I-2.]
- Nearly 40 percent of people with only a GED [General Educational Development] certificate are smokers; just 11.7 percent of people with a college degree — and 8 percent of people with a graduate degree — are smokers.⁷

Lower Earners Pay Relatively More Tobacco Taxes. Since low earners are more likely to consume tobacco products, the poor, the less-educated and the less-skilled pay a greater share of their incomes for tobacco products than the wealthy, the highly educated and the skilled:

- People in the bottom 20 percent of income earners, as a group, spend 2.33 percent of their income on tobacco products, more than 10 times the percentage of income paid by the highest earners. [See Table I-2.]
- High school dropouts spend about 1.2 percent of income on tobacco products, versus 0.12 percent for those with a postgraduate degree.

“The poor, less-educated and less-skilled pay a greater share of their incomes for tobacco products than the wealthy, highly educated and skilled.”

“More people with lower incomes than higher incomes smoke.”



- Laborers and construction workers spend 1.0 percent and 1.1 percent of their incomes on tobacco products, respectively, versus just 0.24 percent for managers and professionals.⁸

Less-skilled and less-educated individuals also spend more on average on tobacco products in any given year than do higher earners. (This highlights the unique nature of tobacco products: For almost any other good — housing or entertainment, for example — higher earners spend more than lower earners.)

- On the average, laborers and construction workers spend far more per year on tobacco products (\$445 and \$557, respectively) than managers and professionals (\$211).
- High school graduates spend much more each year (\$380) than people with professional degrees (\$113).⁹

These remarkably different patterns of consumption occur despite a large earnings gap: Professionals earn three times the wage of high school dropouts and twice the wage of high school graduates, on average. And man-

“Tobacco spending decreases significantly as income, education and career status increases.”

agers earn almost twice the wage of laborers and two-thirds more than construction workers.

Lower-Earning Smokers Bear a Significantly Higher Burden. The difference becomes even more pronounced when one considers only households that report tobacco expenditures. Examining actual smokers provides a more meaningful comparison of the effects of excise taxes on different income groups. Unfortunately, there is little data on how much households reporting tobacco expenditures spend on tobacco products by income level but, as noted, education and occupation provide a rough proxy for income. According to the U.S. Bureau of Labor Statistics:¹⁰

- High school dropouts who smoke spend an average of \$1,301 on tobacco products each year; high school graduates who smoke spend \$1,453.
- By contrast, smokers with professional degrees spend \$1,248.

TABLE I-2

Tobacco Spending by Demographic Characteristics

<u>Demographic Characteristic</u>	<u>Average Income Before Taxes</u>	<u>Tobacco Spending as a Percentage of Income</u>	<u>Tobacco Spending as a Percentage of Total Expenditures</u>
<u>Income Quintile</u>			
Average U.S. household	\$54,453	0.53%	0.66%
Bottom 20 percent	\$9,168	2.33%	1.20%
Second 20 percent	\$24,102	1.19%	1.05%
Third 20 percent	\$41,614	0.82%	0.92%
Fourth 20 percent	\$65,000	0.50%	0.64%
Top 20 percent	\$132,158	0.20%	0.32%
<u>Education</u>			
No diploma	\$29,094	1.19%	1.37%
High school graduate	\$42,334	0.90%	1.07%
College graduate	\$75,647	0.22%	0.29%
Post-college degree	\$98,201	0.12%	0.17%
<u>Occupation</u>			
Service workers	\$40,433	0.80%	0.94%
Laborers	\$44,997	1.00%	1.26%
Construction	\$51,542	1.08%	1.30%
Technical/clerical	\$53,033	0.56%	0.69%
Managers/professional	\$86,705	0.24%	0.35%

Source: “Consumer Expenditures in 2004,” U.S. Department of Labor, Bureau of Labor Statistics, Report No. 992, April 2006, Tables 1, 12 and 13.

“The poor spend four times as much of their total annual consumption on tobacco as the wealthy.”

- Therefore, professionals who smoke spend only 1.27 percent of income on tobacco products, compared to 4.47 percent of income for high school dropouts who smoke.¹¹
- Similarly, laborers who smoke spend \$1,382 per year (3.07 percent of income), and construction workers who smoke spend \$1,464 (2.84 percent of income).
- By contrast, managers and professionals who smoke spend \$1,303 on tobacco products — only 1.5 percent of income.

Lifetime Income and Regressivity. Any study of tax regressivity — in fact, studies of any sort of inequality — must deal with an obvious but potentially troublesome problem: incomes change. For example, a 25-year-old law student at the top of her class at a premier law school is probably below the official poverty level. Yet no sensible person would describe her as poor, since her income will rise dramatically after graduation. Similarly, a 50-year-old entrepreneur who just sold a business may appear to have an extremely high income, but averaged over the years it took to build the business, the seeming bonanza looks rather modest.

Our hypothetical law student and entrepreneur may have very similar lifetime incomes, even though in the current year one appears to be poor and the other wealthy. If they were both smokers, both would pay about the same proportion of their lifetime income in taxes. Because incomes change over workers’ lifetimes, these taxes may appear to be more regressive than is, in fact, the case. Therefore, an examination of the lifetime incidence of excise taxes is useful.

If households base current spending on their expected *lifetime* incomes, then consumption provides a more accurate measure of lifetime resources than *annual* incomes. In order to determine the lifetime incidence of excise taxes, economist James Poterba compared annual expenditures on taxed goods to total consumption rather than to pretax income.¹² Poterba explored the different effects annual and lifetime incomes have on the regressivity of excise taxes on gasoline, alcohol and tobacco. As a share of expected lifetime income, expenditures on gasoline and alcohol are still regressive, but generally more equal than as a share of annual income. But tobacco is an exception. Poterba says, “For tobacco, however, even using the consumption metric, the excise tax appears regressive.”¹³

Repeating the previous comparison of the tobacco purchases of rich and poor, but using total expenditures instead of total income [shown in the far right column of Table I-2]:

- Tobacco spending as a percentage of total annual consumption is four times greater for the lowest earners than for the highest earners, versus 10 times greater when calculated as a percentage of total annual income.

- Even when calculated as a percentage of total expenditures, tobacco taxes are still regressive, whether considered by income, education or occupation.

The poor are more likely to smoke, more likely to spend a greater share of income on tobacco products and, in some cases, spend more on tobacco products in real dollar terms than their wealthier counterparts. Thus, proportionately, the poor are more likely to bear a heavier burden of tobacco taxes. By these measures, tobacco taxes are regressive.

Excise Tax Increases and Behavioral Responses

The previous comparisons are based on simple definitions of regressivity — that is, taxes paid relative to income and consumption. However, if different income groups respond in different ways — or to different degrees — to a particular tax, their behavior may affect the regressivity of the tax.

Rising Costs Do Not Affect All Consumers the Same Way. The evidence suggests that the poor are more responsive to changes in prices than the rich, meaning the poor are more likely to quit or reduce consumption of tobacco products than the wealthy when prices rise. Thus, simple comparisons that assume an equal response to high cigarette taxes among all income groups may tend to overstate the regressivity.

Economists generally measure responsiveness to price using elasticity of demand: The percentage change in tobacco products divided by the percentage change in price.

- An elasticity of exactly one, in absolute value, means that a percentage change in price results in an equal percentage change in quantity demanded.
- If elasticity is greater than one, in absolute value, the price increase will result in an even greater percentage decline in the quantity demanded and, consequently, less spending.
- If elasticity is less than one, in absolute value, the price increase will not be matched by an equal percentage decline in the quantity demanded, and spending will rise.

Purchases of addictive goods like cigarettes are considered to be fairly insensitive to price increases. According to a review of the literature by Dahlia Remler, elasticity of demand for tobacco products is between -0.3 and -0.5, indicating these purchases are generally “insensitive to price, but certainly not completely insensitive.”¹⁴ In other words, for a typical smoker, a 10 percent price increase leads to a 3 percent to 5 percent decrease in consumption. (Stated another way, if cigarette prices increase, a typical smoker’s spending on the product will rise since his decrease in consumption is *less* than the increase in price.)

“Price increases have very little effect on the consumption of addictive goods, such as cigarettes.”

“Higher tobacco taxes make low-income smokers worse off because they can no longer afford something they want.”

However, there is ample empirical evidence that smokers as a group are responsive to price increases. National Bureau of Economic Research Associate Michael Grossman finds that changes in price explain a “good deal” about the consumption rates of addictive substances like tobacco products, particularly among teenagers — a result consistent with the growing body of evidence. According to Grossman, “The dramatic increase in the price of cigarettes since 1997 explains almost all of the 12-percentage-point reduction in the cigarette participation rate [among teenagers] since that year.”¹⁵

Differential Effects among Rich and Poor Smokers. One of the few studies measuring the difference between the responsiveness of lower- and higher-income smokers to price increases was conducted by Matthew C. Farrelly and his colleagues for the U.S. Centers for Disease Control and Prevention. The study, which examined 14 years of data from the National Health Interview Survey, suggests lower-income smokers (with an elasticity of -0.29) are more likely to reduce their tobacco expenditures when faced with higher prices than smokers with higher incomes (elasticity of -0.17).¹⁶

Farrelly conducted a similar study several years later, which also concluded that lower-income populations were more likely to reduce or quit smoking than their wealthier counterparts, but by a wider margin. It found lower-income smokers (with an elasticity of -0.43) are more than four times as likely to reduce their tobacco expenditures as smokers with higher incomes (elasticity of 0.00 to -0.10).¹⁷

The result: Because higher tobacco taxes encourage the poor to reduce expenditures to a greater degree than the wealthy, the total tax burden shifts to higher-income groups.¹⁸ Unfortunately, lower-income smokers as a group still pay a larger share of their income in excise taxes. Further, regardless of the extent to which lower-income smokers kick the habit, most would agree the lower-income group is worse off because they can no longer afford something they want.

Measures of Well-Being and Paternalism¹⁹

Traditional measures of regressivity may be lacking because they exclude measures of consumer welfare, or the satisfaction derived from consuming a product. Economists base welfare calculations on consumers’ willingness to pay for a good, which is assumed to reflect its value to them.

According to this argument, excise taxes on tobacco hurt smokers — particularly those with lower incomes — in two ways. First, those who don’t quit the habit pay higher prices and are worse off. Second, those who stop consuming are worse off because they no longer get the value of what they wanted to consume. If welfare regressivity is a legitimate consideration when examining tobacco taxes, “externalities” — the costs smokers impose

on nonsmokers — should also be included. See the sidebar, “Do Smokers Pay Their Own Way?” for a brief discussion of externalities. As the sidebar explains, the external costs are almost certainly much lower than the current level of taxes.

“Smokeless tobacco is less harmful than cigarettes, but some states tax it more.”

Are excise taxes defensible on some grounds, even if they tax the poor? Consider the differential taxation of smokeless tobacco and cigarettes, which is fully explored in the sidebar. Although smokeless tobacco is not safe, studies suggest it is safer than smoking cigarettes. If the true purpose of excise taxes on tobacco products is to recoup the external costs to society, states should levy lower taxes on smokeless products; however, some states (Massachusetts, Texas, Minnesota, Idaho, Oklahoma and others) do just the opposite. Since the less harmful product faces the highest tax in many states, the motive is not to recover the external cost.

Some advocates of high tobacco taxes acknowledge the regressivity of excise taxes but focus on other ways to make the overall tax system more progressive.²⁰ Other advocates of higher cigarette taxes suggest tobacco taxes are actually *progressive* when welfare and health effects for the poor are included.

In fact, a relatively new field of behavioral economics says traditional economic welfare measures are not appropriate. These scholars — among whom Jonathan Gruber is a leading voice — expand on the theory of externalities and focus on “internalities,” suggesting smokers’ willingness to pay for tobacco products does not properly account for the harm smokers do to themselves. This assumes all smokers want to quit and seek a “commitment device,” or an external catalyst to help break their addiction.²¹ Due to the greater responsiveness of the poor to price increases, once the “self-control benefits” of taxes are accounted for, says Gruber, tobacco taxes reduce regressivity and may even be progressive in some cases.²²

“The external costs to society of smoking are almost certainly much lower than the taxes smokers pay.”

There are drawbacks to Gruber’s approach. First, it may simply drive smokers to substitute illegal, untaxed purchases for those that are legal and taxed at high rates. Illegal cigarette trafficking has become a multi-billion-dollar-a-year, worldwide trade. It sprang up in response to the large difference between wholesale and consumer prices, which result from high tobacco taxes around the world, according to a study conducted by the Government Accountability Office.²³

Second, it requires researchers to make many assumptions about the behaviors and preferences of their subjects, the validity of which is highly uncertain. Further, to put it bluntly, this view holds that smokers are ignorant of their own best interests and that government intervention can prevent them from harming themselves.

Eight out of 10 smokers say they want to quit smoking.²⁴ Some do quit, but many don’t. Why not? It may simply be that in answering such survey questions, respondents use the word “want” to indicate some level

Do Smokers Pay Their Own Way?

An externality is a cost not paid by the person who enjoys the benefit. If, for example, you drive a car that belches clouds of vile blue smoke, you would enjoy the benefits that come from driving a cheap car while inflicting the costs of your behavior on those forced to breathe the dirty air. Taxes are one way of forcing someone who creates externalities to bear the costs.

Smokers create negative externalities: they use more health care (because of their higher incidence of cancer, heart disease and respiratory problems), lower productivity at work, and so on, which are subsidized by nonsmokers. Some of these costs are offset by the morbid, yet relevant, fact that smokers tend to die young. For example, smokers pay Social Security taxes all their lives but because of shorter life spans, on the average, collect fewer benefit checks. On net, then, smokers cause nonsmokers to pay more in health care taxes but less in Social Security payroll taxes.

Smokers also create externalities through second-hand smoke. While second-hand smoke is definitely a nuisance for nonsmokers, the health effects are highly uncertain. Jonathan Gruber, a leading researcher on tobacco taxes, says calculations of external costs are “quite ambiguous and controversial.”¹

An excise tax is one way for society to “charge” smokers for the harm they cause others. But how high should the excise tax be? There is a great deal of dispute over how much external costs smokers impose on others:

- On the low end, studies by Willard G. Manning and colleagues calculated net externalities at about 16 cents per pack of cigarettes in the 1980s,² while in 2001 Frank Chaloupka and Kenneth Warner claimed the net cost may be as high as 70 cents per pack.³
- Most traditional economic analyses suggest the average tax level already exceeds smokers’ external cost to society, even when the health effects of second-hand smoke are included.⁴

Other external costs are suggested by evidence that smoking is associated with lower birth weights, sudden infant death syndrome, infant mortality and fetal loss. Such costs are extremely difficult to fully quantify, but one thorough analysis places the costs between 42 cents and 72 cents per pack of cigarettes.⁵

There are also different external costs for different tobacco users. Although smokeless tobacco — including snuff or chewing tobacco — is not safe,⁶ studies suggest smokeless tobacco use is safer than smoking cigarettes.⁷ That is due in large part to the avoidance of chemicals ingested during the

combustion of tobacco. A leading study by Richard Ault at Auburn University finds that encouraging smokers to take up smokeless tobacco would result in about 2.16 million life years saved and health care cost savings of about \$3 billion per year.⁸

If the true purpose of excise taxes on tobacco products is to recoup the external costs to society, states should levy lower taxes on smokeless products than on cigarettes. However, some states do the reverse.⁹ About a fifth of the states charge higher taxes as a percent of the manufacturer's or wholesale price than for cigarettes, including Massachusetts (90 percent for smokeless products versus 68 percent for cigarettes), Texas (35.2 percent versus 18.5 percent), Minnesota (70 percent versus 55.4 percent), Idaho (40 percent versus 25.7 percent) and Oklahoma (60 percent versus 46.4 percent), to name a few.

It appears the differential excise tax rates levied on cigarettes and smokeless tobacco products are, on balance, set without regard to the products' different health effects and external social costs. The external costs of smoking appear much lower than the current level of tobacco taxes, meaning smokers pay their own way. Smokeless tobacco users — particularly in states that levy relatively higher excise taxes on smokeless tobacco products — more than pay their own way.

¹ Jonathan Gruber, "Tobacco At the Crossroads: The Past and Future of Smoking Regulation in the United States."

² See Willard G. Manning et al., *The Costs of Poor Health Habits* (Cambridge, Mass.: Harvard University Press, 1989); and Willard G. Manning et al., "The Taxes of Sin: Do Smokers and Drinkers Pay Their Way?" *Journal of the American Medical Association*, Vol. 261, No. 11, 1989, pages 1,604-09.

³ Frank J. Chaloupka and Kenneth Warner, "The Economics of Smoking," in Anthony Culyer and Joseph Newhouse, eds., *Handbook of Health Economics* (New York: Elsevier, 2000), pages 1,539-1,628.

⁴ Jonathan Gruber and Botond Koszegi, "A Theory of Government Regulation of Addictive Bads: Optimal Tax Levels and Tax Incidence for Cigarette Excise Taxation." Also see W. Kip Viscusi, "Cigarette Taxation and the Social Consequences of Smoking," in James Poterba, ed., *Tax Policy and the Economy* (Cambridge, Mass.: MIT Press, 1995), pages 51-101.

⁵ William N. Evans, Jeanne S. Ringel and Diane Stech, "Tobacco Taxes and Public Policy to Discourage Smoking." Some studies include so-called "internalities," or the damage smokers do to themselves. Using standard values for a year of life, a number of recent studies find the costs reach \$40 per pack of cigarettes. Of course, virtually all of these costs are borne by smokers themselves. See Frank A. Sloan et al., *The Price of Smoking* (Cambridge, Mass.: MIT Press, 2004).

⁶ See, for example, S. Jane Henley et al., "Two large prospective studies of mortality among men who use snuff or chewing tobacco," *Cancer Causes and Control*, Vol. 16, 2005, pages 347-58.

⁷ See, for example, David T. Levy et al., "The Relative Risks of a Low-Nitrosamine Smokeless Tobacco Product Compared with Smoking Cigarettes: Estimates of a Panel of Experts," *Cancer Epidemiology, Biomarkers & Prevention*, Vol. 13, Issue 12, December 2004, pages 2,035-42. Also see Brad Rodu, *For Smokers Only: How Smokeless Tobacco Can Save Your Life* (New York: Sulzburger & Graham, 1995).

⁸ Richard W. Ault et al., "Smokeless Tobacco, Smoking Cessation and Harm Reduction: An Economic Analysis," *Journal of Applied Economics*, Vol. 36, 2004, pages 17-29.

⁹ Katie McMahon, "State Excise Tax Rates for Non-Cigarette Tobacco Products," Campaign for Tobacco-Free Kids, September 29, 2005. Available at <http://www.tobaccofreekids.org/research/factsheets/pdf/0169.pdf>.

“The poor are more likely than the wealthy to give up smoking in response to a price increase.”

of desire and not an intended course of action. If, for example, researchers asked men between the ages of 18 and 25 whether they wanted a Corvette, many would answer yes. But only a few of those who say they want the car actually buy one. To experience the pleasure of owning a Corvette requires the sacrifice of many other pleasures. To capture the benefits of not smoking requires the sacrifice of the pleasure of smoking. If smokers are acting rationally — in the sense that the benefits of smoking are greater than the costs — then taxes that force people to quit or reduce smoking make them worse off. And by extension, therefore, taxes that disproportionately impact poor smokers are regressive.

Several economists have suggested that tobacco use is different than owning a Corvette. Because smoking is not only a learned behavior but actually addictive, these analysts claim that smoking is irrational and so interventions forcing people to quit smoking can actually leave them better off. Someone who buys a Corvette this year should know that he or she will spend more on gasoline and car insurance in the future. Similarly, someone who begins smoking this year should know that he or she is likely to continue the habit in the future.

Expressed this way, the argument is seen as Big Brother paternalism dressed up in the esoteric language of economics. And whether the government can or should protect us from our own folly is an important and unresolved matter that cannot be settled by scientific analysis.

Conclusion

The poor, the less-educated and the less-skilled are more likely to smoke, more likely to spend a greater share of income on tobacco products and, in some cases, spend more on tobacco products in real dollar terms than their wealthier counterparts. Thus, proportionately, the poor are more likely to bear a heavier burden of tobacco taxes. By these measures, tobacco taxes are regressive. At the same time, the poor are more likely to quit smoking — or reduce their tobacco expenditures — in response to higher prices.

Although some suggest that higher tobacco taxes will make the poor better off because of the health effects of quitting smoking, by conventional economic measures, taxing tobacco means taxing the poor. Moreover, if prices rise, lower-income people who don't quit will pay higher prices.

By any measure, tobacco taxes place a heavier burden on lower-income families. As a result, excise taxes on tobacco products are regressive. Policy-makers who are considering raising tobacco taxes at the federal, state or local level should consider the disproportionate burden their lower-income constituents will bear.

“Lower-income people who don't quit will bear a heavier burden than the wealthy.”

Notes

- ¹ Jonathan Gruber, "Tobacco at the Crossroads: The Past and Future of Smoking Regulation in the United States," *Journal of Economic Perspectives*, Vol. 15, No. 2, spring 2001, pages 193-212.
- ² Congressional Budget Office, *Budget Options* (Washington, D.C.: Congress of the United States, February 2005), page 330.
- ³ U.S. Census Bureau, *Census of Governments, State Government Tax Collections Summary Tables*, March 2005. Available at <http://www.census.gov/govs/www/statetax.html>.
- ⁴ *Ibid.*
- ⁵ To state the point more carefully, in a perfectly competitive industry where all firms have similar costs, the long-run equilibrium price is defined by the average costs (including all opportunity costs) of a firm producing at minimum efficient scale and hence minimum average costs. Since an excise tax will raise minimum average costs by the amount of the tax, the price will include the tax.
- ⁶ A study by William N. Evans et al. presents a compelling analysis using data from a 12-year period from all states and the District of Columbia, finding "that excise taxes are passed completely on to consumers in the form of higher retail prices." See William N. Evans, Jeanne S. Ringel and Diana Stech, "Tobacco Taxes and Public Policy to Discourage Smoking," *Tax Policy and the Economy*, Vol. 13, 1999. For more information, see Jeffrey E. Harris, "On the Fairness of Cigarette Excise Taxation," in *The Cigarette Excise Tax* (Cambridge, Mass.: Harvard University, 1985), pages 106-111; Daniel A. Sumner, "Measurement of Monopoly Behavior: An Application to the Cigarette Industry," *Journal of Political Economy*, 1981; Daniel Sullivan, "Testing Hypotheses about Firm Behavior in the Cigarette Industry," *Journal of Political Economy*, 1985; Nicholas H. Stern, "The Effects of Taxation, Price Control and Government Contracts in Oligopoly and Monopolistic Competition," *Journal of Public Economics*, Vol. 32, No. 2, 1987, pages 133-58; Paul G. Barnett, Theodore E. Keeler and Teh-wei Hu, "Oligopoly Structure and the Incidence of Cigarette Excise Taxes," *Journal of Public Economics*, Vol. 57, No. 3, 1995, pages 457-70; and Theodore E. Keeler et al., "Do Cigarette Producers Price-Discriminate by State? An Empirical Analysis of Local Cigarette Pricing and Taxation," *Journal of Health Economics*, Vol. 15, No. 4, 1996, pages 499-512.
- ⁷ Income data from William N. Evans, Jeanne S. Ringel and Diane Stech, "Tobacco Taxes and Public Policy to Discourage Smoking." Education data from the Centers for Disease Control and Prevention's "National Health Interview Survey, 2004."
- ⁸ "Consumer Expenditures in 2004," U.S. Department of Labor, Bureau of Labor Statistics, Report No. 992, April 2006, Tables 1, 12 and 13. Available at <http://www.bls.gov/cex/csxann04.pdf>.
- ⁹ *Ibid.*
- ¹⁰ Mark Vendemia, "Tobacco Expenditures by Education, Occupation and Age," in "Consumer Expenditure Survey Anthology, 2005," U.S. Department of Labor, Bureau of Labor Statistics, Report No. 981, April 2005, page 51. Available at <http://www.bls.gov/cex/csxanthol05.pdf>.
- ¹¹ Incomes for the education and occupation groups are presented in Table I-2.
- ¹² James Poterba, "Lifetime Incidence and the Distributional Burden of Excise Taxes," *American Economic Review*, Vol. 79, 1989, pages 325-30.
- ¹³ *Ibid.*
- ¹⁴ Dahlia K. Remler, "Poor Smokers, Poor Quitters and Cigarette Tax Regressivity," *American Journal of Public Health*, Vol. 94, No. 2, February 2004, pages 225-29. For a more thorough treatment of smokers' responsiveness to high cigarette taxes, see Michael Grossman, "Individual Behaviors and Substance Abuse: The Role of Price," National Bureau of Economic Research, Working Paper No. 10948, December 2004.
- ¹⁵ Matt Nesvisky, "Smoking, Drinking and Drug Use Respond to Price Changes," National Bureau of Economic Research, NBER Digest, May 2005; based on Michael Grossman, "Individual Behaviors and Substance Abuse: The Role of Price." Accessed August 17, 2006. Available at <http://www.nber.org/digest/may05/w10948.html>. Of course, as Grossman acknowledges, price is not the only causal factor. Developments in antismoking campaigns, the diffusion of knowledge about the harmful effects of cigarette smoking, minimum legal ages, warning labels and the price of nicotine replacement products like gum and patches also play a role. After all, the proportion of adults who smoke declined steadily from 1966 to 1990, despite the fact that prices rose, fell and rose again during that period. For a more detailed discussion, see Jeffrey E. Harris, "A Working Model for Predicting the Consumption and Revenue Impacts of Large Increases in the U.S. Federal Cigarette Excise Tax," National Bureau of Economic Research, Working Paper No. 4803, July 1994.

¹⁶ Matthew C. Farrelly and Jeremy W. Bray, "Response to Increases in Cigarette Prices by Race/Ethnicity, Income and Age Groups – United States, 1976-1993," *Morbidity and Mortality Weekly Report*, Vol. 47, No. 29, July 1998, pages 605-9.

¹⁷ Matthew C. Farrelly et al., "Response by Adults to Increases in Cigarette Prices by Sociodemographic Characteristics," *Southern Economic Journal*, Vol. 68, No. 1, 2001, pages 156-65.

¹⁸ Since the poor are more likely to reduce tobacco expenditures than the rich, it reasonable to assume rising prices will shift the burden of taxation to the rich. However, it should be noted that over the past several decades, smoking has become "very socioeconomically concentrated," even as cigarette prices have increased. This could happen for reasons other than price elasticity, but whatever the cause, it has more than offset the effect of a higher price elasticity among the poor. See Jonathan Gruber, "Tobacco at the Crossroads."

¹⁹ This section draws on concepts explored in Dalhia Remler, "Poor Smokers, Poor Quitters and Cigarette Tax Regressivity."

²⁰ One such advocate is Edgar Browning, professor at Texas A&M University. Browning says the poor receive large portions of their incomes from government transfer programs, which are funded directly or indirectly from excise taxes and other government revenues. Since the rich bear most of the tax burden and most of the benefits flow to lower-earners, the entire system as a whole is progressive. Edgar K. Browning and William R. Johnson, "The Distribution of the Tax Burden," American Enterprise Institute, 1979. Also see Edgar K. Browning, "Tax Incidence, Indirect Taxes and Transfers," *National Tax Journal*, Vol. 38, December 1985, pages 525-34.

²¹ Jonathan Gruber and Botond Koszegi, "A Theory of Government Regulation of Addictive Bads: Optimal Tax Levels and Tax Incidence for Cigarette Excise Taxation," National Bureau of Economic Research, Working Paper No. 8777, February 2002.

²² *Ibid.*

²³ "Cigarette Smuggling: Federal Law Enforcement Efforts and Seizures Increasing," U.S. General Accounting Office, Report No. GAO-04-641, May 2004. Available at <http://www.gao.gov/new.items/d04641.pdf>.

²⁴ David Burns, "Reducing Tobacco Use: What Works in the Population?" *Journal of Dental Education*, Vol. 66, No. 9, 2002, pages 1,051-60.

Section II: Excise Taxes and Alcohol

Introduction

Alcohol taxes, like tobacco taxes, are designed to raise revenue by taxing a behavior that society has deemed “sinful.” Also like tobacco taxes, alcohol taxes have become a popular, convenient way for state legislators to raise money without resorting to explicit increases in income or sales taxes. Unlike expenditures on tobacco products, alcohol expenditures rise with income. Even so, alcohol taxes are still regressive, since they constitute a larger percentage of income for lower earners than higher earners.

Alcohol Taxes

Alcohol taxes have been a feature of the U.S. tax system since the country’s founding. In fact, the first tax implemented under the new U.S. Constitution in 1789 was a levy on imported spirits. Congress followed with a tax on domestically produced alcohol in 1791. Since then, alcohol taxes have impacted everything from government bureaucracy to stock car racing.¹

Federal treatment of alcohol has varied widely over time, from repeal of the federal excise tax on liquor, due in large part to the Whiskey Rebellion of 1794, to outright prohibition of alcohol by 1919, and still later to repeal of Prohibition. For much of the last half of the 20th century, the federal government largely ignored alcohol as a source of new revenue, and between 1951 and 1990, taxes on alcohol remained mostly unchanged. However, in recent years, federal and state governments have turned to excise taxes to fill government coffers:

- The 1990 Budget Act, which raised taxes on a number of so-called “luxury” goods to increase federal revenues, doubled tax rates on beer and wine.
- Legislative efforts at the state level have accelerated over the past several years, although they have been largely unsuccessful.
- In 2005 alone, 13 states proposed increases in alcohol taxes and fees.²

Variations in Alcohol Taxes. Today, taxes are much lower on beer and wine than on distilled spirits, and they are calculated in different ways. At the federal level:³

- Beer, measured by the barrel, is currently taxed at \$18 per barrel or about 10 cents per ounce of alcohol (assuming an alcohol content of 4.5 percent); however, some microbrews are taxed at only \$7 per barrel.

“Alcohol taxes are a popular, convenient way to fill government coffers.”

“Taxes on alcohol vary widely by state and follow no coherent pattern.”

- Wine is taxed at \$1.07 per gallon, or about 8 cents per ounce of alcohol (assuming an average alcohol content of 11 percent).
- Distilled spirits, measured in proof gallons, are taxed at \$13.50 per proof gallon, or about 21 cents per ounce of alcohol.⁴

In addition, each state levies its own excise taxes on alcohol based on its own unit of measure — including gallons, barrels, fluid ounces and percent of retail price. Some states also charge varying rates for different concentrations of alcohol. This significantly complicates calculation and comparison of alcohol taxes between states. To aid in this effort, Table II-1 presents the varying federal and state charges converted to a comparable index called “tax per drink.” A drink equals a 12-ounce beer with less than 5 percent alcohol, a 5-ounce glass of wine with less than 14 percent alcohol, or 1-ounce of 100-proof alcohol. The averages indicate that tax rates on spirits are greater than the tax rates on wine and beer; however, averages can be deceiving. The real story is how tax rates on alcohol — like taxation in general — follow no coherent pattern, with widely different rates charged on the same basic activity.

- Nationally, the average tax is 2.3 cents for beer, 2.9 cents for wine and 2.9 cents for spirits.
- States’ taxes per drink range from a low of 0.002 cents on beer in Wyoming to a high of 8.8 cents on wine in Florida.
- The federal government’s tax, which is added to the state rate, is 5.3 cents for beer, 4.2 cents for wine and 10.6 cents for spirits.

Further, regulations in some states impose an even larger implicit tax on alcohol. For example, in some states certain types of alcohol can only be purchased from a state-sponsored or state-operated store, which imposes a large cost in convenience as well as price. These state regulations also complicate cross-state comparisons of alcohol tax rates.

Alcohol Taxes from the Consumer’s Perspective. Perhaps a more meaningful way to examine alcohol taxes is from the consumer’s perspective. Table II-2 expresses excise taxes by the unit with which consumers might be most familiar: a six-pack of beer (72 ounces), a bottle of wine and a fifth of spirits (the latter two of which are each 750 milliliters or 25.36 ounces). Again, the tax levies follow no coherent pattern from state to state:

- Nationally, the average tax is 14 cents for a six-pack, 15 cents for a bottle of wine and 73 cents for a fifth of spirits.
- States’ taxes per unit of purchase range from a low of 1 cent on beer in Wyoming to \$1.29 on spirits in Florida.
- Federal taxes amount to 32 cents for beer, 21 cents for wine and a whopping \$2.69 for spirits.

TABLE II-1

Alcohol Tax Burden by State, 2006

(for equivalent amount of alcohol)

<u>Tax Authority</u>	<u>Beer</u> <u>(12 oz.)</u>	<u>Table</u> <u>Wine</u> <u>(5 oz.)</u>	<u>Spirits</u> <u>(1 oz.)</u>
Federal	\$0.053	\$0.042	\$0.106
Alabama	\$0.050	\$0.066	*
Alaska	\$0.033	\$0.033	\$0.044
Arizona	\$0.015	\$0.033	\$0.023
Arkansas	\$0.022	\$0.029	\$0.020
California	\$0.019	\$0.008	\$0.026
Colorado	\$0.008	\$0.011	\$0.018
Connecticut	\$0.018	\$0.023	\$0.035
Delaware	\$0.015	\$0.038	\$0.029
District of Columbia	\$0.008	\$0.012	\$0.012
Florida	\$0.045	\$0.088	\$0.051
Georgia	\$0.045	\$0.059	\$0.030
Hawaii	\$0.087	\$0.054	\$0.046
Idaho	\$0.014	\$0.018	*
Illinois	\$0.017	\$0.029	\$0.035
Indiana	\$0.011	\$0.018	\$0.021
Iowa	\$0.018	\$0.068	*
Kansas	\$0.017	\$0.012	\$0.020
Kentucky	\$0.008	\$0.020	\$0.015
Louisiana	\$0.030	\$0.004	\$0.020
Maine	\$0.033	\$0.023	*
Maryland	\$0.008	\$0.016	\$0.012
Massachusetts	\$0.010	\$0.022	\$0.032
Michigan	\$0.019	\$0.020	*
Minnesota	\$0.014	\$0.012	\$0.039
Mississippi	\$0.040	\$0.014	*
Missouri	\$0.006	\$0.012	\$0.016
Montana	\$0.013	\$0.041	*
Nebraska	\$0.022	\$0.029	\$0.023
Nevada	\$0.008	\$0.016	\$0.016
New Hampshire	\$0.028	**	*
New Jersey	\$0.011	\$0.027	\$0.034
New Mexico	\$0.038	\$0.066	\$0.047
New York	\$0.013	\$0.007	\$0.050
North Carolina	\$0.050	\$0.031	*
North Dakota	\$0.015	\$0.020	\$0.020
Ohio	\$0.017	\$0.012	\$0.018
Oklahoma	\$0.038	\$0.028	\$0.043
Oregon	\$0.008	\$0.026	*
Pennsylvania	\$0.008	**	*

“State taxes per drink range from 0.002 cents on beer in Wyoming to 8.8 cents on wine in Florida.”

TABLE II-1 (continued)

Alcohol Tax Burden by State, 2006

(for equivalent amount of alcohol)

<u>Tax Authority</u>	<u>Beer</u> <u>(12 oz.)</u>	<u>Table</u> <u>Wine</u> <u>(5 oz.)</u>	<u>Spirits</u> <u>(1 oz.)</u>
Rhode Island	\$0.009	\$0.023	\$0.029
South Carolina	\$0.072	\$0.042	\$0.021
South Dakota	\$0.025	\$0.036	\$0.031
Tennessee	\$0.012	\$0.043	\$0.031
Texas	\$0.019	\$0.008	\$0.019
Utah	\$0.033	\$0.005	*
Vermont	\$0.025	\$0.022	*
Virginia	\$0.024	\$0.059	*
Washington	\$0.024	\$0.031	*
West Virginia	\$0.017	\$0.039	*
Wisconsin	\$0.006	\$0.010	\$0.025
Wyoming	\$0.002	**	*
State Average	\$0.023	\$0.029	\$0.029

* States where the government directly controls sales of spirits. Revenue is from various sources, including taxes, fees and net profits.

** Wine sales through state stores. Revenue is from various sources, including taxes, fees and net profits.

Source: Tax Policy Center, "State Alcohol Tax Rates, 2006."

"The federal government's take is 5.3 cents for beer, 4.2 cents for wine and 10.6 cents for spirits."

In all, the federal government collected about \$8.9 billion in alcohol taxes last year, including \$3.6 billion on beer, \$800 million on wine and \$4.4 billion on spirits.⁵ States collectively raised almost \$5 billion.⁶

Who Drinks What? Given the variation in the way different types of alcoholic beverages are taxed, it is important to explore the characteristics of those who buy different types of alcohol.⁷ Beer is the type most often purchased in America today. Although higher-income households buy beer more often than lower-income households, beer makes up a much greater portion of alcohol purchases among lower earners than higher earners:

- Overall, 29 percent of American households purchase alcohol; beer makes up more than half (52.5 percent) of purchases, wine is 28.1 percent and spirits are 19.3 percent.
- Only 13.1 percent of the lowest-earning households purchase alcohol; of their total alcohol purchases, 60.2 percent is beer, 25 percent is wine and about 15 percent is spirits.
- Forty-three percent of the highest-earning households purchase alcohol; among them, beer and wine purchases are relatively equal (41.7 percent and 38 percent, respectively), while spirits constitute 19.3 percent.⁸

TABLE II-2

Alcohol Tax Burden by State From the Consumer's Perspective, 2006

<u>Tax Authority</u>	<u>Beer (6-Pack)</u>	<u>Wine (Bottle)</u>	<u>Spirits (A "Fifth")</u>
Federal	\$0.32	\$0.21	\$2.69
Alabama	\$0.30	\$0.33	*
Alaska	\$0.20	\$0.17	\$1.12
Arizona	\$0.09	\$0.17	\$0.58
Arkansas	\$0.13	\$0.15	\$0.51
California	\$0.11	\$0.04	\$0.66
Colorado	\$0.05	\$0.06	\$0.46
Connecticut	\$0.11	\$0.12	\$0.89
Delaware	\$0.09	\$0.19	\$0.74
District of Columbia	\$0.05	\$0.06	\$0.30
Florida	\$0.27	\$0.45	\$1.29
Georgia	\$0.27	\$0.30	\$0.76
Hawaii	\$0.52	\$0.27	\$1.17
Idaho	\$0.08	\$0.09	*
Illinois	\$0.10	\$0.15	\$0.89
Indiana	\$0.07	\$0.09	\$0.53
Iowa	\$0.11	\$0.34	*
Kansas	\$0.10	\$0.06	\$0.51
Kentucky	\$0.05	\$0.10	\$0.38
Louisiana	\$0.18	\$0.02	\$0.51
Maine	\$0.20	\$0.12	*
Maryland	\$0.05	\$0.08	\$0.30
Massachusetts	\$0.06	\$0.11	\$0.81
Michigan	\$0.11	\$0.10	*
Minnesota	\$0.08	\$0.06	\$0.99
Mississippi	\$0.24	\$0.07	*
Missouri	\$0.04	\$0.06	\$0.41
Montana	\$0.08	\$0.21	
Nebraska	\$0.13	\$0.15	\$0.58
Nevada	\$0.05	\$0.08	\$0.41
New Hampshire	\$0.17	**	*
New Jersey	\$0.07	\$0.14	\$0.86
New Mexico	\$0.23	\$0.33	\$1.19
New York	\$0.08	\$0.04	\$1.27
North Carolina	\$0.30	\$0.16	*
North Dakota	\$0.09	\$0.10	\$0.51
Ohio	\$0.10	\$0.06	\$0.46
Oklahoma	\$0.23	\$0.14	\$1.09
Oregon	\$0.05	\$0.13	*
Pennsylvania	\$0.05	**	*

"State taxes per unit range from a low of 1 cent on beer in Wyoming to \$1.29 on spirits in Florida."

TABLE II-2 (continued)

Alcohol Tax Burden by State From the Consumer's Perspective, 2006

<u>Tax Authority</u>	<u>Beer (6-Pack)</u>	<u>Wine (Bottle)</u>	<u>Spirits (A "Fifth")</u>
Rhode Island	\$0.05	\$0.12	\$0.74
South Carolina	\$0.43	\$0.21	\$0.53
South Dakota	\$0.15	\$0.18	\$0.79
Tennessee	\$0.07	\$0.22	\$0.79
Texas	\$0.11	\$0.04	\$0.48
Utah	\$0.20	\$0.03	*
Vermont	\$0.15	\$0.11	*
Virginia	\$0.14	\$0.30	*
Washington	\$0.14	\$0.16	*
West Virginia	\$0.10	\$0.20	*
Wisconsin	\$0.04	\$0.05	\$0.63
Wyoming	\$0.01	**	*
State Average	\$0.14	\$0.15	\$0.73

* States where the government directly controls sales of spirits. Revenue is from various sources, including taxes, fees and net profits.

** Wine sales through state stores. Revenue is from various sources, including taxes, fees and net profits.

Note: A six-pack of beer is 72 ounces; a bottle of wine and a fifth of spirits are each 25.36 ounces (750 mL).

Source: Tax Policy Center, "State Alcohol Tax Rates, 2006," and authors' calculations.

Alcohol Taxes and the Price of Alcoholic Beverages

In most locales, taxes are levied directly on the producers of alcoholic beverages. The question is whether these alcohol taxes, like tobacco taxes, are passed on to consumers in the form of higher prices.

The standard economic textbook model assumes a relatively simple good sold in a reasonably competitive market. In such a market a tax increase will, in the short run, cause the price to rise by less than the full amount of the tax. As the market adjusts over time, more of the tax is reflected in the price; eventually, the price increase will be fairly similar to the tax increase.

But if the market is not a typical competitive environment, the impact of a tax increase is much less predictable. For example, if the market is controlled by a monopoly (a market with a single seller), a tax increase will, after a period of adjustment, cause the price of the good to increase by more than

"The federal government's tax is 32 cents for beer, 21 cents for wine and a whopping \$2.69 on spirits."

the tax. In an oligopolistic market (a market with relatively few sellers) a tax increase can also lead to a price increase larger than the tax.

A tax increase may also have an “echo” effect: If sales drop in response to the initial price increase, the seller’s unit costs go up and may lead to further price increases. It is also possible that excise tax increases will cause firms to change the types of products sold, substituting higher-quality or higher-priced goods. This last effect is especially likely for alcohol taxes, which are based on volume and not value, since the tax represents a lower portion of the total cost for higher-valued goods.

So, are alcohol taxes passed through to the consumer? In an extensive study of excise taxes and prices, researchers Douglas Young and Agnieszka Bielinska-Kwapisz found a surprising degree of “over-shifting.” That is, prices rose significantly *more* than the amount of the tax, and the change occurred within three months of the tax increase:⁹

- Wine prices increased 1.2 times the amount of any tax increase in states without liquor monopolies and 2.1 times the tax increase in states with a liquor monopoly.
- Beer prices increased 1.7 times the amount of any tax increase.
- Spirit prices increased 1.6 times the amount of any tax increase in all states, with no difference in states with liquor monopolies.

A more recent examination of price and tax data in Alaska by Donald Kenkel confirmed this price over-shifting:¹⁰

- In nearly all markets and for all alcohol products, the rate of over-shifting was greater than the tax increase.
- In both on-premise (bars) and off-premise (liquor store) beer sales, and for many different brands of beer, the price increase was around double the tax increase.
- For on-premise sales of wine and spirits, the price increase was almost four times the tax increase.

Granted, the study is of a specific market, but it allows an examination of the price-tax relationship without concern that differences between markets may distort the true picture.

The Regressive Nature of Alcohol Taxes

The percentage of people purchasing alcohol — as well as the average dollar amount spent — increases with income, according to the Consumer Expenditure Survey, which presents data from 2004 in quintiles of income. However, although lower earners spend far fewer dollars than higher earners on alcohol products, the amount they spend constitutes a much greater percentage of their income.¹¹

“When alcohol taxes increase, consumer prices rise by more than the amount of the tax increase.”

- Twenty-three percent of the lowest-earning quintile (average income \$9,169) purchased alcohol, compared to 31 percent of the middle quintile (average income \$34,647) and 43 percent of the highest earners (average income \$112,158).
- The highest-earning quintile spent about \$876 on alcoholic beverages, on the average, compared to only \$194 for the lowest earners.
- The bottom quintile of income earners spent 2.1 percent of income on alcohol products, on the average, twice the middle quintile and more than three times the highest earners.

Obviously, however, not everybody in an income quintile drinks alcoholic beverages. Examining the expenditures of actual drinkers provides a more meaningful comparison of the effects of alcohol taxes on different income groups. Data from the 2003 Consumer Expenditure Survey Anthology provides such a comparison.¹²

- Lower-income earners who actually purchase alcohol spent \$1,158 per year. [See Table II-3.]
- The highest-income earners who actually purchase alcohol spent \$1,583 per year.
- The lowest earners spent some 13 percent of total income on alcohol products, compared to 1.3 percent for the highest earners.

Of course, it is possible that alcohol taxes — particularly on spirits — are more regressive than reported in this paper. Taxation of spirits is a function of alcohol content; the federal government, for example, charges taxes based on proof gallons, not as a percentage of price. Suppose the rich and poor spend the same proportion of income on alcohol, but the wealthy buy higher-quality products or more-expensive brands. In this instance, the tax could be considered even more regressive than presumed since the affluent get more for their money.

Some researchers have concluded that while alcohol taxes are regressive with respect to current household income, they are less regressive over time for an important reason: incomes change.

- First, income is subject to short-term fluctuations; a higher-income household might be classified as low-income if the primary wage-earner was transitioning to a new job or temporarily unemployed.
- Second, income varies over a lifetime; a household of two married medical students would be classified as low-income even though their incomes will most definitely rise in future years.
- Third, expenditures vary over a lifetime, leading to an incorrect conclusion about the lifetime burden of certain taxes.

“Lower earners spend a much greater percentage of their income on alcohol than higher earners.”

TABLE II-3

Alcohol Tax Burden by State From the Consumer's Perspective, 2000

<u>Income Quintile</u>	<u>Average Income</u>	<u>Annual Expenditure</u>	<u>Percent of Income</u>
Bottom 20 Percent	\$8,914	\$1,158	12.9%
Second 20 Percent	\$20,191	\$929	4.6%
Third 20 Percent	\$34,647	\$1,092	3.2%
Fourth 20 Percent	\$55,141	\$1,339	2.4%
Top 20 Percent	\$118,611	\$1,582	1.3%
All	\$48,248	\$1,264	2.6%

Source: Geoffrey Paulin, "Consumer Expenditures for Alcohol in 2000," in "Consumer Expenditure Survey Anthology, 2003," U.S. Department of Labor, Bureau of Labor Statistics, Report No. 967, September 2003.

"The lowest earners spent almost 13 percent of total income on alcohol, compared to 1.3 percent for the highest earners."

It has been established that alcohol taxes are regressive in a given year. But how does the regressivity change over longer periods? Perhaps the most thorough examination of the burden of alcohol taxes over a longer period was developed by Andrew Lyon and Robert Schwab of the University of Maryland.¹³ Analyzing data from the Survey of Income Dynamics, they determined that alcohol taxes are definitely regressive when studying annual income.

However, over longer periods — including a five-year horizon and lifetime consumption — the regressivity of the alcohol tax is reduced relative to the annual data. This occurs because income data covering multiple years reduces the variation in the income distribution and the distribution of alcohol consumption. But the alcohol tax's regressivity, while reduced, is not eliminated. As the authors note, "The alcohol tax remains firmly regressive."

Alcohol Consumption and External Costs

Alcohol consumption creates externalities — costs paid by people who do not enjoy the benefit. Expressing external costs as a tax rate on alcoholic beverages is complex — even more so than for tobacco products — since externalities are largely due to abusive consumption. Readers should note that the vast majority of consumers of alcoholic beverages consume the product responsibly.¹⁴ Even so, external costs do exist and should be addressed.

Societal Costs of Alcohol Abuse. A study conducted for the National Institute on Alcohol Abuse and Alcoholism estimated the annual costs of alcohol abuse as high as \$184 billion, including lost earnings, property damage, traffic accidents, costs to the criminal justice system, and medical costs associated with illness, premature death and fetal alcohol syndrome.¹⁵ Granted, not

all of this cost is external, since, for example, lost earnings are included in the calculation. Regardless, as stated earlier, total excise tax revenues on alcohol at the federal and state levels total only about \$13.9 billion annually, far shy of the total supposed external cost. Alcohol abuse also imposes other social costs: A number of studies show strong correlation between domestic violence and alcohol consumption.¹⁶

“Moderate consumption of alcohol has positive effects on health.”

Positive Effects of Moderate Consumption.¹⁷ However, consumption of alcohol can have positive effects. Moderate consumption — a maximum of two to three glasses of wine or beer a day for men and one to two glasses a day for women — has been shown to have a greater impact on reducing heart disease than any other factor aside from the cessation of smoking. Psychologically, alcohol can make one more relaxed, able to talk more easily and feel less tired. Some even claim it helps people socialize.

Take the case of beer. Since the 1990s, more than 100 studies have shown it is rich in protein, B vitamins and certain minerals, such as magnesium, cadmium and iron. For subjects consuming one to two beers a day, beer provides 14 percent of calories, 11 percent of dietary protein, 12 percent of dietary carbohydrates, nine percent of dietary phosphorus, seven percent of dietary riboflavin and five percent of dietary niacin. Some of its nonalcohol components, called phenols, appear to have anti-oxidant properties that reduce LDL cholesterol (“bad” cholesterol) oxidation.

Other studies suggest red wine seems to offer increased cardiovascular protection — particularly in areas with cold climates — and speculate the effect results from polyphenols, chemical components contained in grape skin. And still others find a significant inverse association between the risk of heart disease and the drinking of spirits. Moreover, alcohol has been found to act as a blood thinner, which can lower rates of heart disease in both men and women.

Taxing Alcohol. One way to recoup the negative costs — or reduce the incidence of the behavior, and thus its external cost — is to increase the excise tax on alcoholic beverages. But problems arise. First, as discussed in this paper, alcohol taxes are regressive. Placing the burden on those least able to pay may not be the best public policy approach. Second, the taxes fall not only on problem drinkers, but also on those who pose no costs on society, including light drinkers for whom alcohol consumption may produce health benefits. Third, if the goal is to reduce consumption — and thereby reduce the external costs — heavy taxation may discourage light or moderate drinkers, but it is unlikely to deter heavy drinkers, who may resort to spending even more of their household resources on alcohol. Finally, policymakers should remember, just as there are social costs to alcohol consumption, extreme policies designed to discourage alcohol consumption can result in costs that far exceed benefits, as evidenced by Prohibition.

Where the Money Goes. An examination of recently proposed alcohol tax increases in the states shows some of the money would have been targeted to alcohol awareness and abuse prevention programs. But much of the money was slated for myriad projects, such as offsetting an income tax reduction, pay raises for teachers and education.¹⁸ If the new money generated by higher taxes on alcohol simply funds general budget items not related to alcohol abuse prevention programs, then state legislatures are simply punishing alcohol consumers — and unduly burdening lower-income people — to add cash to state coffers.

Conclusion

Alcohol taxes are like a patchwork quilt in that tax rates vary by product and vary widely from state to state with no coherent pattern. The bottom line is they impose a burden on those least able to afford them: Lower-income individuals sacrifice more of their income to pay alcohol taxes than more affluent drinkers. Unlike tobacco taxes, studies show the external costs of abusive alcohol consumption are not fully recouped by excise tax revenues. But policymakers shouldn't rush to raise the taxes. Increasing the taxes to fill the gap penalizes moderate drinkers and lower-income families.

“Higher alcohol taxes penalize moderate drinkers and lower-income families.”

Notes

- ¹ The first Civil Service Act in 1883 was a response to the involvement of government officials abetting alcohol tax evasion by the “Whiskey Ring” in 1875. The first stock car racers in the 1930s began as “moonshiners” seeking to avoid revenue officials by driving high-performance cars while delivering untaxed alcohol.
- ² “Proposed Increases in State and Local Taxes and Fees, 2005,” Alcohol Policies Project, Center for Science in the Public Interest, Web page, updated November 3, 2005. Available at <http://www.cspinet.org/booze/taxguide/2005/2005TaxStateUpdate.htm>.
- ³ “Revenue Option 47 — Increase All Alcoholic Beverage Taxes to \$16 per Proof Gallon,” in Congressional Budget Office, Budget Options (Washington, D.C.: Congress of the United States, February 2005).
- ⁴ A proof gallon equals one gallon of 100-proof alcohol (or 50 percent alcohol by volume).
- ⁵ “Federal Excise Taxes Reported to or Collected by the Internal Revenue Service, Alcohol and Tobacco Tax and Trade Bureau, and Customs Service, by Type of Excise Tax, Fiscal Years 1998-2005,” Internal Revenue Service, 2005, Table 21. Available at <http://www.irs.gov/pub/irs-soi/histab21.xls>.
- ⁶ “State and Local Alcoholic Beverage Tax Revenue, Selected Years 1977-2004,” Urban Institute-Brookings Institution Tax Policy Center. Available at <http://www.taxpolicycenter.org/TaxFacts/TFDB/TFTemplate.cfm?Docid=399>.
- ⁷ Much of the evidence on who buys what kind of alcohol is anecdotal or comes from studying specific groups of buyers or specific products. For example, a campaign in 2002 to roll back the federal tax on beer generated a wealth of information about who paid the tax. This roll-back campaign came 12 years after Congress raised taxes on luxury items such as expensive cars, fur coats, jewelry, yachts and private airplanes. For reasons probably best understood by the politicians involved, beer was included among these “luxuries” and the federal excise tax doubled to \$18 per barrel (32 cents per six-pack). By the early 1990s it was obvious that this luxury tax was devastating certain industries, such as yacht construction, and it was quickly repealed on most goods. But since beer drinkers lacked the concentrated political clout of other industries, the beer tax remained. Finally, in 2002, a coalition of brewers and wholesalers organized an unsuccessful attempt to repeal the tax. They were opposed largely by public interest groups who viewed the tax as a way to discourage drinking.
- ⁸ Of course, the difference between higher- and lower-earning households would be mitigated — though not completely eliminated — by the average number of people in higher- and lower-earning households. For example, in a recent survey, households with less than \$10,000 in annual income have, on average, 1.8 adults per household. Households with annual incomes greater than \$100,000 have, on average, 2.3 adults. See Charles T. Clotfelter et al., “State Lotteries at the Turn of the Century: Report to the National Gambling Impact Study Commission,” June 1, 1999.
- ⁹ Douglas J. Young and Agnieszka Bielinska-Kwapisz, “Alcohol Taxes and Beverage Prices,” *National Tax Journal*, Vol. 55, No. 1, March 2002, pages 57-73.
- ¹⁰ Donald S. Kenkel, “Are Alcohol Tax Hikes Fully Passed Through to Prices? Evidence from Alaska,” *American Economic Review*, Vol. 95, No. 2, May 2005, pages 273-77. In 2002 Alaska experienced some of the most dramatic alcohol tax increases in recent history; taxes increased from 35 cents to \$1.07 per gallon for malt beverages, 85 cents to \$2.50 per gallon for wine, and \$5.60 to \$12.50 per gallon for distilled spirits.
- ¹¹ “Consumer Expenditures in 2004,” U.S. Department of Labor, Bureau of Labor Statistics, Report No. 992, April 2006.
- ¹² Geoffrey Paulin, “Consumer Expenditures for Alcohol in 2000,” in “Consumer Expenditure Survey Anthology, 2003,” U.S. Department of Labor, Bureau of Labor Statistics, Report No. 967, September 2003.
- ¹³ Andrew B. Lyon and Robert M. Schwab, “Consumption Taxes in a Life-Cycle Framework: Are Sin Taxes Regressive?” *Review of Economics and Statistics*, pages 89-406. The Panel Survey of Income Dynamics (PSID) is an annual survey of households that began in 1968. Lyon and Schwab reported the expenditures on alcohol and cigarettes by income group (including the expenditures on cigarettes yields an interesting comparison of alcohol to a tax that, as we have seen, is highly regressive). Households are grouped by quintiles, with the first quintile being the 20 percent of households with the lowest income. From the PSID it is possible to calculate the total amount earned by all households in the sample and also the total amount earned by those households at or below each income quintile.
- ¹⁴ As a result, an efficient alcohol tax may not recoup all external costs. That is, abusive drinkers will likely consume alcohol even in the face of high taxes, even if it means shifting to cheaper products. This suggests a higher tax will do more to discourage consumption by responsible drinkers who generate little external cost. Thus, an ideal tax rate may not generate tax revenue as large as the external cost.

¹⁵ Henrick Harwood, “Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods and Data,” report prepared by the Lewin Group for the National Institute on Alcohol Abuse and Alcoholism, December 2000, based on estimates, analyses, and data reported in Henrick J. Harwood, Douglas Fountain and Gina Livermore, “The Economic Costs of Alcohol and Drug Abuse in the United States 1992,” report prepared for the National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health, U.S. Department of Health and Human Services, Publication No. 98-4327, September 1998. Available at <http://pubs.niaaa.nih.gov/publications/economic-2000/alcoholcost.PDF>.

¹⁶ Lenore E. Walker, *The Battered Woman Syndrome* (New York: Springer Publishing Company, 1984), cited in Sara Markowitz, “The Price of Alcohol, Wife Abuse and Husband Abuse,” *Southern Economic Journal*, Vol. 67, No. 2, October 2000, pages 279-303. In addition, Markowitz, of Rutgers University, found that a 1 percent increase in the price of pure alcohol decreases the probability of wives being the victims of spousal abuse by about 5 percent. A Swedish study found a strong correlation between suicide and alcohol abuse. Thor Norstrom, of Stockholm University, found that a one-liter increase in alcohol consumption per capita is associated with a 10 percent increase in the suicide rate. He also found that alcohol consumption influenced the incidence of suicide even more than divorce or unemployment. See Thor Norstrom, “The Impact of Alcohol, Divorce and Unemployment on Suicide: A Multilevel Analysis,” *Social Forces*, Vol. 74, No. 1, September 1995, pages 293-314.

¹⁷ For more information see, Alfredo C. Cordova et al., “The Cardiovascular Protective Effect of Red Wine,” *Journal of the American College of Surgeons*, Vol. 200, No. 3, March 2005, pages 428-39; Dean Edell and David Schrieberg, *Eat, Drink and Be Merry: America’s Doctor Tells You Why the Health Experts Are Wrong* (New York: HarperCollins, 1999), pages 191-92; Pete du Pont (National Center for Policy Analysis), “A Drink to Your Health,” *Washington Times*, June 26, 2001; Pete du Pont (National Center for Policy Analysis), “Belly Full of Benefits,” Knight-Ridder Tribune Newswire, June 28, 1999; Eric B. Rimm et al., “Review of Moderate Alcohol Consumption and Reduced Risk of Coronary Heart Disease: Is the Effect Due to Beer, Wine, or Spirits?” *British Medical Journal*, Vol. 312, No. 7033, March 23, 1996.

¹⁸ “Proposed Increases in State and Local Taxes and Fees, 2005,” Center for Science in the Public Interest.

Section III: Government-Sanctioned Gambling

Introduction

Taxes on gambling are similar to excise taxes on tobacco and alcohol products, to a degree: Each commodity comes in different shapes and sizes, and in most locales different types are taxed in different ways.¹ However, gambling taxes are more complex because there are so many varieties, sponsors and venues of games, from billion-dollar commercial casinos to charity bingo tournaments. This section considers the effects of gambling taxes on lower-income households.

Although this section looks at many different types of gambling, it focuses primarily on state-sponsored lotteries, both because they constitute possibly the single largest source of gambling revenue and taxes and because of the availability of data on lotteries that lends itself to analysis. However, the evidence shows that regardless of the game, gambling taxes place a disproportionate burden on lower-income households.

Gambling: Everyone Is Doing It

A quarter-century ago, only three states allowed legalized gambling; now, every state except Utah and Hawaii allows some form of gambling. Today, Americans spend more money on more forms of legal gambling than at any other time in the nation's history, and gambling has become a fixture in today's popular culture. Casinos are opening at a record pace, state lotteries are recording record sales and shows like the "World Series of Poker" air during prime time on ESPN. Gambling is big business:

- In 2005, almost 900 casinos (including commercial, tribal and race-track casinos) were open in 36 states; consumer spending at casinos, which has almost doubled over the past decade, totaled \$30.3 billion.²
- Also in 2005, state-sponsored lotteries in 41 states raked in a record \$52 billion, up from just \$19 billion in 32 states in 1989.³
- Americans spend \$33 billion on slot machines annually and wager \$13 billion a year on Internet gambling.⁴

Gambling opportunities are continually expanding. The quest to bring casino gambling to dog and horse racetracks — or "racinos" — has become a new trend. Eleven states already allow racinos and six more are considering them.⁵ Meanwhile, Arkansas, Alabama and Wyoming are considering joining the 42 states that offer lotteries. And online gambling — the most rapidly expanding form of gambling — is wildly popular. [See the sidebar "Betting on Online Gambling."]

"Regardless of the game, gambling taxes place a disproportionate burden on lower-income households."

“Two-thirds of Americans gambled in the past year.”

Who Plays? Two-thirds of Americans say they have gambled in the past year and another 12 percent say they gambled in previous years.⁶ Of those who gambled, 52 percent bought a lottery ticket, 29 percent visited a casino and one-fourth played a slot machine. Others bet in office pools, played cards for money, played video poker and so forth. Gambling participation cuts across all races, sexes, education levels and household incomes.

Interestingly, the games of choice are changing. The percentages of Americans who visited a casino or played a slot machine rose over the past two decades (from 20 percent to 29 percent for casinos, and from 19 percent to 24 percent for slot machines), while betting on sports and horse racing have become less popular (from 22 percent to 14 percent for sports, and from 14 percent to 5 percent on horse racing).⁷

Betting on Online Gambling

State governments determine the number of gambling opportunities and where they are located. In essence, virtually all gambling enterprises are state monopolies or state franchises — and are subject to government taxes and fees — with the exception of one type: online gambling. Thus, it should come as no surprise that governments are cracking down.

Online gambling is becoming more common. While only 4 percent of Americans gambled online in 2005, that number doubled in the past year, making it the fastest-growing type of gambling. In fact, 38 percent of online gamblers started in the last year and 70 percent started in the last two years.¹

- Online gambling — including sports betting, poker and other casino games — is a \$12 billion industry.
- In all, there are some 2,300 gambling Web sites; because of the inhospitable gambling environment in the United States, most online gambling providers are located across the Caribbean, Central America and Europe.
- Americans generate 50 percent to 60 percent of the revenue.

In October 2006, Congress passed the Unlawful Internet Gambling Enforcement Act. While the Act does not make it a crime to gamble online, it requires banks and credit card companies to stop processing transactions related to online gambling. However, since the providers are outside the country — and since there are many ways of transferring money from American banks to overseas institutions — numerous online gambling companies continue to serve American gamblers.

Ostensibly, the Act was passed to protect consumers from fraudulent operators; indeed, that is a motivation. But some experts believe the new law was also passed in a bid for U.S. governments to maintain their monopoly on gambling enterprises and ensure access to tax revenue generated by that activity.

It is uncertain whether the law is having its intended effect.

¹ Michael McCarthy and Jon Swartz, “New Legislation May Pull the Plug on Online Gambling; Ban Would Prohibit Use of Credit Cards, Electronic Funds for Internet Gaming,” *USA Today*, October 3, 2006, page 18A.

Attitudes about Gambling. Oddly, as availability and access increased, approval of gambling — while still quite high — has lessened:⁸

- In a recent poll by the Pew Research Center, 71 percent say they approve of lotteries, down from 78 percent in 1989.
- About 51 percent approve of legalizing casino gambling as a way for states to raise money, down from 54 percent in 1989.

The slip in popularity seems to stem not from a return to America's Puritanical roots, but from a concern that gamblers will become addicts: 70 percent said legalized gambling leads people to wager more than they can afford, compared to 62 percent in 1989.

Taxing Gambling⁹

Most gambling taxes are collected by state governments. By far the largest source of gambling tax revenues is state lotteries, which last year yielded some \$52.4 billion in total revenues and \$16.4 billion in state proceeds (that is, total revenue less prizes and administrative costs).¹⁰ The lottery is also the most heavily taxed form of gambling: On average, states keep about 33 cents of each dollar collected after subtracting prizes and operating costs. If state proceeds were treated as an implicit tax, the tax rate would be 49 percent (33 cents as a percentage of the 67-cent cost of operation and prizes).¹¹

However, to produce an *ad valorem* tax rate comparable to excises on tobacco and alcohol products, the calculation should include the full cost of providing the product; that is, both state proceeds and administrative costs should count toward the lottery's cost to consumers. Stated another way, the tax rate calculation would be state proceeds (33 cents) plus administrative cost (6.1 cents) as a percent of prizes (60.9 percent, which is total revenue after state proceeds and administrative costs are subtracted). Thus, the implicit tax rate paid by state lottery participants in the aggregate actually exceeds 64 percent.

This rate is much higher than any state's sales tax and higher than many state excise tax rates on other "sinful" products.¹² For instance:

- One of the lowest lottery tax rates, in Massachusetts, is still twice the state's sales tax rate. [See Table III-1.]
- One of the highest lottery tax rates is found in Montana, which doesn't even collect sales taxes.

Income taxes collected on lottery winnings could also be included in a calculation of lottery taxes, driving the implicit tax rate higher. However, reliable estimates do not exist and are not considered in this paper.

State Monopolies. Virtually all gambling enterprises (with the exception of online gambling) are either state monopolies or state franchises. The

"The lottery is the most heavily taxed form of gambling, yielding \$52.4 billion in total revenues in 2006."

TABLE III-1

Income and Apportionment of State-Administered Lottery Funds: 2004*

<u>State</u>	<u>Total Revenue (thousands of dollars)</u>	<u>Apportionment of Funds (percent of total)</u>			<u>Implicit Tax**</u>	<u>Implicit Ad Valorem Tax***</u>
		<u>Prizes</u>	<u>Admin. Cost</u>	<u>State Proceeds</u>		
Arizona	\$342,081	58.6%	9.9%	31.6%	0.461%	0.708%
California	\$2,768,477	56.6%	5.7%	37.8%	0.607%	0.768%
Colorado	\$407,175	59.6%	7.7%	32.7%	0.487%	0.679%
Connecticut	\$909,593	59.2%	9.6%	31.2%	0.454%	0.690%
Florida	\$2,901,719	59.4%	4.7%	35.9%	0.561%	0.683%
Georgia	\$2,376,271	62.3%	4.7%	33.0%	0.492%	0.605%
Idaho	\$101,366	63.9%	10.6%	25.5%	0.343%	0.566%
Illinois	\$1,572,457	61.9%	3.6%	34.5%	0.526%	0.615%
Indiana	\$668,920	65.3%	4.7%	30.0%	0.429%	0.532%
Iowa	\$195,231	58.6%	14.0%	27.4%	0.377%	0.706%
Kansas	\$211,531	57.1%	9.8%	33.1%	0.495%	0.751%
Kentucky	\$680,125	64.6%	6.6%	28.9%	0.406%	0.549%
Louisiana	\$311,085	54.6%	6.3%	39.2%	0.644%	0.832%
Maine	\$188,975	61.8%	15.7%	22.5%	0.291%	0.618%
Maryland	\$1,395,408	56.6%	10.0%	33.4%	0.502%	0.767%
Massachusetts	\$4,375,585	72.0%	1.7%	26.4%	0.358%	0.390%
Michigan	\$1,841,381	59.7%	3.1%	37.2%	0.592%	0.674%
Minnesota	\$345,915	69.6%	6.5%	23.9%	0.314%	0.437%
Missouri	\$742,476	65.3%	5.2%	29.5%	0.419%	0.531%
Montana	\$34,649	53.9%	19.6%	26.5%	0.360%	0.855%
Nebraska	\$92,608	56.8%	22.2%	20.9%	0.265%	0.760%
New Hampshire	\$226,282	60.6%	6.8%	32.6%	0.483%	0.650%
New Jersey	\$2,065,672	57.9%	3.5%	38.5%	0.627%	0.726%
New Mexico	\$138,446	61.5%	12.5%	26.0%	0.351%	0.626%
New York	\$5,491,844	60.2%	4.1%	35.7%	0.555%	0.661%
Ohio	\$2,154,715	59.2%	12.9%	27.9%	0.387%	0.689%

TABLE III-1 (continued)

Income and Apportionment of of State-Administered Lottery Funds: 2004*

<u>State</u>	<u>Total Revenue</u> (thousands of dollars)	<u>Apportionment of Funds</u> (percent of total)			<u>Implicit Tax</u> **	<u>Implicit Ad Valorem Tax</u> ***
		<u>Prizes</u>	<u>Admin. Cost</u>	<u>State Proceeds</u>		
Pennsylvania	\$2,162,359	60.4%	0.9%	38.7%	0.632%	0.656%
South Carolina	\$883,058	62.5%	4.5%	32.9%	0.491%	0.599%
Texas	\$3,487,925	59.3%	10.2%	30.5%	0.438%	0.686%
Vermont	\$86,986	66.2%	10.7%	23.1%	0.300%	0.511%
Virginia	\$1,262,359	56.0%	10.5%	33.4%	0.503%	0.785%
Washington	\$481,439	61.4%	13.6%	25.0%	0.333%	0.629%
Wisconsin	\$449,045	61.3%	7.4%	31.3%	0.456%	0.632%
U.S. Total	\$45,465,862	60.8%	6.1%	33.1%	0.494%	0.644%

* Five states with lotteries in 2004 are not included in this table (Delaware, Oregon, South Dakota, Rhode Island and West Virginia) because of complications arising from the allocation and reporting of revenues from video lottery terminals. While revenues and state proceeds for video terminals are reported by the National Association of State and Provincial Lotteries, prizes and administration are not, which does not allow for an accurate calculation of implicit tax rates.

** Implicit Tax Rate is calculated by dividing the state's "profit," or net revenue, by administrative costs and prizes.

*** Ad Valorem Implicit Tax is more comparable to other excise tax rates and is essentially the cost of providing the service purchased for \$1. It is calculated by treating state profit and administrative costs as the true "cost" of the lottery.

Source: "2004 Annual Survey of Government Finances," U.S. Census Bureau, Governments Division, January 2005.

"Massachusetts has one of the lowest lottery tax rates, but it is still twice the state's sales tax rate."

government determines how much and where people gamble, and how many opportunities exist. For example, the monopoly status of state-sponsored lotteries allows states to charge whatever rates they please; after all, they are the only game in town. Recall that the states retain some 33 cents of each dollar of revenue (after subtracting administrative costs).

Casino Gambling. Commercial casinos, while highly regulated, operate in a much more competitive environment. The casino industry's house "take" is but a fraction of the state's profit from the sale of lottery tickets. By one recent estimate, casinos retain about 4.4 cents of each dollar collected — the rest is redistributed in winnings.¹³

The Regressive Nature of Gambling Taxes

There is virtually unanimous agreement among leading researchers that excise taxes on gambling, particularly implicit taxes on lottery sales, are

“Lower earners gamble more real dollars and a larger percentage of their incomes than higher earners.”

regressive. Overall, lower earners spend a greater percentage of income on gambling — and in some cases spend greater real dollar amounts — than higher earners. Thus, by default, lower earners pay a higher rate of tax as a percent of income.

Lower-Income Gamblers Bear a Heavier Load. Surveys show participation in the lottery is broad-based, but the amount of play varies — sometimes quite a bit — between different groups. One of the most insightful examinations of lottery play was conducted for the National Gambling Impact Study Commission by researchers at Duke University.¹⁴ Using the results of an extensive survey by the National Opinion Research Corporation, the researchers determined:

- The lottery *participation rate* generally increases with income, although it falls for people with incomes higher than \$100,000; the highest rate of play is for those with incomes between \$50,000 and \$100,000. [See Table III-2.]
- By contrast, the annual amount spent, or *per capita play*, by gamblers is actually highest for lower-income households (\$597 per year), exceeding any other income category, and more than double the amount for the highest earners (\$289 per year, on average).

Since many households have more than one adult, and since higher-income households have more adults per household than lower-income households, the study also examines per household spending:

- Even after the adjustment, households earning just \$10,000 spend twice the amount on gambling as households earning \$90,000.
- Put another way, the lowest-earning households spend about 10.8 percent of income on gambling, versus 0.7 percent of income for the highest earners.

Clearly, *lottery expenditures* are regressive: Lower earners not only spend larger percentages of their incomes gambling but also spend larger real dollar amounts. As a result, *lottery taxes* are also regressive, since the implicit lottery tax is incurred as a percent of total purchases, and lower earners pay a greater share of their income in lottery taxes.

Who Are the Heaviest Gamblers? The Duke study examined above also shows that despite broad-based lottery participation, most spending comes from a small subset of frequent players. The top 5 percent of players account for 54 percent of total sales, while the top 20 percent of players account for 82 percent of total sales. If all players spent the same as the “typical” median player, sales would fall 87 percent! Clearly, these high-frequency players push lottery expenditures up. So, who are they?

- The largest amounts are spent by high school dropouts, who represent 20.3 percent of players but only 12.3 percent of U.S. adults, and households with incomes under \$10,000 (9.7 percent of players versus 5 percent of adults).
- The median age of the heaviest players is slightly higher than that of the overall U.S. population (47.5 years versus 43.0 years).

These results reinforce the previous findings: Lottery revenue comes disproportionately from those with lower incomes.

Corroborating Evidence. Other survey results are generally similar to the Duke study. A recent survey by the Pew Research Center suggests a similar rate of lottery play, in that participation trends upward for lower- to medium-income earners (from 44 percent to 60 percent), but drops off for the highest earners (57 percent for those earning more than \$100,000).¹⁵ Participation rates for all types of gambling combined (not just the lottery) is much higher, ranging from 59 percent among those earning less than \$30,000, and steadily increasing to 79 percent for the highest earners. The survey did not collect data on gambling expenditures.

Another recent survey, by analysts at the Research Institute on Addictions, suggests participation in the lottery is slightly higher than the Duke results, ranging from 58 percent to 69 percent for the first four income quintiles, but dipping to 61 percent for the highest income quintile (those with an average income of \$115,000).¹⁶ Like the Duke study, this survey shows that lower earners, in general, put more money on the line than higher earners when it comes to lottery play.

How Regressive Is the Lottery Tax? Most research into the burden of lottery taxes focuses on specific states. Researchers Donald Price and Shawn Novak examined the regressivity of three lottery games in Texas (Lotto Texas,

TABLE III-2

Socioeconomic Patterns in Annual Lottery Participation and Purchases, 1999

<u>Household Income</u>	<u>Play Rate</u>	<u>Purchases Per Player</u>	<u>Adults Per Household</u>	<u>Spending Per Household</u>
<\$10,000	48.5%	\$597	1.8	\$1,076
\$10,000 – 24,999	46.7%	\$569	1.9	\$1,081
\$25,000 – 49,999	57.9%	\$382	2.1	\$802
\$50,000 – 99,999	61.2%	\$225	2.2	\$495
>\$100,000	51.0%	\$289	2.3	\$665

Source: Charles T. Clotfelter et al., "State Lotteries at the Turn of the Century: Report to the National Gambling Impact Study Commission," Duke University, June 1, 1999.

"Lower-income players spend more than double the amount of the highest earners each year."

TABLE III-3

Progressivity of Various Taxes

<u>Type of Tax</u>	<u>Index Range*</u>
Individual Income Tax	0.06 to 0.28
General Sales and Excise	-0.07 to -0.16
Payroll Taxes	-0.13 to -0.17
Personal Property Taxes	-0.09 to -0.12
Lotto Games	-0.18 to -0.36
Instant Lottery Games	-0.32 to -0.42

* Index ranges from -1 to +1. Positive numbers indicate progressive system; negative numbers indicate regressive system.

Source: Donald I. Price and E. Shawn Novak, "The Income Redistribution Effects of Texas State Lottery Games," *Public Finance Review*, Vol. 28, No. 1, 2000, pages 82-92.

"The instant win game imposes a tax more than twice as regressive as a general sales tax."

Pick 3 and an instant-win game), a state with one of the largest amounts of lottery revenue.¹⁷ The authors determined that lottery taxes are the most regressive of all Texas taxes, and the instant-win game is most regressive of all.

One measure of regressivity employed by the authors is the "Suits Index," which compares the cumulative portion of the tax paid by a cumulative portion of the population. The Index varies from +1 to -1; positive values indicate tax progressivity and negative numbers indicate tax regressivity. The study shows the lottery tax is more regressive than virtually any other tax, including the sales tax, payroll taxes or personal property taxes. In fact, the instant-win game imposes a tax more than twice as regressive as a general sales tax. [See Table III-3.]

Consumer Welfare and Paternalism

Most states earmark lottery revenues for programs that provide benefits to lower-income populations. If earmarked gambling revenues *supplement* rather than *substitute* for existing funding, and if the projects bestow relatively larger benefits to the poor, that could be taken into account when determining the regressivity of gambling taxes.

Earmarks are often adopted to boost the popularity of legalizing or expanding gambling opportunities. But it is unclear whether the earmarks, say, for education, truly increase funding for schools or whether they simply replace money that would otherwise have been spent on education but can now be funneled to other state priorities. Ross Rubinstein and Benjamin Scafidi examined the state-sponsored lottery in Georgia to shed light on this issue.¹⁸ In Georgia, as in other states, higher-income households spend a smaller fraction of their income on the lottery than lower earners, and they also tend

“Although most lottery profits are earmarked for welfare programs, the revenues typically substitute rather than supplement existing funding.”

to spend smaller dollar amounts. Almost all lottery revenues are devoted to the Helping Outstanding Pupils Educationally (HOPE) program, which provides scholarships for college and universal pre-kindergarten. Even after the researchers accounted for the benefits of the programs, they determined that the lowest-income households experience a net loss of \$160.55, on the average, from the Georgia lottery, while families earning three times that amount receive a net gain of \$113.81.

Regardless, as a hypothetical exercise, assume all of a state’s profit from a lottery was somehow earmarked to welfare programs that directly benefit the poor. Assume also that the earmarked funds actually *increase* the state’s expenditures on those programs, rather than *substitute* for money that would have otherwise been spent on them. Would this justify even higher taxes on gambling, such as lowering the payout percentage going to lottery winners? Higher tax rates would either force lower-income households to spend more on gambling or reduce their gambling. In the first case, lower-income families would be worse off because they would have less to spend on other priorities. In the second case, they would be worse off because they would be unable to pursue an activity they enjoy.

Should the government paternalistically “protect” lower earners from their own decisions? That is a question that cannot be answered by scientific analysis.

Additional Costs and Benefits of Gambling

Several issues should be addressed that may affect the relative effect of gambling taxes on lower-income earners, possibly making the taxes more or less regressive.

Legalization, Taxation, Utility and Regressivity. The taxation of gambling should not be analyzed without considering the question of legalization. If states did not legalize gambling, people would not get the enjoyment of playing (ignoring, for a moment, illegal gambling opportunities). Economists examine people’s behavior to determine the value they place on a product or service: Those who play the lottery most are likely get the most enjoyment out of it. Since lower-income people spend more on gambling in proportion to their income, they are relatively heavier users of the product and are presumably better off because of its legalization and availability.

Thus, some may argue that even in the face of regressive tax rates, the disproportionate use of the product by lower earners actually makes the legalization-cum-taxation function pro-poor. As researcher Charles Clotfelter says, in this context, regressivity “becomes relevant only to the question of raising or decreasing the tax on a form of gambling already legalized.”¹⁹

Of course, it has also been established that lottery taxes are quite high compared to state sales tax rates on other forms of entertainment and — in

many cases — higher than excise tax rates on other products.²⁰ Because of the high rates, lottery taxes are even more regressive than would otherwise be the case. As a result, the same lower-income people who benefit from gambling would benefit even more if the taxes were in line with the rates on other products.

Social and Economic Costs of Gambling. Much of the research on gambling focuses on the social and economic costs and benefits to the surrounding communities, gamblers and state revenues, which may have a bearing on estimates of regressivity. For example, if lower-income populations receive a disproportionate economic or social benefit from the legalization and spread of gambling opportunities, it might mitigate the regressivity of the taxes.

Unfortunately, after years of study, the National Gambling Impact Study Commission — a blue-ribbon commission authorized by Congress in the late 1990s — concluded it was “currently impossible to obtain even a rough approximation of a true cost-benefit calculation concerning the economic impact of legalized gambling.”²¹ The commission also noted that high-quality research is sparse. However, empirical analyses have shown the most prominent results of legalized gambling on communities, gamblers and American Indian tribes.²² For example:

- The obvious winners are the gambling businesses themselves and the consumers who enjoy consuming the product; generally, state revenues tend to increase, as well.
- Opening new American Indian casinos seems to increase employment and wages in the surrounding community, with measurable positive economic effects on American Indian tribes who operate casinos; their mortality rates seem to improve, perhaps due to the prevalence of new jobs.
- On the other hand, new casinos bring an increase in the prevalence of violent crimes, auto thefts, larceny and other property crimes, as well as a rise in bankruptcies.

Others have attempted to study how gambling affects household spending. A recent study published by the National Bureau of Economic Research found household expenditures on state lotteries do, indeed, crowd out nongambling expenditures.²³ On the average, households displace 1.9 percent of their quarterly consumption, or \$38 per month, with state lottery purchases. However, the lowest earners displace 2.7 percent of their consumption, or \$46 per month, from other household expenditures.

With both positive and negative economic effects — varying by location, type of gambling and makeup of the surrounding community — it is difficult to discern a net economic effect.

“On the average, households displace 1.9 percent of their quarterly consumption with state lottery purchases.”

“Although most gamblers lose most of the time, 71 percent say they play for pure enjoyment, not to get rich quick.”

Further, even if the net economic effects are positive, there are also social effects to consider, such as the harms a gambler does to the people around him. Granted, it is difficult to identify a causal relationship between gambling and other problems, as problem-gamblers also often have other behavioral disorders. Thus, nearly every study on the costs and benefits of gambling comes to the same conclusion: More research is needed. This paper, too, calls for more study on these issues in the hope that future decision-makers can be better informed by more detailed economic analyses.

Are Gamblers Rational or Just Rash? When asked to consider all the money spent on gambling over the past year, less than a third of gamblers think they are ahead for the year. So if gamblers lose most of the time, why do they keep playing? For the entertainment value: Some 71 percent of gamblers say they play for pure enjoyment, not to get rich quick.²⁴

But while a great many people enjoy gambling, a great many people also enjoy exercising, collecting butterflies, watching videos and any number of other leisure activities. Judged against other forms of diversion, gambling has a significant but not dominant share of the market.²⁵ However, unlike these other activities, gambling is subject to a wide range of state and federal taxes.

This strikes at the very heart of the purpose of taxes on gambling. If gambling is perceived as a harmless alternative to other forms of entertainment, it should be taxed at a similar rate as other activities. But if gambling is perceived as a “sin” with deplorable social side effects, governments should weigh the effects of legalization against the costs (both social and financial) of high tax rates on lower-income populations.

Gamblers’ Responsiveness to Changes in Price. Economists generally measure responsiveness to price using elasticity of demand. [See discussion in Section I: Excise Taxes and Tobacco.] In the case of state lotteries, elasticity would be the percentage change in lottery tickets purchased after a 1 percent increase in price (that is, a 1 percent reduction in the payoff).

Gamblers’ responsiveness to price increases has important implications for determining the appropriate level of gambling taxes. For example, if one believes gambling has serious social consequences — and if elasticity is greater than one — higher taxes on gambling serve the useful purpose of inducing people to stop or reduce their play. However, if elasticity is less than one, gambling will not be abetted and gamblers’ costs will rise. Thus, there would be less justification for imposing regressive taxes on the poor if the demand will not be stemmed by high taxes.

Sadly, there is general consensus that little reliable data exists on the price sensitivity of gambling. There is also a general consensus that most forms of gambling are unlikely to be sensitive to changes in price. First, unlike normal consumer goods, the price of gambling is not readily apparent.

Second, it is unlikely lotteries could continue to remain so popular at such high tax rates (49 percent) if high prices led people to flee the market.²⁶ However, there is some contrary evidence presented in a few recent studies. For example, leading researchers Charles Clotfelter and Philip Cook find price sensitivity for the lottery is very high (price elasticity of 2.55), meaning higher prices, or lower payouts, encourage people to gamble less.²⁷ It is possible that both results can be true, in that it is possible the demand for lotteries is sensitive at very high prices, but not at lower prices.

“If gambling is a harmless alternative to other forms of entertainment, there is no justification for taxing gambling more than other activities.”

Of course, if one believes gambling is more like other harmless recreational activities — with few social consequences — there is no justification for taxing gambling more than other recreational activities, whether elasticity is high or not.

Conclusion

Households with lower incomes spend more on gambling than higher-income households, both as a percentage of income and in real dollar amounts. Thus, proportionately, the poor bear a heavier burden of gambling taxes, meaning gambling taxes are regressive. Lawmakers who are considering raising gambling taxes at the federal, state or local level should consider the disproportionate burden their lower-income constituents will bear.

Notes

¹ Consider, for example, the different tax treatment between cigarettes and smokeless tobacco. While smokeless tobacco is, on balance, “healthier” than cigarettes, it is taxed by many states at a higher rate. For more information, see the “Excise Taxes and Tobacco” section.

² In one additional state, Pennsylvania, racetrack casinos have been legalized but are not yet operational. See the American Gaming Association, “Industry Information: Tax Payments,” Fact Sheet, April 2006. Available at http://www.americangaming.org/Industry/factsheets/statistics_detail.cfv?id=10. Also see “State of the States: The AGA Survey of Casino Entertainment,” American Gaming Association, 2006. Available at http://www.americangaming.org/assets/files/2006_Survey_for_Web.pdf.

³ North Carolina added a lottery in March 2006, bringing the current total to 42 states. Paul Taylor et al., “Gambling: As the Take Rises, So Does Public Concern,” Pew Research Center, Social Trends Report, May 23, 2006. Available at <http://pewresearch.org/assets/social/pdf/Gambling.pdf>.

⁴ Ibid.

⁵ Kavan Peterson, “48 States Raking in Gambling Proceeds,” Stateline.org, May 23, 2006. Eleven states allow racinos: Delaware, Florida, Iowa, Louisiana, Maine, New Mexico, New York, Oklahoma, Pennsylvania, Rhode Island and West Virginia; the six states considering them are Georgia, Massachusetts, Minnesota, Mississippi, Ohio and Texas.

⁶ Ibid.

⁷ Ibid.

⁸ Paul Taylor et al., “Gambling: As the Take Rises, So Does Public Concern.”

⁹ This section draws heavily from Charles T. Clotfelter, “Gambling Taxes,” in Sijbren Cnossen, ed., *Theory and Practice of Excise Taxation* (New York, N.Y.: Oxford University Press, 2005), pages 84-119.

¹⁰ North American Association of State and Provincial Lotteries.

¹¹ Indeed, some of the academic and policy community literature express the implicit lottery tax rate in this way. Tax Foundation, “Implicit Tax Rates on State Lottery Sales FY 2004,” March 9, 2006. Available at: <http://www.taxfoundation.org/research/show/269.html>.

¹² To demonstrate the complexity of assessing taxes on other forms of gambling, consider taxes on casino games. Dissecting this figure is a daunting task since the calculation includes implicit excise taxes, such as taxes on admissions, gross revenue, license fees and negotiated payments for casinos operated by American Indian tribes. Last year, according to the American Gaming Association, casinos paid \$4.93 billion in federal and state property and gambling taxes. As mentioned in the text, total spending at casinos totaled \$30.3 billion, meaning casino gamblers as a whole paid a tax rate of roughly 16.3 percent (assuming corporate taxes paid by casinos are passed on to consumers through higher prices). American Gaming Association, “Industry Information: Tax Payments,” Fact Sheet, April 2006.

¹³ See Clotfelter, “Gambling Taxes.”

¹⁴ The survey, by the National Opinion Research Corporation in 1998, includes 4,358 households. Since surveys often suffer from individuals’ underreporting of the true level of their activity, the paper adjusts for this by comparing the true level of lottery spending with the amount that would be consistent with the reporting levels. See Charles T. Clotfelter et al., “State Lotteries at the Turn of the Century: Report to the National Gambling Impact Study Commission,” Duke University, June 1999.

¹⁵ Paul Taylor et al., “Gambling: As the Take Rises, So Does Public Concern,” Pew Research Center, May 23, 2006.

¹⁶ John W. Welte et al., “Gambling Participation in the U.S. — Results from a National Survey,” *Journal of Gambling Studies*, Vol. 18, No. 4, December 2002, pages 313-97.

¹⁷ Donald I. Price and E. Shawn Novak, “The Income Redistribution Effects of Texas State Lottery Games,” *Public Finance Review*, Vol. 28, No. 1, January 1, 2000, pages 82-92.

¹⁸ Ross Rubenstein and Benjamin Scafidi, “Who Pays and Who Benefits? Examining the Distributional Consequences of the Georgia Lottery for Education,” *National Tax Journal*, Vol. 55, No. 2, June 2002, pages 223-38.

¹⁹ Clotfelter, “Gambling Taxes.”

²⁰ Part of the reason implicit taxes on state lotteries are so high is that state lotteries are essentially monopolies. Recall that the house “take” for casinos, a competitive industry, is about 4.4 cents of each dollar collected, while states retain about 46 cents

from state lotteries. See Clotfelter, "Gambling Taxes."

²¹ "National Gambling Impact Study Commission Final Report," National Gambling Impact Study Commission, June 1999, pages 7-29. Available at <http://govinfo.library.unt.edu/ngisc/reports/finrpt.html>.

²² Readers are encouraged to examine the results of a number of studies that examine different aspects of the positive and negative externalities of gambling. Among them: Chapter 7 of the National Gambling Impact Study Commission's Final Report; Melissa S. Kearney, "The Economic Winners and Losers of Legalized Gambling," National Bureau of Economic Research, Working Paper No. 11234, March 2005; William N. Evans, "The Social and Economic Impact of Native American Casinos," National Bureau of Economic Research, Working Paper No. 9198, September 2002; and Dean Gerstein et al., "Gambling Impact and Behavior Study: Report to the National Gambling Impact Study Commission," National Opinion Research Center, April 1, 1999; available at <http://www.norc.uchicago.edu/new/gamb-fin.htm>.

²³ Melissa Schettini Kearney, "State Lotteries and Consumer Behavior," National Bureau of Economic Research, Working Paper No. 9330, November 2002.

²⁴ Ibid.

²⁵ "National Gambling Impact Study Commission Final Report," National Gambling Impact Study Commission, June 1999.

²⁶ "Australia's Gambling Industries," Productivity Commission of Australia, Report 10, November 26, 1999. Appendix D provides an overview of price sensitivity of gambling using evidence from around the world.

²⁷ Charles T. Clotfelter and Philip J. Cook, "On the Economics of State Lotteries," *Journal of Economic Perspectives*, Vol. 4, No. 4, Fall 1990, pages 105-19.

Section IV: Other Excise Taxes and Fees

Introduction

The analysis of excise taxes thus far has been limited to so-called sin taxes on tobacco, alcohol and gambling, which are intended, in part, to discourage sinful behavior or behavior that may be considered inappropriate or harmful. However, there are also excise taxes on certain necessities of everyday life. Virtually anyone who owns a phone, drives a car or has purchased an airline ticket has been confronted with federal and state — and sometimes local — excise taxes. Just as lower-income people pay a larger share of their income when they use tobacco or alcohol or gamble than do those with higher incomes, they also face a disproportionate burden from excise taxes on goods like gasoline or telephone service that are considered necessary in modern living. This section focuses primarily on excise taxes levied on two necessities: motor fuels and telecommunications.

Taxing Necessities

Excise tax revenues at the federal, state and local levels have grown dramatically over the past several decades. This growth has not come primarily from sin taxes, but rather from excise taxes on a variety of necessities like telephones and gasoline, as well as a host of “trust fund” taxes for highways, airports and environmental concerns. In fact, more than 78 percent of all excise tax revenues are from taxes on necessities.

- Federal excise tax collections totaled some \$73.5 billion in fiscal year 2006, of which non-sin excise taxes made up about \$57.7 billion.¹ [See Table IV-1.]
- State and local excise tax collections totaled about \$99 billion in fiscal year 2005, with the vast majority coming from non-sin excise taxes. [See Table IV-2.]

While economic theory does not offer a single, clear definition of a “necessary good,” there are several markers of a good’s importance to everyday life. First, a necessity should be relatively insensitive to changes in price; that is, quantity demanded of the good should not change much if the price goes up. For example, someone who must take a fixed quantity of a medication in order to live is unlikely to take less if the price rises.

Second, the demand for a necessary good is also likely to be insensitive to income: A rich person and a poor person who both need a specific dosage of a life-saving medication will likely buy the same amount. By this standard, it is clear several heavily taxed goods, such as gasoline, are necessities. This has important implications for the burden and efficiency of these taxes.

“More than 78 percent of all excise tax revenues are from taxes on necessities, such as gasoline and telephones.”

TABLE IV-1

Federal Excise Tax Collections, 2006

(in millions of dollars)

Collections on Select Goods

Alcohol	\$8,110
Tobacco	\$7,710
Telephone	\$6,069
Other Goods	\$1,149

Collections by Federal Trust Funds

Highways	\$39,066
Airport and Airway	\$10,651
Black Lung	\$602
Inland Waterway	\$81
Oil Spill	\$88
Aquatic Resources	\$524
Underground Storage Tank	\$194
Tobacco Assessments	\$1,033
Vaccines	<u>\$182</u>

Total Federal Excise Tax Collections **\$73,511**

Source: Office of Management and Budget.

“Federal excise taxes totaled some \$73.5 billion in 2006.”

TABLE IV-2

State Excise Tax Collections, 2005

(in millions of dollars)

Alcoholic Beverages	\$4,732
Amusements	\$5,242
Insurance Premiums	\$14,842
Motor Fuels	\$34,570
Pari-Mutuels	\$310
Public Utilities	\$11,023
Tobacco Products	\$13,217
Other Selective Sales	<u>\$4,892</u>
Total	\$ 98,827

Source: U.S. Census Bureau.

“In 2005, the states collected almost \$99 billion in excise taxes.”

Consider the percentage of income people at different income levels dedicate to necessities like utilities and services. [See Table IV-3.]

- As expected, the highest earners spend much more on necessary household items than the lowest earners (\$4,301 versus \$1,720 per year).
- But while the highest earners spend just 3.3 percent of household income on these necessities, the lowest earners spend almost six times as much (18.8 percent of income).

Thus, when items like phone service, public utilities and so forth are taxed, the taxes can be quite regressive.

Case Study: Excises on Motor Fuels

The federal government imposes a tax of 18.4 cents per gallon of gasoline. Every state also taxes gasoline at rates ranging from 8 cents per gallon in Alaska to 31.2 cents in Pennsylvania. The total federal and state gas tax is now about 40 cents per gallon on the average. Federal and state governments also levy similar taxes on diesel fuel and gasohol (gasoline mixed with ethanol) products.

The gasoline tax was originally intended to fund the construction and maintenance of public highways through the U.S. Highway Trust Fund.² The federal government is projected to collect about \$39 billion into the highway fund in 2006; additionally, states took in about \$34.6 billion in 2005. The federal gas tax was increased twice in the 1990s, with the revenues going to myriad purposes:

- Among the many provisions of the Omnibus Budget Reconciliation Act of 1990 was a measure that increased the tax rate on highway fuels by 5 cents per gallon, from 9 cents to 14 cents; half of the new revenue was dedicated to the Highway Trust Fund, but the other half went to general federal deficit reduction.
- The Omnibus Budget Reconciliation Act of 1993 continued the trend by raising the excise tax on gasoline to the current level of 18.4 cents per gallon, with much of the increase entirely devoted to deficit reduction.

Pros and Cons of Raising the Gas Tax. A number of policymakers advocate radically higher gas taxes. Their primary rationale is that this would capture some of the external costs imposed on society by the burning of gasoline. Proponents reason that higher gas prices will induce people to purchase fuel-efficient cars, use public transportation or generally drive less. In fact, higher gas taxes have been seen by some as a way to cure a whole host of society's ills, from global warming (by reducing CO₂ emissions) to terrorism (by reducing dependence on foreign oil).

“Total federal and state gas taxes average about 40 cents per gallon.”

TABLE IV-3

Expenditures on Utilities, Housing, Fuels and Public Services by Income, 2004

<u>Income Quintile</u>	<u>Average Income</u>	<u>Annual Expenditure</u>	<u>Percent of Income</u>
Bottom 20 Percent	\$9,168	\$1,720	18.8%
Second 20 Percent	\$24,102	\$2,371	9.8%
Third 20 Percent	\$41,614	\$2,868	6.9%
Fourth 20 Percent	\$65,100	\$3,370	5.2%
Top 20 Percent	\$132,158	\$4,301	3.3%
All	\$54,453	\$2,927	5.4%

Source: "Consumer Expenditures in 2004," U.S. Department of Labor Bureau of Labor Statistics, Report No. 992, April 2006.

"The highest earners spend just 3.3 percent of income on necessities, while the lowest earners spend almost six times as much."

TABLE IV-4

Expenditures on Gasoline and Motor Oil by Income, 2004

<u>Income Quintile</u>	<u>Average Income</u>	<u>Annual Expenditure</u>	<u>Percent of Income</u>
Bottom 20 Percent	\$9,168	\$730	8.0%
Second 20 Percent	\$24,102	\$1,157	4.8%
Third 20 Percent	\$41,614	\$1,579	3.8%
Fourth 20 Percent	\$65,100	\$2,020	3.1%
Top 20 Percent	\$132,158	\$2,500	1.9%
All	\$54,453	\$1,598	2.9%

Source: "Consumer Expenditures in 2004," U.S. Department of Labor Bureau of Labor Statistics, Report No. 992, April 2006.

"People making \$24,000 a year spend more than twice as much of their income on gasoline as those who earn five times as much."

Can gasoline be priced high enough to cause consumers to make substantial reductions in their gasoline purchases? A study by the Federal Trade Commission (FTC) found that a gasoline price increase of 10 percent would reduce quantity demanded by just 2 percent in the short run and by only 6 percent over the course of one year, demonstrating the relative inelasticity of demand.³

Distributional Effects of Rising Motor Fuel Prices. The question of how gasoline expenditures vary by income is somewhat complicated. It is clear that higher-income groups spend somewhat more on gasoline than do lower-income groups, but as a percentage of income, lower earners spend more. [See Table IV-4.]

- Households with extremely low incomes (an average of about \$9,000 per year) spend only about \$730 a year on gas and motor oil, which amounts to only 8.0 percent of their income.
- Households in the second-lowest income quintile (about \$24,000 a year) spend about \$1,157 on gas and motor oil, which amounts to more than 4.8 percent of annual income.
- By contrast, households in the highest quintile (about \$132,000 per year) spend about \$2,500 a year, or only 1.89 percent of income.

Corroborating evidence is presented in a recent report by the Federal Reserve Bank of Chicago.⁴ According to this analysis, households with incomes in the top quarter of all households devoted 3.3 percent of their expenditures to gasoline, while households in the bottom income quartile spent 3.8 percent on gasoline and those in the second-lowest quartile spent 4.1 percent.

The Fed report also reveals one other important pattern that is both disturbing and underreported: The impact of the cost of gasoline on the working poor. As Table IV-5 shows, the working poor spend a higher proportion of their income on gasoline than any other group identified in the study. This is

TABLE IV-5

Spending on Energy by Income Levels (average from 1982 through 2004)

Bottom fourth of income	3.8%
Second fourth of income	4.1%
Third fourth of income	4.1%
Top fourth of income	3.3%

Note: Energy expenditures as a percentage of total household expenditures.

Source: Reproduced from David B. Cashin and Leslie McGranahan, "Household Energy Expenditures, 1982–2005," *Chicago Fed Letter*, Federal Reserve Bank of Chicago, June 2006.

"The working poor spend a higher proportion of their incomes on energy than any other group."

not surprising since the working poor have lower incomes but still need transportation to work and child care. Thus, an increase in gasoline taxes would have a much more significant impact on the lives of these people than on the lives of, say, the upper-income elderly.

As the FTC report indicated, to induce more than a marginal change in behavior, gas prices would have to be so high that they would interfere with economic growth. Further, higher gas prices would place a disproportionate burden on lower-income people both because of 1) the regressive nature of gas taxes *and* 2) the higher price of shipping goods to the market. Higher shipping costs would be passed through to consumers and take a larger bite out of lower earners' paychecks as a percentage of income than paychecks of higher earners.

Case Study: Taxing Telecommunications

While new technologies create new opportunities for entrepreneurs, they also create tempting new targets for tax collectors. There are several reasons to suspect that new businesses might be especially vulnerable to being taxed:

- First, opposing coalitions of consumer and business interests will be less organized in new markets.
- Second, those involved in new, cutting-edge businesses may seek government support in some other areas — perhaps seeking subsidies for research or assurances of exclusive rights to certain markets; taxes might be a concession for these favors.

The tendency to tax new businesses is most obvious in the current frenzy of federal and state governments to tax wireless communications.

Taxing Telephone Service. Traditional telephone service has long been subject to special taxes imposed at all levels of government. The tax on telephone service was initially instituted in 1898 as a “luxury tax” — back when phones were considered luxury goods — to fund the Spanish-American War. Over time the federal excise tax has ranged from 1 percent to 10 percent of a phone bill, and for the past two decades has been set at 3 percent. The tax raised about \$5.8 billion for the federal government in 2005.⁵

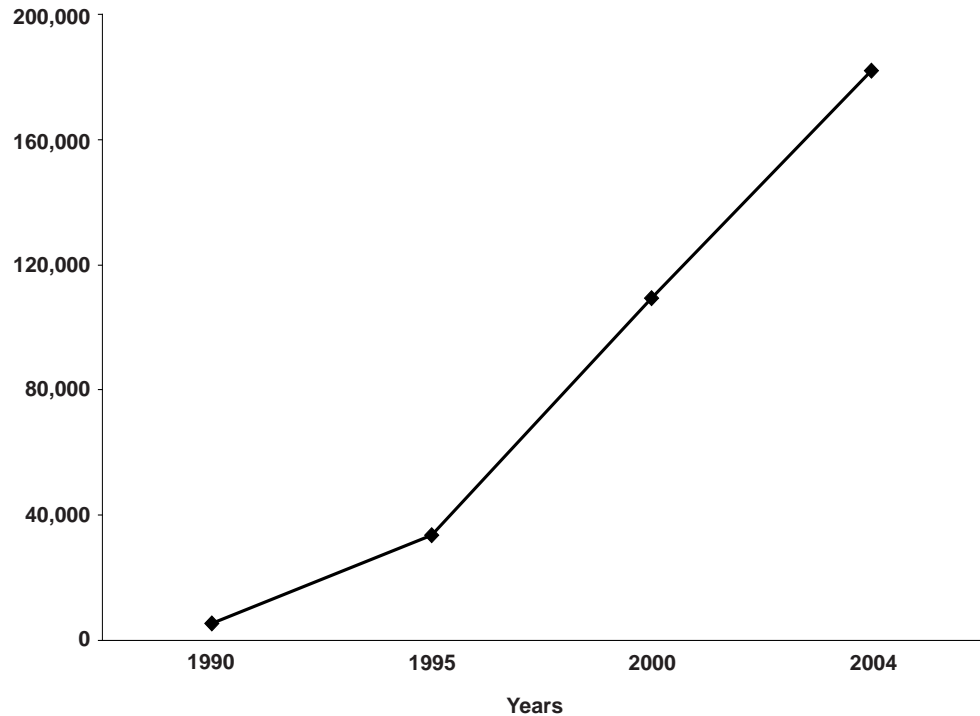
But the marketplace is changing. Wireless telephone service and use have exploded over the past couple of decades. [See Figure IV-1.] According to recent reports, cell phone revenue grew from \$56 billion in 2000 to \$102 billion by 2004; landline revenue fell from \$228 billion to \$197 billion over the same period.⁶

As the market makes the transition from traditional landlines to cellular service, wireless communications have become a popular source of rev-

“Wireless communications have become a popular source of revenue for state and local governments.”

“Wireless telephone use has exploded over the past couple of decades.”

FIGURE IV-1
Growth of Wireless Telecommunications Service, 1990-2004
 (thousands of cellular telephones)



Source: U.S. Census Bureau.

enue at the state and local levels. Cell phone taxes increased nine times faster than taxes on other goods between January 2003 and April 2004, according to a recent industry study.⁷ Baltimore, for example, instituted a new \$3.50 per month tax in late 2004.⁸

Table IV-6 presents the myriad state and local tax rates on cell phone service:

- State rates range from a low of about 4 percent in Nevada to a high of about 30 percent in Virginia.
- Overall, state and local telecom tax rates average about 14.17 percent of a phone bill.
- The federal government also charges taxes on cell phone service, which have been estimated as high as 6.05 percent.⁹

Distributional Effects of Taxing Telecommunications. Since these telecommunications taxes are new, there is little research as to their distributional impact. However, there has been some analysis as to where the growth in the use of cellular phones has been greatest, with particular attention devoted to the question of whether cell phones are replacing landlines.

TABLE IV-6

Effective State and Local Telecommunications Tax Rates, 2004

<u>State</u>	
Virginia	29.77%
Maryland	27.31%
Texas	25.29%
Nebraska	25.22%
Missouri	23.79%
West Virginia	23.46%
Kansas	22.33%
Illinois	20.95%
Michigan	20.15%
Oklahoma	19.97%
Washington	19.26%
North Carolina	18.83%
Rhode Island	18.81%
Florida	18.15%
Georgia	17.90%
Pennsylvania	17.33%
New York	17.29%
Arkansas	15.73%
Kentucky	14.86%
South Carolina	14.65%
Mississippi	14.63%
Utah	14.36%
Dist. of Colum.	14.24%
Colorado	14.15%
Tennessee	13.86%
Oregon	13.20%
Louisiana	12.78%
California	12.28%
Wyoming	12.09%
Alabama	11.93%
Arizona	11.75%
North Dakota	11.52%
Iowa	11.44%
Indiana	11.16%
Ohio	10.55%
Alaska	9.53%
Massachusetts	9.30%

“State tax rates on cell phone service range from 4 percent in Nevada to almost 30 percent in Virginia.”

TABLE IV-6 (continued)

Effective State and Local Telecommunications Tax Rates, 2004

State

Minnesota	8.76%
New Jersey	8.74%
New Mexico	8.59%
South Dakota	8.58%
New Hampshire	8.31%
Hawaii	8.04%
Connecticut	8.01%
Vermont	7.27%
Wisconsin	7.13%
Delaware	6.88%
Maine	6.37%
Idaho	6.16%
Montana	5.88%
Nevada	3.97%
U.S. Average	14.17%

Source: Tax Foundation, "Effective State, Local and Federal Telecommunications Taxes by State, 2004," May 25, 2005.

"Average state and local taxes on telecommunications are over 14 percent."

Interestingly, there is increasing evidence that lower-income households are especially likely to rely entirely on cell phones. A recent survey by the Pew Foundation shows the proportion of respondents that used a cell phone but did not have access to a landline to be disproportionately low-income (53 percent earned less than \$30,000).¹⁰ Thus — while the evidence is still preliminary — it seems lower-income earners bear a large share of the extraordinarily high telecommunications taxes.

Conclusion

While there is some justification for higher motor fuel taxes on the grounds that they recoup some external cost, there is no similar justification for taxes on utilities like phone service. The only argument in favor of such a tax is that it is difficult to evade, since it is collected by phone service providers. That is one reason they have been so popular with state and local governments. When rushing to raise taxes on phone services and other utilities, decision-makers should remember that these taxes are regressive and raising the rates will disproportionately harm their lower-income constituents.

Notes

- ¹ The federal government also taxes alcohol fuels, aviation fuel, coal, compressed natural gas, gas guzzlers, kerosene and other special motor fuels as part of the excise tax regime.
- ² While federal and state gas taxes are supposedly intended to fund construction and maintenance of highways, state governments routinely divert highway trust fund revenues to programs unrelated to road construction and maintenance.
- ³ “Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition,” Federal Trade Commission, June 2005. Available at <http://www.ftc.gov/reports/gasprices05/050705gaspricesrpt.pdf>.
- ⁴ David B. Cashin and Leslie McGranahan, “Household Energy Expenditures, 1982–2005,” Federal Reserve Bank of Chicago, *Chicago Fed Letter*, June 2006.
- ⁵ Internal Revenue Service.
- ⁶ Telecommunications Industry Association, as quoted by Dennis Cauchon, “City, State Cell Phone Taxes on the Rise,” *USA Today*, May 8, 2005.
- ⁷ As reported in Scott Woolley, “How to Duck Cell Phone Taxes,” *Forbes*, June 6, 2005. Available at http://www.forbes.com/technology/2005/06/06/cz_sw_0606cellphone.html.
- ⁸ *Ibid.*
- ⁹ After five appeals courts all ruled that the federal excise tax on long-distance calls was illegal, the Treasury Department finally agreed in 2006 to quit collecting the tax and to refund about \$15 billion to taxpayers (of course, the tax on local phone service still remains in effect). Federal taxes still apply to local service, but no new estimates of the new effective tax rate have been made. See Dennis Cauchon, “City, State Cell Phone Taxes on the Rise.” Also see “Telephone Tax Refund Questions and Answers,” Internal Revenue Service. Available at <http://www.irs.gov/newsroom/article/0,,id=161506,00.html>.
- ¹⁰ Scott Keeter, “Cell-Only Voters Not Very Different; Fewer Registered, More First-Time Voters,” Pew Research Center for the People and the Press, October 26, 2006.

NOTE: Nothing written here should be construed as necessarily reflecting the views of the National Center for Policy Analysis or as an attempt to aid or hinder the passage of any bill before Congress.

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Dr. Robert McTeer is a Distinguished Fellow at the National Center for Policy Analysis. He has written numerous opinion pieces for national publications and is a frequent guest on CNBC, and Bloomberg TV and Radio. Prior to joining the NCPA, Dr. McTeer was Chancellor of the Texas A&M University System for two years, and before that he was president of the Federal Reserve Bank of Dallas and a member of the Federal Open Market Committee for 14 years. He has taught at the University of Richmond, Virginia Commonwealth University and Johns Hopkins University. Dr. McTeer is a past president of the Association of Private Enterprise Education and served on the board of the National Council on Economic Education. He received Bachelor of Business Administration and Doctor of Philosophy degrees in economics from the University of Georgia, where he taught before joining the Federal Reserve System in 1968.

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Dr. Philip K. Porter is a Senior Fellow with the National Center for Policy Analysis. He has authored numerous articles in academic journals, including *Public Choice*, and has held prestigious positions with *Advances in the Economics of Sports*, the *Journal of Sports Management* and the Heartland Institute. Dr. Porter is a professor of economics at the University of South Florida, where he is director of the Center for Economic Policy Analysis. He received his Bachelor of Arts and Master of Arts degrees in economics from Auburn University, and he earned a Doctor of Philosophy degree from Texas A&M University in 1978.

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Dr. William F. Shughart II is the F.A.P. Barnard Distinguished Professor of Economics at the University of Mississippi and has taught at Clemson University and George Mason University, where he was also a senior research associate at the Center for Study of Public Choice. Dr. Shughart is senior editor of *Public Choice*, an associate editor of the *Southern Economic Journal* and book review editor for *Managerial and Decision Economics*. Dr. Shughart served as Special Assistant to the Director of the Federal Trade Commission's Bureau of Economics during the Reagan administration. He has written many scholarly articles, books and topical commentaries that have appeared in periodicals nationwide. Dr. Shughart received his Doctor of Philosophy degree in economics from Texas A&M University in 1978.

About the NCPA

The NCPA is a nonprofit, nonpartisan organization established in 1983. Its aim is to examine public policies in areas that have a significant impact on the lives of all Americans — retirement, health care, education, taxes, the economy, the environment — and to propose innovative, market-driven solutions. The NCPA seeks to unleash the power of ideas for positive change by identifying, encouraging and aggressively marketing the best scholarly research.

Health Care Policy. The NCPA is probably best known for developing the concept of Health Savings Accounts (HSAs), previously known as Medical Savings Accounts (MSAs). NCPA President John C. Goodman is widely acknowledged (*Wall Street Journal*, *WebMD* and the *National Journal*) as the “Father of HSAs.” NCPA research, public education and briefings for members of Congress and the White House staff helped lead Congress to approve a pilot MSA program for small businesses and the self-employed in 1996 and to vote in 1997 to allow Medicare beneficiaries to have MSAs. In 2003, as part of Medicare reform, Congress and the president made HSAs available to all nonseniors, potentially revolutionizing the entire health care industry. Health Savings Accounts now are potentially available to 250 million nonelderly Americans.

The NCPA outlined the concept of using federal tax credits to encourage private health insurance and helped formulate bipartisan proposals in both the Senate and the House. The NCPA and Blue-Cross Blue-Shield of Texas developed a plan to use money federal, state and local governments now spend on indigent health care to help the poor purchase health insurance. The SPN Medicaid Exchange, an initiative of the NCPA for the State Policy Network, is identifying and sharing the best ideas for health care reform with researchers and policymakers in every state.

Taxes & Economic Growth. The NCPA helped shape the progrowth approach to tax policy during the 1990s. A package of tax cuts designed by the NCPA and the U.S. Chamber of Commerce in 1991 became the core of the Contract with America in 1994. Three of the five proposals (capital gains tax cut, Roth IRA and eliminating the Social Security earnings penalty) became law. A fourth proposal — rolling back the tax on Social Security benefits — passed the House of Representatives in summer 2002. The NCPA’s proposal for an across-the-board tax cut became the centerpiece of President Bush’s tax cut proposals.

NCPA research demonstrates the benefits of shifting the tax burden on work and productive investment to consumption. An NCPA study by Boston University economist Laurence Kotlikoff analyzed three versions of a consumption tax: a flat tax, a value-added tax and a national sales tax. Based on this work, Dr. Goodman wrote a full-page editorial for *Forbes* (“A Kinder, Gentler Flat Tax”) advocating a version of the flat tax that is both progressive and fair.

A major NCPA study, *Wealth, Inheritance and the Estate Tax*, completely undermines the claim by proponents of the estate tax that it prevents the concentration of wealth in the hands of financial dynasties. Actually, the contribution of inheritances to the distribution of wealth in the United States is surprisingly small. Senate Majority Leader Bill Frist (R-TN) and Senator Jon Kyl (R-AZ) distributed a letter to their colleagues about the study. In his letter, Sen. Frist said, “I hope this report will offer you a fresh perspective on the merits of this issue. Now is the time for us to do something about the death tax.”

Retirement Reform. With a grant from the NCPA, economists at Texas A&M University developed a model to evaluate the future of Social Security and Medicare, working under the direction of Thomas R. Saving, who for years was one of two private-sector trustees of Social Security and Medicare.

The NCPA study *Ten Steps to Baby Boomer Retirement* shows that as 77 million baby boomers begin to retire, the nation’s institutions are totally unprepared. Promises made under Social Security, Medicare and Medicaid are completely unfunded. Private sector institutions are not doing better — millions of workers are discovering

that their defined benefit pensions are unfunded and that employers are retrenching on post-retirement health care promises.

Pension reforms signed into law include ideas to improve 401(k)s developed and proposed by the NCPA and the Brookings Institution. Among the NCPA/Brookings 401(k) reforms are automatic enrollment of employees into the companies' 401(k) plans, automatic contribution rate increases so that as workers' wages grow so do their contributions, and stronger default investment options for workers who do not make an investment choice.

The NCPA's online Social Security calculator allows visitors to discover their expected taxes and benefits and how much they would have accumulated had their taxes been invested privately.

Environment & Energy. The NCPA's E-Team is one of the largest collections of energy and environmental policy experts and scientists who believe that sound science, economic prosperity and protecting the environment are compatible. The team seeks to correct misinformation and promote sensible solutions to energy and environment problems. A pathbreaking 2001 NCPA study showed that the costs of the Kyoto agreement to reduce carbon emissions in developed countries would far exceed any benefits.

Educating the next generation. The National Federation of High Schools has designated the NCPA's Debate Central online site as their official resource for high school debaters. It is the most comprehensive site for free information for 400,000 U.S. high school debaters. In 2006, the site drew more than one million hits per month.

Promoting Ideas. NCPA studies, ideas and experts are quoted frequently in news stories nationwide. Columns written by NCPA scholars appear regularly in national publications such as the *Wall Street Journal*, the *Washington Times*, *USA Today* and many other major-market daily newspapers, as well as on radio talk shows, on television public affairs programs, and in public policy newsletters. According to media figures from Burrelle's, more than 900,000 people daily read or hear about NCPA ideas and activities somewhere in the United States.

What Others Say About the NCPA

"Ofentimes, during policy debates on my staff, a smart young staffer will step up and say, 'I got this piece of evidence from the NCPA.' It helps a lot to have intellectual thought to help shape public policy in the State of Texas. I want to thank you all for what you do."
—George W. Bush (as governor of Texas)

"We know what works. It's what the NCPA talks about: limited government, economic freedom; things like health savings accounts. These things work, allowing people choices. We've seen how this created America." —John Stossel, co-anchor ABC-TV's 20/20

"I don't know of any organization in America that produces better ideas with less money than the NCPA." —Phil Gramm, former U.S. Senator

"Thank you . . . for advocating such radical causes as balanced budgets, limited government and tax reform, and to be able to try and bring power back to the people." —Tommy Thompson, former Secretary of Health and Human Services

The NCPA is a 501(c)(3) nonprofit public policy organization. We depend entirely on the financial support of individuals, corporations and foundations that believe in private sector solutions to public policy problems. You can contribute to our effort by mailing your donation to our Dallas headquarters or logging on to our Web site at www.ncpa.org and clicking "An Invitation to Support Us."