

**A SIGNIFICANT CIGARETTE TAX RATE INCREASE IN NORTH CAROLINA
WOULD PRODUCE A LARGE, SUSTAINED INCREASE
IN STATE TOBACCO TAX REVENUES**

Frank J. Chaloupka
Distinguished Professor

Department of Economics, College of Liberal Arts & Sciences
Division of Health Policy and Administration, School of Public Health
University of Illinois at Chicago
1747 West Roosevelt Rd., Room 558
Chicago, IL 60608
312-413-2287
fic@uic.edu

May 17, 2010

About the Author

Dr. Frank Chaloupka is a Distinguished Professor of Economics at the University of Illinois at Chicago's College of Liberal Arts & Sciences and its School of Public Health's Division of Health Policy and Administration. He also directs the University's Health Policy Center, is a Research Associate in the National Bureau of Economic Research's Health Economics Program and Children's Research Program. He is the Director of ImpacTeen, a research program involving nationally-recognized experts dedicated to studying youth tobacco use, other substance abuse, and other health behaviors; and he is Co-Director of the International Tobacco Evidence Network, a group of economists and other policy researchers focused on the economics of tobacco and tobacco control globally. Dr Chaloupka has written numerous studies, book chapters, and other publications that evaluate efforts to prevent and reduce tobacco use, with a special focus on the impact of cigarette and other tobacco product tax increases.

A SIGNIFICANT CIGARETTE TAX INCREASE IN NORTH CAROLINA WOULD PRODUCE A LARGE, SUSTAINED INCREASE IN STATE TOBACCO TAX REVENUES

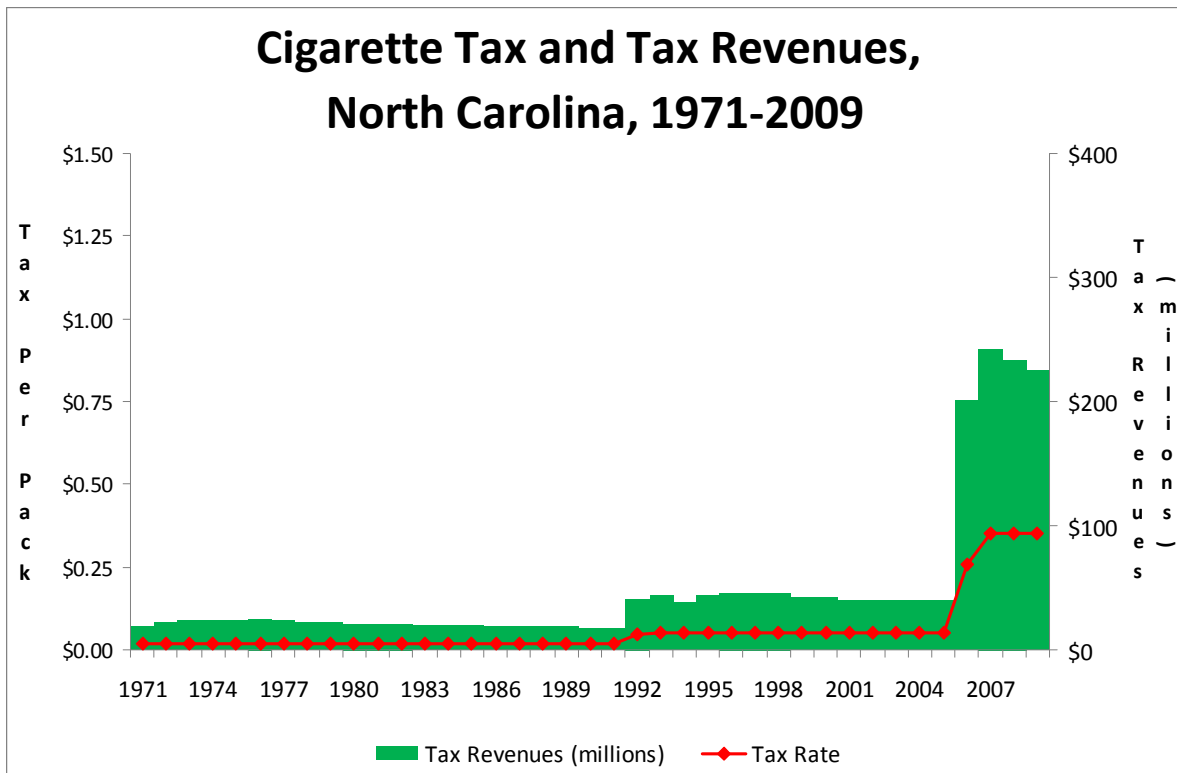
Frank J. Chaloupka
Distinguished Professor of Economics
University of Illinois at Chicago
May 17, 2010

EXECUTIVE SUMMARY

State cigarette and other tobacco tax revenues are among the most predictable, steady, and reliable revenues that states receive. While these revenues do decline gradually over time as smoking and other tobacco use declines, the reductions in revenue are modest, predictable and more than offset by the related reductions in public and private sector health care and other economic costs caused by smoking.

In general, state cigarette tax revenues increase sharply following a significant increase to a state's cigarette tax rates (despite the smoking declines prompted by the tax increase and any related increases in smuggling or tax evasion), and then tend to decline annually by one to three percent in subsequent years as cigarette smoking continues to go down in response to other factors (e.g. stronger public policies targeting tobacco use).

As shown in the chart, below, North Carolina, like other states, has enjoyed substantial revenue increases each time it has raised its cigarette tax rate. This same basic pattern, with large amounts of new state revenues in every future year, would occur again if North Carolina increased its cigarette tax rate significantly in 2010.



Note: Data are for fiscal years ending June 30. Recent state cigarette tax revenue declines have occurred because of smoking declines caused by the large federal cigarette tax increase in early 2009.

While significant tobacco tax rate increases bring in substantial amounts of new revenue, North Carolina and other states have reduced the amount of revenue they receive by implementing periodic smaller rate increases, instead (e.g., the state's 2006 increase of 25¢ followed by another 5¢ increase ten months later, instead of doing a 30¢ or higher increase all at once) . These small, periodic rate increases not only bring in less revenue but also produce much smaller public health benefits and cost savings, especially when they are offset or phased in by temporary cigarette company price cuts or temporary increases in cigarette company discounts and promotions. For instance, the Campaign for Tobacco-Free Kids projects that a \$1.00 per pack increase in North Carolina will:

- prevent more than 84,000 youth from becoming adult smokers;
- encourage more than 52,000 adults to quit;
- prevent more than 40,000 smoking-caused deaths; and
- save \$1.9 billion in long-term health care costs.

In contrast, a 20-cent or smaller cigarette tax increase in the state would, at best, provide only a small fraction of these new revenues, benefits and savings and, if offset by tobacco company price cuts and price-reducing promotions, would generate little or no public health benefits or cost savings, at all.

To maintain, or even increase, their cigarette tax revenues over time, states can take a number of additional actions, besides just periodically increasing their cigarette tax rates. North Carolina, one of only three states that do not have a tax stamp on cigarettes, could implement high-tech tax stamps to ensure that taxes are paid and to prevent cigarette smuggling and tax evasion. In this regard, it is worth noting that North Carolina would obtain much more in new revenues and related economic and public health benefits from a substantial tobacco tax rate increase (especially with a new tax stamp) than it would lose from any decrease in the amount of North Carolina cigarettes purchased by smokers from other states or by criminal organizations engaged in smuggling North Carolina cigarettes to higher tax states for illegal resale.

To maximize its tobacco tax revenues, North Carolina could also make sure its tax rates on other tobacco products are roughly equal to the state tax on cigarettes (so the state does not lose money when a continuing smoker switches from cigarettes to lower-taxed roll-your-own cigarettes or small cigars).

States can also minimize tobacco product smuggling and other tax evasion through such measures as making sure smokers understand the state's laws pertaining to tobacco tax evasion, increasing penalties for smuggling and other tax evasion, and directing a portion of all penalties to help fund expanded enforcement (which would bring in both more penalty payments and more tobacco tax revenues).

A SIGNIFICANT CIGARETTE TAX RATE INCREASE IN NORTH CAROLINA WOULD PRODUCE A LARGE, SUSTAINED INCREASE IN STATE TOBACCO TAX REVENUES

Every state that has passed a significant cigarette tax increase has enjoyed a substantial, sustained increase in its state cigarette tax revenues. This revenue increase occurs, despite the significant declines in smoking rates and tax-paid cigarette sales caused by the cigarette tax rate increase, because the increased tax per pack brings in much more new revenue than is lost by the declines in the number of packs sold and taxed. Exhibits A and B show many examples from actual state cigarette tax increases.

Exhibit A presents a list of significant state cigarette tax increases since 2002 (increases of 50 cents or more per pack) and shows the amount of the tax increase, the decline in tax-paid cigarette sales, compared to the decline in sales nationally over the same time period, and the revenue change from the twelve months before the tax increase to the twelve months after the tax increase. In every state that significantly increased its tax, there were both sharp reductions in total packs sold and large increases in total net new revenues in the year following the rate increase, compared to the year before it.

Exhibit B is a short report that examines the sustainability of revenues generated from cigarette tax increases. This report considered every major cigarette tax increase between 1995 and 2004 and looked at state cigarette tax revenues before the tax increase and for at least five years following the increase, with analyses for states with and without well-funded comprehensive tobacco control programs. In every state that raised its tax during that time period, cigarette tax revenues increased significantly and remained much higher than revenues prior to the tax for many years after the tax increase.

Accordingly, Exhibits A and B provide direct evidence from actual state experiences that confirms that significant cigarette tax increases have always produced substantial amounts of new revenues (compared to what the state would have received without the increase), both immediately and over extended periods of time, and despite any and all related decreases in taxed state pack sales.

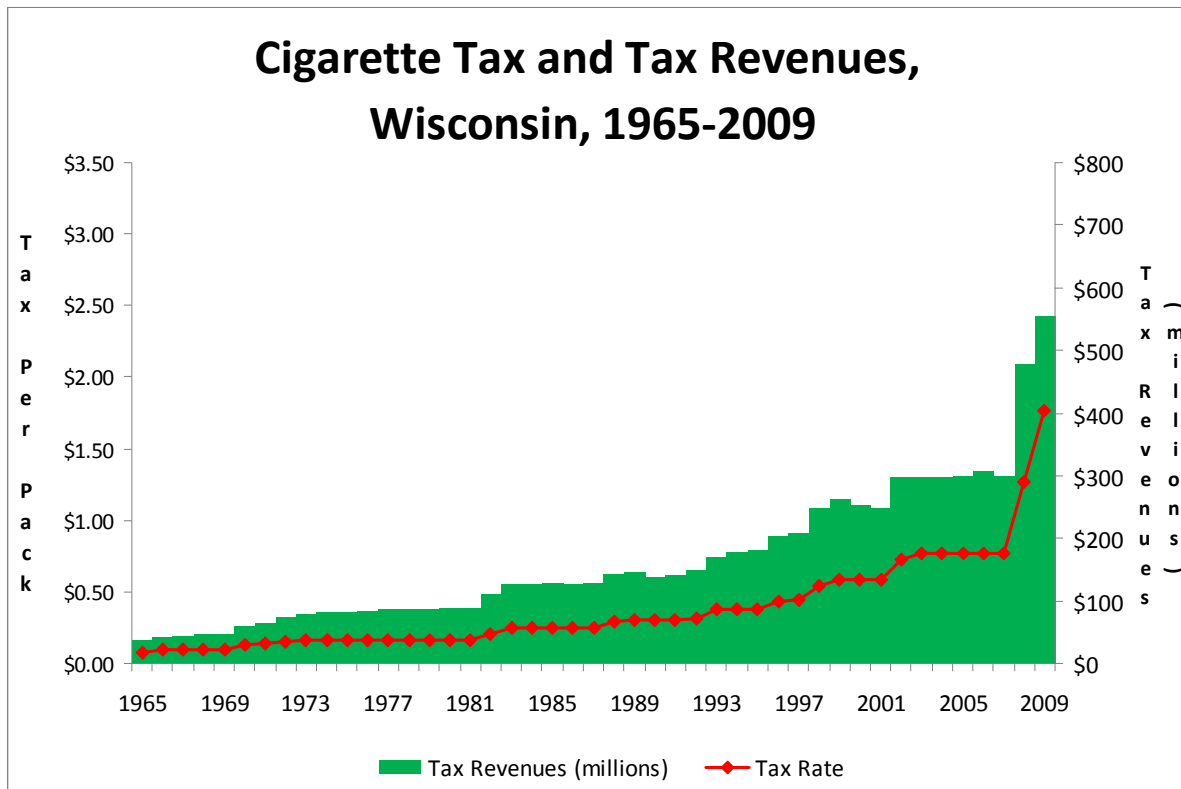
Cigarette and Other Tobacco Tax Revenues Are Much More Predictable and Stable Than Many Other State Revenues

Year to year, state cigarette and other tobacco tax revenues are more predictable and less volatile than most other state revenue sources, such as state personal income taxes or corporate income taxes, which can vary considerably from year to year because of nationwide or regional recessions or state economic slowdowns.

In contrast, sharp drops in cigarette or other tobacco tax revenues from one year to the next are rare, in large part due to the addictive nature of cigarette smoking and other tobacco use. Long term trends in tobacco use show modest declines from year to year, both nationally and at the state level. These declines can be accelerated by comprehensive tobacco prevention efforts, but will generally be no more than a few percentage points each year. The exception to this will be the large smoking declines and related cigarette tax revenue declines that result from large nationwide increases in cigarette prices, such as the large cigarette company price increases prompted by the 1998 Master

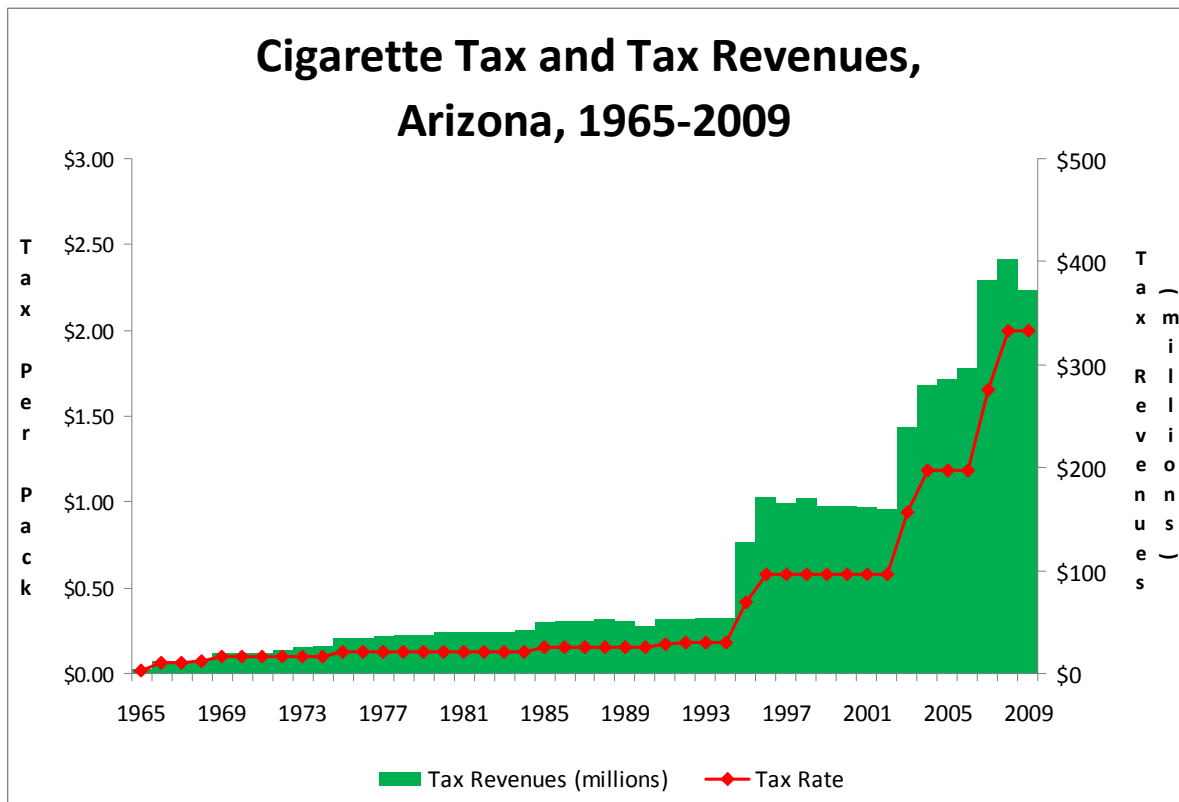
Settlement Agreement and the April 1, 2009 increase in federal excise taxes on cigarettes and other tobacco products. The only other large year-to-year changes to state cigarette tax revenues are the large revenue increases when a state significantly increases its own cigarette tax rates.

In states where taxes have been increased regularly over time, each increase in the tax leads to a significant and sustained increase in tax revenues. As shown in the figure below, for example, Wisconsin has increased its cigarette excise tax several times over the past few decades, with each increase generating new, sustained revenues.



Note: Data are for the fiscal year ending June 30.

The same pattern holds even in states where a share of the new revenues generated by the tax increase is used to fund a comprehensive tobacco control program. Arizona, for example, has increased its cigarette excise tax multiple times over the past few decades. In November 1994, Arizona voters approved the Tobacco Tax and Health Care Act that raised the cigarette tax by 40 cents per pack and dedicated a portion of the new revenues to the state’s tobacco control program. As the figure below shows, each subsequent tax increase in Arizona led to a significant and sustained increase in revenues, despite the greater declines in smoking that result from the funding for the state program.



Note: Data are for the fiscal year ending June 30.

Additional examples of the relative stability of revenues from other state cigarette tax increases in states with and without well funded tobacco control programs are contained in Exhibit B.

Smoking Declines Produce Enormous Public and Private Sector Savings That More Than Offset Any State Revenue Reductions From Fewer Packs Being Sold

As described above, gradual reductions in cigarette smoking and other tobacco use in the years after increases in state cigarette and other tobacco taxes will produce slow declines in state tobacco tax revenues (in the absence of additional tax increases). These declines in revenues, however, will be offset by reductions in public and private spending on health care to treat diseases caused by smoking, and by the reductions in the other economic costs caused by tobacco use. Some declines in costs, such as those resulting from smoking during pregnancy, will be seen almost immediately. Over time, these reduced costs will grow considerably, given that most of the health and other consequences of tobacco use occur after many years.

When smoking rates decline among pregnant women and lower income smokers (among the groups whose smoking behavior is most sensitive to changes in tax and price), costs to state Medicaid programs subsequently decline. Decreasing smoking rates among workers will decrease public and private sector employee healthcare costs.

In addition, the reductions in smoking from state cigarette and other tobacco product tax increases will produce other economic benefits for the state, including increased productivity in government and private sector workforces as fewer employees miss work because of smoking-caused sick days or cigarette breaks or have their productive worklives interrupted or cut short by smoking-caused

disability or premature death. Other economic benefits include reduced property losses from smoking-caused fires, and reduced cleaning and maintenance costs caused by smoking.

It is important to note that small rate increases or a rate increase that is split into smaller multi-stage increases would reduce the public health benefits and cost savings, and North Carolina would not collect as much revenue as from a one-time, larger rate increase. For instance, the Campaign for Tobacco-Free Kids projects that a \$1.00 per pack increase will prevent 84,600 youth from becoming adult smokers, encourage 52,200 adults to quit, prevent 40,900 smoking-caused deaths, and save \$1.9 billion in long-term health care costs. However, a small increase is more easily offset by tobacco company price cuts and price-reducing promotions and would not generate as many public health benefits or cost savings.

States Can Implement Other Effective Strategies to Maintain and Increase Their Cigarette and Other Tobacco Tax Revenues

If gradually declining state tobacco tax revenues are a concern for North Carolina – despite the benefits and cost savings from the related smoking and other tobacco use declines discussed above – the state can periodically increase its tobacco tax rates to offset any declines in revenue. Alternatively, North Carolina could implement legislation that allows for administrative increases in state tobacco tax rates following any significant decline in annual state tobacco tax revenues (or in total state tobacco revenues, including tobacco settlement payments).

Another important strategy is to make sure that all taxes on other tobacco products are set at rates that parallel the state’s cigarette tax rate. With that kind of tax equity, North Carolina will not lose revenues when tobacco users switch between different types of tobacco products. But most states, including North Carolina, have unequal rates so that the state loses revenues each time a cigarette smoker switches to smoking roll-your-own (RYO) tobacco or small cigars or starts using other cheaper and less-taxed tobacco products. Roughly speaking, for each dollar per pack in the state’s cigarette tax rate, the state’s percentage of wholesale price tax on other tobacco products should be about 40 percent to produce approximate tax equity. But even with a comparable percentage tax rate for other tobacco products, some lower priced tobacco products will be taxed at a much lower level compared to cigarettes on a per-use or per-package basis.

- > RYO tobacco, for example, is much cheaper, per use, than cigarettes. But it takes, on average, approximately 0.0325 ounces of RYO tobacco to make one cigarette, or 0.65 ounces to make a pack of 20 RYO cigarettes. Accordingly, to create tax equity the minimum tax on RYO tobacco, to complement the percentage-of-price basic rate, would be an amount equal to the state tax on a pack of 20 cigarettes for each 0.65 ounces of RYO tobacco.
- > Similarly, the tax-equity minimum tax on a standard 1.2 ounce can of smokeless tobacco would be an amount equal to the state tax on a pack of 20 cigarettes.

A similar cigarette pack tax amount tax could be placed on standard five-packs of cigarillos, blunts and other small cigars. But the big tax revenue loser for states in relation to cigars usually comes from cigarettes being packaged and sold as “little cigars” to escape the state’s higher tax on cigarettes. That problem can be eliminated by amending the state law “cigarette” definitions to reach any and all cigarettes, no matter how they are labeled or packaged (without reaching any bona fide cigars). One way to do that would be to add the following phrase to the existing “cigarette” definitions: “and

includes any other roll for smoking containing tobacco that weighs no more than four and a half pounds per thousand, unless it is wrapped in whole tobacco leaf and does not have a filter.”

North Carolina is one of only three states that do not have a tax stamp on tobacco products at all. States can also increase their cigarette and other tobacco tax revenues, *without raising tax rates*, by implementing initiatives to prevent and reduce cigarette smuggling and other forms of tobacco tax evasion – such as adopting new, high-tech tax stamps. California, the first state to adopt a high-tech tax stamp, enjoyed a \$100 million increase in cigarette tax revenues in the first 20 months after the new tax stamp was introduced.

Additional cost-effective strategies to protect tobacco tax revenues include increasing penalties and fines; educating smokers about applicable state laws (such as limits on the number of packs that may be brought into the state from other states); or increasing enforcement efforts. Other states have reduced tax avoidance and increased collections by targeting tax collection efforts at smokers who purchase cigarettes on the Internet without paying the state tax or by entering into special tax compacts with Native American tribes located in the state so that they impose and collect equivalent taxes on all reservation cigarette sales.

North Carolina’s Past Experience with Cigarette Tax Increases

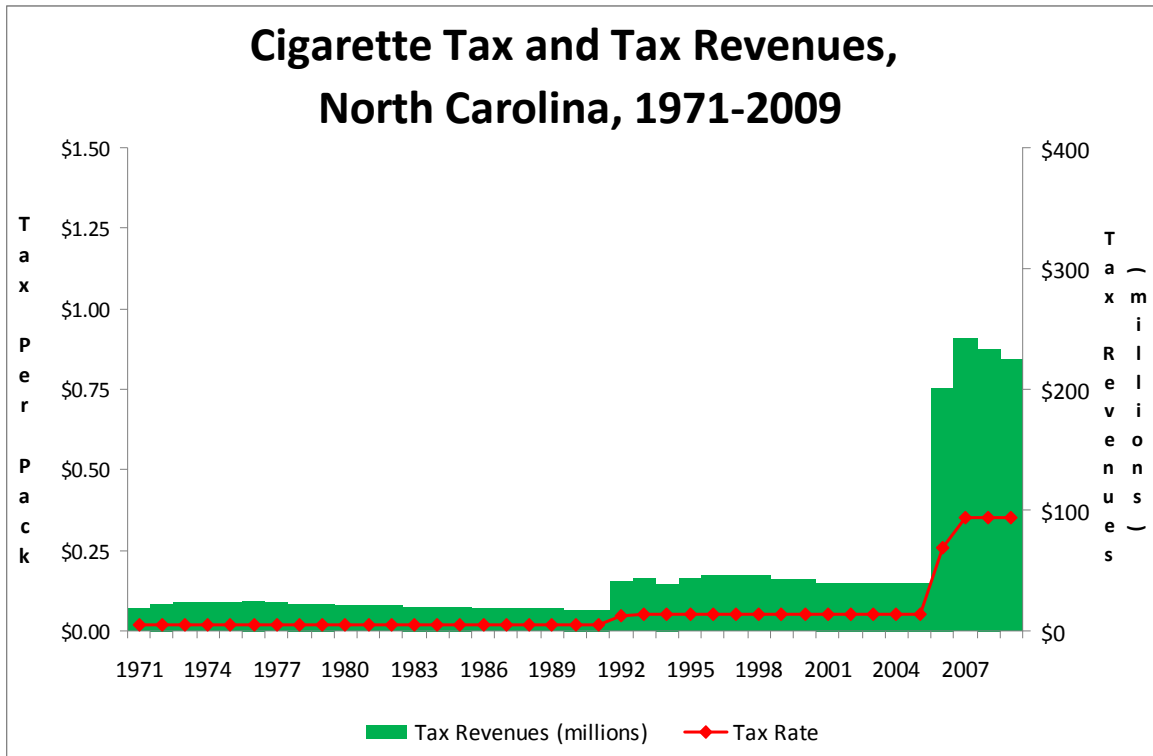
North Carolina most recently increased its cigarette tax rate by 10 cents on September 1, 2009, to its current rate of 45 cents per pack. Because the increase was so recent, data are not yet available to demonstrate the impact of this increase on revenue collections. However, because the increase was small and tobacco companies could more easily offset the minimal increase with price cuts and price-reducing promotions, the rate increase will not generate as much revenue, while producing fewer public health benefits and cost savings, compared to those that would have resulted from a larger cigarette tax increase.

As shown in the figure below, the previous increase, a two-stage increase in 2005 and 2006, generated a large and sustained increase to the state’s cigarette excise tax revenues. If North Carolina had increased its rate in one lump sum of 30 cents on September 1, 2005 – instead of phasing it in with 25-cents on September 1, 2005 plus 5 cents on July 1, 2006 – the state would have received higher revenues more quickly.

This graph illustrates several points. First, revenues decline following tax increases because of other factors that result in further reductions in smoking. For example, the revenue declines in the late 1990s were largely the result of the unprecedented increase in cigarette prices caused by the industry’s pass through of the costs of the 1998 Master Settlement Agreement. Similarly, the decline in revenue in 2009 reflects the initial impact of the significant federal cigarette tax increase that took effect on April 1, 2009.

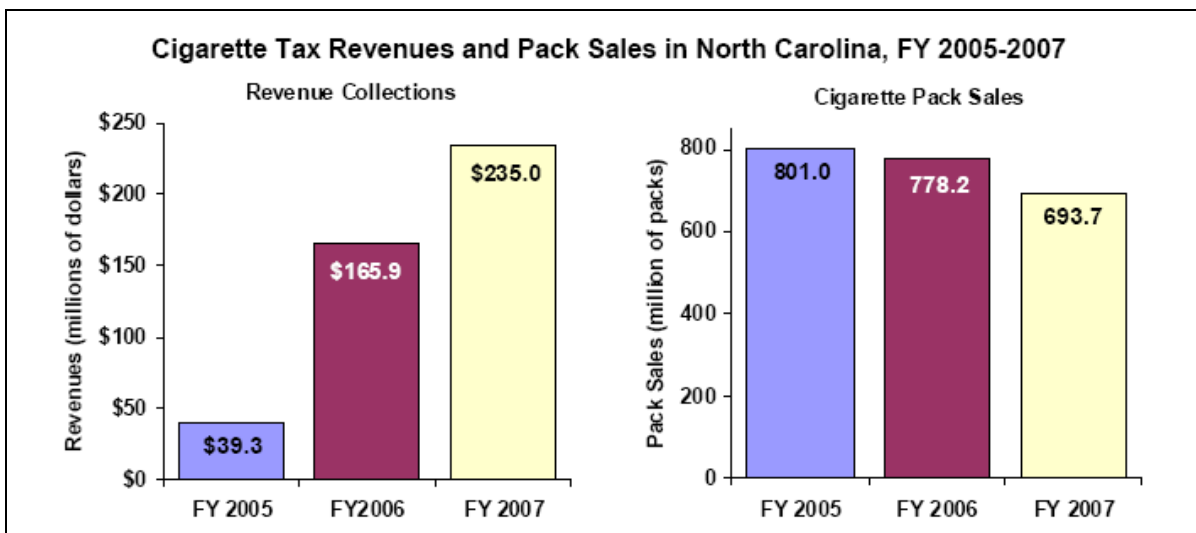
Second, even with the out-year revenue declines caused by ongoing smoking reductions in the state, state cigarette tax revenues several years after the last cigarette tax increase are substantially larger than the revenue levels before the increase – and much higher than the revenue levels would have been absent any cigarette tax increase.

Third, periodic increases in a state’s cigarette tax will more than offset the revenue decline resulting from an underlying downward trend in smoking and result in substantially more revenue.



Note: Data are for the fiscal year ending June 30. Recent state cigarette tax revenue declines have occurred because of smoking declines caused by the large federal cigarette tax increase in early 2009.

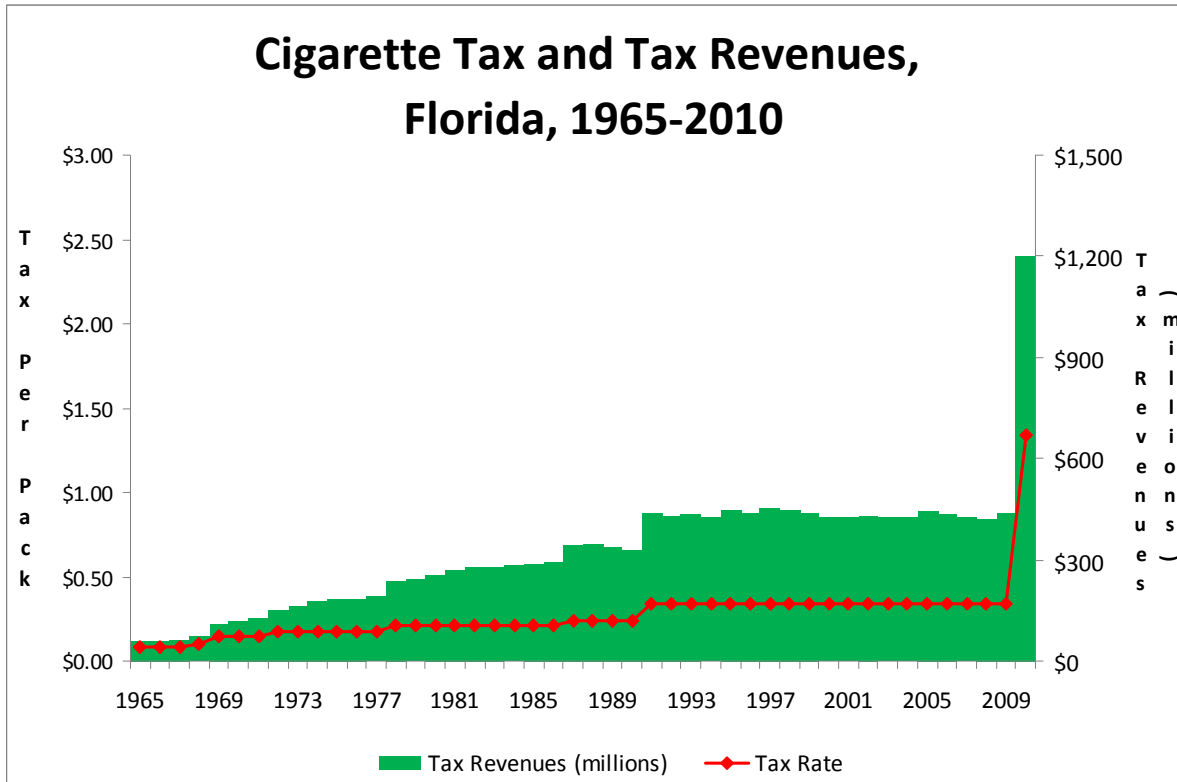
The graphs below show how, when North Carolina increased its cigarette tax rate in 2005 and 2006, from 5 to 35 cents per pack, the state received net new revenues of \$195.7 million (a 498% increase) between FY 2005 and FY 2007 while pack sales declined 13.4 percent.



Prior to the increase, critics argued that North Carolina would not collect significant amounts of revenue because North Carolina smokers would buy cigarettes from bordering South Carolina, which

has a 7 cent per pack cigarette tax. However, these fears were unfounded. In fact, between FY 2005 and FY 2007, South Carolina’s pack sales declined by 0.07 percent.*

If North Carolina increases its cigarette tax significantly in 2010, its revenues should follow the same basic pattern that occurred after its last cigarette tax increases, bringing the state substantial new revenues. This pattern is the same across states. For example, Florida just increased its cigarette tax rate by \$1.00 per pack, effective July 1, 2009, from a starting cigarette tax of 33.9 cents per pack. As shown in the chart below, preliminary cigarette sales and tax revenue data indicate that Florida will likely see pack sale declines of 26 percent or less over the first year after the increase, with revenues increasing by 195 percent.



Note: Data are for the fiscal year ending June 30. 2010 data are annualized projections based on revenues for the first four months following the tax increase.

This Florida chart also provides another example of how state cigarette taxes provide a stable source of funding, with no major changes year-to-year, except when revenues go up sharply because of significant rate increases. Over time, cigarette tax revenues will decline slowly as smoking rates continue to fall, but revenues will remain considerably higher for many years and the declines will be gradual and predictable. Moreover, the substantial health benefits that result from the declines in smoking caused by the tax increase and the resulting reductions in health care costs should be considered.

* Between FY 2005 and FY 2006, South Carolina had a small uptick (7.7%) in its pack sales, which was found to be attributable to one distributor who made a large purchase in January 2006, unrelated to cigarette smuggling or tax evasion. By FY 2007, pack sales in South Carolina returned to the level sold in FY 2005, indicating that there was minimal, if any, cross-border sales from South Carolina into North Carolina.

As noted earlier, every single state that has significantly increased its cigarette taxes has, like North Carolina, enjoyed substantial new cigarette tax revenues. Indeed, every state cigarette tax increase has produced an increase to state revenues above what the state would have received with no tax increase.[†]

[†] In rare cases, a small state cigarette tax increase might not bring in enough new revenue to make up for significant ongoing state pack sales and revenue declines caused by other factors. For example, after New Jersey increased its \$2.40 per pack cigarette tax by another 17.5¢ in 2006 (which amounted to only a 3% increase to the average pack price), its total cigarette tax revenues declined somewhat over the following year. This decline was almost certainly the result of the reductions in cigarette consumption caused by the state's Smoke-Free Air Act that went into effect in April 2006. Without the small cigarette tax increase, the state's cigarette tax revenues would have dropped much more sharply. In every other instance besides New Jersey in 2006, state cigarette tax rate increases have been followed by significant net increases to annual state tax revenues – and in every instance, including New Jersey, the state cigarette tax increase has brought the state more revenues than it would have received without any rate increase. See, e.g., Exhibits A and B.

EXHIBIT A

STATE EXPERIENCES WITH LARGE CIGARETTE TAX INCREASES 2002-2008 REDUCED PACK SALES AND INCREASED REVENUES

State	Effective Date	Tax Increase Amount (per pack)	New State Tax Rate (per pack)	State Pack Sales Decline	Nationwide Pack Sales Trend	Revenue Increase	New Revenues (millions)
<i>Alaska</i>	1/1/05	60¢	\$1.60	- 23.2%	- 4.2%	+ 22.8%	+ \$9.3
<i>Arizona</i>	12/8/06	82¢	\$2.00	- 32.5%	- 4.4%	+ 13.6%	+ \$44.5
<i>Colorado</i>	1/1/05	64¢	84¢	- 24.3%	- 4.2%	+ 220.2%	+ \$131.0
<i>Connecticut</i>	4/3/02	61¢	\$1.11	- 12.6%	- 4.7%	+ 116.1%	+ \$133.6
<i>Delaware</i>	7/31/07	60¢	\$1.15	- 35.1%	- 4.9%	+ 35.1%	+ \$31.7
<i>Washington, DC</i>	10/1/08	\$1.00	\$2.00	- 25.9%	- 7.0%	+ 57.3%	+ \$13.2
<i>Iowa</i>	3/15/07	\$1.00	\$1.36	- 30.6%	- 4.7%	+ 140.2%	+ \$128.0
<i>Kansas</i>	7/1/02	55¢	\$0.79	- 21.6%	- 4.9%	+ 142.7%	+ \$68.4
<i>Maine</i>	9/19/05	\$1.00	\$2.00	- 12.3%	- 1.8%	+ 76.5%	+ \$71.5
<i>Maryland</i>	1/1/08	\$1.00	\$2.00	- 27.1%	- 4.2%	+ 45.8%	+ \$126.9
<i>Massachusetts</i>	7/1/08	\$1.00	\$2.51	- 19.1%	- 5.3%	+ 34.2%	+ \$143.3
<i>Michigan</i>	8/1/02	50¢	\$1.25	- 11.5%	- 5.6%	+ 47.4%	+ \$273.7
<i>Michigan</i>	7/1/04	75¢	\$2.00	- 15.2%	- 1.7%	+ 28.1%	+ \$238.9
<i>Minnesota</i>	8/1/05	75¢	\$1.23	- 16.1%	- 1.8%	+ 160.7%	+ \$258.4
<i>Montana</i>	5/1/03	52¢	\$0.70	- 7.3%	- 2.9%	+ 259.8%	+ \$30.5
<i>Montana</i>	1/1/05	\$1.00	\$1.70	- 42.0%	- 4.2%	+ 36.5%	+ \$18.8
<i>New Jersey</i>	7/1/02	70¢	\$1.50	- 17.6%	- 4.9%	+ 51.0%	+ \$199.8
<i>New Jersey</i>	7/1/03	55¢	\$2.05	- 9.0%	- 2.3%	+ 26.6%	+ \$157.4
<i>New Mexico</i>	7/1/03	70¢	\$0.91	- 32.3%	- 2.3%	+ 191.8%	+ \$39.2
<i>New York</i>	6/3/08	\$1.25	\$2.75	- 15.2%	- 5.8%	+ 40.3%	+ \$377.4
<i>Ohio</i>	7/1/05	70¢	\$1.25	- 20.6%	- 1.6%	+ 78.9%	+ \$437.6
<i>Oklahoma</i>	1/1/05	80¢	\$1.03	- 34.7%	- 4.2%	+ 98.2%	+ \$81.6
<i>Rhode Island</i>	7/1/04	75¢	\$2.46	- 18.7%	- 1.7%	+ 16.9%	+ \$18.7
<i>South Dakota</i>	1/1/07	\$1.00	\$1.53	- 25.8%	- 4.9%	+ 115.4%	+ \$31.8
<i>Texas</i>	1/1/07	\$1.00	\$1.41	- 21.0%	- 4.9%	+ 191.7%	+ \$1,003.7
<i>Vermont</i>	7/1/06	60¢	\$1.79	- 14.6%	- 3.0%	+ 30.0%	+ \$13.8
<i>Washington</i>	1/1/02	60¢	\$1.425	- 18.8%	- 2.6%	+ 42.1%	+ \$99.6
<i>Washington</i>	7/1/05	60¢	\$2.025	- 8.4%	- 1.6%	+ 29.1%	+ \$95.5
<i>Wisconsin</i>	1/1/08	\$1.00	\$1.77	- 15.0%	- 4.2%	+ 93.9%	+ \$283.0

Sources: Orzechowski & Walker, *Tax Burden on Tobacco*. U.S. Alcohol and Tobacco Tax and Trade Bureau. Consumption declines and revenue increases are for the 12 months before and after the tax increase. Nationwide consumption declines are for the 50 states and DC. Trends for rate increases after January 2008 include the impact of the 61.66-cent federal cigarette tax increase (effective April 1, 2009).

EXHIBIT B

SUSTAINABILITY OF CIGARETTE TAX REVENUES OVER TIME FOLLOWING CIGARETTE TAX RATE INCREASES

Introductory Points:

- Cigarette consumption is generally trending down. During the period from 1990 to 2008, total sales for the U.S. fell by 2.2 percent, on average, per year. During this same period, sales in North Carolina fell by an average of 1.6 percent per year. In the absence of cigarette tax increases, revenues from cigarette taxes will also be on a downward trend given the underlying trends in cigarette consumption.
- Cigarette tax increases will generate reductions in cigarette smoking and increases in revenues. Estimates indicate that the short run elasticity of cigarette demand is approximately -0.4 , implying that a price increase of 10 percent will reduce total cigarette consumption by 4%. Because of the addictive nature of cigarette smoking, smokers' adjustments to the tax increases will occur over time, with the effect of a permanent, inflation adjusted tax increase rising so that the reductions in consumption that result will increase over time; estimates of the long run (after many decades) price elasticity of cigarette demand are -0.8 . This implies that the gains in revenue that results from a tax increase will fall (although still be substantial) over time; however, the effects of inflation will erode the value of the tax increase, dampening the growth in the decline in smoking and lessening the drop in revenues.
- In states that use some of the revenues from tax increases to fund comprehensive tobacco control programs, these efforts lead to further reductions in smoking beyond those resulting from the tax increase. The implications for revenues are that the revenues generated from the tax increase will be lower in years after the comprehensive program is implemented compared to before.
- Historically, every significant state cigarette excise tax increase has resulted in a significant increase in cigarette tax revenues.

Data Sources:

Monthly tax paid cigarette sales, by state, 1995- 2009, provided by USDA and CDC; cigarette tax rates and dates of change, *Tax Burden on Tobacco*, 2010. Note that the revenues for later periods described below (post November 1998) are lower relative to the general trend because of sharp reductions in smoking resulting from industry initiated cigarette price increases in the wake of the Master Settlement Agreement.

Approach:

- Analyzed significant tax changes - those that increased the state tax cigarette excise tax rate by at least 25 cents per pack over the period from 1995 through June 2004.
- Computed tax revenues for the 12 months preceding tax change and for as many 12 month periods as possible after tax change, for a minimum of five years; if tax was changed mid-month, then the last 12 full months and subsequent 12 full month periods were examined.

Findings:

States With At Least 5 years of Post-Tax Increase Data Available, and the Average State Tobacco Control Funding as a Percent of the CDC Minimum Recommendation less than 50%:

- Alabama - tax increase from 16.5 cents to 42.5 cents per pack, 5/1/2004:
 - Revenues 5/1/2003 - 4/30/2004: \$65.4 million
 - Revenues 5/1/2004 - 4/30/2005: \$159.8 Million
 - Revenues 5/1/2005 - 4/30/2006: \$161.4 million
 - Revenues 5/1/2006 - 4/30/2007: \$158.0 million
 - Revenues 5/1/2007 - 4/30/2008: \$156.7 million
 - Revenues 5/1/2008 - 4/30/2009: \$150.5 million
 - Average annual revenues, 5/2004 - 4/2009: \$157.3 million
- ❖ Alabama - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 6.7%

- District of Columbia - tax increase from 65 cents to 100 cents per pack, 1/1/2003:
 - Revenues 1/1/2002 - 12/31/2002: \$19.3 million
 - Revenues 1/1/2003 - 12/31/2003: \$22.6 million
 - Revenues 1/1/2004 - 12/31/2004: \$21.1 million
 - Revenues 1/1/2005 - 12/31/2005: \$20.3 million
 - Revenues 1/1/2006 - 12/31/2006: \$22.2 million
 - Revenues 1/1/2007 - 12/31/2007: \$22.6 million
 - Average annual revenues, 1/2003 - 12/2007: \$21.7 million
 - DC - tax increased from 100 cents to 200 cents per pack, 10/1/2008, and to 250 cents on 10/1/2009
- ❖ DC - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 10.1%

- Georgia - tax increase from 12 cents to 37 cents per pack, 7/1/2003:
 - Revenues 7/1/2002 - 6/30/2003: \$83.7 million
 - Revenues 7/1/2003 - 6/30/2004: \$220.5 million
 - Revenues 7/1/2004 - 6/30/2005: \$229.7 million
 - Revenues 7/1/2005 - 6/30/2006: \$229.1 million
 - Revenues 7/1/2006 - 6/30/2007: \$224.1 million
 - Revenues 7/1/2007 - 6/30/2008: \$218.2 million
 - Revenues 7/1/2008 - 6/30/2009: \$212.0 million
 - Average annual revenues, 7/2003 - 6/2009: \$222.3 million
- ❖ Georgia - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 24.8%

- Idaho - tax increase from 28 cents to 57 cents per pack, 6/1/2003:
 - Revenues 6/1/2002 - 5/31/2003: \$24.8 million
 - Revenues 6/1/2003 - 5/31/2004: \$45.4 million
 - Revenues 6/1/2004 - 5/31/2005: \$45.8 million
 - Revenues 6/1/2005 - 5/31/2006: \$46.7 million
 - Revenues 6/1/2006 - 5/31/2007: \$48.1 million

- Revenues 6/1/2007 - 5/31/2008: \$48.7 million
- Revenues 6/1/2008 - 5/31/2009: \$46.8 million
- Average annual revenues, 6/2003 - 5/2009: \$46.9 million
- ❖ Idaho - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 12.8%

- Illinois - tax increase from 58 cents to 98 cents per pack, 7/1/2002:
 - Revenues 7/1/2001 - 6/30/2002: \$512.9 million
 - Revenues 7/1/2002 - 6/30/2003: \$617.0 million
 - Revenues 7/1/2003 - 6/30/2004: \$739.7 million
 - Revenues 7/1/2004 - 6/30/2005: \$650.0 million
 - Revenues 7/1/2005 - 6/30/2006: \$642.8 million
 - Revenues 7/1/2006 - 6/30/2007: \$611.8 million
 - Revenues 7/1/2007 - 6/30/2008: \$608.5 million
 - Revenues 7/1/2008 - 6/30/2009: \$571.3 million
 - Average annual revenues, 7/2002 - 6/2009: \$634.4 million
 - Note that Chicago and Cook County Illinois adopted significant local tax increases in the years following the 2002 state tax increase. Specifically, the Chicago tax per pack rose from \$0.16 to \$0.48 in January 2005 and then to \$0.68 in January 2006, while the Cook County tax per pack rose from \$0.18 to \$1.00 in April 2004 and then to \$2.00 in March 2006.
- ❖ Illinois - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 26.4%

- Nebraska - tax increase from 34 cents to 64 cents per pack, 10/1/2002:
 - Revenues 10/1/2001 - 9/30/2002: \$44.9 million
 - Revenues 10/1/2002 - 9/30/2003: \$66.4 million
 - Revenues 10/1/2003 - 9/30/2004: \$68.9 million
 - Revenues 10/1/2004 - 9/30/2005: \$68.4 million
 - Revenues 10/1/2005 - 9/30/2006: \$66.7 million
 - Revenues 10/1/2006 - 9/30/2007: \$69.8 million
 - Revenues 10/1/2007 - 9/30/2008: \$71.4 million
 - Average annual revenues, 10/2002 - 9/2008: \$68.6 million
- ❖ Nebraska - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 32.8%

- Nevada - tax increase from 35 cents to 80 cents per pack, 7/1/2003:
 - Revenues 7/1/2002 - 6/30/2003: \$62.4 million
 - Revenues 7/1/2003 - 6/30/2004: \$128.4 million
 - Revenues 7/1/2004 - 6/30/2005: \$129.1 million
 - Revenues 7/1/2005 - 6/30/2006: \$131.8million
 - Revenues 7/1/2006 - 6/30/2007: \$129.3 million
 - Revenues 7/1/2007 - 6/30/2008: \$130.0 million
 - Revenues 7/1/2008 - 6/30/2009: \$116.7 million
 - Average annual revenues, 7/2003 - 6/2009: \$127.5 million
- ❖ Nevada - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 27.3%

- New Mexico - tax increase from 21 cents to 91 cents per pack, 7/1/2003:
 - Revenues 7/1/2002 - 6/30/2003: \$21.0 million
 - Revenues 7/1/2003 - 6/30/2004: \$61.8 million
 - Revenues 7/1/2004 - 6/30/2005: \$61.3 million
 - Revenues 7/1/2005 - 6/30/2006: \$62.9 million
 - Revenues 7/1/2006 - 6/30/2007: \$64.4 million
 - Revenues 7/1/2007 - 6/30/2008: \$61.7 million
 - Revenues 7/1/2008 - 6/30/2009: \$59.0 million
 - Average annual revenues, 7/2003 - 6/2009: \$61.8 million
- ❖ New Mexico - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 40.4%

- New York - tax increase from 111 cents to 150 cents per pack, 4/3/2002:
 - Revenues 4/1/2001 - 3/31/2002: \$999.5 million
 - Revenues 4/1/2002 - 3/31/2003: \$1,190.6 million
 - Revenues 4/1/2003 - 3/31/2004: \$1,097.7 million
 - Revenues 4/1/2004 - 3/31/2005: \$1,046.0million
 - Revenues 4/1/2005 - 3/31/2006: \$1,046.9 million
 - Revenues 4/1/2006 - 3/31/2007: \$1,040.8 million
 - Revenues 4/1/2007 - 3/31/2008: \$1,020.3 million
 - Average annual revenues, 4/2002 - 3/2008: \$1,073.7 million
 - New York - tax increased from 150 cents to 275 cents per pack, 6/3/2008.
 - Note: On 7/2/2002 New York city raised its cigarette excise tax from \$0.08 per pack to \$1.50. The revenues generated by the city tax are shared between the city and the state, with the state receiving 46.5 percent from July 2002 through March 2003 and 46.0 percent from April 2003 on; these revenues are included in the state totals.
- ❖ New York - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 48.4%

- Oregon - tax increase from 38 cents to 68 cents per pack, 2/1/1997:
 - Revenues 2/1/1996 - 1/31/1997: \$113.8 million
 - Revenues 2/1/1997 - 1/31/1998: \$190.8 million
 - Revenues 2/1/1998 - 1/31/1999: \$184.4 million
 - Revenues 2/1/1999 - 1/31/2000: \$164.2 million
 - Revenues 2/1/2000 - 1/31/2001: \$162.6 million
 - Revenues 2/1/2001 - 1/31/2002: \$146.9 million
 - Average annual revenues, 2/1997 - 1/2002: \$169.8 million
 - Oregon - tax increased from 68 cents to 128 cents per pack, 11/1/2002, and reduced to 118 cents per pack on 1/1/04
- ❖ Oregon - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 31.5%

- Pennsylvania - tax increase from 100 cents to 135 cents per pack, 1/7/2004:
 - Revenues 1/1/2003 - 12/31/2003: \$903.8 million
 - Revenues 1/1/2004 - 12/31/2004: \$1,056.1 million
 - Revenues 1/1/2005 - 12/31/2005: \$1,060.9 million
 - Revenues 1/1/2006 - 12/31/2006: \$1,017.0 million

- Revenues 1/1/2007 - 12/31/2007: \$1,020.0 million
- Revenues 1/1/2008 - 12/31/2008: \$1,032.5 million
- Average annual revenues, 1/2004 - 12/2008: \$1,037.3 million
 - Pennsylvania - tax increased from 135 cents to 160 cents per pack, 11/1/2009
- ❖ Pennsylvania - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 46.1%

- West Virginia - tax increase from 17 cents to 55 cents per pack, 5/1/2003:
 - Revenues 5/1/2002 - 4/30/2003: \$36.0 million
 - Revenues 5/1/2003 - 4/30/2004: \$105.4 million
 - Revenues 5/1/2004 - 4/30/2005: \$101.3 million
 - Revenues 5/1/2005 - 4/30/2006: \$108.0 million
 - Revenues 5/1/2006 - 4/30/2007: \$109.4 million
 - Revenues 5/1/2007 - 4/30/2008: \$111.0 million
 - Revenues 5/1/2008 - 4/30/2009: \$110.5 million
 - Average annual revenues, 5/2003 - 4/2009: \$107.6 million
- ❖ West Virginia - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 40.2%

States With At Least 5 years of Post-Tax Increase Data Available, and the Average State Tobacco Control Funding as a Percent of the CDC Minimum Recommendation more than 50%:

- Alaska - tax increase from 29 cents to 100 cents per pack, 10/1/1997:
 - Revenues 10/1/1996 - 9/30/1997: \$15.2 million
 - Revenues 10/1/1997 - 9/30/1998: \$35.6 million
 - Revenues 10/1/1998 - 9/30/1999: \$43.2 million
 - Revenues 10/1/1999 - 9/30/2000: \$41.9 million
 - Revenues 10/1/2000 - 9/30/2001: \$41.6 million
 - Revenues 10/1/2001 - 9/30/2002: \$41.4 million
 - Revenues 10/1/2002 - 9/30/2003: \$39.0 million
 - Revenues 10/1/2003 - 9/30/2004: \$40.3 million
 - Average annual revenues, 10/1997 - 9/2004: \$40.4 million
 - Alaska - tax increased from 100 cents to 160 cents per pack, 1/1/2005; and to 180 cents on 7/1/2006, and to 200 cents on 7/1/2007
- ❖ Alaska - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 57.5%

- Arkansas - tax increase from 34 cents to 59 cents per pack, 6/1/2003:
 - Revenues 6/1/2002 - 5/31/2003: \$85.9 million
 - Revenues 6/1/2003 - 5/31/2004: \$123.1 million
 - Revenues 6/1/2004 - 5/31/2005: \$129.5 million
 - Revenues 6/1/2005 - 5/31/2006: \$131.2 million
 - Revenues 6/1/2006 - 5/31/2007: \$129.5 million
 - Revenues 6/1/2007 - 5/31/2008: \$128.6 million
 - Average annual revenues, 6/2003 - 5/2008: \$128.4 million
 - Arkansas - tax increased from 59 cents to 115 cents per pack, 3/1/2009

- ❖ Arkansas - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 79.8%

- California- tax increase from 37 cents to 87 cents per pack, 1/1/1999:
 - Revenues 1/1/1998 - 12/31/1998: \$646.6 million
 - Revenues 1/1/1999 - 12/31/1999: \$1,115.7 million
 - Revenues 1/1/2000 - 12/31/2000: \$1,125.7 million
 - Revenues 1/1/2001 - 12/31/2001: \$1,105.2 million
 - Revenues 1/1/2002 - 12/31/2002: \$1,068.9 million
 - Revenues 1/1/2003 - 12/31/2003: \$1,024.4 million
 - Revenues 1/1/2004 - 12/31/2004: \$1,029.8 million
 - Revenues 1/1/2005 - 12/31/2005: \$1,040.1 million
 - Revenues 1/1/2006 - 12/31/2006: \$1,032.9 million
 - Revenues 1/1/2007 - 12/31/2007: \$983.7 million
 - Revenues 1/1/2008 - 12/31/2008: \$951.8 million
 - Average annual revenues, 1/1999 - 12/2008: \$1,047.8 million
- ❖ California - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 52.1%

- Indiana - tax increase from 15.5 cents to 55.5 cents per pack, 7/1/2002:
 - Revenues 7/1/2001 - 6/30/2002: \$115.0 million
 - Revenues 7/1/2002 - 6/30/2003: \$343.0 million
 - Revenues 7/1/2003 - 6/30/2004: \$335.8 million
 - Revenues 7/1/2004 - 6/30/2005: \$332.3 million
 - Revenues 7/1/2005 - 6/30/2006: \$345.1 million
 - Revenues 7/1/2006 - 6/30/2007: \$360.9 million
 - Average annual revenues, 7/2002 - 6/2007: \$343.4 million
 - Indiana - tax increased from 55.5 cents to 99.5 cents per pack, 1/1/2005
- ❖ Indiana - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 58.3%

- Maryland - tax increase from 66 cents to 100 cents per pack, 6/1/2002:
 - Revenues 6/1/2001 - 5/31/2002: \$201.7 million
 - Revenues 6/1/2002 - 5/31/2003: \$266.2 million
 - Revenues 6/1/2003 - 5/31/2004: \$268.3 million
 - Revenues 6/1/2004 - 5/31/2005: \$268.3 million
 - Revenues 6/1/2005 - 5/31/2006: \$271.4 million
 - Revenues 6/1/2006 - 5/31/2007: \$271.8 million
 - Average annual revenues, 6/2002 - 5/2007: \$269.2 million
 - Maryland - tax increased from 100 cents to 200 cents per pack, 1/1/2008
- ❖ Maryland - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 63.4%

- Massachusetts - tax increase from 51 cents to 76 cents per pack, 10/1/1996:
 - Revenues 10/1/1995 - 9/30/1996: \$230.9 million
 - Revenues 10/1/1996 - 9/30/1997: \$292.7 million
 - Revenues 10/1/1997 - 9/30/1998: \$297.4 million
 - Revenues 10/1/1998 - 9/30/1999: \$276.2 million

- Revenues 10/1/1999 - 9/30/2000: \$267.6 million
- Revenues 10/1/2000 - 9/30/2001: \$266.5 million
- Average annual revenues, 10/1996 - 9/2001: \$280.1 million
 - Massachusetts - tax increased from 76 cents to 151 cents per pack, 7/25/2005
- ❖ Massachusetts - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 50.4%

- Massachusetts - tax increase from 76 cents to 151 cents per pack, 7/25/2002:
 - Revenues 8/1/2001 - 7/31/2002: \$279.4 million
 - Revenues 8/1/2002 - 7/31/2003: \$438.4 million
 - Revenues 8/1/2003 - 7/31/2004: \$422.3 million
 - Revenues 8/1/2004 - 7/31/2005: \$406.2 million
 - Revenues 8/1/2005 - 7/31/2006: \$422.5 million
 - Revenues 8/1/2006 - 7/31/2007: \$426.2 million
 - Average annual revenues, 8/2002 - 7/2007: \$423.1 million
 - Massachusetts - tax increased from 151 cents to 251 cents per pack, 7/1/2008
- ❖ Massachusetts - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 50.4%

- Wyoming - tax increase from 12 cents to 60 cents per pack, 7/1/2003:
 - Revenues 7/1/2002 - 6/30/2003: \$7.0 million
 - Revenues 7/1/2003 - 6/30/2004: \$14.3 million
 - Revenues 7/1/2004 - 6/30/2005: \$23.2 million
 - Revenues 7/1/2005 - 6/30/2006: \$22.6 million
 - Revenues 7/1/2006 - 6/30/2007: \$25.6 million
 - Revenues 7/1/2007 - 6/30/2008: \$24.7 million
 - Revenues 7/1/2008 - 6/30/2009: \$24.7 million
 - Average annual revenues, 7/2003 - 6/2009: \$22.5 million
- ❖ Wyoming - average tobacco control funding as a percent of the CDC minimum recommendation, 2000 - 2009: 50.1%

Conclusions:

- Significant cigarette excise tax increases generate significant increases in cigarette tax revenues.
- Revenues several years after the tax increase remain significantly higher than revenues prior to the tax increase and changes over time after the increase are consistent with changes that would result from underlying downward trends in cigarette smoking.
- Revenues in states that dedicate some revenues for comprehensive tobacco control programs in the years following the implementation of these programs are still significantly higher than revenues prior to the tax increase and program implementation