



# The John C. Stennis Institute of Government

## Tobacco and Food Taxation Policy Options in Mississippi

A Policy Report Funded by the Bower Foundation



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## Executive Summary

State legislatures, policy makers, and public health officials across the nation support high cigarette and tobacco taxes as a mechanism to improve public health by encouraging the cessation and the reduction of cigarette and tobacco use, to reduce the cost burden of smoking related health care costs on state budgets, and to generate additional excise tax revenues for state budgets. From a public policy perspective, this Policy Report finds that similar intervention is justified due to the toll of smoking and tobacco use on the health of Mississippians and the economy of the state of Mississippi. The facts supporting this finding are:

- Mississippi has the fourth highest smoking-attributable death rate in the United States, every year an estimated 4,961 people in Mississippi die from smoking related illnesses
- Mississippi has the highest Cardiovascular disease rate in the nation and cardiovascular disease is the leading cause of death in Mississippi, killing 10,627 Mississippians annually – smoking is a major risk factor for cardiovascular disease. African American Males in Mississippi have the highest level of premature cardiovascular disease mortality – with 44 percent of all deaths occurring before the age of 65
- Cigarette smoking is responsible for approximately 30 percent of all cancer deaths in the U.S. and 87 percent of all lung and bronchus cancer deaths; Mississippi has a higher lung and bronchus cancer death rate than the U.S. and African American Males in Mississippi have the highest lung and bronchus cancer death rate as compared to other gender and racial groups – approximately 2,000 people die every year in Mississippi from lung cancer
- Babies born to smokers are 1.5 to 3.5 times more likely to have low birth-weights and these babies are at risk for serious health problems throughout their lives; women on Medicaid have been found to be more likely to smoke during the last trimester of pregnancy. Mississippi has the highest percentage of babies exhibiting low birth-weights in the nation and the percentage of low birth-weight babies increased from 2000 to 2004 – approximately 4,956 babies born in Mississippi in 2004 exhibited low birth-weight. In 2002, fifty-five percent of all births in Mississippi were financed by Medicaid
- In 2004, smoking attributable health care costs in Mississippi were \$662 million annually, of which \$243 million are direct health care costs covered by Medicaid. In fiscal year 2005, Medicaid spending in Mississippi was \$3.375 billion, with approximately \$205 million of these costs being paid from the General Revenue Fund and \$788 million from other state sources – the cost of Medicaid is projected to increase by 8 percent per year through 2015.
- Mississippi has the 8<sup>th</sup> highest percentage of adult smokers in the U.S., with approximately 23.6 percent of the population over the age of 18 smoking

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- Mississippi has the 9<sup>th</sup> highest rate of youth smoking in the U.S., with an estimated 25 percent of youth smoking cigarettes; in 2003 (the most current comparable national statistics) the percent of Mississippi students who smoked cigarettes or cigars, or used chewing tobacco, snuff or dip was 33.5 percent compared with 27.5 percent at the national level. An estimated 4,400 high school students become new smokers every year in Mississippi
  - Due to smoking adult males lose 13.2 years of life and adult females lose 14.5 years of life - the productivity losses to Mississippi due to early smoking related deaths is \$1.3 billion
  - There is an extensive body of econometric and behavioral research that provides robust support for increasing cigarette taxes as an effective mechanism to motivate smokers to reduce the consumption of cigarettes and achieve the positive health benefits of reduced smoking; there is strong evidence that youth, young adults, and lower-income populations are the most price sensitive and are more likely to reduce or quit smoking in response to price increases
  - A \$1.00 increase in the cigarette tax in the state of Mississippi will generate an additional \$173.0 to \$184.6 million in tobacco tax revenues, plus an additional \$12.1 to \$12.9 million in related sales taxes
  - There is evidence of strong public support for increases in tobacco taxes with 63.5 percent of Mississippi public opinion in favor of increasing tobacco taxes, it is a politically bipartisan issue supported by both Republican and Democrat voters throughout the state of Mississippi
  - Every state in the U.S. that has raised cigarette taxes has recognized significant revenue increases and these revenue increases have been sustained over time in the face of increased taxation by the majority of states – the average cigarette tax for all states in the U.S. was \$1.00 as of December 2006

Mississippi is one of only three states in the nation that applies full sales taxes to groceries with no offsetting relief for lower income families.

- Mississippi's tax system is regressive, the poorest families in Mississippi – those earning less than \$11,000 pay the highest amount of their income to taxes
- Mississippi has the second highest level of food insecurity in the nation – food insecurity is a measure of hunger
- 290,000 people in Mississippi are classified as “the working poor” and are eligible for food stamps, but only 51 percent of those eligible participated in the program

*“We need to cut smoking in this country and around the world. Smoking is the leading preventable cause of death and disease, costing us too many lives, too many dollars and too many tears. If we are going to be serious about improving health and preventing disease we must continue to drive down tobacco use. And we must prevent our youth from taking up this dangerous habit.”*

*- Tommy G. Thompson, Secretary of the U.S. Department of Health and Human Services*

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## The Tobacco Industry

Tobacco is an important U.S. Agricultural sector but with increasing consolidation into fewer but larger farms the scale of production is relatively small compared to other U.S. crops. Historically, the U.S. dominated the international tobacco market. In 1911, Duke's American Tobacco Company controlled 92 percent of the world's market when it was dissolved by the U.S. Supreme Court as a monopoly and in violation of the Sherman Anti-Trust Act of 1890. In the U.S. cigarette manufacturing industry no significant new competitors have entered the market in 40 years and barriers to market entry are high. As the cost of U.S. tobacco leaf prices rose relative to imported tobacco prices, the percentage of U.S. tobacco used in cigarette manufacturing decreased relative to the increased percentage of imported tobacco – cheaper imported tobacco replaced U.S. tobacco used by U.S. cigarette manufacturers in the percentage composition of cigarettes. In 2003, farmers received approximately 1 cent of the consumers' total cigarette dollar as compared with 2.1 cents in 1998; in 2003 the manufacturer's share was 57.9 cents while the wholesaler/retailer share was 14.1 cents.<sup>1</sup> Improvements in manufacturing methods within the industry have enabled manufacturers to retain a level of taste acceptable to the consumer while replacing higher quality and costlier U.S. produced tobacco with imported tobacco and also reducing the total pounds of tobacco per 1,000 cigarettes from 2.28 pounds per thousand in 1964 to .911 pounds per thousand in 2005.<sup>2</sup> In 1950 the foreign tobacco content in U.S. manufactured cigarettes was 6 percent; by 2001 the percent of imported tobacco in U.S. manufactured cigarettes was 48 percent.<sup>3</sup> These production efficiencies, though not beneficial to U.S. tobacco farmers, have enabled U.S. cigarette and tobacco product manufacturers to retain high income and profit levels.

The U.S. tobacco industry retained international industry dominance through 1990. In the early 1960s, U.S. cigarette exports had a 33 percent share of the global export market but this declined to a 14 percent market share by 2002.<sup>4</sup> In recent decades international supply has increased and U.S. manufacturers have increased offshore production of "U.S. brands" resulting in a decline in U.S. cigarette exports. For example, Philip Morris the largest U.S. cigarette manufacturer established foreign manufacturing operations that increased its non-U.S. production to 723.1 billion cigarettes.<sup>5</sup> World cigarette production was 5.53 trillion units in 2004 increasing to 5.61 trillion units in 2005.<sup>6</sup>

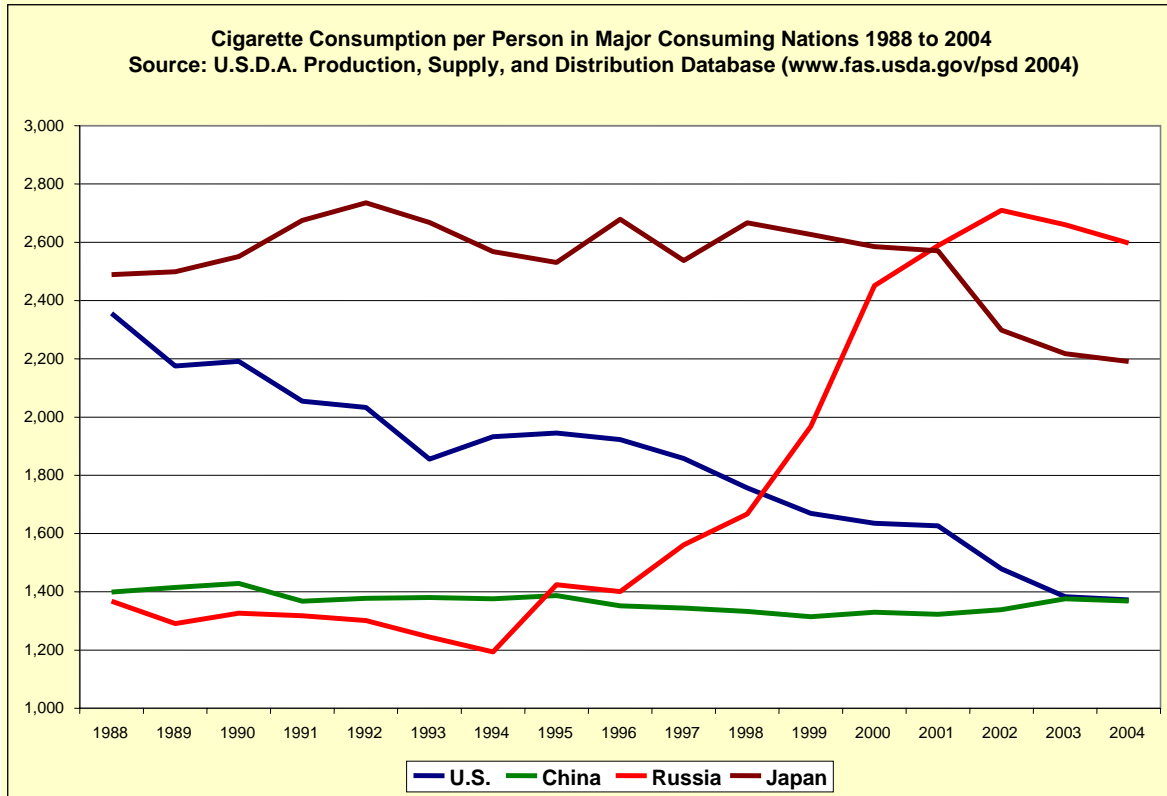


Figure 1: Leading Nation's Cigarette Consumption 1988 to 2004

China is the largest manufacturer of cigarettes in the world with production at 1.792 trillion units in 2005, followed by 604 billion units in the European Union, and the U.S. with 489 billion units in 2005. Japan is the largest market for U.S. cigarette exports consuming approximately 76 percent of the 117.6 billion cigarettes exported by U.S. manufacturers in 2005-2006.

In addition to domestic U.S. cigarette manufacturers increasing their production in foreign countries, another factor impacting U.S. cigarette exports was legislation that outlawed “grey market” cigarettes. U.S. manufactured cigarettes sold for export, are not subject to federal domestic excise taxes or Master Settlement Agreement surcharges, when these “untaxed” cigarettes are then re-imported (bootlegged or smuggled) into the U.S., these “grey market” cigarettes could either be sold at a lower price or for greater profits than cigarettes legally identified as for domestic consumption.



Table 1: Cigarette World Production and Exports 1996 to 2005

Estimated Cigarette world output and exports for specified countries 1996 to 2005											
PRODUCTION					Percent Change 2004 to 2005	EXPORTS					Percent Change 2004 to 2005
Country	1996	2000	2004	2005		Country	1996	2000	2004	2005	
China	1,700.3	1,698.5	1,793.0	1,792.5	-0.03%	<b>United States</b>	<b>243.9</b>	<b>148.3</b>	<b>118.7</b>	<b>94.6</b>	<b>-20.30%</b>
<b>United States</b>	<b>758.0</b>	<b>594.6</b>	<b>493.5</b>	<b>489.0</b>	<b>-0.91%</b>	Bulgaria	40.1	8.7	3.2	3.3	3.12%
United Kingdom	170.3	126.1	105.0	102.0	-2.86%	United Kingdom	136.7	111	65	62.0	-4.62%
Germany	193.3	206.8	185.0	182.2	-1.51%	Switzerland	27.1	23.4	23.4	22.0	-5.98%
France	46.4	44.2	29.0	38.7	33.45%	Germany	81.6	90.7	90.0	106.3	18.11%
Italy	51.5	38.2	29.0	29.1	0.34%	Netherlands	116.0	101.6	100.0	99.8	-0.20%
Other EU	296.2	320.7	272.5	252.8	-7.23%	Belgium-Luxembourg	14.9	9.8	8.2	7.7	-6.10%
Total European Union 21	757.7	736.0	620.5	604.8	-2.53%	Hong Kong	79.6	28.2	29	29	0.00%
Russia	356.2	377.0	380.0	395.0	3.95%	Singapore	59.3	58.7	55.0	14.2	-74.18%
Japan	271.0	258.0	215.9	233.9	8.34%	Other	295.1	262.2	268.7	306.6	14.10%
Brazil	182.3	104.9	96.7	96.8	0.10%	<b>Total</b>	<b>1,094.3</b>	<b>842.6</b>	<b>761.2</b>	<b>745.5</b>	<b>-2.06%</b>
Other	1,655.4	1,840.1	1,930.9	2,000.7	3.61%						
<b>Total</b>	<b>5,680.9</b>	<b>5,609.1</b>	<b>5,530.5</b>	<b>5,612.7</b>	<b>1.49%</b>						

Source: U.S.D.A. Tobacco Outlook, 2006

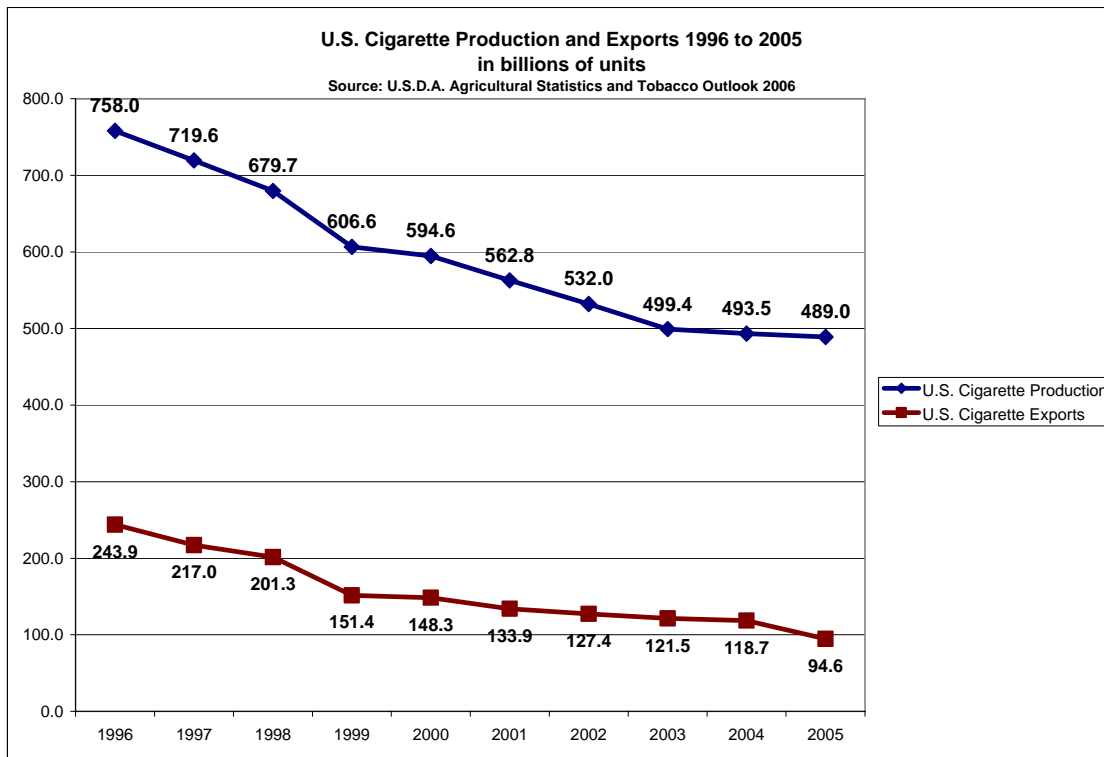


Figure 2: U.S. Cigarette Production and Exports 1996 to 2005

Americans spent \$88.8 billion on tobacco products in 2005; cigarette sales comprise approximately 92 percent of total tobacco product expenditures in the United State.

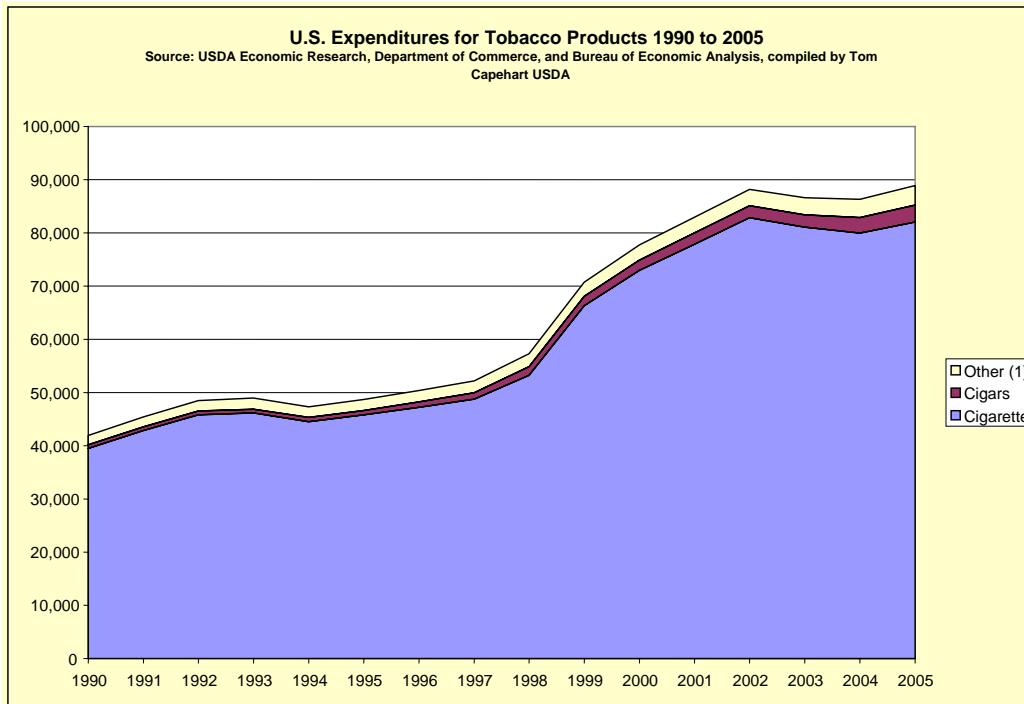


Figure 3: U.S. Expenditures for Tobacco Products 1990 to 2005

Table 2: U.S. Tobacco Expenditures 1990 to 2005

Year	U.S. Tobacco Expenditures In millions of dollars				Disposable personal income in billions of \$	Percent of disposable personal income spent on tobacco products			
	Total	Cigarette	Cigars	Other (1)		All	Cigarettes	Cigars	Other (1)
1990	41,920	39,500	695	1,725	5,324	1.04	0.98	0.02	0.04
1991	45,305	42,850	705	1,840	5,352	1.08	1.02	0.02	0.04
1992	48,470	45,790	715	1,965	5,536	1.08	1.02	0.02	0.04
1993	48,955	46,150	730	2,075	5,594	1.04	0.98	0.02	0.04
1994	47,297	44,544	766	1,987	5,746	0.96	0.90	0.02	0.04
1995	48,692	45,793	846	2,053	5,906	0.92	0.86	0.02	0.04
1996	50,363	47,233	1,012	2,118	6,081	0.90	0.85	0.02	0.04
1997	52,167	48,734	1,229	2,205	6,296	0.90	0.84	0.02	0.04
1998	57,273	53,236	1,607	2,430	6,664	0.96	0.88	0.03	0.04
1999	70,715	66,286	1,796	2,633	6,861	1.03	0.97	0.03	0.04
2000	77,705	72,945	1,926	2,833	7,194	1.08	1.01	0.03	0.04
2001	82,919	77,845	2,121	2,953	7,320	1.13	1.06	0.03	0.04
2002	88,174	82,873	2,224	3,077	7,597	1.16	1.09	0.03	0.04
2003	86,638	81,070	2,319	3,249	7,798	1.11	1.04	0.03	0.04
2004	86,315	79,958	2,935	3,422	8,664	1.00	0.92	0.03	0.04
2005	88,882	82,029	3,184	3,669	9,031	0.98	0.91	0.04	0.04

Source: U.S.D.A. Agricultural Research Service Tom Capehart (1) Other Smoking Tobacco, Chewing Tobacco, and Snuff

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During the period 1996 to 2006, the U.S. cigarette industry experienced annual production decline correlated with moving production offshore to serve global markets, increasing public awareness of U.S. consumers to the adverse health risks associated with tobacco and smoking leading to consumption declines, and price increases related to increases in wholesale prices by cigarette producers and increasing state and federal excise taxes on cigarettes. The industry is beginning to experience a rebound in production. According to the USDA Tobacco Outlook September 2006, tobacco production is rebounding from prior years; from a low point of 647.3 million pounds in 2005, the production for 2006 is projected to increase 100 million pounds to 743.1 million as of September 2006.<sup>7</sup> Acreage in tobacco production is also expected to increase from 298,080 to 334,150 during the period 2005 to 2006.<sup>8</sup> U.S. cigarette output at the end of calendar year 2005 was 489 billion cigarettes, with taxable removals of 363 billion cigarettes. Based on January 2006 estimates by the U.S. Department of Agriculture, 92 percent of U.S. leaf type production is used for cigarette production, Cigar leafs account for 1 percent of production and is also used for chewing tobacco and smoking production.

The increase in production and usage of U.S. grown tobacco is related to two conditions: 1) the removal of price supports and 2) a leveling off of the decline in consumption. In 1935 the U.S. Congress enacted the Tobacco Inspection Act to establish a framework for development of official tobacco grade standards. The Act authorized the Secretary of Agriculture to designate tobacco auction markets where tobacco growers would receive mandatory inspection of tobacco to determine grade and type, and to provide for daily price reports showing the current average price for each grade. The Agricultural Marketing Service's Tobacco Program was established to provide these services to the tobacco industry. After decades of strong support for the tobacco industry in the form of price supports and payments, The Fair and Equitable Tobacco Transition Act of 2004 eliminated price supports and marketing quotas for all tobacco beginning with the 2005 crop year. Mandatory inspection and grading of domestic and imported tobacco was also eliminated as well as the mandatory pesticide testing of imported tobacco and the tobacco market news program. The removal of price supports for tobacco has made U.S. grown tobacco more price competitive thereby increasing domestic and international demand. USDA estimates a 10 percent increase in cigarette exports in 2006, this is the first increase since 1996.

For the ten year period 1996 to 2006 the average annual rate of decline in cigarette consumption was 2 percent. For 2006, cigarette production is estimated to increase 1.5 percent over the prior year to 496 billion pieces. Per capita cigarette consumption for the population 18 and older in the U.S. was 1,691 cigarettes per person in 2006 compared to 1,715 per capita in 2005. In 2006, U.S. cigarette consumption reached its lowest level since 1950. However, the rate of decrease in cigarette consumption exhibits signs of deceleration in recent years.

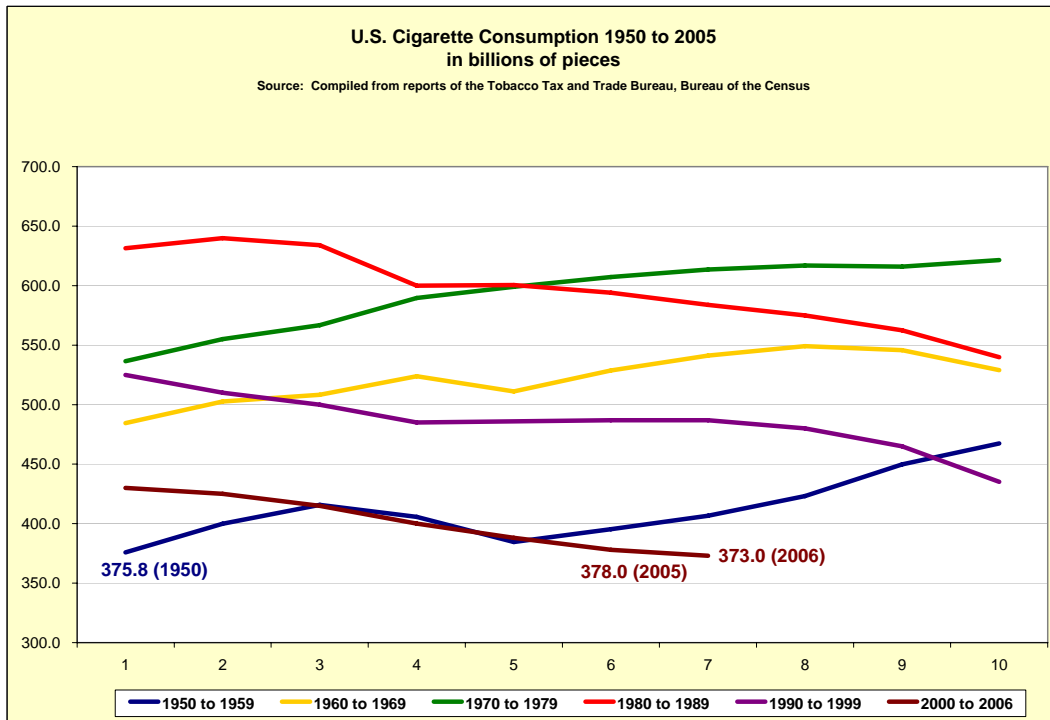


Figure 4: U.S. Cigarette Consumption 1950 to 2005

As demonstrated in Figure 5, from 1998 to 1999 US. cigarette consumption decreased 6 percent, then in 2000 and 2001 the rate of annual decrease in consumption decelerated 1 percent per year; in 2004 and 2005 the rate of consumption decline increased to 3 percent, but decreased only 1 percent from 2005 to 2006.

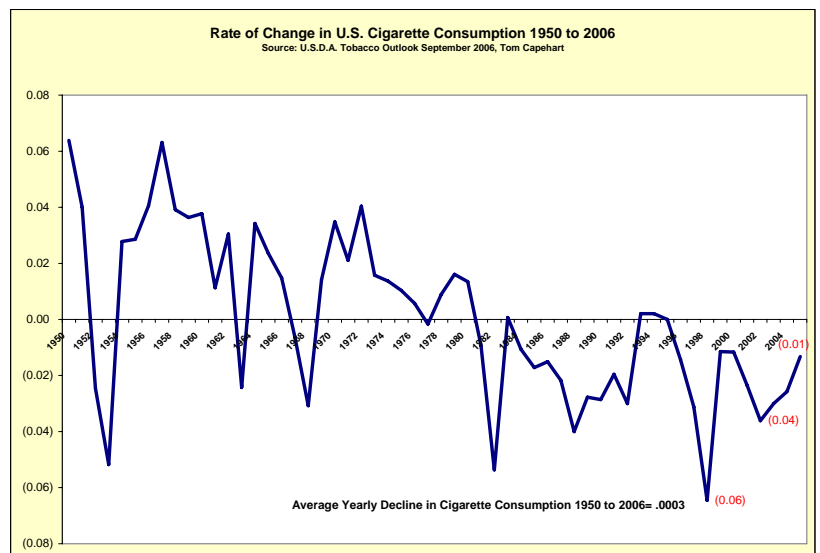


Figure 5: Rate of Change in U.S. Cigarette Consumption

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During the 10 year period 1986 to 1996, U.S. cigarette consumption decreased on average 1.95 percent per year; during the 10 year period 1996 to 2006, U.S. consumption decreased on average 2.38 percent per year.

During recent years cigar and cigarillo consumption has been increasing. U.S. consumption of cigar products increased from 4,206 million pieces to 5,024 million pieces; in the one year period from 2005 to 2006 U.S. consumption in this product category increased by 7.4 percent. U.S. consumption of smoking tobacco (i.e. pipe or roll-you-own) has also increased in recent years; during the period 2002 to 2006 U.S. consumption increased from 18.0 million pounds to 19.3 million pounds (see Table 2 page 4).

The U.S. tobacco industry is an oligopoly with three firms dominating the market; two firms, Reynolds American and Philip Morris USA (Altria Group), controlling approximately 80 percent of the domestic retail cigarette market. According to the U.S. Department of Agriculture<sup>9</sup>, U.S. cigarette total output for the year ending June 30, 2006 was 494.4 billion cigarettes, up by .026 from 2005. Taxable removals from inventory decreased from 369.3 billion cigarettes for year ending June 30, 2005 to 366.2 billion cigarettes as of June 30, 2006 - a decrease of .009. During the same time period, exports of U.S. manufactured cigarettes increased from 107.0 billion as of June 30, 2005 to 117.6 billion in 2006. Miscellaneous shipments, of U.S. manufactured cigarettes (i.e. overseas shipments to U.S. armed forces, ship stores, small tax-exempt categories, and shipments to Puerto Rico) were 7.8 billion in 2005, decreasing to 6 billion as of June 30, 2006. Imported cigarettes represent less than .042 percent of all cigarettes consumed in the U.S. or 17.0 billion as of June 30, 2006. For the year ending June 30, 2006 there were 16.1 billion cigarettes unaccounted for or accounted for in inventory change reports.

*Philip Morris USA.* In 2005, Philip Morris USA controlled approximately 40 percent of the U.S. Retail Market Share, producing approximately 185.5 billion cigarettes for the U.S. Market. It is the largest cigarette manufacturer in the U.S.; it owns manufacturing facilities in Virginia, North Carolina, and Kentucky with domestic employment estimated at 17,000. Philip Morris International manufactures and sells tobacco products around the world; headquartered in Switzerland, it employs approximately 80,000 persons in 50 factories throughout the world. Philip Morris

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International is estimated to control 14.5 percent of the international cigarette market share. Phillips Morris USA and Philip Morris International are operating companies of the Altria Group, Inc. an internationally diversified organization with world wide interests that range from coffee to food, tobacco and beer. Leading brands include Kraft Foods North America and Kraft Foods International, Maxwell House, Nabisco, Oreo, Oscar Mayer, Kool Aid and Tang. Leading cigarette brands of Philip Morris International and Philip Morris USA include: Marlboro, Basic, Chesterfield, Lark, L&M, Parliament and Virginia Slims. In 2005, Altria generated net revenues of \$97.7 billion. Altria's tobacco subsidiaries (Philips Morris International and Philip Morris USA) experienced significant growth between 1970 and 2005; cigarette volume increased from 87 billion to 805 billion cigarettes during this period, with net revenues increasing from \$425 million to more than \$45 billion; in 2005 operating income was \$7.8 billion for the Philip Morris activities of the organization.<sup>10</sup> In 2006, the Altria Group ranked #10 in the Fortune 500 Most Profitable Companies.

*“For the full year 2005, Philip Morris USA Inc., Altria Group, Inc.'s domestic tobacco business, achieved balanced income and retail share growth. Shipment volume of 185.5 billion units was down 0.8% from the previous year, but was estimated to be essentially flat when adjusted for the timing of promotional shipments and trade inventory changes, and two less shipping days versus 2004. Operating companies income increased 4.0%, to \$4.6 billion. Philip Morris USA's retail share in the U.S. reached a record 50.0% in 2005, driven by Marlboro, which increased its retail share by 0.5 points to a record 40.0%, as measured by the IRI/Capstone Total Retail Panel (these figures do not reflect Internet or direct mail sales).”<sup>11</sup>*

**Reynolds American Inc./R. J. Reynolds.** Reynolds American is estimated to hold approximately 30 percent of retail market share in the U.S. cigarette industry. In 2001, R. J. Reynolds sold its international operations to Japan Tobacco and gave Japan Tobacco the rights to market its products globally. In July 2004 a merger of R. J. Reynolds and Brown & Williamson resulted in the creation of Reynolds American, Inc. a publicly traded corporation. Prior to this merger, R. J. Reynolds' primary brands were Camel, Doral, Winston, Salem, Vantage, More, Now, Century, Ritz, Monarch, Magna, Sterling with a 22.9 percent retail market share; Brown & Williamson's primary brands were GPC, Kool, Viceroy, Raleigh, Barclay, Belair, Capri, Richland, Pall Mall, Lucky Strike

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with a 10 percent retail market share. Reynolds American also acquired Lane Limited, Conwood Company LLC, and Santa Fe Natural Tobacco Company .

*Lane Limited* maintains a significant market position in the roll-your-own category with its leading brand, Bugler, accounting for 24.5 percent of U.S. sales volume. Midnight Special, another roll-your-own Lane brand maintains 7.6 percent of retail volume. Kite, is a menthol roll-your-own brand in the U.S. and retains approximately 5.2 percent of retail sales volume. These brands combined with four other roll-your-own brands marketed by Lane for the European tobacco company Altadis provide Lane with an estimated 38.8 percent of the total U.S. sales volume in the roll-your-own category. Lane Limited also markets Dunhill and State Express 555 cigarette brands in the U.S. under an arrangement with British American Tobacco. It also markets the Cartier brand and Craven A cigarettes manufactured in Jamaica and Canada, and Gauloises and Gitanes cigarettes on behalf of Altadis.

*Conwood LLC* is a purveyor of smokeless tobacco products, roll-your-own cigarette tobacco, pipe tobacco, and cigars – in 2007, Conwood LLC will become the exclusive distributor for Lane Limited products. It maintains a significant on-line sales presence.

*Santa Fe Natural Tobacco Company* sells “additive free” natural tobacco products that include a brand of cigarettes and roll-your-own tobacco.

For the full year 2005, Reynolds American reported U.S. domestic cigarette shipment volume at 109.8 billion units, up from 93.8 billion units in 2004, representing a 17 percent increase in U.S. domestic cigarette shipments. Reynolds American reported full year 2005 net sales of \$ 8.26 billion up 23.8 percent from 2004, and full year 2005 net income of \$1.04 billion up 51.5 percent from the prior year.

Prior studies indicate that U.S. cigarette manufacturers have the market power to pass cost increases through to consumers in the form of higher prices. The industry is an oligopoly, with significant barriers to entry – as previously stated, no new significant competitors have entered the U.S. industry in the last forty years. There are no close substitutes for cigarettes and the product is addictive. The demand for cigarettes is price inelastic, total consumer expenditures on cigarettes

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have continuously increased overtime (see Figure 3, page 4) and the percent of consumer disposable income spent on tobacco products and cigarettes has decreased to less than 1 percent in 2005 (see Table 2, page 4). These factors have enabled cigarette manufacturers to pass through the cost of increased excise taxes, tobacco settlements and lawsuits to the consumer. Through increased mechanization, efficiency of production, and by reducing both the quantity of tobacco in cigarettes and using cheaper imported tobacco rather than U.S. produced tobacco, the U.S. tobacco companies have been able to maintain significant profits in the face of declining U.S. consumption of cigarettes. Former U.S. tobacco manufacturers such as Philip Morris have been able to expand their share of international markets by moving manufacturing to foreign countries or by selling marketing rights to foreign countries.

#### *Recent Trends in the Industry*

The tobacco companies and cigarette manufacturers have a business interest in promoting the sale of their products although those interests ran counter to the health outcomes of consumers of their product. As the research and evidence on the negative health impacts related to smoking and tobacco use has grown, federal and state legislators have increasingly adopted legislation to decrease the negative impacts of smoking and tobacco use on the health of citizens and to reduce the costs of tobacco use to state health care systems. The research on the negative impacts of smoking and tobacco use on the health of users is so extensive that it is beyond the scope of a reasonable page limit to include a comprehensive review of this body of literature within this report. For informational purposes, a brief review of the research and impacts of smoking and tobacco use on health is summarized as follows:

- 1952 publication of “Cancer by the Carton” in Reader’s Digest and 1953 speech by Dr. Alton Ochsner in New York City promote public understanding of the link between smoking and cancer resulting in a decline in consumption and drop in tobacco stocks<sup>12</sup>
- The 1964 U.S. Surgeon General’s Report identified the causal relationship between smoking and cancer, concluding that the average smoker is 10 times more likely to get lung cancer than the average non-smoker; this report also identified specific carcinogens present in cigarettes
- 1967 Surgeon General’s Report concludes that smoking is the principal cause of lung cancer; this report also established the link between smoking to heart disease
- 1969 Surgeon General’s Report confirms link between maternal smoking and low birth weight



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- 1983 Surgeon General's Report: *The Health Consequences of Smoking: Cardiovascular Disease; A report of the Surgeon General* Cites identifies smoking as a major cause of coronary heart disease<sup>13</sup>
  - 1986 Surgeon General's Report finds smokeless tobacco to cause cancer and to be addictive
  - 1989 Surgeon General's Report states that from 1965 to 1987 smoking prevalence among men reduced from 50 percent to 32 percent; in 1985 390,000 American died as a result of past and current cigarette smoking, representing one of every 6 deaths in the United States<sup>14</sup>
  - 1995 Federal Drug Administration declares nicotine to be a drug<sup>15</sup> and CDC identifies alarming rate of underage smoking<sup>16</sup>
  - 1997 Liggett Tobacco and 22 states settle lawsuits; Liggett issues statement "*we at Liggett know and acknowledge that, as the Surgeon General and respected medical researchers have found, cigarette smoking causes health problems, including lung cancer, heart and vascular disease and emphysema. Liggett acknowledges that the tobacco industry markets to 'youth,' which means those under 18 years of age, and not just those 18-24 years of age.*"
  - 1998 Surgeon General's Report finds disproportionately higher impact on African-Americans from smoking and tobacco use: "African Americans continue to suffer disproportionately from chronic and preventable disease compared with white Americans. Of the three leading causes of death in African Americans — heart disease, cancer, and stroke — smoking and other tobacco use are major contributors. Findings indicate that approximately 45,000 African Americans die from preventable smoking-related disease."<sup>17</sup> Other findings from this report include:
    - "*Smoking is responsible for 87% of lung cancers. African American men are at least 50% more likely to develop lung cancer than white men.<sup>1</sup> African American men have a higher mortality rate of cancer of the lung and bronchus (100.8 per 100,000) than do white men (70.1 per 100,000).*"
    - "*Stroke is associated with cerebrovascular disease and is a major cause of death in the United States. Smoking significantly elevates the risk of stroke. Cerebrovascular disease is twice as high among African American men (53.1 per 100,000) as among white men (26.3 per 100,000) and twice as high among African American women (40.6 per 100,000) as among white women (22.6 per 100,000).*"

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- *"Levels of serum cotinine (metabolized nicotine) are higher among African American smokers than among white or Mexican American smokers for the same number of cigarettes."*<sup>18</sup>
  - 1999 Master Settlement Agreement signed between 46 states' Attorneys General and tobacco industry
  - 2000 Surgeon General's Report states: *"It is clear that the major barrier to more rapid reductions in tobacco use is the effort of the tobacco industry to promote the use of tobacco products. Our lack of greater progress in tobacco control is more the result of failure to implement proven strategies than it is the lack of knowledge about what to do. As a result, each year, more than 1 million young people continue to become regular smokers and more than 400,000 adults die from tobacco-related diseases. Tobacco use will remain the leading cause of preventable illness and death in this Nation and a growing number of other countries until tobacco prevention and control efforts are commensurate with the harm caused by tobacco use."*<sup>19</sup> This report also states: *"Research clearly shows that raising tobacco prices is good public health policy. Further, raising tobacco excise taxes is widely regarded as one of the most effective tobacco prevention and control strategies. Increasing the price of tobacco products will decrease the prevalence of tobacco use, particularly among adolescents and young adults. Nevertheless, the average price and excise tax level on cigarettes in the United States is well below that of most industrialized nations. Furthermore, taxes in the U.S. on smokeless tobacco products are well below those on cigarettes. Healthy People 2010 calls for state and federal taxes to average \$2.00 for both cigarettes and smokeless tobacco products by 2010."*<sup>20</sup>
  - 2001 Surgeon General's Report: Women and Smoking found that *"Since 1980, hundreds of additional studies have expanded what is known about the health effects of smoking among women, and this report summarizes that knowledge. Today the Nation is in the midst of a full-blown epidemic. Lung cancer, once rare among women, has surpassed breast cancer as the leading cause of female cancer death in the United States, now accounting for 25 percent of all cancer deaths among women. Cigarette smoking plays a major role in the mortality of U.S. women. Since 1980, when the Surgeon General's Report on Women and Smoking was released, about three million women have died prematurely of smoking-related diseases. Each year throughout the 1990s, about 2.1 million years of the potential life of U.S. women were lost prematurely because of smoking-attributable diseases. Women smokers who die of a smoking-*

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related disease lose on average 14 years of potential life.”<sup>21</sup> Other findings from the 2000 Surgeon General’s report include:

- *“Women who stop smoking greatly reduce their risk of dying prematurely. The relative benefits of smoking cessation are greater when women stop smoking at younger ages, but cessation is beneficial at all ages.*
- *Cigarette smoking is the major cause of lung cancer among women. About 90% of all lung cancer deaths among U.S. women smokers are attributable to smoking.*
- *In 1950, lung cancer accounted for only 3% of all cancer deaths among women; however, by 2000, it accounted for an estimated 25% of cancer deaths.*
- *Since 1950, lung cancer mortality rates for U.S. women have increased an estimated 600%. In 1987, lung cancer surpassed breast cancer to become the leading cause of cancer death among U.S. women. In 2000, about 27,000 more women died of lung cancer (67,600) than breast cancer (40,800).*
- *Smoking is a major cause of coronary heart disease among women. Risk increases with the number of cigarettes smoked and the duration of smoking. Women who smoke have an increase risk for ischemic stroke (blood clot in one of the arteries supplying the brain) and subarachnoid hemorrhage (bleeding in the area surrounding the brain).*
- *Smoking cessation reduces the excess risk of coronary heart disease, no matter at what age women stop smoking. The risk is substantially reduced within 1 or 2 years after they stop smoking.*
- *The increased risk for stroke associated with smoking begins to reverse after women stop smoking. About 10 to 15 years after stopping, the risk for stroke approaches that of a woman who never smoked.*
- *Women who smoke during pregnancy risk pregnancy complications, premature birth, low-birth-weight infants, stillbirth, and infant mortality.*
- *Studies show a link between smoking and the risk of sudden infant death syndrome (SIDS) among the offspring of women who smoke during pregnancy.”<sup>22</sup>*

Faced with overwhelming evidence of the negative impact of smoking and tobacco use on citizens’ health and increasing support at the federal and state level for increases in cigarette and tobacco excise taxes, increased regulation of the tobacco industry’s advertising and marketing practices,

and an abundance of lawsuits launched in virtually every state in the U.S. seeking compensation for the health care cost burden that smoking imposed on state budgets, the tobacco companies used a broad array of aggressive tactics to oppose increasing regulation and taxation of the industry by legislators interested in promoting public health policies designed to reduce consumption and decrease the negative health impacts and costs of smoking and tobacco use on citizens and on state budgets. Existing research has examined a multitude of practices utilized by tobacco companies and tobacco lobbying groups to oppose legislation designed to increase excise taxes on tobacco products or to increase regulations on the sales and marketing of tobacco products. The National Cancer Institute conducted a comprehensive review of 173 published peer-reviewed articles and tobacco industry documents to evaluate and develop an index of tobacco industry tactics utilized to counter tobacco control;<sup>24</sup> Table 3 is a reproduction of the results of this research.<sup>1</sup>

Table 3: Lobbying and Legislative Strategies of Tobacco Affiliated Groups

<u>Lobbying and legislative strategies</u>
Writing and pushing preemptive legislation at state level
Creating loopholes in laws and agreements (e.g. the MSA) to allow business as usual
Contributing funds to political groups at federal, state, and local levels to support industry goals
Using clout to influence introduction, advancement, modification, or suppression of bills in legislative bodies
Lobbying to ensure that funds directed to tobacco control are diverted to non-tobacco control initiatives
Using clout to limit powers of regulatory agencies (jurisdiction, procedures, budgets)
Providing legislators with contributions, gifts, and other perks
Promoting partial or weak measures as an alternative to effective measures
Inserting limiting language in legislation, such as "knowingly" sell tobacco to minors
Writing weak tobacco control legislation, then arguing that tobacco control measures are ineffective
Ghost writing non-tobacco bills (e.g., sewage) with clauses that if enacted, would bring preemption via the backdoor
Lobbying government officials to set unrealistic tobacco control goals to ensure program failure
Using political and/or monetary clout to delay (or reduce) funding of tobacco control programs
Lobbying to ensure that funds are diverted to ineffective tobacco control activities
Working against campaign finance reform to maintain influence

<sup>1</sup> Note: *Monograph 17: Evaluating ASSIST* defines the term tobacco industry as a group of private corporations in the business of selling tobacco products and their affiliates, who share an incentive to promote the overall use of tobacco. There is no specific implication that these companies are working in concert, or that any specific company identified in this report engages in the use of any of the tactics identified in Table 3 or that the tactics identified in Table 3 represent illegal behavior.

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Working against strengthening campaign and lobbying disclosure laws

Promoting tort reform

Using clout to assign tobacco control programs to hostile/apathetic agencies for implementation

Conducting briefings of members of Congress, allies, and consultants to sway opinion on an issue

Promoting smokers' rights legislation

Using tobacco companies' subsidiaries in political opposition to tobacco control legislation

Ensuring supportive legislators will lob soft questions during testimony

Using tobacco employees to lobby against legislation with the excuse that it threatens their job security

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#### Legal and economic strategies

Devoting considerable resources to legal fights

Creating and funding front groups

Ensuring that court battles are fought in favorable jurisdictions

Infiltrating official and de facto regulatory organizations

Filtering documentation through their attorneys in order to hide behind attorney work product (privilege)

Encouraging (or failing to discourage) smuggling as a way to counter tax hikes

Countering tax increases with promotions and cents off

Threatening to withdraw support from credible groups to control [them]

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#### Usurping the agenda

Developing alliances with retailers, vendors, and the hospitality industry in opposition to public health policies

Usurping the public health process, such as creating their own youth tobacco prevention programs

Avoiding regulatory and legislative interventions by establishing their own programs, such as "We Card"

Promoting a tobacco-control focus that is limited to youth issues

Shifting blame to the victims (e.g., passing youth possession laws to punish youths)

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#### Creating illusion of support

Using legal and constitutional challenges to undermine federal, state, and local legislative and regulatory initiatives

Using anti-lobbying legislation to suppress tobacco control advocacy

Flying in cadre of experts to fight local/state legislation

Creating the illusion of a pro-tobacco grassroots movement through direct mail database and paid-for petition names

Using international activities to avoid domestic rules on ads, taxation. etc.

Entering false testimony and false data into the public record

Tying states' MSA money to increases/decreases of smoking prevalence

Using employees and their families to make campaign contributions that are difficult to track

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#### Harassment

Intimidating opponents with overwhelming resources

Using the courts and threats of legal action to silence opponents

Harassing tobacco control workers via letters, Freedom of Information Act requests, and legal action

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Silencing industry insiders

Hassling prominent tobacco control scientists for their advocacy work

Infiltrating tobacco prevention and control groups

Trying to undermine those selling effective cessation products

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#### Undermining science

Creating doubt about the credibility of science by paying scientists to disseminate pro-tobacco information

Sowing confusion about the meaning of statistical significance and research methods

Creating scientific forums to get pro-tobacco information into the scientific literature

Influencing scientific publication by paying journal editors to write editorials opposing tobacco restrictions

Creating doubt about the credibility of science by paying scientists to provide expert testimony

Creating doubt about the credibility of legitimate science by paying scientists to conduct research

Conducting studies that, by design, cannot achieve a significant result

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#### Media manipulation

Using advertising dollars to control content of media

Putting own "spin" on the issues by manufacturing information sources

Taking advantage of the "balanced reporting" concept to get equal time for junk science

Ghost writing pro-tobacco articles

Avoiding the key health questions by saying they are not experts and then not agreeing with the experts

Misrepresenting facts in situations where there is no time to verify

Publicly acknowledging the risk of tobacco use, but minimizing the magnitude

Publicizing research into "safe cigarettes"

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#### Public relations

Using philanthropy to link their public image with positive causes

Using philanthropy to build a constituency of support among credible groups

Diverting attention from the health issues by focusing attention on the economic issues (i.e. Regressive nature of tobacco taxes)

Distracting attention from the real issues with alternative stances such as accommodation and ventilation

Asserting that restrictions on tobacco could lead to restrictions on other industries and products

Minimizing importance of misdeeds in the past by claiming they've changed

Arguing that tobacco control policies are anti-business

Maintaining that the tobacco industry is of critical importance to the economy

Portraying themselves as "responsible," "reasonable," and willing to engage in a "dialogue"

Misrepresenting legal issues to naive reporters and stock analysts

Feeding pro-tobacco information to market analysts who are predisposed to accepting and transmitting it

Representing people as "antismoker" instead of antismoking

Developing pro-tobacco media content, such as videos and press releases

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Painting tobacco control activists as extremists
Pretending that the "real" tobacco control agenda is prohibition
Casting tobacco control as a civil rights threat
Portraying tobacco control as a class struggle against poor and minority groups
Providing extensive media training for executives who will be in the public eye
Shifting attention toward lawyers' monetary gains and away from tobacco litigation
Avoiding losing public debates by overcomplicating simple issues
Blaming it on "fall-guys" (past or rogue employees) when the industry is caught misbehaving
Refusing or avoiding media debates where they think they will do poorly

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*Source: National Cancer Institute. Evaluating ASSIST: A Blueprint for Understanding State-level Tobacco Control. Tobacco Control Monograph Number 17. Bethesda, MD: U.S. Department of Health and Human Services, National Institute of Health, National Cancer Institute. NIH Publication 06-6058, October 2006.*

### ***The 1998 Master Settlement Agreement***

In November 1998 the Master Settlement Agreement (MSA) was signed between the major cigarette companies and the attorneys general from 46 states. The stated purpose of the MSA was to reimburse states for smoking-related costs to Medicaid; the agreement contained provisions designed to reduce the prevalence of smoking especially among youth. The primary provisions of the MSA were:

- \$206 billion to be paid to states over 25 years
- \$1.5 billion over 10 years to support anti-smoking measures and \$250 million to fund research to reduce underage smoking
- A ban on the use of cartoon characters in advertising
- A ban on “branded” merchandise
- Limitations on sponsorship of sporting events
- Disbanding of tobacco trade organizations
- Specific limitations on advertising

Four states settled independent of the Master Settlement Agreement: Florida, Mississippi, Minnesota, and Texas. In 1997, the State of Mississippi was the first state to reach a tobacco settlement independent of the subsequent Master Settlement Agreement reached by 46 other states in 1998. As part of Mississippi’s \$4.1 billion settlement, the tobacco companies agreed to make annual payments to the state according to a specified formula that takes into account inflation and the volume of domestic tobacco product sales – these annual payments are estimated to average \$100 million annually. The payments are to be made to the state “in perpetuity” (i.e.,

until the tobacco companies cease to exist or in the event the settlement is modified). Subsequent to the settlement agreement, the Mississippi Legislature created the Health Care Trust Fund to receive funds from the settlement agreement. The agreement included a supplemental provision for a separate \$61.8 million to support and fund a youth tobacco cessation pilot program.

Table 4: Master Settlement Agreement and Separate Tobacco Settlement Payments

<i>State</i>	<i>MSA Payments Received by State since signature through FY 2005</i>	<i>State</i>	<i>MSA Payments Received by State since signature through FY 2005</i>
Alabama	\$660,346,623	Montana	\$173,387,480
Alaska	\$139,442,672	Nebraska	\$242,968,819
Arizona	\$600,225,951	Nevada	\$248,992,553
Arkansas	\$339,851,233	New Hampshire	\$274,010,749
California	\$5,186,786,778	New Jersey	\$1,580,657,852
Colorado	\$559,836,834	New Mexico	\$243,565,761
Connecticut	\$754,381,727	New York	\$5,181,173,595
Delaware	\$160,712,765	North Carolina	\$951,709,615
Washington D.C.	\$238,085,572	North Dakota	\$149,490,724
Florida*	\$4,488,800,000	Ohio	\$2,057,180,057
Georgia	\$1,002,327,456	Oklahoma	\$423,085,267
Hawaii	\$244,498,247	Oregon	\$466,270,710
Idaho	\$148,313,380	Pennsylvania	\$2,193,365,311
Illinois	\$1,900,789,061	Rhode Island	\$293,574,303
Indiana	\$812,996,029	South Carolina	\$479,592,308
Iowa	\$355,160,986	South Dakota	\$142,469,154
Kansas	\$340,502,856	Tennessee	\$999,998,291
Kentucky	\$715,832,001	Texas*	\$5,930,200,000
Louisiana	\$921,196,982	Utah	\$181,670,022
Maine	\$313,773,635	Vermont	\$167,020,345
Maryland	\$923,177,197	Virginia	\$834,997,043
Massachusetts	\$1,641,266,483	Washington	\$838,497,776
Michigan	\$1,522,201,307	West Virginia	\$362,004,621
Minnesota*	\$2,248,500,000	Wisconsin	\$842,021,006
Mississippi*	\$1,404,600,000	Wyoming	\$100,950,716
Missouri	\$934,454,066		
<b>Total</b>			<b>\$28,558,059,841</b>

\* denotes states settling separately



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The day the Master Settlement Agreement was signed (November 16, 1998) cigarette manufacturers raised prices to cover the cost of the settlement with wholesale prices increasing 45 cents per pack.

*States' Use of Tobacco Settlement Revenues*

In the five years following the 1998 Master Settlement Agreement by 46 states with tobacco manufacturers, many states had ballot measures proposing that the revenues from the settlement be dedicated to particular spending programs, most often health care or education.

- In 1999, Louisiana voters approved a legislative proposal to create a trust fund for tobacco settlement revenues, with an annual appropriation from the fund to K-12 education.
- In 2000, Arizona, Arkansas, Montana and Oklahoma voters passed measures dedicating their state's share of the tobacco settlement revenues to health care programs. Oregon voters rejected a similar proposal in 2000. Utah voters agreed that the funds should go into the state's general fund.
- In 2001, South Dakota voters approved a legislative proposal to create an Education Enhancement Fund using the state's tobacco settlement revenues.
- In 2002, Montana voters passed a second initiative on this subject, dedicating the funds to smoking prevention programs and health insurance for the uninsured.
- In 2002, Michigan voters rejected an initiative that proposed to allocate the state's share of tobacco settlement revenues to various health care programs.
- In 2003, Louisiana voters agreed to direct a portion of their state's tobacco settlement revenues into the newly created Coastal Restoration Fund.
- In 2006, Florida voters passed an initiative to dedicate 15% of the state's share of the settlement money to tobacco education and prevention programs beginning with 2005 payments and adjusted annually for inflation; this measure passed with 61 percent of the vote.
- In 2006, Idaho voted 58% in favor of an initiative to create a new permanent endowment fund that would receive 80% of the tobacco settlement revenues each year, with the remaining 20 percent going into the Idaho Millennium Fund.

## Smoking Attributable Health Issues – Mississippi

According to the Centers for Disease Control, the evidence of the linkage between smoking and adverse health outcomes is extensive. In 2001 (the most recent available comparable state level statistics) Mississippi's smoking attributable death rate (343.2 per 100,000 persons) was the fourth highest in the United States.

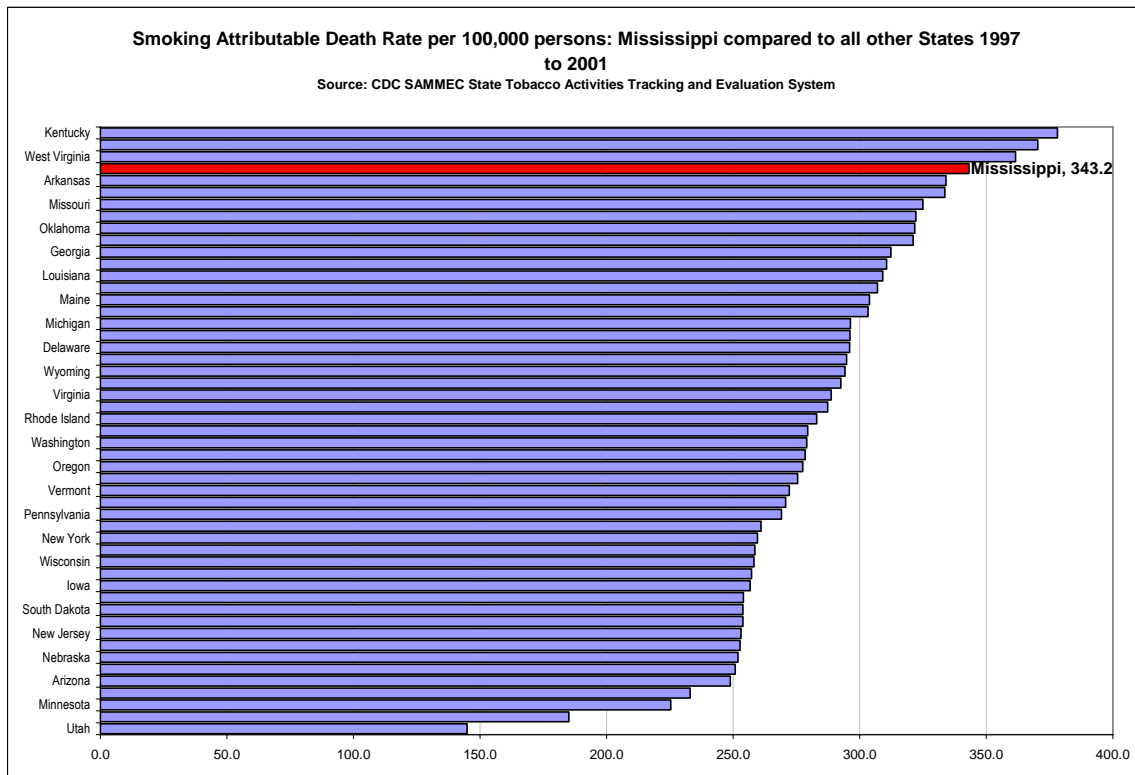


Figure 6: Smoking Attributable Mortality

The Surgeon General has identified smoking as the leading preventable cause of disease and death in the United States, according to the American Heart Association smoking tobacco is considered a major risk factor for cardiovascular disease.<sup>25</sup> “Cardiovascular disease (predominantly heart disease and stroke) is the leading cause of death in

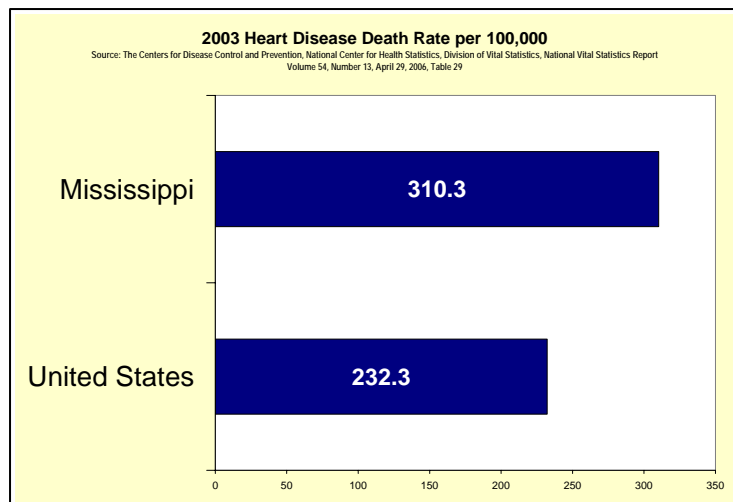


Figure 7: Heart Disease Mortality 2003

Mississippi, accounting for 10,267 deaths, or 35 percent of all deaths, in 2004. Mississippi's CVD mortality rate is the highest in the nation, with a mortality rate in 2002 that was 30 percent higher than the rate for the U.S. as a whole<sup>26</sup> African Americans in Mississippi have higher cardiovascular disease mortality rates than whites and men have higher rates than females. The major risk factors associated with cardiovascular disease are smoking, diet, blood cholesterol levels, blood pressure, exercise, and weight/obesity. African American males have the highest level of premature cardiovascular disease mortality – with 44 percent of all deaths occurring before the age of 65.<sup>27</sup>

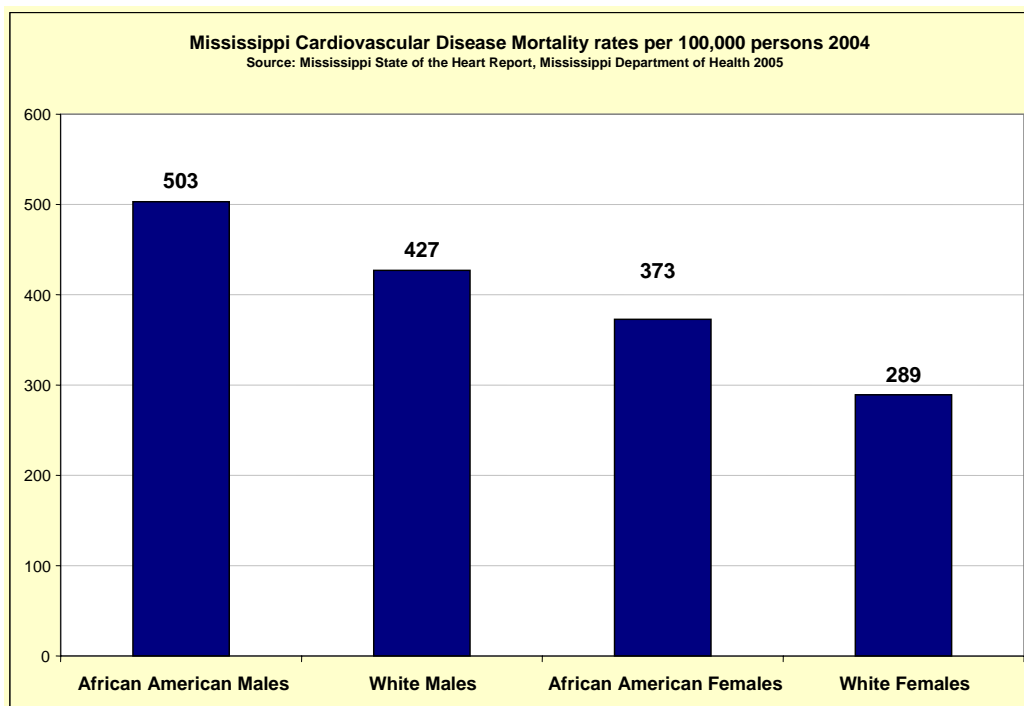


Figure 8: Mississippi Cardiovascular Disease Mortality 2004

According to the National Cancer Institute, cigarette smoking alone is directly responsible for approximately 30 percent of all cancer deaths annually in the United States.<sup>28</sup> Cigarette smoking also causes chronic lung disease – emphysema and chronic bronchitis.<sup>29</sup> Cigarette smoking causes 87 percent of lung cancer deaths.<sup>30</sup> In 2002, lung and bronchus cancer was the leading cause of all cancer deaths in the United States and the leading cause of cancer deaths for all Mississippians. The American Cancer Society estimated that in 2004 there would be 2,230 new cases of lung cancer diagnosed in the state of Mississippi and that 2,060 people in Mississippi

would die of lung cancer in 2004.<sup>31</sup> For Males and for Females in Mississippi the death rate from lung cancer was higher than the national level.

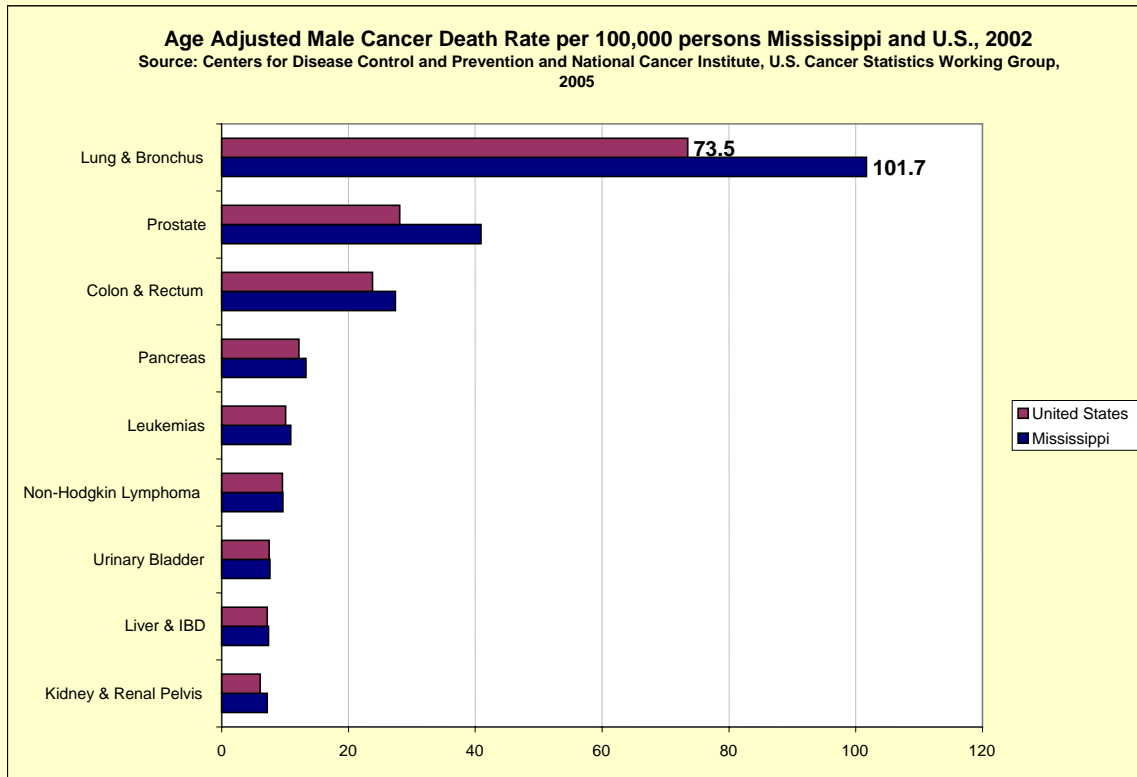


Figure 9: Mississippi Age Adjusted Cancer Mortality Rate 2002

When examining the cancer death rate based upon gender and race or ethnicity, Mississippians exhibited the following characteristics, the lung and bronchus cancer death rate in Mississippi was highest for African-American Males (114.5 per 100,000 persons), followed by White Males (98.4 per 100,000 persons). White Females exhibit a higher rate of death from lung and bronchus cancer (46 per 100,000 persons)

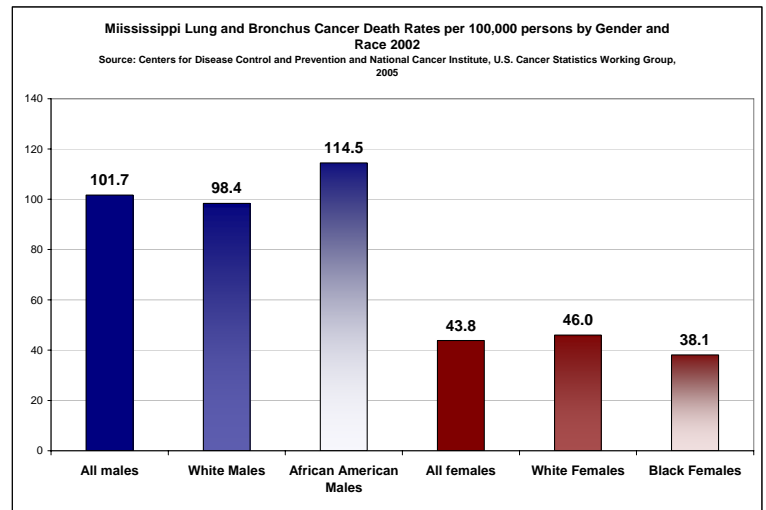


Figure10: Mississippi Lung & Bronchus Mortality by Race and Gender 2002

than do African American Females. Although lung cancer death rates in the United States have been decreasing in recent years, only one county in Mississippi experienced a decrease in lung cancer mortality during the period 1999 to 2003 – and the death rate has risen in 22 counties.

Table 5: Mississippi Lung and Bronchus Cancer Mortality

Lung and Bronchus Cancer Mortality Rate and Trends Over Period 1999 to 2003				
County	Recent Trend (2)	Death Rate Compared to US Rate	Average Deaths per year over rate period	Annual Death Rate over rate period
United States	falling	-	155,815	55.1
Adams County	stable	similar	26	65.3
Alcorn County	rising	above	30	75.7
Amite County	rising	similar	11	65.4
Attala County	stable	similar	13	52.3
Benton County	rising	above	9	97.5
Bolivar County	rising	above	27	77.9
Calhoun County	stable	similar	11	61.2
Carroll County	stable	similar	7	60
Chickasaw County	stable	similar	13	65.4
Choctaw County	**	below	4	32.5
Claiborne County	stable	similar	5	54.4
Clarke County	stable	similar	9	43
Clay County	stable	similar	10	47
Coahoma County	rising	similar	19	68.6
Copiah County	stable	similar	15	50.6
Covington County	stable	similar	13	64.3
DeSoto County	rising	above	69	75.7
Forrest County	stable	above	48	74.8
Franklin County	**	similar	5	47.4
George County	stable	above	14	80.6
Greene County	stable	similar	8	72.1
Grenada County	stable	similar	15	59.3
Hancock County	stable	above	35	70.5
Harrison County	rising	above	150	85.5
Hinds County	falling	similar	123	55.7
Holmes County	rising	above	15	77.5
Humphreys County	rising	similar	8	76.9
Issaquena County	**	*	*	*
Itawamba County	rising	above	22	85.8
Jackson County	stable	above	90	74.4
Jasper County	stable	similar	12	59.9
Jefferson County	**	similar	7	81.6
Jefferson Davis County	stable	similar	10	68.3
Jones County	rising	above	50	69.6
Kemper County	stable	similar	7	58.4
Lafayette County	stable	similar	19	62.5
Lamar County	stable	above	25	78.2
Lauderdale County	rising	above	68	80.7
Lawrence County	rising	above	12	84.1
Leake County	stable	similar	11	49.7
Lee County	rising	above	50	69.4
Leflore County	stable	similar	23	66
Lincoln County	stable	above	28	76.5

Lowndes County	stable	similar	33	60.4
Madison County	stable	above	73	117
Marion County	rising	above	23	85.1
Marshall County	rising	above	23	70
Mississippi	stable	above	1,907	68.9
Monroe County	stable	similar	27	64.6
Montgomery County	stable	similar	10	67.1
Neshoba County	stable	similar	16	53.4
Newton County	stable	similar	16	62.5
Noxubee County	**	below	5	39.3
Oktibbeha County	stable	similar	17	56.9
Panola County	stable	similar	22	67.3
Pearl River County	stable	above	37	74.3
Perry County	stable	similar	9	75.9
Pike County	stable	similar	24	56.1
Pontotoc County	stable	similar	17	62.9
Prentiss County	rising	similar	17	61.6
Quitman County	rising	above	10	96.3
Rankin County	stable	similar	54	52.8
Scott County	stable	similar	18	65.7
Sharkey County	stable	similar	4	66
Simpson County	stable	above	21	73.4
Smith County	stable	similar	13	72.7
Stone County	stable	above	10	86.3
Sunflower County	rising	above	20	75.3
Tallahatchie County	stable	similar	8	54.6
Tate County	stable	above	17	70.6
Tippah County	rising	similar	15	67.1
Tishomingo County	rising	above	19	76.2
Tunica County	stable	similar	5	63.3
Union County	stable	similar	15	52.1
Walthall County	stable	similar	11	63.8
Warren County	stable	above	32	67
Washington County	stable	above	43	75.4
Wayne County	stable	similar	13	64.8
Webster County	stable	similar	9	72.9
Wilkinson County	stable	similar	5	50.2
Winston County	stable	above	19	79.2
Yalobusha County	stable	above	12	74.3
Yazoo County	rising	above	19	71.1

Source: [statecancerprofiles.cancer.gov](http://statecancerprofiles.cancer.gov) on 12/18/2006 12:42 pm.

#### Trend(2)

Rising when 95% confidence interval of annual percent change is above 0.

Stable when 95% confidence interval of annual percent change includes 0.

Falling when 95% confidence interval of annual percent change is below 0.

#### Rate Comparison

Above when 95% confident the rate is above and Rate Ratio(3) > 1.10

Similar when unable to conclude above or below with confidence.

Below when 95% confident the rate is below and Rate Ratio(3) < 0.90

\*\* Data too sparse to provide stable and dependable estimates

For every state, the Centers for Disease Control and Prevention calculates the present value of foregone future earnings from paid labor and imputed earnings from unpaid household work for adults aged 35 and older who die prematurely from smoking-related disease. The productivity loss estimates for Mississippi were calculated to be \$1.3 billion annually during the period 1997 to 2001.

Table 6: Average Annual Smoking Attributable Productivity Losses Mississippi 1997 to 2001

<b>Average Annual Smoking Attributable Productivity Losses</b>	
<i>Mississippi 1997 to 2001</i>	
	<i>Average Annual Productivity Losses</i>
Males	\$931,919,000
Females	\$397,456,000
<b>Total</b>	<b>\$1,329,375,000</b>

*Source: CDC, STATE Tracking System*

CDC also calculates smoking-attributable health care expenditures to represent the excess personal health care costs of smokers and former smokers compared with those of never smokers using data from the Centers for Medicare and Medicaid Services. This estimate includes expenditures for ambulatory care, hospital care, prescription drugs, nursing home care, and other care (including home health, nonprescription drugs, and nondurable medical products), but does not include expenditures for health care, dental care, and vision care products. The smoking attributable expenditures identify the proportion of annual personal health care expenditures that could be avoided if smoking were eliminated from the population. The 1998 estimate for Mississippi was \$561 million annually.

Table 7: Mississippi Smoking Attributable Health Care Costs 1998

<b>Smoking Attributable Expenditures</b>	
<i>Mississippi 1998</i>	
<i>Type of Expense</i>	<i>Annual Estimated Expenditure</i>
Ambulatory	\$184,000,000
Hospital	\$154,000,000
Nursing Home	\$130,000,000
Drug	\$55,000,000
Other	\$38,000,000
<b>Total</b>	<b>\$561,000,000</b>

*Source: Centers for Disease Control and Prevention, STATE data system*

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More recent (2004) estimates of smoking related health care costs in Mississippi are reported to be \$662 million annually, of which \$243 million are direct health care costs covered by Medicaid and \$1.34 billion in lost productivity.<sup>32,33</sup> Using CDC estimates that each pack of cigarettes sold in the United States costs the country \$7.18 in medical care costs and lost productivity,<sup>34</sup> the smoking related medical care costs and lost productivity in Mississippi in 2004 was \$1.8 billion using the estimate of 247.5 million packs.<sup>35</sup> CDC<sup>36</sup> estimates that the smoking attributable Medicaid cost per pack in the state of Mississippi is 93 cents per pack or approximately \$230.2 million. In 2004, the per capita smoking related Medicaid costs to the state of Mississippi were \$115.12 per capita<sup>37</sup> compared to \$19.14<sup>38</sup> per capita in tobacco tax collections.

According to the Centers for Disease Control and Prevention<sup>39</sup> “*Smoking during pregnancy is the single most preventable cause of illness and death among mothers and infants. Findings reported by CDC:*

- *Women who smoke during pregnancy are more likely than nonsmokers to have a miscarriage or ectopic pregnancy*
- *Up to 8% of all babies who die less than a week after birth die because of problems caused by their mothers’ smoking during pregnancy*
- *Babies born to smokers are 1.5–3.5 times more likely to have low birth-weights than babies born to nonsmoking mothers. Low-birth-weight babies are at risk for serious health problems throughout their lives*
- *In 1999, more than 12% of women giving birth reported that they smoked during pregnancy.*
- *Teenagers are more likely than older mothers to smoke during pregnancy, and maternal smoking is not declining among teens, although it is declining among older mothers.*
- *In a 1999 multistate survey, 14%–38% of women on Medicaid smoked during the last trimester compared with 3%–17% of women not covered by Medicaid*
- *The less education a woman has, the more likely she is to smoke during pregnancy*
- *White women are far more likely to smoke during pregnancy than black, Hispanic, American Indian, or Asian/ Pacific Islander women”*



According to the CDC:<sup>40</sup> “Smoking during pregnancy carries a heavy financial burden. Health care costs at delivery for problems caused by smoking during pregnancy totalled about \$366 million in the United States during 1996 alone:

- Nearly two-thirds of this amount—\$228 million—was for babies born to mothers on Medicaid.
- About \$54 million was for babies born to teenagers.
- Smoking-attributable costs at delivery averaged about \$704 per maternal smoker. These costs varied by state, from a low of \$519 to a high of \$1,334 per maternal smoker.”

In 2004, 4,956 babies born in Mississippi exhibited low birth-weight.<sup>41</sup> Mississippi has the highest percentage of babies exhibiting low birth-weight in the nation. The percentage of low birth-weight babies increased from 10.7 percent in 2000 to 11.6 percent in 2004.<sup>42</sup> In 2002, 23,174<sup>43</sup> births in Mississippi were financed by Medicaid; 55.8 percent of all births in Mississippi were financed by Medicaid, as compared to 41.3 percent at the national level<sup>44</sup>

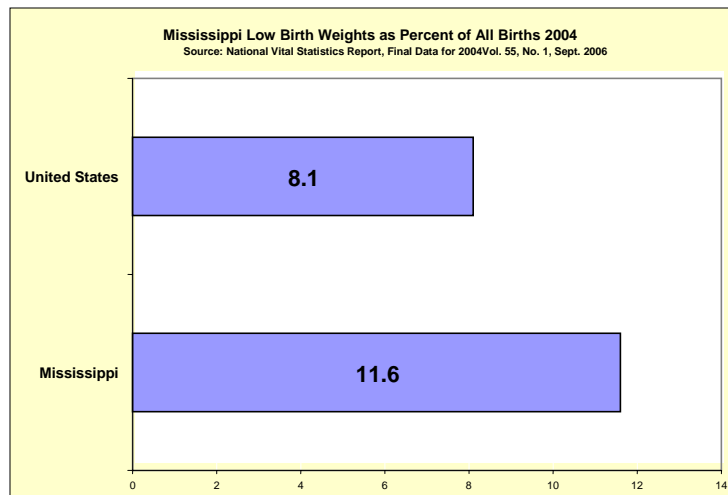


Figure11: Mississippi Low Birth-weights 2004

As health care and medical costs increase, the cost burden of smoking and tobacco use creates increasing concern among policy makers. In 2004, the United States spent \$1.9 trillion, or 16 percent of its gross domestic product (GDP), on health care or approximately \$6,280 per capita. Public health care costs are predicted to increase 8 percent per year through the year 2015, with a proportionate increase to state and local governments. The increased cost of health care, aging of the U.S. population, and an increasing number of Americans without health care insurance is creating a looming crisis in health care. The percentage of the U.S. population without health care coverage grew from 14.2 percent in 2000 to 15.2 percent in 2002; approximately 43.6 million

people in the U.S. do not have health insurance – of those who are uninsured approximate eighty percent are in working families.<sup>45</sup>

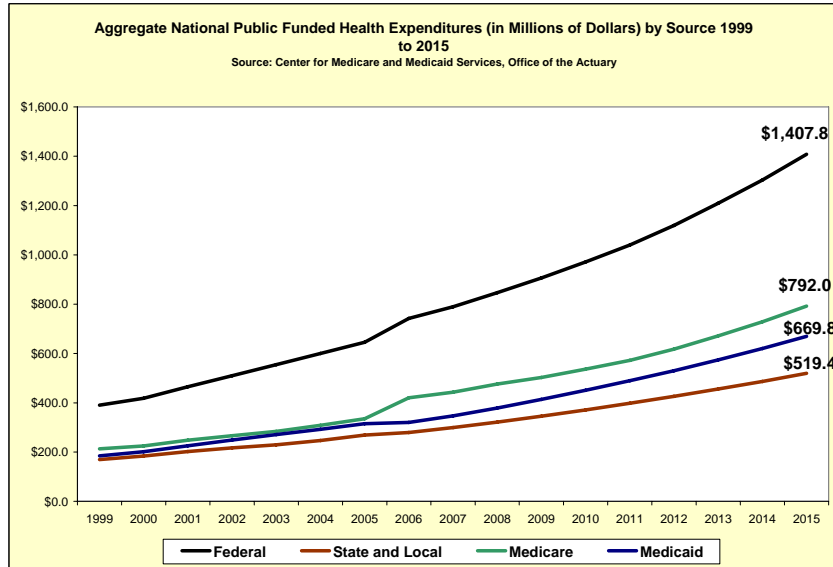


Figure 12: U.S. Public Health Expenditures

*Medicaid Spending*

In fiscal year 2005 Medicaid spending in the state of Mississippi was \$3.375 billion. In the United States, spending on Medicaid was the largest category of revenue expenditure across all states, with Medicaid accounting for 22.9 percent of total state fiscal expenditures in 2005 followed by expenditures for elementary and secondary education (21.8 percent of expenditures).<sup>46</sup> In

Mississippi, Medicaid was the largest single category of revenue expenditure with Medicaid accounting for 30.4 percent of total fiscal expenditures in 2005, followed by expenditures for elementary and secondary education at 22.1 percent.

In the United States for FY 2005, state contributions to Medicaid increased by 13.5 percent and federal contributions increased by 4.7 percent. During FY 2005 total Medicaid expenditures for

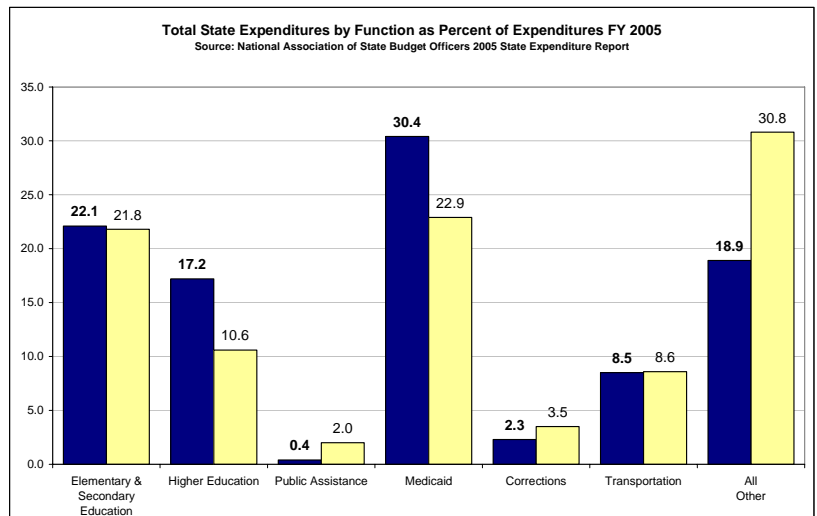


Figure 13: State Expenditures by Budget Category FY 2005

Mississippi grew from \$3.192 billion to \$3.637 billion an increase of 13.9 percent; with state sources of funds (general fund and other state source) increasing from \$ 576 million in FY 2004 to \$ 993 million – an increase of 7.2 percent. Medicaid expenditures in the state of Mississippi are heavily subsidized by the Federal government, with approximately 72 percent of FY 2005 Medicaid expenditures coming from Federal sources.<sup>47</sup>

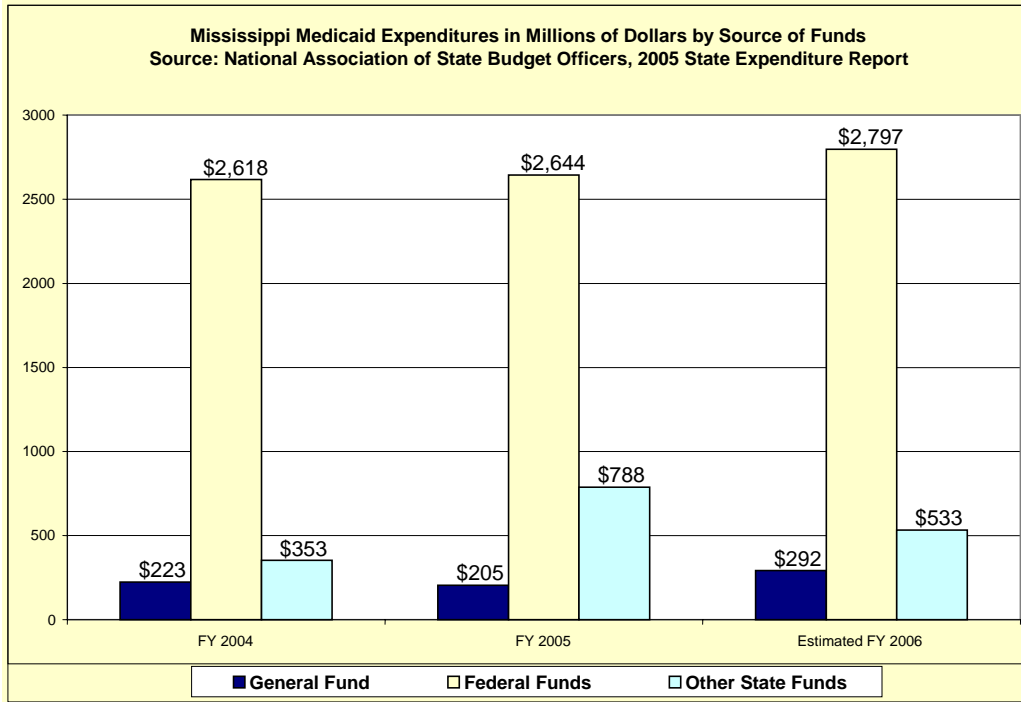


Figure 14: Mississippi Medicaid Expenditures FY 2005 by Source

From a fiscal policy perspective, states anticipate that the burden of Medicaid costs will become an increasing burden on the general revenue fund as the federal government seeks to reduce the cost burden of publicly funded health care expenditures. The true cost of Medicaid (and other state expenditures) within a state tends to be masked when legislatures consider only the general revenue fund portion

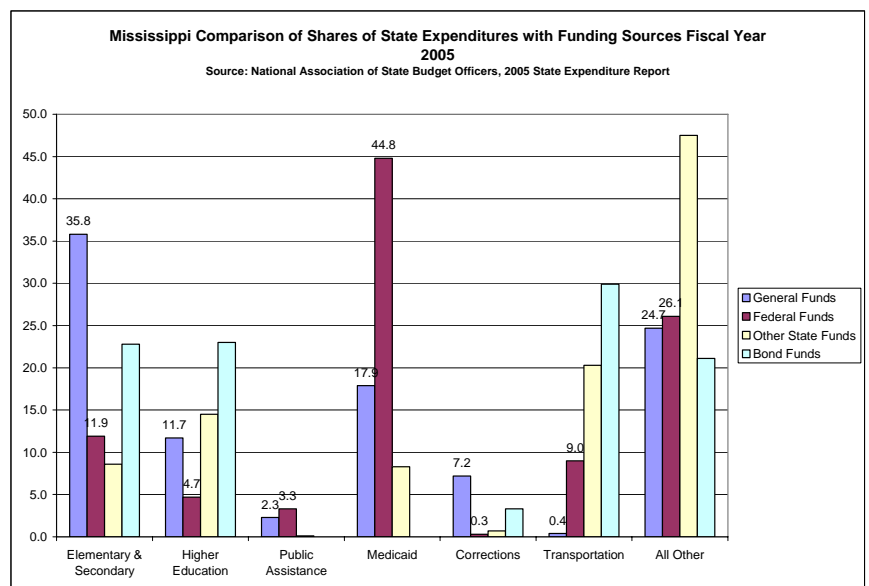


Figure 15: Mississippi Expenditures and Source of Funding FY 2005

of state total expenditures. For example, when examining only general revenue fund expenditures at the national level, elementary and secondary education account for 35.8 percent and Medicaid for 16.9 percent of general revenue fund expenditures. In Mississippi general revenue fund (excluding the Federal portion of the burden) expenditures for elementary and secondary education were 35.8 percent of general fund expenditures and Medicaid expenditures are reflected as only 17.9 percent of general fund expenditures, masking the true costs of Medicaid health care for citizens of the state.

Table 8: Medicaid Enrollment and Spending FY 2003

<b>Profile of Mississippi Medicaid Enrollment and Spending Fiscal Year 2003</b>					
	<b>Enrollment in Mississippi</b>	<b>Per Enrollee Medicaid Spending</b>		<b>Percent of Total Enrollment</b>	
		<b>Mississippi</b>	<b>United States</b>	<b>Mississippi</b>	<b>United States</b>
Children	397,700	\$1,225	\$1,467	54.4	49.6
Adults	91,100	\$2,664	\$1,872	12.5	25.6
Blind and Disabled	145,000	\$7,132	\$12,265	19.8	14.2
Elderly	97,100	\$8,142	\$10,799	13.3	10.5

*Source: Kaiser Family Foundation State Medicaid Fact Sheets*

Mississippi is more heavily dependent upon Medicaid as compared to the rest of the United States; approximately 21.5 percent of the population depends upon Medicaid as compared to 14.1 percent of the population at the national level. As demonstrated in Table 8, Mississippi Adult Medicaid enrollment is significantly lower than the Adult Medicaid enrollment in the rest of the nation; children, the blind and disabled, and the elderly comprise 87.5 percent of Medicaid beneficiaries within the state of Mississippi. As health care costs continue to escalate, states will be faced with increasingly difficult budgeting and fiscal decision-making issues. Recently states have been faced with the need to implement cost containment measures to reduce Medicaid expenditures. Depending upon the cost containment practices implemented by states, citizens' quality and access to health care may be negatively impacted to a greater or lesser degree. In Mississippi this is particularly true.

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### **Tobacco Use and Consumer Behavior**

A national objective of Healthy People 2010 is to reduce the prevalence of cigarette smoking among adults to less than 12 percent. To assess progress towards meeting this objective, the Center for Disease Control and Prevention analyzes and reports on data from the National Health Interview Survey; the CDC report *Tobacco Use Among Adults – United States, 2005* report found the following:

- 45.1 million adults (20.9 percent of the total population aged 18 and over) were current cigarette smokers. During the period 2004 to 2005, no significant change occurred in the prevalence of cigarette smoking in the adult population.
- Among racial and ethnic groups, cigarette smoking was highest among American Indians/Alaska Natives (32.0 percent), and lowest among Hispanics (16.2 percent) and Asians (13.3 percent).
- Cigarette smoking is more prevalent among adults living below poverty (29.9 percent) than those individuals living at or above the poverty level (20.6 percent).
- Cigarette smoking is most prevalent among the age groups 18 to 24 years of age (24.4 percent) and those aged 25 to 44 years (24.1 percent).
- Those with lower educational attainment levels had a higher prevalence of cigarette smoking. For example, of the adults who earned a GED diploma 43.2 percent were smokers and those with a master's, professional, or doctoral degree has the lowest prevalence of smoking (7.1 percent).
- There has been a leveling off of the rate of decline in adult cigarette smoking across the population and smoking prevalence remains high in many population segments particularly those with low socio-economic status.

Multiple factors impact consumer behavior and their use of tobacco products. Consumers have become increasingly aware of and educated about the negative impacts of smoking on their own health and the health of those around them. Education programs and media campaigns change attitudes towards tobacco, with attitudes becoming increasingly negative over time (Sly and Heald, 1999; Bauer et al. 2000; Florida Department of Health 2000; Farrelly et al. 2003; Manley et al. 1997).<sup>48</sup> Enactment of clean air acts and smoking bans by municipal and business entities and the

negative social image of smoking have motivated the reduction and elimination of smoking and tobacco use behaviors. These factors, coupled with the increased cost of tobacco products due to price increases by U.S. manufacturers of tobacco products and increases in federal and state excise taxes on tobacco products have resulted in reduced consumption per capita over time. As demonstrated in Figure 16, per capita cigarette consumption for the U.S. population aged 18 and over has declined during the period from 1960 to present (2006), but during the period 2000 to 2005 the percentage rate of decrease has diminished. For example, during the five year period 1995 to 2000, the per capita cigarette consumption rate decreased 18.5 percent; however during the five year period 2000 to 2005, the per capita cigarette consumption rate decreased only 16.3 percent.

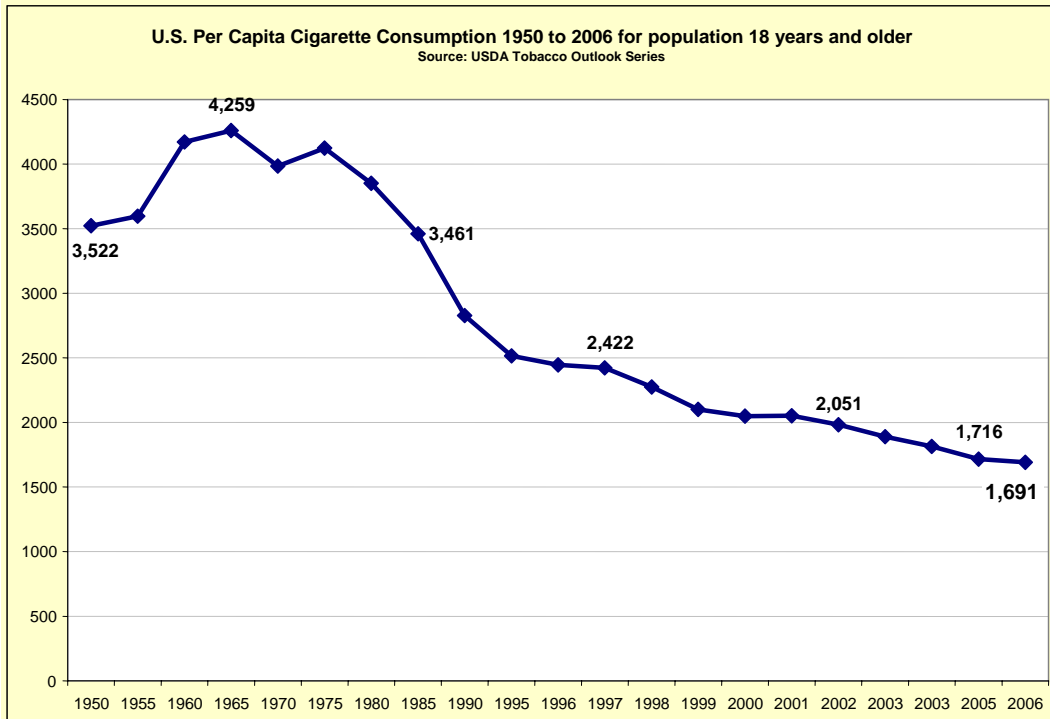
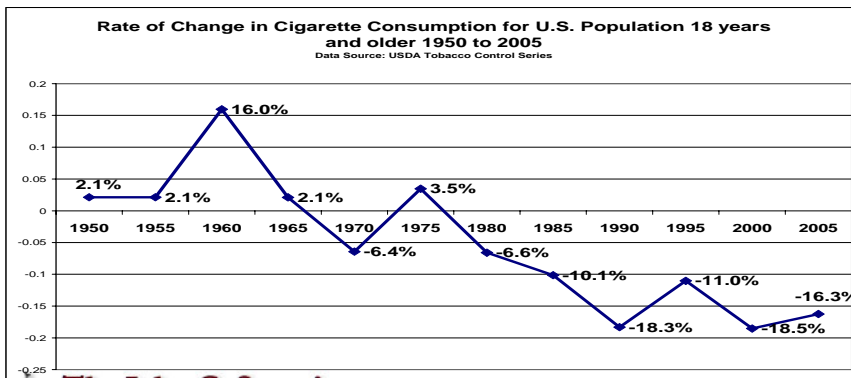


Figure 16: U.S. Per Capita Cigarette Consumption

Table 16a: Rate of Change in Cigarette Consumption



In 2005, approximately 20.6 percent of U.S. adults were current smokers at the national level. This prevalence was approximately the same as that reported in 2004 (20.9 %). There is substantial geographic variation in the smoking prevalence between the states, ranging from a low of 8.1 percent in the U.S. Virgin Islands and 11.5 percent in Utah to a high of 27.3 percent in Indiana and 28.7 percent in Kentucky (the two states with the highest prevalence of adults who smoke. Among all states, the State of Mississippi ranks as the 8<sup>th</sup> highest in terms of the percentage of adults who are current smokers.

Table 9: State Rank of Adult Current Smokers 2005

Percentage of Adults Who are Current Smokers Ranked by State 2005					
Rank	State:	Percent	Rank	State:	Percent
	Nationwide (States and DC)	20.6			
1	Kentucky	28.7	28	Iowa	20.4
2	Indiana	27.3	29	New Hampshire	20.4
3	Tennessee	26.7	30	Arizona	20.2
4	West Virginia	26.7	31	North Dakota	20.1
5	Oklahoma	25.1	32	District of Columbia	20
6	Alaska	24.9	33	Minnesota	20
7	Alabama	24.8	34	Texas	20
8	<u>Mississippi</u>	<u>23.6</u>	35	Illinois	19.9
9	Pennsylvania	23.6	36	Colorado	19.8
10	Arkansas	23.5	37	Rhode Island	19.8
11	Missouri	23.4	38	South Dakota	19.8
12	Nevada	23.1	39	Vermont	19.3
13	Louisiana	22.6	40	Montana	19.2
14	North Carolina	22.6	41	Maryland	18.9
15	South Carolina	22.5	42	Oregon	18.5
16	Ohio	22.3	43	Massachusetts	18.1
17	Georgia	22.1	44	New Jersey	18
18	Michigan	22	45	Idaho	17.9
19	Florida	21.7	46	Kansas	17.8
20	New Mexico	21.5	47	Washington	17.6
21	Nebraska	21.3	48	Hawaii	17
22	Wyoming	21.3	49	Connecticut	16.5
23	Maine	20.8	50	California	15.2
24	Wisconsin	20.7	51	Puerto Rico	13.1
25	Delaware	20.6	52	Utah	11.5
26	Virginia	20.6	53	Virgin Islands	8.1
27	New York	20.5			

Source: National Center for Chronic Disease Prevention & Health Promotion Behavioral Risk Factor Surveillance System (BRFSS), 2006

Mississippi's adult smoking prevalence for the population 18 years and older is above the national level and exhibited a significant increase from 2000 to 2002, when U.S. smoking rates were declining, in more recent years (2002 to 2005) the rate of smoking has declined but not at the same rate as that of the nation. Characteristics of Mississippi Smokers are similar to the nation.

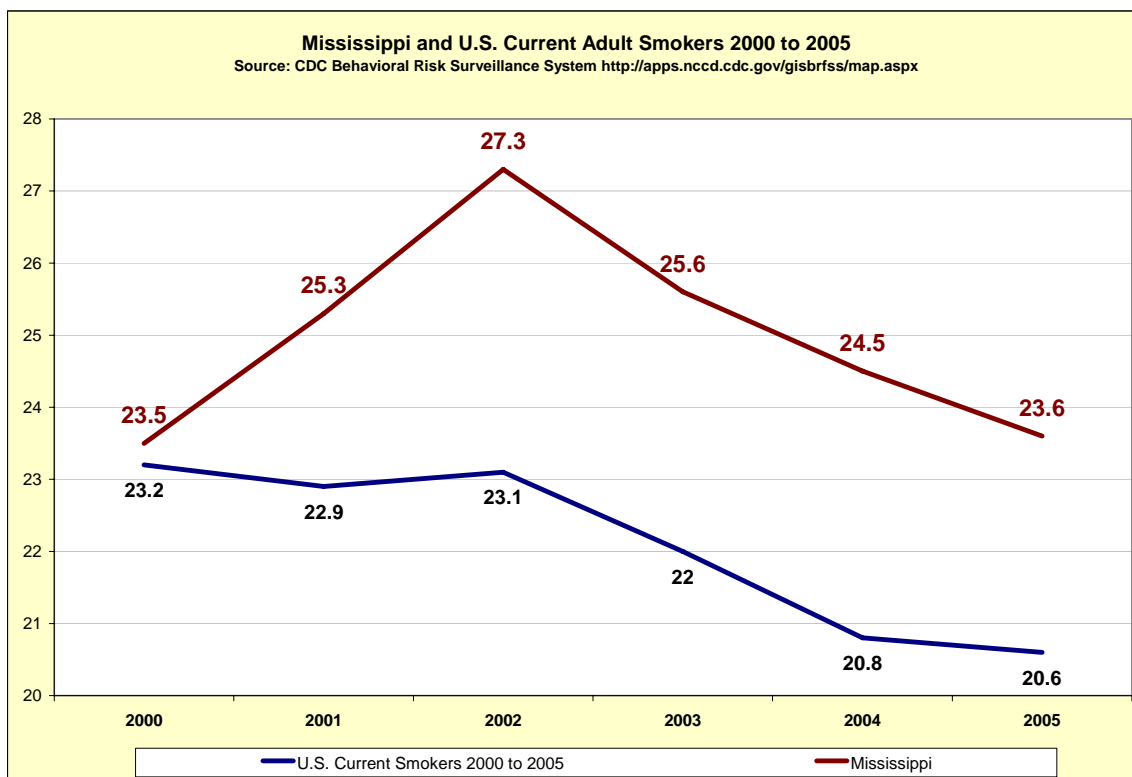


Figure17: Mississippi and U.S. Adult Smoking 2000 to 2005

Table 10: Mississippi Adult Smoking by Socioeconomic Characteristics 2005

Mississippi Adults (Aged 18 and over) who are Current Smokers 2005			
<u>By Income</u>		<u>By Age</u>	
<i>Income:</i>	<i>Percent who Smoke</i>	<i>Age:</i>	<i>Percent who Smoke</i>
Less than \$15,000	29.00%	18 to 24	26.30%
\$15,000 to \$24,999	31.30%	25 to 34	25.20%
\$25,000 to \$34,999	20.50%	35 to 44	25.90%
\$35,000 to \$49,999	23.00%	45 to 54	28.60%
\$50,000 or greater	18.50%	55 to 64	24.40%
		65 and over	11.10%
<u>By Gender</u>		<u>By Race/Ethnicity</u>	
<i>Gender</i>	<i>Percent who Smoke</i>	<i>Race</i>	<i>Percent who Smoke</i>
Male	25.80%	White	25.40%
Female	21.70%	Black	19.40%



Source: National Center for Chronic Disease Prevention & Health Promotion, Behavior Risk Factor Surveillance System (BFRSS) 2006

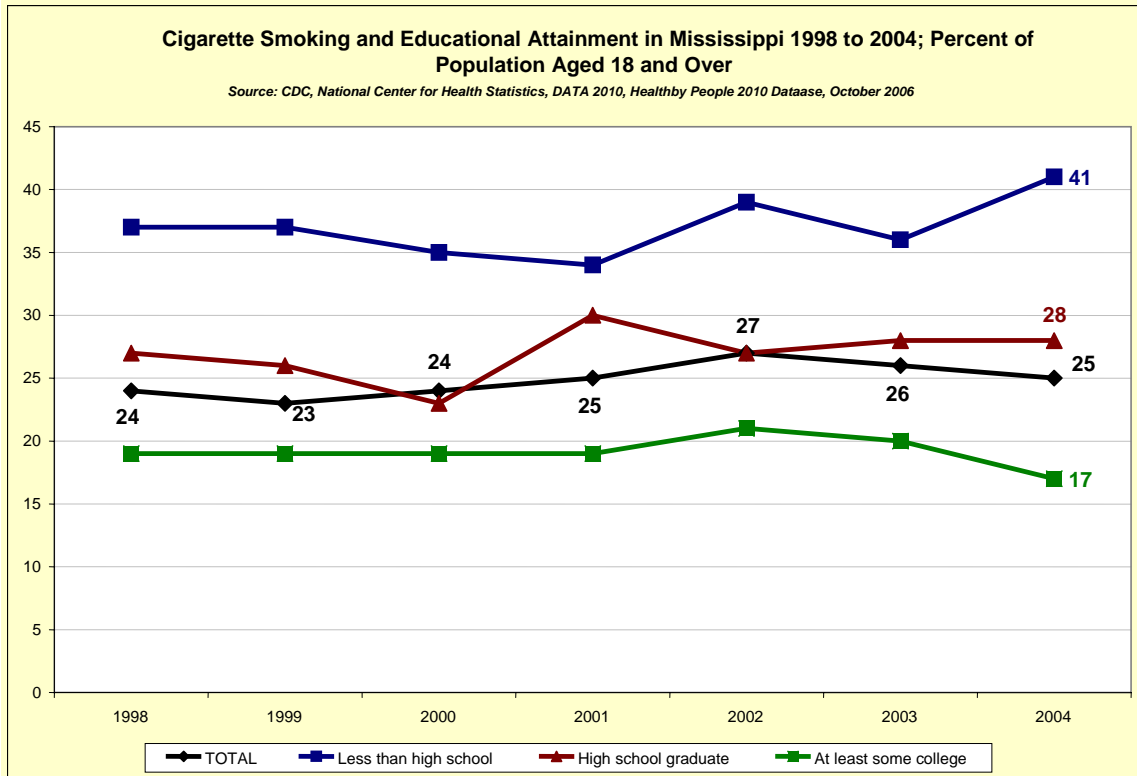


Figure 18: Cigarette Smoking and Educational Attainment in Mississippi 1998 to 2004

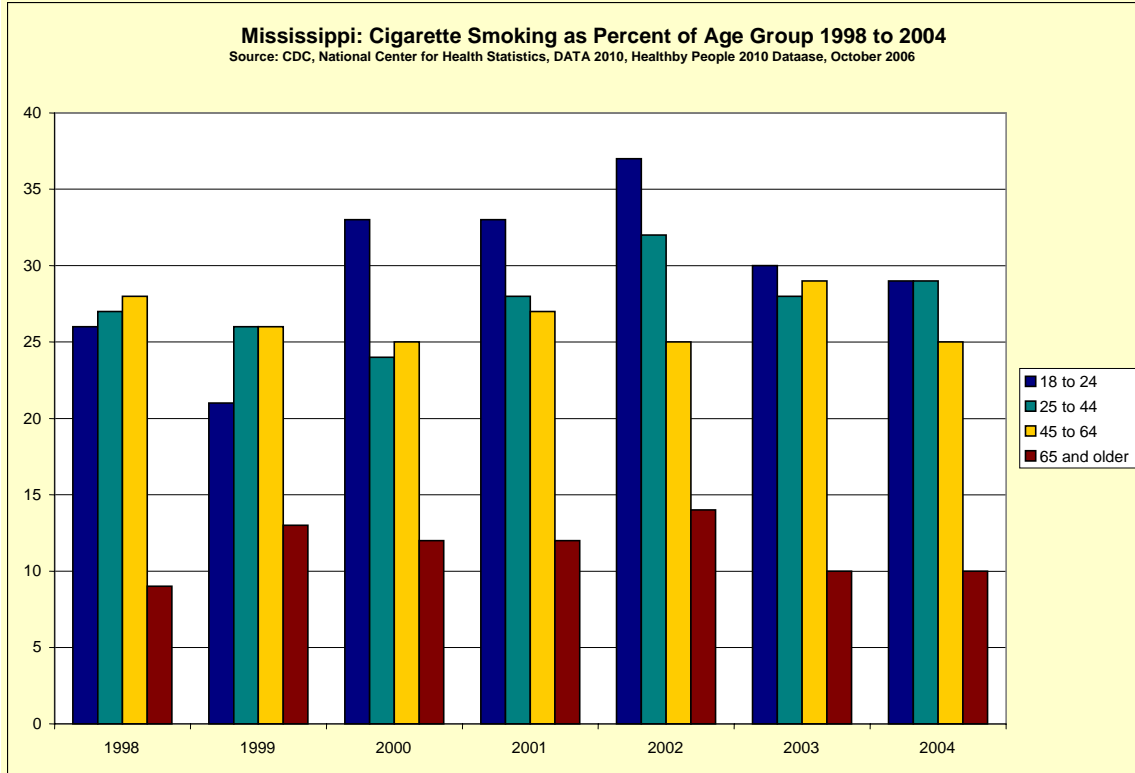


Figure19: Mississippi Cigarette Smoking by Age Cohort 1998 to 2004

### *Youth Smoking*

The prevalence and increase in smoking among teenagers during the early 1990s and growing awareness of the addictive qualities of nicotine and the negative health outcomes related to cigarette smoking focused the attention of health officials, public policy makers, and educators on this increasing problem. Prior research strongly indicates that initiation of smoking behaviors occur during high school and these behaviors determine life-time smoking behaviors (Johnson et al. 1999, 2001; Kessler 1995; Ajzen and Fishbein 1980; Bandura 1986; Chassin et al. 1984; McNeill et al. 1989; Pierce et al. 1998; Chaloupka and Grossman 1996). According to a 2006 CDC report<sup>49</sup> from 1995 to 2003 teen smoking prevalence decreased significantly, then exhibited a slight increase from 2003 to 2005; Female teen smoking surpassed the level of Male teen smoking in 2005. According to the U.S. Department of Health and Human Services, every day approximately 3,900 youths aged 12-17 in the United States try their first cigarette.<sup>50</sup> The CDC estimates 6.4 million of today's children can be expected to die prematurely from a smoking-related disease.<sup>51</sup>

As demonstrated in Figure 20, the smoking prevalence among high school students at every grade level (except 10<sup>th</sup>) exhibited an increase from 2003 to 2005, 27.6 percent of 12<sup>th</sup> grade students

surveyed reported current cigarette use and almost 20 percent of 9<sup>th</sup> grade students reported current cigarette use.

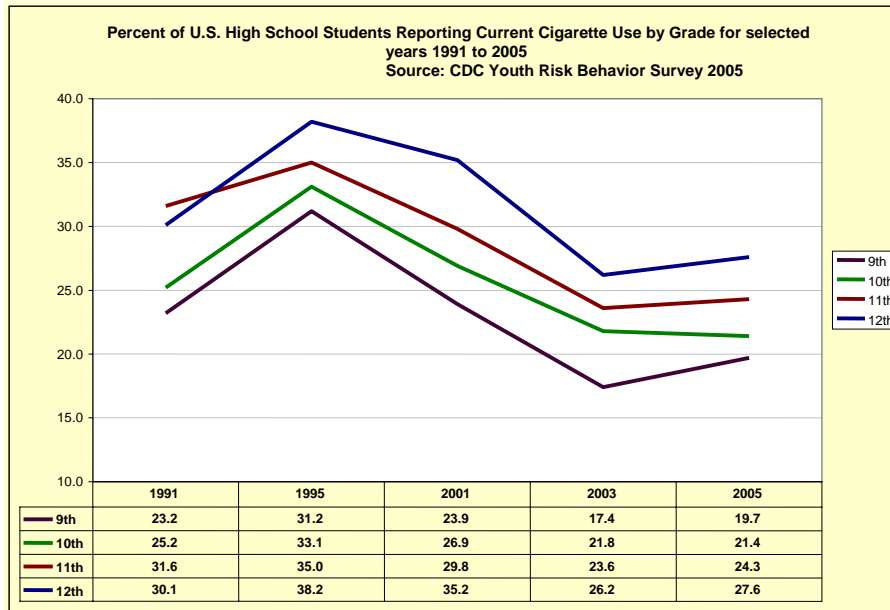


Figure 20: Percent of U.S. High School Students Reporting Current Cigarette Use by Grade, 1991 to 2005

Numerous studies on youth cigarette smoking provide considerable evidence that price increases lead to reductions in smoking behavior, that young people are more price sensitive, and that the price of cigarettes is one of the major determinants of youth smoking uptake (U.S. Department of Health and Human Services, 1989, 1994; Chaloupka and Warner 2000; Chaloupka and Grossman 1996; Chaloupka et al 2002). The price elasticity of teen aged smokers is estimated at three times greater than for adults (U.S. Department of Health and Human Service 2000). Research has found that intention to quit smoking is positively correlated with increased cigarette prices and increases with the magnitude of the price increase; that among high school students the higher the rate of price increase the greater the reduction in smoking behavior (Ross et al. 2005); this research also found that among high school students a price increase in cigarettes would also reduce sharing of cigarettes with their friends – further contributing to the reduction of adolescents who are just starting smoke and frequently are initiated into smoking behavior by sharing “free” cigarettes with their smoking peers rather than by purchasing cigarettes.<sup>2</sup>

<sup>2</sup> Adolescent and teen smokers exhibit different behaviors during the initial experimentation phase and the progression from experimentation to regular smoking. During the experimentation/initiation phase young smokers are less price sensitive because they obtain cigarettes from friends and other social sources and rarely pay for cigarettes.

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There is significant evidence that adolescent smokers are price sensitive and that price increases reduce smoking prevalence among young smokers. However in recent years, the level of youth cigarette consumption has been increasing or remaining constant in the face of increasing cigarette prices by manufacturers and wholesalers coupled with increasing state taxes. Some longitudinal studies have not found the anticipated strong relationship between annual incremental cigarette price increases and youth smoking initiation (DeCicca et al 2002; Tauras et al. 2001).<sup>52</sup> Factors that have been hypothesized and tested to account for increases in youth smoking include:

- 1) increases in the marketing expenditures and methods of the tobacco industry
- 2) less funding for comprehensive statewide tobacco prevention programs and a resulting decrease in children's exposure to mass media smoking-prevention campaigns
- 3) relative reduction of the cost of cigarettes as a percentage of disposable income due to changes in the consumer price index
- 4) Changes in adolescent and teenage tobacco product use

Increases in the marketing expenditures and methods of the tobacco industry. Tobacco industry documents identify the importance of young smokers as a source of continued revenues.<sup>53</sup> Extant research provides strong support for the importance of young smokers as current and future sources of profits for tobacco manufacturers; Heaton et al. (2005) found cigarette price increases from 1997 to 2002 have resulted in greater revenue for the tobacco industry, despite declines in youth smoking prevalence. According to Heaton (2005): "In 1997 U.S. youth (defined as students in grades 8 through 12) smoked 890 million packs of cigarettes, this generated \$737 million in revenue for the tobacco industry. By 2002, youth cigarette consumption dropped to 541 million packs of cigarettes, but despite this decline in smoking, revenue for cigarette manufacturers increased to \$1.2 billion as a result of an increase in the wholesale price of cigarettes. The report calculates that the U.S. high school senior class of 1997 will smoke an estimated 12.4 billion packs of cigarettes and earn the tobacco industry \$27.3 billion in revenue throughout the course of their lives."<sup>54</sup>

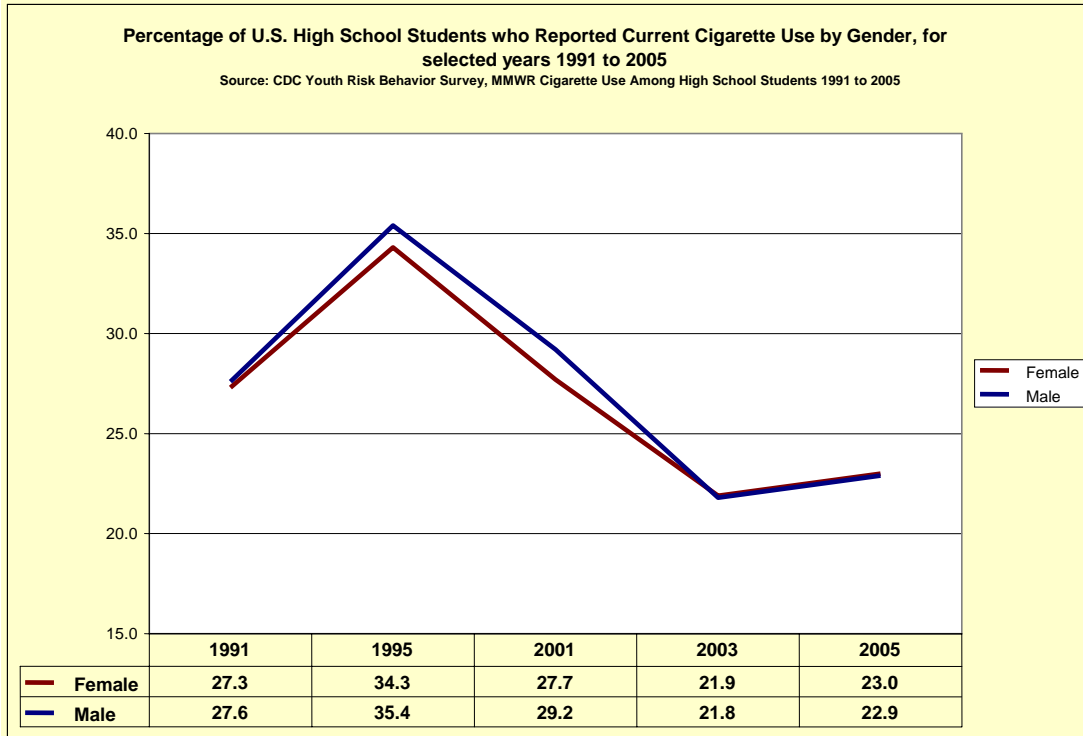


Figure 21: Percent of U.S. High School Students Smoking by Gender 1991 to 2005

Other research supports the relationship between teen age smoking initiation and life-time smoking habits (Pierce et al. 1994, 1995, 1998; Biener 2000; Sargent et al. 2000; Gilpin et al. 1999; Flay et al. 1998; Gilpin and Pierce 1997)<sup>55</sup>; approximately 50 percent of young, new smokers will continue to smoke for at least 16 years (Pierce and Gilpin 1996).<sup>56</sup> According to the Center for Disease Control and Prevention, the majority of adult smokers start smoking before the age of 18 and, each day nearly 3,900 young people try their first cigarette – “more than 6.4 million children living today will die prematurely because they started smoking as an adolescent.”<sup>57</sup> Effective marketing practices of tobacco companies have offset the impact of price increases on consumption through the use of promotional activities, these include: cent-off coupons and mail-in rebates, multi-pack purchase discounts, proof-of-purchase redeemable merchandise or free merchandise with cigarette purchases, the distribution of free samples, reimbursements to retailers for product sales volumes and slotting allowances for shelf space – all of these promotional methods result in a form of subsidy or reduction in the price consumers pay for the product. Other effective forms of marketing, such as media advertising, product placement in movies, and point-of-purchase advertising are non-price subsidizing activities used by cigarette manufacturers to promote their brands. The tobacco industry is mandated to provide industry expenditures for advertising and

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promotions to the Federal Trade Commission.<sup>58</sup> In 2003, cigarette companies spent \$15.2 billion on advertising and promotion, a 22 percent increase over the prior year – the equivalent to \$50 for every person in the United States. Increasingly, tobacco companies invest their advertising and promotional budgets in price subsidizing programs. Since 1987 price-subsidizing promotion expenditures have increased. In 1987, price subsidizing promotions comprised 44.5 percent of total tobacco company advertising and promotional expenditures, in 2001 the industry spent 90.6 percent of its advertising and promotions budget on price subsidizing expenditures.<sup>59</sup> Pierce et al. (2005) report evidence that the price-subsidizing promotional activities of the tobacco industry appears sufficient to overcome the effect of higher prices in discouraging adolescents from becoming regular smokers. A 2002 report in the American Journal of Preventive Medicine concluded that the promotion and advertising tactics of the tobacco industry appear to undermine the capability of some parental efforts to prevent adolescents from starting to smoke.<sup>60</sup>

*Less funding for comprehensive statewide tobacco prevention programs.* Tobacco control programs have been found to significantly reduce the prevalence of youth smoking.<sup>61</sup> Higher per capita state expenditures for tobacco control and prevention programs have been found to lower youth smoking prevalence and reduce the daily cigarette consumption by youth.<sup>62</sup> High levels of state funding for comprehensive tobacco prevention programs coupled with long term levels of sustained funding for these programs result in greater reductions in the prevalence of smoking for youth and for adults. The more states spend on comprehensive tobacco control programs, the greater the reductions in smoking, and the longer states invest in such programs, the greater and faster the impact. Farrelly et al. (2003)<sup>63</sup> found that per capita consumption of tobacco products declined more than twice as much in states that spend more on tobacco control programs, and multiple studies find that states spending more per capita on comprehensive tobacco control programs experienced a greater decline in per capita consumption of tobacco products (Stillman et al. 2003; Oregon Department of Human Services 2003; Gilpin et al 2001; Fichtenberg & Glantz 2000; Abt Associates 2000)<sup>64</sup> Using different strengths and combinations of messages and strategies in comprehensive tobacco programs lead to changes that influence teenage smoking and to reductions in teenage smoking.<sup>65</sup> Higher per capita tobacco control expenditures are associated with lower youth smoking prevalence and lower daily youth cigarette consumption.<sup>66</sup>

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The U.S. Center of Disease Control and Prevention reports that states are falling short of funding tobacco prevention and cessation programs at minimum levels, that recently there have been deep cuts in state tobacco prevention funding and steep increases in tobacco marketing expenditures. States cut funding for tobacco prevention programs by 28.2 percent between 2002 and 2005 from \$749.7 million to \$538.2 million.<sup>67</sup> A 2001 report in the New England Journal of Medicine<sup>68</sup> found that in 2001 the average state received \$28.35 per capita from the Master Tobacco Settlement but allocated only 6 percent of these funds (on average \$3.49 per capita) to tobacco control programs; this report also found that states that invested less per capita in tobacco control programs tended to have higher smoking rates.

Research has found that in communities and states where tobacco prevention programs have experienced budget cuts or programs have been eliminated, smoking and tobacco use by youth has increased. According to the American Lung Association's report, *State of Tobacco Control 2005*, the elimination of the Target Market™ media campaign in Minnesota resulted in an increase of adolescents susceptible to cigarette smoking from 43 percent to 53 percent within six months of the end of the program;<sup>69</sup> this report also states that communities in Massachusetts have seen an average increase of 74 percent in the illegal sale of cigarettes to minors.

According to a 2004 CDC report "*Tobacco control programs play a crucial role in the prevention of many chronic conditions, such as cancer, heart disease, and respiratory illness. Evidence continues to mount supporting the critical role that comprehensive state and local tobacco control programs play in keeping young people from starting to smoke, increasing the number of people who successfully quit, and decreasing nonsmokers' exposure to secondhand smoke. Although we know how to address these problems, funding for tobacco control programs continues to be sorely inadequate.*"<sup>70</sup>

*Relative reduction in the cost and affordability of cigarettes.* Economists and economic studies focus on the real cost of cigarettes as a determinant of demand. Affordability refers to the ability of an individual to purchase a product in relationship to the individual's income. The affordability of cigarettes is the cost of cigarettes relative to income and is determined by the price of cigarettes and changes in income. Even when the real cost of cigarettes remains constant or increases, cigarettes may become more affordable as the economy grows and per capita incomes

rise. In recent years the percent of total disposable income spent on cigarettes decreased in 2003, 2004, and 2005; in 2005 as compared to 2002 U.S. consumers spent 16.5 percent less of their disposable income on cigarettes, but total consumer expenditures on cigarettes increased 1.18 percent – an indicator that cigarettes are becoming more affordable for U.S. consumers. Additional support for the increasing affordability of cigarettes is reported by Blecher and Walbeek (2004).<sup>71</sup>

Table 11: Cigarette Expenditures and Disposable Income 1990 to 2005

Year	U.S. Cigarette Expenditures (millions dollars)	Percent Change in Total Expenditures from prior year	U.S. Disposable Personal Income (billions dollars)	Percent of Disposable Income Spent	Percentage Change in the Percent of Disposable Income from Prior Year
1990	\$39,500		\$5,324	0.98	
1991	\$42,850	8.48%	\$5,352	1.02	4.08%
1992	\$45,790	6.86%	\$5,536	1.02	0.00%
1993	\$46,150	0.79%	\$5,594	0.98	-3.92%
1994	\$44,544	-3.48%	\$5,746	0.90	-8.16%
1995	\$45,793	2.80%	\$5,906	0.86	-4.44%
1996	\$47,233	3.14%	\$6,081	0.85	-1.16%
1997	\$48,734	3.18%	\$6,296	0.84	-1.18%
1998	\$53,236	9.24%	\$6,664	0.88	4.76%
1999	\$66,286	24.51%	\$6,861	0.97	10.23%
2000	\$72,945	10.05%	\$7,194	1.01	4.12%
2001	\$77,845	6.72%	\$7,320	1.06	4.95%
2002	\$82,873	6.46%	\$7,597	1.09	2.83%
2003	\$81,070	-2.18%	\$7,798	1.04	-4.59%
2004	\$79,958	-1.37%	\$8,664	0.92	-11.54%
2005	\$82,029	2.59%	\$9,031	0.91	-1.09%

Source: Compiled from reports of U.S. Department of Labor, Bureau of Labor Statistics, USDA Economic Research Service Tom Capehart 2006

A longitudinal study published by the University of Michigan, *Monitoring the Future* (2005), found that the rate of decline in teenage smoking has been decelerating in recent years and that in “2005 the decline halted among 8<sup>th</sup> graders, who have been the bellwethers of smoking trends in teens.”<sup>72</sup>

*Changes in adolescent and teenage tobacco product use.* Research has identified an increasing prevalence in the use of smokeless tobacco products.<sup>73</sup> As demonstrated in Figure 22, after many years of decline in the teenage prevalence of use of smokeless tobacco, existing data indicates that teen usage increased from 2004 to 2005. Nationwide, 13.6 percent of high school boys and 2.2 percent of high school girls use smokeless tobacco.<sup>74</sup>



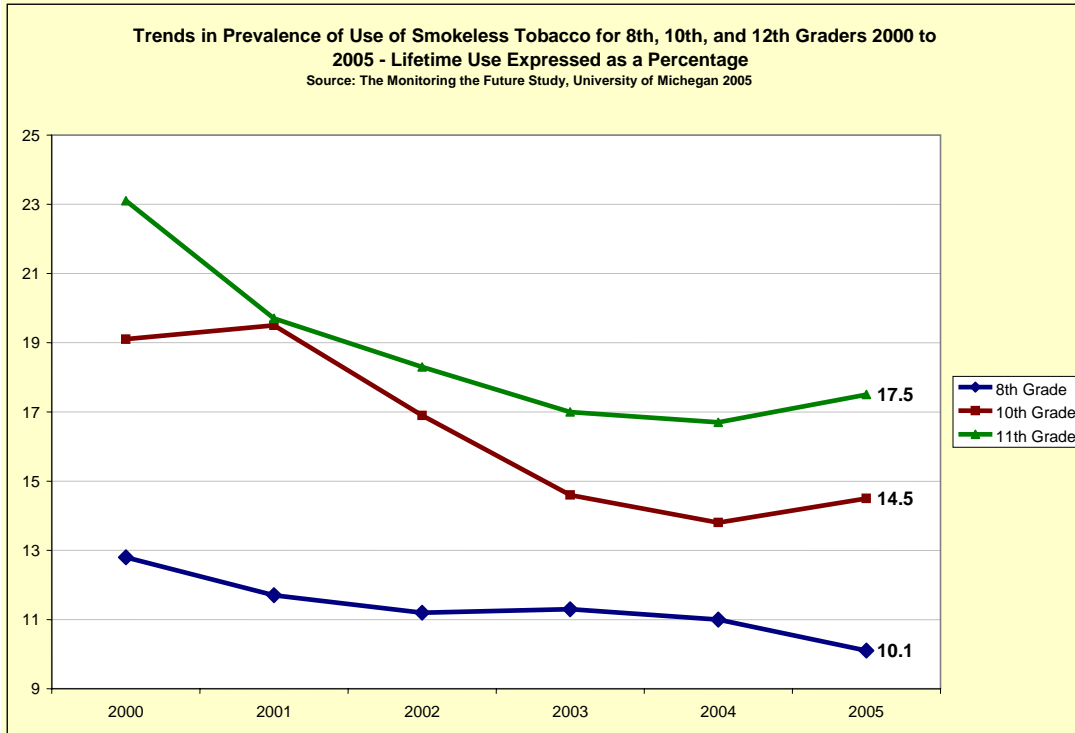


Figure 22: Prevalence of Smokeless Tobacco Use Elementary and High School

In addition to the use of smokeless tobacco products, approximately 13 percent of high school students smoke cigars or cigarillos, an estimated 18 percent of male students and 8 percent of female high school students smoke cigars.<sup>75</sup>

#### Mississippi Youth Tobacco Use

According to the 2003 CDC Youth Risk Behavior Survey, 25 percent of Mississippi youth reported cigarette use – of these 12 percent reported being frequent smokers. From 2001 to 2003 the rate of youth smoking within Mississippi increased approximately 1.4 percent with Males reporting a 4.1 percent increase and Females reporting a 2.1 percent decrease in cigarette use during the period 2001 to 2003.

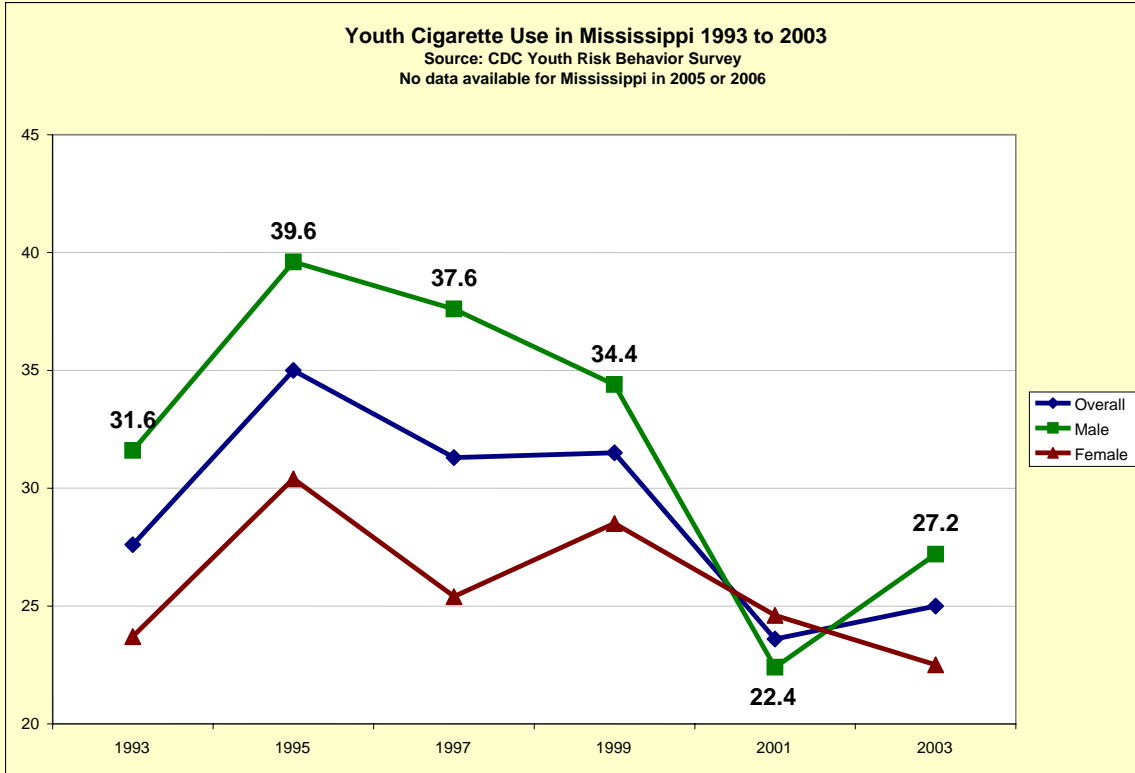


Figure 23: Mississippi Youth Smoking 1993 to 2003

Note: Although state level comparative data from the CDC Youth Risk Behavior Survey is available for 2005, the sample size from Mississippi was not included in reported findings by CDC due to the small sample size and statistical unreliability and comparability of this data. As a result there is no longitudinally reliable and consistent measure of Youth Smoking and Tobacco Use that can be used as a benchmark for the State of Mississippi.

In 2003, Mississippi had the 9<sup>th</sup> highest rate of youth cigarette smoking in the United States.<sup>76</sup>

Table 12: State Rankings of Youth Smoking 2003

Youth Cigarette Smoking 2003					
Rank	State	Percent of Youth	Rank	State	Percent of Youth
1	Kentucky	32.7	17	Michigan	22.6
2	North Dakota	30.2	18	Ohio	22.2
3	South Dakota	30.0	19	Vermont	22.1

4	West Virginia	28.5	20	Arizona	20.9
5	Tennessee	27.6	21	Georgia	20.9
6	Oklahoma	26.5	22	Massachusetts	20.9
7	Wyoming	26.0	23	Maine	20.5
8	Indiana	25.6	24	New York	20.2
<b>9</b>	<b>Mississippi</b>	<b>25.0</b>	25	Nevada	19.6
10	Missouri	24.8	26	Rhode Island	19.3
11	North Carolina	24.8	27	Alaska	19.2
12	Alabama	24.7	28	New Hampshire	19.1
13	Nebraska	24.1	29	Florida	18.1
14	Wisconsin	23.6	30	Idaho	14.0
15	Delaware	23.5	31	District of Columbia	13.2
16	Montana	22.9	32	Utah	7.3

Source: CDC Youth Risk Behavior Surveillance System - Youth Risk Behavior Survey

In 2004, 8.2 percent of youth in Mississippi middle school reported being current users of smokeless tobacco.<sup>77</sup> Smokeless tobacco use among middle school students trended upward from 2003 to 2004 as demonstrated in Figure 24.

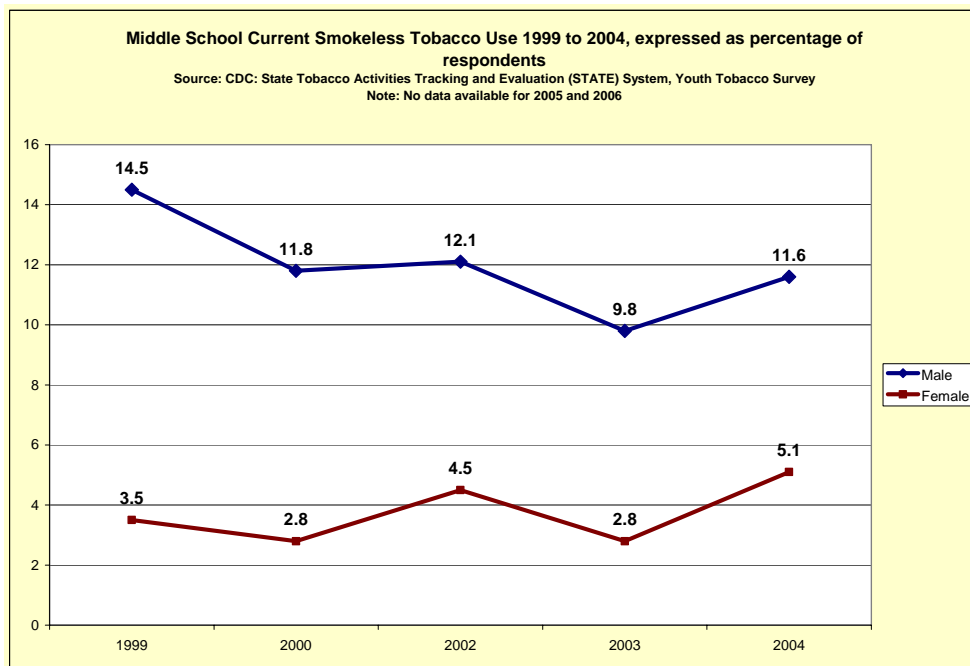


Figure 24: Mississippi Middle School Students Smokeless Tobacco Use 1999 to 2004

In 2004, 22.6 percent of Mississippi High School students reported use of smokeless tobacco products, with 18.4 percent of males and 4.5 percent of females using smokeless tobacco products – from 2003 to 2004 smokeless tobacco use prevalence increased.<sup>78</sup>

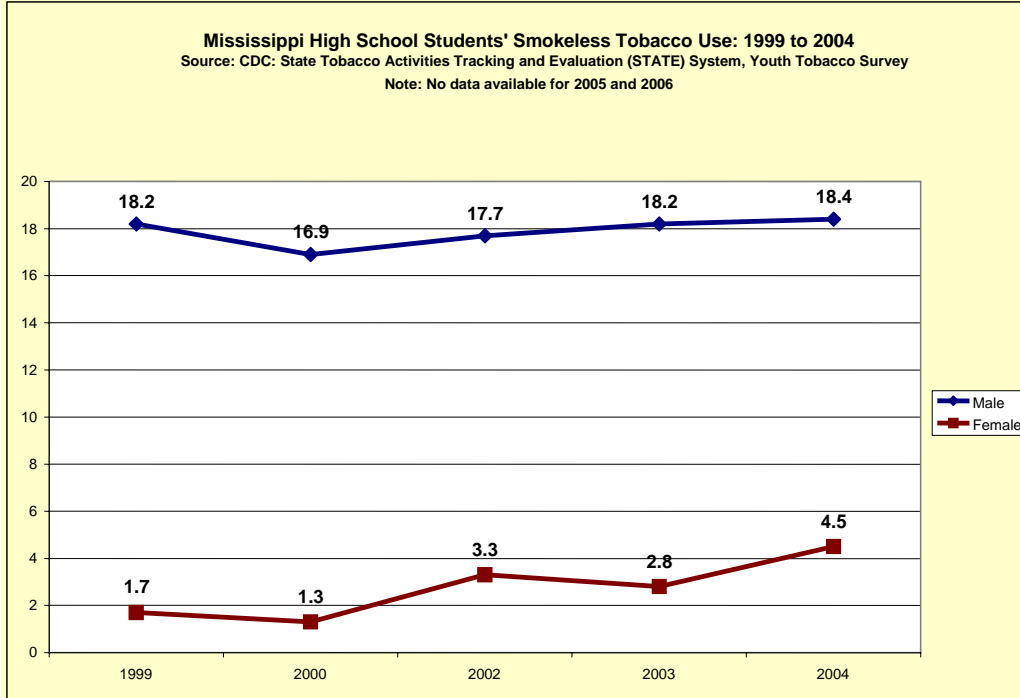


Figure 25: Mississippi High Schools Smokeless Tobacco Use 1999 to 2004

The state of Mississippi ranked 12<sup>th</sup> highest among the 31 states reporting youth smokeless tobacco use in 2003.

Table 13: State Rankings of Youth Smokeless Tobacco Use 2003

*Smokeless Tobacco Use among Youth 2003*

Rank	State	Percentage	Rank	State	Percentage
1	South Dakota	15.30	17	Michigan	6.50
2	Kentucky	13.70	18	Idaho	5.70
3	West Virginia	13.60	19	Missouri	5.70
4	Wyoming	13.30	20	Vermont	5.20
5	Montana	13.20	21	District of Columbia	5.00
6	Oklahoma	12.70	22	Arizona	4.80
7	Tennessee	12.10	23	Florida	4.80
8	Alaska	11.20	24	Rhode Island	4.60
9	Alabama	10.50	25	Maine	4.30
10	North Dakota	10.30	26	New Hampshire	4.30
11	Nebraska	10.10	27	New York	4.20
12	Mississippi	8.20	28	Massachusetts	4.10
13	Ohio	8.00	29	Nevada	3.60
14	Wisconsin	7.90	30	Delaware	3.40
15	Georgia	7.60	31	Utah	3.10
16	Indiana	7.20			

Source: CDC Youth Risk Behavior Survey 2003

Comparison of 2001 and 2003 CDC Behavioral Risk Surveillance System Survey	2001 Results		2003 Results	
	Percent	95% Confidence Interval	Percent	95% Confidence Interval

Students who smoked cigarettes or cigars or used chewing tobacco, snuff, or dip on one or more of the past 30 days				
Mississippi	29.6	± 3.5	33.5	± 4.1
United States	33.9	± 2.1	27.5	± 2.4
Students who smoked cigarettes on 20 or more of the past 30 days				
Mississippi	11.5	± 2.5	12	± 1.9
United States	13.8	± 1.6	9.7	± 1.4
Students who smoked cigarettes on one or more of the past 30 days				
Mississippi	23.6	± 3.5	25	± 2.8
United States	28.5	± 2.0	21.9	± 2.1
Students who smoked a whole cigarette for the first time before age 13 years*				
Mississippi	22.8	± 3.2	23.5	± 2.8
United States	22.1	± 1.8	18.3	± 1.7
Students who ever tried cigarette smoking, even one or two puffs				
Mississippi	67.8	± 2.0	65.6	± 4.0
United States	63.9	± 2.1	58.4	± 3.1
Students who smoked cigars, cigarillos, or little cigars on one or more of the past 30 days				
Mississippi	15.7	± 1.7	18.4	± 3.0
United States	15.2	± 1.2	14.8	± 1.7
Among students who are current smokers, the percentage who smoked more than 10 cigarettes per day on the days they smoked during the past 30 days*				
Mississippi	11.6	± 3.7	13	± 3.0
United States	14.4	± 2.2	13.7	± 2.0
Students who smoked a whole cigarette for the first time before age 13 years*				
Mississippi	22.8	± 3.2	23.5	± 2.8
United States	22.1	± 1.8	18.3	± 1.7
Among students who are less than 18 years of age and who are current smokers, the percentage who usually got their own cigarettes by buying them in a store or gas station in the past 30 days				
Mississippi	16.7	± 4.0	16.7	± 5.9
United States	19	± 2.2	18.8	± 2.6
Students who used chewing tobacco, snuff, or dip on one or more of the past 30 days				
Mississippi	8.2	± 3.1	8.2	± 2.8
United States	8.2	± 1.5	6.7	± 1.5
Students who smoked cigars, cigarillos, or little cigars on one or more of the past 30 days				
Mississippi	15.7	± 1.7	18.4	± 3.0
United States	15.2	± 1.2	14.8	± 1.7

Source: CDC The National Center for Chronic Disease Prevention and Health Promotion, Youth Behavioral Risk Surveillance System

The statistics regarding tobacco use by Mississippi youth is of particular concern, in the majority of responses to cigarette and tobacco use, youth in Mississippi exhibit greater smoking and tobacco use prevalence with usage trending upward during the period from 2001 to 2003, a period during

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which youth tobacco use at the national level trended downward. Unfortunately, due to low response rates during 2005 from Mississippi, more recent data is not available.

### *Life Span of Smokers*

A unique aspect of smoking is the damage it does to the smoker in terms of lost life expectancy. Public policy makers frequently focus on the negative externalities and related costs of individual actions to justify government intervention and related policies, but in the case of smoking, additional policy intervention can be justified due to the negative internality or cost to the smoker in years of life lost. The difference in the life span of smokers versus non-smokers and the related cost to the smoker has been found to have a cost in terms of life years lost per pack of cigarettes of \$30.45 (Gruber and Koszegi, 2001), subsequent research in 2004 estimated this cost to be \$27.00 per pack.<sup>79</sup>

Men who smoke are 22 times more likely to die from lung cancer than men who have never smoked and 12 times higher for women who smoke.<sup>80</sup> Cigarette smokers are 2 to 4 times more likely to develop coronary heart disease<sup>81</sup> than non-smokers and 10 times more likely to develop peripheral vascular disease than non-smokers.<sup>82</sup> Cigarette smoking is associated with a ten-fold increase in the risk of dying from chronic obstructive lung disease<sup>83</sup> and cigarette smoking among women is associated with a range of early childhood effects including stillbirth, low birth weight and sudden infant death syndrome.<sup>84</sup>

Research at Duke University found that men who stop smoking by age 35 add 6.9 to 8.5 years to their lives and women in the same age group could extend their life 6.1 to 7.7 years when compared to age cohorts who continued to smoke; for smokers aged 55, life could be extended 3.4 to 4.8 years for men and 4.2 to 5.6 years for women.<sup>85</sup>

Due to smoking, adult male and female smokers lose an average of 13.2 and 14.5 years of life, respectively.<sup>86</sup>

### *Smokers Response to Price Changes*

In recent years, smokers' response to price changes in tobacco and cigarette prices has become an increasingly important issue. Policy makers and public health advocates support high cigarette

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taxes as a mechanism to improve public health by encouraging cessation and reduction of cigarette and tobacco use; economic theory is used to evaluate both the harm done to the smoker (internalities) including lost years of life and related loss of income due to early death, increased costs of insurance for smokers, increased costs of health care due to illness and the harm done to non-smokers (negative externalities) valued in terms of the costs associated with additional costs of smoking related health and medical care, loss of revenues (i.e. income and sales taxes) due to the early death of smokers, and the costs related to low birthweights. State legislatures and voter referendums on excise tax increases have supported increases in cigarette and tobacco excise taxes to encourage the reduction of consumption and related positive health outcomes related to increased prices of tobacco products; to reduce the cost burden of smoking related health care costs on state budgets, and to generate additional excise tax revenues for state budgets. There is an extensive body of econometric research literature on this topic with a broad range of findings. Consistent with the economic law of a downward sloping demand curve - as price increases demand decreases - the preponderance of econometric research finds that as cigarette prices increase smoking decreases.<sup>87</sup> There is consensus in this literature and research that the price elasticity of demand for cigarettes ranges from -0.3 to -0.5, meaning that a ten-percent increase in cigarette price would reduce overall cigarette consumption by three to five percent.<sup>88</sup>

Price can provide a strong motivation to quit smoking because smokers are price sensitive.<sup>89</sup> Research has found that lower-income and minority smokers would be more likely than other smokers to reduce consumption in response to a price increase.<sup>90</sup> Other studies have found that youth, young adults, and lower-income populations are the most price responsive.<sup>91,1,2</sup> For example, Farrelly et al (1998) found that lower-income populations were more likely to reduce or quit smoking than those with higher incomes; and a total price elasticity of -0.29 for lower-income persons compared with -0.17 for higher-income persons.<sup>92</sup> Chaloupka (1991) found that less educated groups are more price responsive<sup>93</sup> and Farrelly (1998) found that cigarette demand in low income groups is more elastic.<sup>94</sup>

In response to a price increase due to an increased excise tax, smokers may engage in a variety of changes in their smoking behaviors and purchasing patterns. First they may quit smoking and tobacco use completely. In response to a price increase, some smokers will use behaviors to

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reduce their total expenditures on cigarettes short of quitting smoking completely; these behaviors may include switching to cheaper brands, reducing total consumption of cigarettes (smoking fewer cigarettes or inhaling more smoke from each cigarette), purchasing cigarettes from the Internet or using cigarette coupons to reduce expenditures or switching to another form of tobacco<sup>95, 96, 97</sup> (Emery et al., 2002; Ohsfeldt et al., 1997; Ribisl et al., 2001). Because other tobacco products (chewing tobacco, snuff, and roll-your-own tobacco) are taxed at a lower rate than cigarettes, research has shown that some ex-cigarette smokers, particularly males, switch to other forms of tobacco to avoid tax increases on cigarettes<sup>98, 99, 100</sup> (Foulds et al., 2003; Jarvis, 1994; Ockene et al., 1987; and Delnevo et al. 2004). All of these actions avoid the impact of tax increases on cigarettes. For smokers who reduce their consumption to limit their budgetary expenditures on cigarettes, reduced consumption or switching to a cheaper brand will also proportionately reduce the tax expenditures of that individual – as a result there is no change in their total tax expenditure. For smokers who switch to another form of tobacco or purchase cigarettes via the Internet, taxes are avoided or reduced.

Only smokers who do not change their cigarette consumption patterns in response to price increases will experience the full impact of a tax increase. However, even this impact may be mitigated if cigarette manufacturers increase their level of price-discounting marketing expenditures to retain market penetration and sales to offset the consumption reducing potential of tax increases (see page 39).

Recent evidence from the field of behavioral economics finds that higher taxes on cigarettes can provide the mechanism required to motivate smoking cessation and that increased taxes benefit lower income groups due to the increased responsiveness of low income smokers to price increases and resulting decrease in cigarette consumption. Gruber and Koszegi (2004) provide evidence that higher taxes decrease cigarette consumption in lower income smokers;<sup>101</sup> further reinforcing prior research that low income groups are more responsive to price increases and that as taxes and the cost of cigarettes increases consumption decreases. As a result, poor people are more likely to cut back their consumption of cigarettes or quit smoking completely and their tax expenditure on cigarettes will decrease proportionately. The result of quitting or reducing cigarette consumption yields not only tax savings it also will yield health benefits and related cost savings for lower income people. Gruber and Koszegi find that there are substantial externalities (costs to the



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individual from smoking) that justify government intervention in the form of excise taxes on the order of \$1.00 or more;<sup>102</sup> this 2004 research found that at standard values of the value of a life the true costs to a smoker is \$27 per pack in terms of lost life expectancy further reinforcing the findings of their 2001 research which estimate the cost at \$30 per pack.<sup>3</sup>

#### Youth Smoking and Price Changes

Research findings support the assumption that smoking initiation occurs in proximity to high school graduation and that smoking habits become ingrained during early adulthood. There is significant evidence from the econometric literature that youth and young adults are more responsive to cigarette price changes than are adults;<sup>103</sup> although some studies differ, they generally support the findings of Chaloupka and Grossman (1996) that youth are approximately three times more sensitive to price than are adult smokers.<sup>104</sup> Frank Chaloupka, Associate Professor in the Department of Economics at the University of Illinois at Chicago and Research Associate at the Health Economics Program of the National Bureau of Economic Research states that *“given that nearly all smoking initiation occurs by the time of high school graduation and that smoking habits become firmly established during early adulthood, substantial sustained cigarette tax increases are potentially the most effective means of achieving long-run reductions in smoking in all segments of the population.”*<sup>105</sup>

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<sup>3</sup> Note: Gruber and Koszegi (2001) estimated the cost per pack at \$30.45 per pack (see page 47) providing additional validity to these findings

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## Tobacco Taxation

Generally, there are multiple factors that will determine the retail price of tobacco products and cigarettes. These factors include the market power of suppliers and degree of oligopoly or collusion that exists among firms, national and international price, tobacco price support programs, and restrictions in the trade or marketing of these products. Taxes on tobacco products are the most important policy-related determinant of the retail price of tobacco products and cigarettes. In the United States, tobacco is taxed by federal, state, and local governments.

Tobacco products are taxed in multiple ways by governmental entities. The most predominant form of taxation is an excise or ad valorem tax. Excise, or per unit, taxes are the most common method used for taxing cigarettes. Excise taxes do not change over time with price, as a result inflation may result in the decline in the effective (real) rate of taxation unless excise taxes are adjusted periodically to reflect a general rate of inflation. For example, during the fifteen year period 1963 to 1987 the real tax rate and the tax rate as a percentage of retail price declined by over 40 percent.<sup>106</sup> Ad valorem (sales taxes) taxes are fixed as a percentage of price and increase or decrease as prices changes. Tobacco taxes have historically been used to generate significant revenues for governmental entities and in more recent years have been used as a mechanism for reducing tobacco consumption and improving public health.

Tobacco was among the first goods that were taxed in North America beginning in 1794, initially by the British and subsequently by the new republic. U.S. Federal tobacco taxes were imposed in 1864 to finance the Civil War and Federal excise taxes on tobacco have remained in place, in alternative forms, since that time. During the period 1864 to 1983, Federal cigarette taxes fluctuated with the revenue requirements of the government, during the Korean War the tax was increased to eight cents per pack and was not increased again until 1983 when it was doubled to \$.16 cents per pack as an element of the Tax Equity and Fiscal Responsibility Act; this rate was made permanent in 1986. In addition to Federal taxes on cigarettes, states and localities also imposed taxes on cigarettes. More recent Federal tax increases include a twenty cent per pack increase in 1991 and a twenty-four cent increase in January 1993 (Omnibus Budget Reconciliation Act of 1990); and subsequent increases of federal cigarette taxes of 10 cents per pack and five cents per pack in 2002. The Consolidated Omnibus Budget Reconciliation Act of 1985 imposed

taxes on chewing tobacco, snuff, and pipe tobacco of eight cents, twenty-four cents, and forty-five cents per pound, respectively.

### Recent Federal Excise Tax Increases on Cigarettes

- January 1, 1991 Federal Excise tax increased to \$10.00 per 1,000 cigarettes
- January 1, 1993 Federal Excise tax increased to \$12.00 per 1,000 cigarettes
- January 1, 2000 Federal Excise tax increased to \$17.00 per 1,000 cigarettes
- January 1, 2002 Federal excise tax increased to \$19.50 per 1,000 cigarettes

The revenue yield from Federal tobacco excise taxes remained relative stable during the period 1960 to 1980. After the excise tax rate increase in 1991, 1993, and 2000, federal tobacco excise tax revenue yields increased from \$4.081 billion in fiscal year 1990 to \$7.221 billion in fiscal year 2000, a 77 percent increase over the 10 year period. Revenue yield from tobacco excise taxes continued to increase through 2005 with collections in the amount of \$7.920 billion in fiscal year 2005, then exhibited a three percent decline to \$ 7.710 billion in fiscal year 2006. In fiscal year 2006, revenue yields from tobacco excise taxes represented 10.5 percent of total Federal excise tax collections. As of January 1, 2006 the Federal tobacco excise rate was \$ .39 on a pack of cigarettes.

Table 14: Federal Tobacco Excise Tax Collections 1940 to 2006

<i>Federal Excise Tax Collections</i>									
Fiscal Years 1940 to 2006 (in millions of dollars)									
	1940	1950	1960	1970	1980	1990	2000	2005	2006
<b>Total Excise Taxes</b>	\$1,977	\$7,550	\$11,676	\$15,705	\$24,329	\$35,345	\$68,865	\$73,094	\$73,511
<b>Federal Funds</b>									
Alcohol	\$623	\$2,180	\$3,127	\$4,646	\$5,601	\$5,695	\$8,140	\$8,111	\$8,110
Tobacco	\$606	\$1,326	\$1,927	\$2,093	\$2,443	\$4,081	\$7,221	\$7,920	\$7,710
Telephone	-	-	-	-	-	\$2,995	\$5,670	\$6,047	\$6,069
Ozone Depleting Chemicals	-	-	-	-	-	\$360	\$125	-	-
Transportation fuels	-	-	-	-	-	-	\$819	-\$770	-\$1,948
Other Federal Funds	\$748	\$4,044	\$4,084	\$3,613	\$585	\$2,460	\$717	\$1,239	\$1,149
<b>Total Federal Funds</b>	\$1,977	\$7,550	\$9,137	\$10,352	\$15,563	\$15,591	\$22,692	\$22,547	\$21,090

*Source: Office of Management and Budget, Tax Foundation*

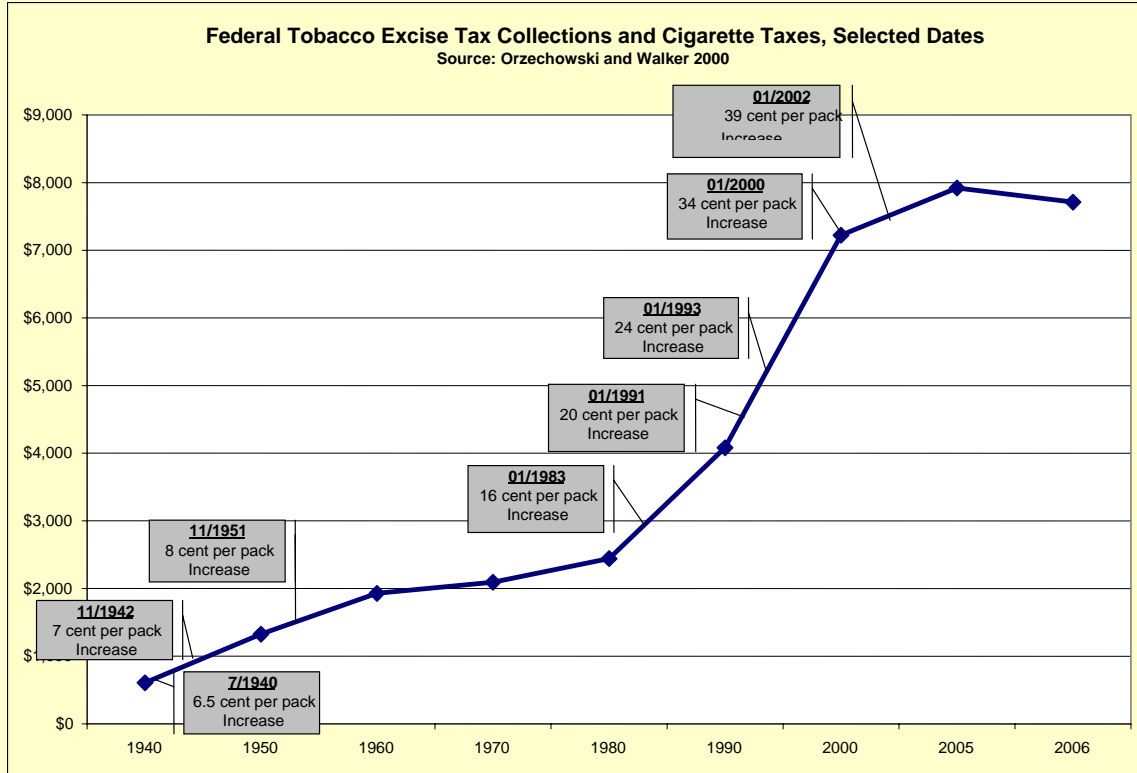


Figure 26: Federal Tobacco Excise Tax Revenue

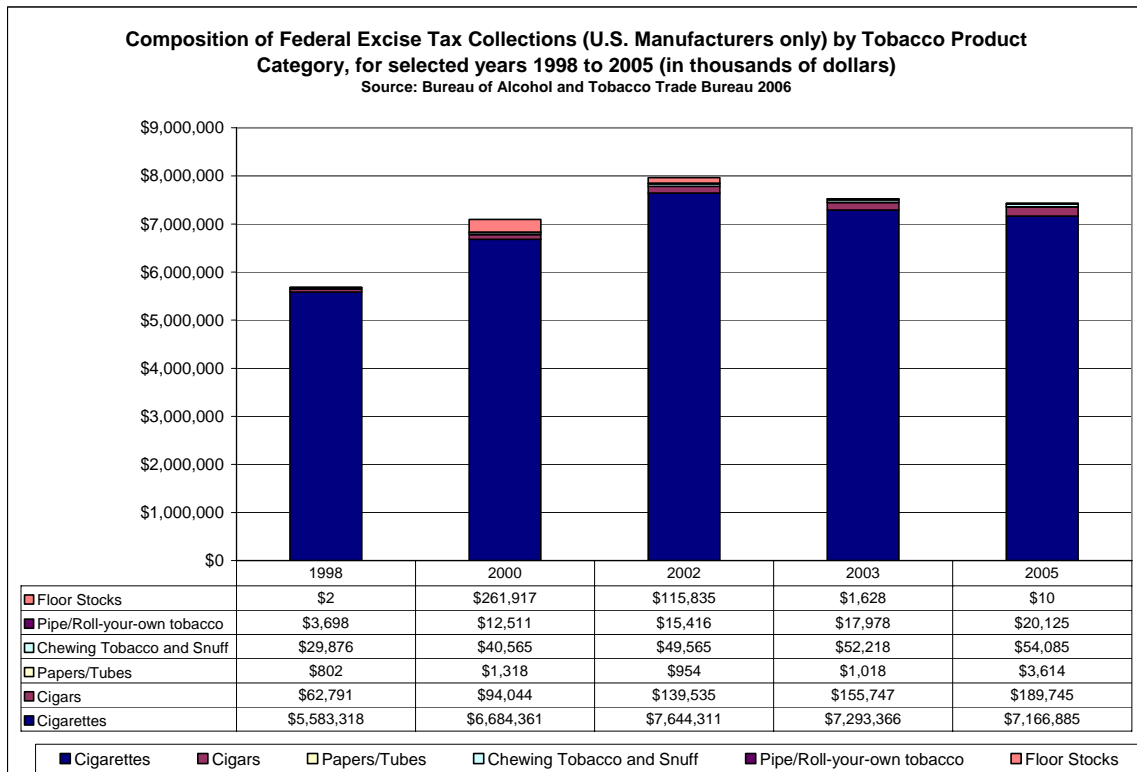


Figure 27: Distribution of Federal Tobacco Excise Tax Collections 1998 to 2005

### State and Local Tobacco Taxes

All fifty states impose excise taxes on cigarettes. Iowa was the first state to levy taxes on cigarettes in 1921 followed by the states of Georgia, South Carolina, South Dakota, and Utah in 1923. In 1969, North Carolina was the last state to impose tobacco taxes. There is considerable variability in the cigarette taxes and tobacco taxes imposed by states. The states with the three highest state excise tax on cigarettes as of Fiscal Year 2005 were: Rhode Island (\$2.46 per pack), New Jersey (\$2.40 per pack) and Washington (\$2.02 per pack); the three states with the lowest excise tax on cigarettes were Mississippi (18 cents per pack), Missouri (17 cents per pack), and South Carolina (7 cents per pack).<sup>107</sup> As of January 1, 2006 the average cigarette tax for all states plus Puerto Rico and the District of Columbia is \$1.00 per pack, there are six states with cigarette taxes of \$2.00 per pack or higher and 22 states with cigarette taxes of \$1.00 per pack or more. Over time state total revenue collections for tobacco and cigarette taxes have exceeded total federal excise tax collections. In 2005, state revenues from tobacco taxes exceeded \$12.6 billion.

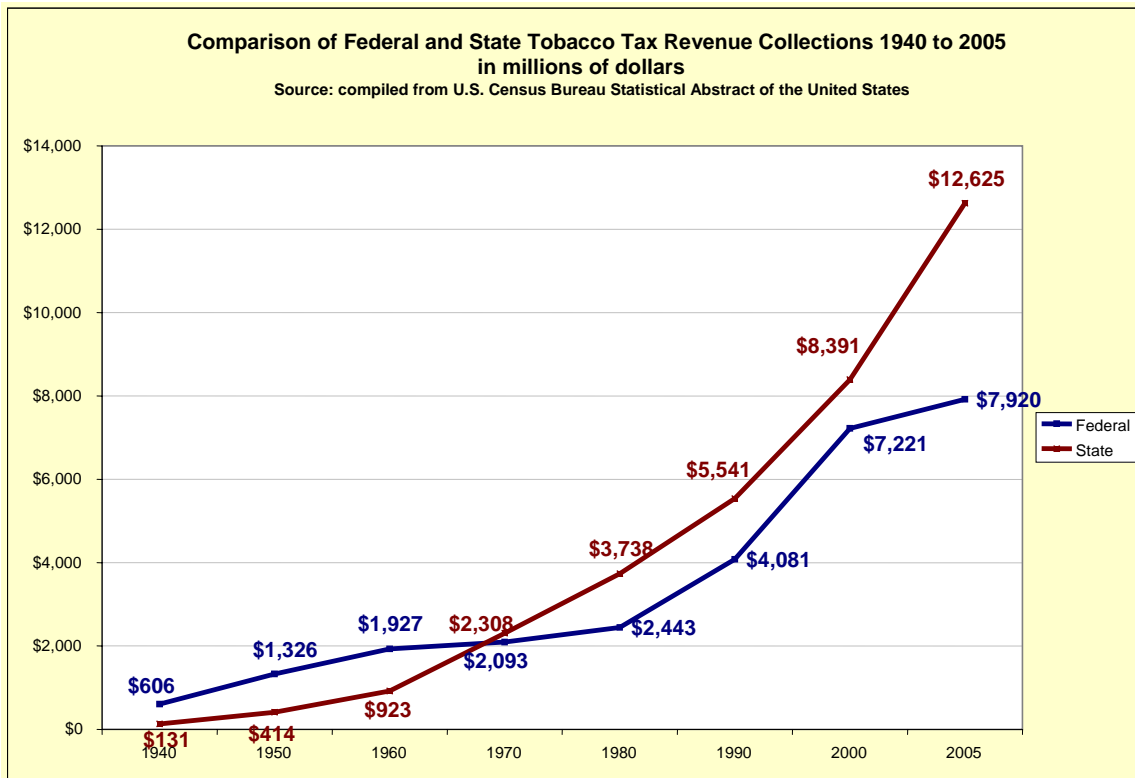


Figure 28: Growth of Federal and State Tobacco Tax Revenue Collections 1940 to 2005

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### *Tobacco Tax Increases*

Since 1990, there have been at least 14 statewide votes on proposals to increase tobacco taxes. The tax increases most often benefit health care programs and occasionally education. Ballot initiatives tend to fall into three categories: increased tobacco taxes, smoking bans, or proposals to dedicate revenues from the tobacco settlement to specific purposes (predominantly health care programs or prevention programs).

- A 1990 initiative to increase tobacco taxes in Montana failed to pass.
- In 1992, Massachusetts voters approved a tobacco tax increase that funded health programs related to tobacco use.
- In 1994, Arizona voters passed a tobacco tax increase to fund health care for the indigent and low income children. California voters rejected an initiative that would have raised tobacco taxes (among other taxes) to create a statewide health services system. Colorado voters rejected a tobacco tax increase for health care programs.
- In 1996, Oregon voters approved an initiative increasing tobacco taxes to fund health care programs.
- In 1998, California voters passed Proposition 10, a tobacco tax increase to fund early childhood development programs.
- In 2000, California voters declined to repeal Proposition 10, a tobacco tax increase passed in the 1998 election.
- In 2001, Washington voters approved an additional tobacco tax to expand health care services for low-income residents.
- In 2002, Arizona voters passed a second tobacco tax increase to fund health care programs. Missouri voters rejected a similar measure in 2002. Oregon voters approved a legislative proposal to increase tobacco taxes to pay for the Oregon Health Plan.
- In 2004, Colorado, Montana and Oklahoma voters passed a tobacco tax increase to fund health care programs.

In 2006, eight states had ballot initiatives related to tobacco taxation:<sup>108</sup>

- Arizona, Proposition 201 included a smoking ban and cigarette tax increase on cigarettes from \$1.18 per pack to \$1.20 per pack , this proposition passed with 54.1 percent of the vote; Arizona Proposition 203 included a tobacco tax increase with funds appropriated to early

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childhood development and health programs, this proposition passed with 52.4 percent of the vote

- California, Proposition 86, imposed an additional 13 cent tax on each cigarette distributed (\$2.60 per pack), and indirectly increased taxes on other tobacco products, received 48.4 percent “yes” votes and failed to pass
- Florida, Amendment 4 to dedicate 15 percent of tobacco settlement revenues to tobacco education and prevention programs passed with 61.1 percent of the vote
- Idaho, Constitutional Amendment SJR 107 passed with 58 percent of the vote. SJR 107 created the Idaho Millennium Permanent Endowment Fund to dedicate 80 percent of tobacco settlement money in a constitutional, permanent endowment fund to protect the settlement money from transfer to the General Fund in years of financial difficulty, while still allowing a fixed amount to be distributed and spent each year. The creation of the permanent endowment fund enabled the State Treasurer to make long-term investments, at higher rates of return, with Idaho's tobacco settlement money and provide a greater return on the long-term investment of money in the permanent endowment fund to make more money available for purposes such as tobacco prevention and cessation programs, and for relief to counties for the cost of caring for indigent persons with tobacco-related illnesses
- Louisiana Constitutional Amendment 1 (c) provided for 20 percent of tobacco securitization to be deposited in the Coastal Protection & Restoration Fund, passed by 68 percent of the vote
- Nevada, Question 5 (a smoking ban) passed with 54 percent of the vote. This amendment prohibits smoking tobacco within indoor places of employment including the following locations: child care facilities; movie theaters; video arcades; government buildings; public places; malls; retail establishments; all parts of grocery stores; all bars with a food-handling license; and all indoor restaurants. Smoking tobacco would also be prohibited within school buildings and on school property. Smoking tobacco would continue to be allowed at the following locations: areas within casinos where loitering by minors is prohibited; stand-alone bars, taverns and saloons; strip clubs or brothels; retail tobacco stores; and private residences, including a private residence that serves as an office workplace. A stand-alone bar, tavern or saloon means an establishment devoted primarily to the sale of alcohol, in which food service is limited to the sale of prepackaged food items that are exempt from Nevada food-handling

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license requirements. The proposed amendment would also allow a county, city or town to adopt tobacco control measures stricter than those provided in the text of the Question itself.

- Missouri, Amendment 3, received support from only 48.3 percent of the voters and failed to pass. Amendment 3 to the Missouri Constitution would have increased cigarette taxes by four cents per cigarette (an 80 cents per pack increase over the existing tax of 17 cents) and increased taxes on other tobacco products by 20 percent, to fund the Health Future Trust Fund created under Amendment 3 to reduce and prevent tobacco use, to increase funding for healthcare access and treatment for eligible low-income individuals and Medicaid recipients, and to cover the administrative costs of the Trust Fund
- South Dakota, Measure 2 passed with 61 percent of the vote. Measure 2 increased the tax on a 20 stick cigarette package by \$1.00; the tax on a 25 stick cigarette package would be raised by \$1.25. The tax on all other tobacco products such as cigars, roll-your-own, and chewing tobacco, was increased from 10 percent to 35 percent of the wholesale price. The proposed law deposits up to \$30 million of tobacco tax revenue into the state general fund. The next \$5 million, if any, is deposited in the tobacco prevention and reduction trust fund. Tobacco tax revenue in excess of \$35 million, if any, is divided among the property tax reduction fund, the education enhancement trust fund, and the health care trust fund. The proposed law also establishes continuous appropriations out of the tobacco prevention and reduction trust fund for specified purposes
- Ohio, Issue 4, passed with 58.2 percent of the vote. Issue 4 prohibits smoking in public places and places of employment; it exempts from the smoking restrictions certain locations, including private residences (except during the hours that the residence operates as a place of business involving non-residents of the private residence), designated smoking rooms in hotels, motels, and other lodging facilities; designated smoking areas for nursing home residents; retail tobacco stores, outdoor patios, private clubs, and family-owned and operated places of business



Table 15: Cigarette Excise Taxes and Excise Tax Collections by State as of 2005

State	Excise Tax per Pack(1)	Cigarette Excise Taxes Collected FY 2005 (2)	City/County Collections	State Sales Tax Rate (% of Sales 11/2005)	State	Excise Tax per Pack(1)	Cigarette Excise Taxes Collected FY 2005 (2)	City/County Collections	State Sales Tax Rate (% of Sales 11/2005)
Alabama	\$0.43	\$158,457,000	\$23,135,350	0.04	Montana	\$1.70	\$59,519,000	0	0
Alaska	\$1.80	\$48,750,000	\$11,674,400	0	Nebraska	\$0.64	\$68,200,000	0	0.06
Arizona	\$1.18	\$286,386,000	0	0.06	Nevada	\$0.80	\$130,166,000	0	0.07
Arkansas	\$0.59	\$129,860,000	0	0.06	New Hampshire	\$0.80	\$93,440,000	0	0
California	\$0.87	\$1,032,871,000	0	0.07	New Jersey	\$2.40	\$780,657,000	0	0.06
Colorado	\$0.84	\$116,600,000	0	0.03	New Mexico	\$0.91	\$61,480,000	0	0.05
Connecticut	\$1.51	\$270,187,000	0	0.06	New York	\$1.50	\$939,725,000	\$232,600,000	0.04
Delaware	\$0.55	\$82,412,000	0	0	North Carolina	\$0.35	\$40,052,000	0	0.05
Washington D.C.	\$1.00	\$20,674,000	0	0.06	North Dakota	\$0.44	\$18,465,000	0	0.05
Florida*	\$0.34	\$443,845,000	0	0.06	Ohio	\$1.25	\$564,838,000	\$4,329,850	0.06
Georgia	\$0.37	\$231,566,000	0	0.04	Oklahoma	\$1.03	\$126,710,000	0	0.05
Hawaii	\$1.60	\$83,135,000	0	0.04	Oregon	\$1.18	\$225,592,000	0	0
Idaho	\$0.57	\$46,327,000	0	0.05	Pennsylvania	\$1.35	\$1,051,463,000	0	0.06
Illinois	\$0.98	\$650,028,000	\$180,112,278	0.06	Rhode Island	\$2.46	\$131,316,000	0	0.07
Indiana	\$0.56	\$331,904,000	0	0.06	South Carolina	\$0.07	\$27,560,000	0	0.05
Iowa	\$0.36	\$89,210,000	0	0.05	South Dakota	\$0.53	\$28,066,000	0	0.04
Kansas	\$0.79	\$118,662,000	0	0.05	Tennessee	\$0.20	\$114,345,000	\$20,020	0.08
Kentucky	\$0.30	\$52,020,000	0	0.06	Texas*	\$0.41	\$507,341,000	0	0.06
Louisiana	\$0.36	\$147,663,000	0	0.04	Utah	\$0.70	\$56,599,000	0	0.05
Maine	\$2.00	\$94,024,000	0	0.05	Vermont	\$1.79	\$47,271,000	0	0.06
Maryland	\$1.00	\$271,054,000	0	0.05	Virginia	\$0.30	\$114,212,000	\$59,898,470	0.05
Massachusetts	\$1.51	\$413,602,000	0	0.05	Washington	\$2.03	\$329,824,000	0	0.07
Michigan	\$2.00	\$1,106,720,000	0	0.06	West Virginia	\$0.55	\$102,122,000	0	0.06
Minnesota*	\$1.23	\$160,653,000	0	0.07	Wisconsin	\$0.77	\$299,086,000	0	0.05
Mississippi*	<b>\$0.18</b>	<b>\$46,344,000</b>	<b>0</b>	<b>0.07</b>	Wyoming	\$0.60	\$23,171,000	0	0.04
Missouri	\$0.17	\$101,284,000	\$19,308,579	0.04	<b>Totals</b>		<b>\$12,475,458,000</b>	<b>\$531,078,947</b>	

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*The Impact of Tobacco and Cigarette Excise Taxes on Cross Border Sales, Tax Evasion, and Black-Market Trade*

Variation in cigarette taxes from state to state provide an incentive for avoiding taxes or profit-making based on the differential between the level of state cigarette or tobacco taxes. Individuals may engage in tax avoidance through the legal activity of purchasing cigarettes for personal consumption across state lines where cigarette or tobacco taxes are lower or by purchasing cigarettes via the Internet to avoid higher taxes. Criminals will engage in smuggling or bootlegging to take advantage of the price differentials due to the variation in taxes that exist from state-to-state or across international borders by purchasing cigarettes in low tax states and selling them in high-tax states; or by avoiding taxation completely by counterfeiting cigarettes or smuggling across international borders. The form and degree of tax avoidance is of concern to policy makers for a number of reasons: first because individual tax avoidance may impact the level of revenue generated by tax increases if the magnitude of individual tax avoidance is high, secondly because if the purpose of a cigarette or tobacco tax increase is to encourage smoking control and positive health outcomes, tax avoidance may nullify this policy purpose. Smuggling and bootlegging will have the same tax avoidance effects on positive health outcomes by making cigarettes less costly and mitigating the potential reduction in consumption that price increases provide, however the illegal nature and involvement by syndicated criminals in smuggling activities make this issue a significant public policy consideration.

**Legal cross-border cigarette purchasing**

Individuals that live near a state or international border in proximity to outlets that have lower cigarette or tobacco taxes may engage in cross-border purchasing. For example, residents of Alabama, Florida, Louisiana, Arkansas, and Tennessee may cross the state line into Mississippi to take advantage of Mississippi's lower tax rate on cigarettes.

Table 16: Mississippi and Adjacent States Effective Cigarette Taxes

States	Cigarette Company Factory Price	Federal Cigarette Excise Tax	Distributor & Retailer Mark Up	State Cigarette Tax	State Sales Tax	Final Retail Price per Pack*
Alabama	\$2.22	\$0.39	\$0.63	\$0.425	\$0.13	\$3.79
Arkansas	\$2.22	\$0.39	\$0.43	\$0.59	\$0.22	\$3.85
Florida	\$2.22	\$0.39	\$0.58	\$0.339	\$0.21	\$3.74
Louisiana	\$2.22	\$0.39	\$0.54	\$0.36	\$0.14	\$3.65
Mississippi	\$2.22	\$0.39	\$0.49	\$0.18	\$0.23	\$3.51
Tennessee	\$2.22	\$0.39	\$0.55	\$0.20	\$0.29	\$3.64

\* Note: These estimates do not include potential price-discounting marketing incentives offered by Tobacco Manufacturers and distributors

These types of legal activities are dependent upon the length and time of travel (cost to consumer) relative to the price savings and level of consumption by the consumer. Given the relatively low price differentials (an estimated range of 13 to 34 cents savings per pack) that exist between Mississippi and its neighboring states, it is unlikely that individual smoking consumers would be willing to travel long distances to purchase cigarettes (in small quantities) in Mississippi. It is more likely that much of the cross border shopping, at the individual level, occurs when smokers are already in Mississippi for other reasons. Prior research substantiates this assumption. A California study found that in a short time after the state's 50-cent cigarette-tax increase went into effect in 1999 no more than five percent of continuing smokers were purchasing cigarettes in nearby states, from Indian reservations, military bases, or via the Internet, to avoid the state's cigarette tax increase.<sup>109</sup> Other research has found that questions about brand authenticity, embarrassment or legal penalties, and elements of inconvenience (i.e. the location of street sellers of smuggled cigarettes) all contribute to the low propensity of individual consumers to knowingly purchase cigarettes from black marketeers.<sup>110</sup> Research into tax avoidance price elasticity finds that a relatively small percentage of tax revenues are lost due to individual cross border cigarette purchases to avoid taxes; for example Yurelki and Zhang (2000) found that approximately 1.5 percent of state cigarette tax revenues are lost due to individual cross border cigarette purchases; Stehr (2004) found border crossing effects to be very small, accounting for 2 percent of total sales in 1985 and only 7 percent of total sales in 2001.<sup>111</sup>

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Many states that have raised their cigarette taxes in recent years have experience to suggest that smokers stock up before a scheduled large tax increase and then experience an initial surge of cross-border cigarette purchases to avoid the new higher taxes. These consumer behaviors tend to diminish over time as consumers return to earlier purchasing patterns as their stockpiles are exhausted and consumers tire of driving across state borders or using the Internet to purchase cheaper cigarettes. Research conducted by cigarette manufacturers indicates that approximately two-thirds of all cigarettes sold in the U.S. are sold by the single pack adding additional support to the assumption that relatively small prices differentials between the state of Mississippi's cigarette tax rate and those of surrounding states is not compatible with extensive cross border shopping by individual consumers.<sup>112</sup> Studies find that individual consumer purchases of cigarettes from neighboring states with lower taxes account for a very small portion of cross border activities, while organized smuggling of cigarettes accounts for the majority of state tobacco tax evasion.<sup>113</sup>

### **Illegal Cross-Border Bootlegging or Smuggling**

The difference between bootlegging and smuggling is a matter of scale. Both of these activities involve the purchase of cigarettes and other tobacco products in a low-tax jurisdiction in amounts that exceed the limits set by U.S. customs regulation for resale in high-tax jurisdictions. When this activity is relatively small in scale and organized by individuals or small gangs it is defined as bootlegging; when it is large-scale and well organized it is defined as smuggling. Bootlegging has been found to account for a relatively small share of illegal cigarette sales when compared to organized smuggling activities. Studies have estimated that of the documented global total of 846 billion cigarette exports in 2000, approximately 227 billion cigarettes did not reappear resulting in an estimated \$25 to \$30 billion in lost revenue to governments.<sup>114</sup> According to a May 2004 Government Accounting Office report to the U.S. Congress, the extent of cigarette smuggling in the United States though impossible to accurately measure, is a multibillion-dollar worldwide criminal phenomenon with some cigarette smugglers tied to terrorist groups.

The U.S. has been a major source of tobacco products and cigarettes. In 2006, U.S. total cigarette output for the year ending June 30 was 494.4 billion sticks with approximately 16.1 billion sticks documented as being either unaccounted for or subject to inventory adjustments.<sup>115</sup> In the manufacturing sector of the cigarette industry, manufacturers ship cigarettes to warehouses and

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pay a federal cigarette excise tax of \$19.50 per thousand sticks or 39 cents for a pack containing 20 cigarettes, the wholesale price of cigarettes reflects the costs associated with the 1998 Master Settlement Agreement paid only on cigarettes produced for domestic consumption in the U.S. The cigarettes then move through the channel of distribution to stamping agents authorized by state governments to affix state tax stamps to cigarette packs. The stamping agents affix stamps to each pack of cigarettes that is equal to the state-level cigarette tax rate prior to redistributing the cigarettes to other wholesalers, distributors, and retailers. According to a 2004 article in the Washington Post, quoting ATF officials,<sup>116</sup> *"in New York City where the combined state and city tax on cigarettes is \$3 per pack, a carton of cigarettes sells for about \$75; a trafficker can buy a carton for about \$20 in Virginia, where the tax is about 2.5 cents a pack (note: since the publication of this article Virginia's tax on cigarettes has been increased) and then sell it to a mom-and-pop store in New York at a profit of about \$40 per carton. A smuggler can make about \$2 million on a single truckload of cigarettes. A truckload contains 800 cases or 48,000 cartons."* Cigarette smuggling is difficult to stop because cigarettes are a legal commodity and smuggling becomes a federal crime only when more than 60,000 cigarettes or 300 cartons are purchased to avoid payment of state taxes.

There are multiple methods for circumventing or diverting cigarettes from the normal channel of distribution. These methods include counterfeit stamps, counterfeit "branded" cigarettes, diverting U.S. manufactured cigarettes from legal domestic channels of distribution, diverting imported cigarettes being held in U.S. warehouses awaiting trans-shipment to other countries, theft of shipments, and cross border trafficking of cigarettes across state lines. Tax differentials between jurisdictions (from state to state or nation to nation) motivate these activities due to the large profits that exist between the cost of manufacture and the retail price level.

According to reports by the U.S. General Accounting Office and the Bureau of Alcohol, Tobacco, and Firearms (ATF), terrorists are engaged in earning money through the "highly profitable illicit trade in cigarettes."<sup>117</sup> In a 2002 closed case, the ATF investigation found a conspiracy that involved Hezbollah engaged in illegally trafficking cigarettes between North Carolina (a low tax state) and Michigan (a high tax state). Hezbollah purchased \$8 million worth of cigarettes in North Carolina then sold the cigarettes in Michigan, reaping the benefit of the 70 cent per pack tax

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differential for an estimated profit of \$1.5 million in unreported cash profits; a portion of these profits were then sent to terrorist groups in Lebanon to support their activities. In this case a federal jury in Charlotte convicted Mohamad Hammoud, 28, of violating a ban on providing material support to terrorist groups by funneling profits from a multimillion-dollar cigarette-smuggling operation to Hezbollah. The jury also found Hammoud, whom prosecutors described as the leader of a terrorist cell, and his brother guilty of cigarette smuggling, racketeering and money laundering. The two men, natives of Lebanon, were accused of smuggling at least \$7.9 million worth of cigarettes out of North Carolina and selling them in Michigan. Hammoud was sentenced to 155 years in prison. This 2002 case was among first cases to prove the strong link between domestic, interstate cigarette smuggling to terrorism. Since that time increased investigations and findings of the link between interstate cross-border cigarette smuggling and terrorism have precipitated increased federal legislation to curtail these activities and a marked increase of federal scrutiny and prosecution of these cases. According to the 2005 ATF Annual Report, “during 2005 ATF had 452 active tobacco investigations”<sup>118</sup> related to smuggling and cigarette trafficking schemes. This report recommends improving the documentation, reporting, and sharing of cigarette tax information as a method to help government agencies determine if cigarettes are diverted from legitimate distribution channels.

A 1998 cigarette smuggling case involved a massive scheme to defraud U.S. and Canadian governments of tax revenues; in this case Northern Brands International, Inc. pleaded guilty and agreed to pay a total of \$15 million in criminal fines and forfeitures for aiding and abetting customers who avoided more than \$2.5 million in U.S. excise taxes by transporting and distributing within the U.S. cigarettes that were intended to be exported.<sup>119</sup>

Another example of the magnitude of cross-border domestic smuggling was a case involving the owners of a ranch close to the Flathead Indian Reservation in Montana who would take deliveries of large quantities of cigarettes from a licensed wholesaler. These cigarette purchases would then be loaded into transports that appeared to be mobile campers and deliver the cigarettes to smoke shop owners, thereby circumventing Washington State’s tobacco taxes. These ranchers were estimated to transport \$13 million in cigarettes annually prior to arrest and convictions to end these illegal operations.<sup>120</sup>

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U.S. manufactured cigarettes are tax-exempt when they are shipped for use by the U.S. Armed Forces or to ships stores. One example of a method of illegal evasion of federal and state taxes on cigarettes is found in the Office of the Inspector General's 1996 Report to Congress.<sup>121</sup> In this case, tax-exempt cigarettes purchased on behalf of fishing vessels for consumption at sea, were diverted to the domestic economy to avoid Federal and state excise taxes. This report estimated *"during 1994 and the first half of 1995, \$210,000 in Federal tax revenue and \$450,000 in state tax revenue were not collected at three Massachusetts ports when over 870,000 packs of tax-exempt cigarettes were diverted to the domestic economy."*<sup>122</sup> This report expressed serious concern for the significant likelihood of similar activities due to the large quantities of tax exempt cigarette purchases made by fishing vessels in the Northwest region of the U.S.

In 2004, agents from Immigration and Customs Enforcement arrested persons in Texas, New Mexico, New York, Florida, and California resulting in the seizure of \$18 million in smuggled cigarettes and a 92-count federal grand jury indictment.<sup>123</sup>

Cigarette smuggling drains tax revenues from state and federal revenues, undermines the efforts of state and local governments to combat smoking, and provides funding for criminal and terrorist activities. The May 2004, U.S. General Accounting Office report "Cigarette Smuggling: Federal Law Enforcement Efforts and Seizures Increasing," states that ATF has reported increases in recent years in the number of tobacco investigations - "according to ATF officials, nationwide, ATF had about 260 cigarette smuggling investigations ongoing primarily involving the smuggling of cigarettes state-to-state rather than into the United States."

States with tobacco "friendly" policies and regulatory environments are primary sources of smuggled cigarettes. In states where cigarette excise taxes are low, state enforcement agencies are not concerned about smuggled cigarettes entering their state to avoid high excise taxes and no crime is actually committed until the cigarettes leave the state at which point the problems become those of another state. The disparity in taxes between states creates an environment that enhances smuggling where criminals can recognize significant profits. States that enact policies to aggressively address cigarette smuggling issues have seen arrests and convictions increase dramatically. For example, tax evasion arrests increased dramatically in Maryland under a new

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Comptroller of the Maryland Regulatory and Enforcement Division; prior to the election of William Schaefer as Comptroller there were only seven smuggling arrests in Maryland in 1999, after Schaefer taking office the number of arrests increased to 177 in fiscal year 2004.<sup>124</sup>

The very low cigarette tax rates in some Southern states and the high tax differential between states creates concern over tax evasion and smuggling activities (Bartlett 2002; Fleenor, 1998; 2003; Farrelly et al. 2002; Ferrelly et al. 2003) and encourage illegal smuggling (Ferrelly et al. 2003).<sup>125</sup> Raising taxes in the low-tax Southern states to the national average would likely eliminate much of the illegal trade in cigarettes within the United States.<sup>126</sup> It is likely that cigarettes from low-tax states are being smuggled to higher-tax states and being sold at higher prices. This type of cross-border smuggling includes larger quantity purchases than individual purchases and has been reported by the Bureau of Alcohol, Tobacco, and Firearms to be a major source of revenue loss to states.<sup>127</sup> Traditionally, suspects in financial crime investigations have been thought of as white-collar criminals. Today, criminal activities encompass a diversified portfolio of criminal activities of which financial crime is only one component. The proceeds of the criminal activities are used to finance multiple criminal enterprises, including the support system of terrorist activity.

Tobacco companies, tobacco lobbyists, and tobacco friendly interest groups frequently use the issue of smuggling and cross border purchasing as a strategy to oppose tobacco tax increases. For example, according to tobacco company documents dated 1991 when Mississippi was considering a 4 cent cigarette tax increase, letters from the lobbying “corps” indicated that “this will be the most difficult fight on taxation we have faced during ....’s tenure as the Tobacco Institute’s legislative consultant.”<sup>128</sup> These documents define a strategy that included using “the lure of lower taxes in Tennessee and the loss of Mississippi’s competitive tax advantage” due to cross border shopping resulting in a loss of \$23 million in retail sales that would cost sales and retail jobs in Mississippi. Today, the Philip Morris website states: “Cigarette excise taxes can provide increased incentives for smuggling.” Similar strategies have been consistently employed in every state to fight cigarette sales tax increases and in every state that has resisted the influence of these forces and passed cigarette tax increases, revenues from cigarette taxes have increased significantly. In fact, it is the tax differential that exists between states that provides the incentive for smuggling but it is unrealistic to anticipate that states with high tobacco taxes that have experienced significant



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revenue increases associated with cigarette tax increases will reduce these taxes and forsake the approximate \$13 billion in revenues that are generated by states in cigarette taxes. Across the nation, the public has consistently endorsed and legislatures have repeatedly increased cigarette and tobacco taxes – this trend will not reverse itself in the foreseeable future.

Smugglers benefit from the excise and cigarette tax differentials that exist from state-to-state; addicted smokers benefit from the lower prices of cigarettes; the organized crime and criminal elements that engage in these activities reap significant profits; and the tobacco manufacturing companies benefit from the increased sales of their product; states that continue to maintain low cigarette taxes become a primary source of smuggled cigarettes and de facto contributors to criminal activities.

The Contraband Cigarette Trafficking Act (18 USC Sec. 2342) is designed to assist states to collect excise taxes, not on regulating the distribution of tobacco products and smuggling. This Act only regulates the interstate distribution of cigarettes in a quantity in excess of 60,000 (the equivalent of 1,200 packs of cigarettes) sticks in a single transaction across interstate borders and makes it unlawful for any person knowingly to ship, transport, receive, possess, sell, distribute, or purchase contraband cigarettes. Like the Contraband Cigarette Trafficking Act (CCTA), current laws that regulate tobacco are focused on collecting state and federal tobacco and cigarette excise taxes, not on regulating and preventing the smuggling of cigarettes.

The creation of a sound regulatory reporting and enforcement system will minimize the diversion of tobacco products from legitimate channels and significantly reduce cross-border interstate smuggling. All entities throughout the distribution chain – wholesalers, exporters, importers, duty-free warehouse operators, distributors, and retailers – should be required to report inventory and sales levels. Licensing requirements should include strict compliance with monitoring and reporting guidelines, with stringent penalties for violations including suspension and removal of licenses. Licensed entities should only be authorized to sell tobacco products to other licensed entities, or in the case of retailers only to individual consumers. The sale and distribution to any entity that is unlicensed should be unlawful and these regulations should be enforced. Regulatory proposals should include penalty and administrative provisions that allow for effective, efficient and uniform reporting and enforcement of controls over distribution. A closed and carefully monitored

distribution system would effectively reduce smugglers' ability to introduce contraband cigarettes into the legitimate distribution channel. Potential smugglers would be unable to sell illegal products within the legitimate distribution system of wholesalers and retailers creating a significant barrier to gaining access to the average consumer through legal channels. Stiff penalties and legal action, including the loss of licensing would decrease wholesalers' and retailers' incentive to engage in illicit cigarette trade. A proper regulatory enforcement system will minimize the diversion of tobacco products from legitimate channels and the development of cross-border smuggling.

*Cigarette Excise Taxes and State Revenues – Recent Experience*

Table 17 summarizes the revenue increases of the 26 states that increased their cigarette taxes during the period 2000 to 2003; state pack sales declines and revenue increases are calculated from the last full fiscal year (July 1 to June 30) before the tax increase to the first full year after the

Table 17: State Cigarette Tax Increases and Revenues 2000 to 2003

State	Date	Tax Increase Amount (per pack)	New State Tax (per pack)	State Pack Sales Decline	Revenue Increase (percent)	New Revenues (millions)
Arkansas	6/03	25¢	\$0.59	-6.5%	+66.7%	+\$51.2
Connecticut	4/02	61¢	\$1.11	-12.6%	+116.3%	+\$133.8
Connecticut	3/03	40¢	\$1.51	-18.6%	+84.4%	+\$126.4
DC	1/03	35¢	\$1.00	-15.0%	+31.5%	+\$5.1
Georgia	7/03	25¢	\$0.37	-15.1%	+170.2%	+\$136.2
Hawaii	7/02	20¢	\$1.20	+0.2%	+12.7%	+\$8.0
Hawaii	7/03	10¢	\$1.30	-4.9%	+9.9%	+\$7.0
Idaho	6/03	29¢	\$0.57	-0.7%	95.4%	+\$22.3
Illinois	7/02	40¢	\$0.98	-27.6%	+38.5%	+\$178.6
Indiana	7/02	40¢	\$0.555	-16.7%	+206.5%	+\$227.9
Kansas*	7/02	55¢	\$0.79	-21.6%	+142.7%	+\$68.4
Louisiana	7/02	12¢	\$0.36	-14.5%	+12.1%	+\$11.9
Maryland	6/02	34¢	\$1.00	-13.5%	+32.2%	+\$63.7
Montana	5/03	52¢	\$0.70	-7.3%	+259.8%	+\$30.5
Nebraska	10/02	30¢	\$0.64	-18.8%	+55.5%	+\$24.2
New Jersey	7/02	70¢	\$1.50	-17.6%	+51.0%	+\$199.8
New Jersey	7/03	55¢	\$2.05	-9.0%	+26.6%	+\$157.4
New Mexico	7/03	70¢	\$0.91	-32.3%	+191.8%	+\$39.2
Ohio	7/02	31¢	\$0.55	-6.8%	+109.4%	+\$281.6
Rhode Island	7/02	32¢	\$1.32	-10.0%	+18.9%	+\$14.8
Rhode Island	7/03	39¢	\$1.71	-7.7%	+19.5%	+\$18.1
South Dakota	3/03	20¢	\$0.53	-7.1%	+50.4%	+\$8.8
Utah	5/02	18¢	\$0.695	-4.1%	+15.4%	+\$6.6
Vermont	7/03	26¢	\$1.19	-10.3%	+14.9%	+\$6.4
Washington	1/02	60¢	\$1.425	-18.8%	+42.1%	+\$99.6
West Virginia	5/03	38¢	\$0.55	-5.6%	+185.3%	+\$60.3

*Source: Orzechowski and Walker, Tax Burden on Tobacco 2004*

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tax increase. No states lost revenues as a result of decreased consumption due to excise tax increases and revenue increases ranged from 12 to 260 percent. Note that even states that experienced significant decline in consumption still recognized increased revenues. For example, New Mexico experienced a 32.3 percent decline in cigarette sales, but revenues increased by 191 percent.

### *Cigarette Taxes and Politics*

Cigarette tax increases are a bipartisan political issue. As previously discussed in this brief, voters and legislators have consistently supported tax increases on cigarettes and tobacco as evidenced by the continuous and repeated cigarette and tobacco tax increases implemented throughout the United States. Multiple national health and advocacy organizations including the American Heart Association, the American Lung Association, the March of Dimes, the AARP, the Office of the U.S. Surgeon General, the National Cancer Institute, the World Medical Association, the American Medical Association, and the National Governors Association have all taken strong positions on the need to reduce cigarette and tobacco consumption, particularly among America's youth. On May 2004 Tommy G. Thompson, Secretary of the U.S. Department of Health and Human Services and a Republican Administration appointee stated: *"We need to cut smoking in this country and around the world. Smoking is the leading preventable cause of death and disease, costing us too many lives, too many dollars and too many tears. If we are going to be serious about improving health and preventing disease we must continue to drive down tobacco use. And we must prevent our youth from taking up this dangerous habit."*<sup>129</sup> As demonstrated in Table 18, during the period 2002 to 2005 when 46 state cigarette excise tax increases were implemented, Republican Governors presided over 26 cigarette tax increases and Democrat Governors presided over 18 cigarette tax increases.

Table 18: Political Party Affiliation of State Governor upon Cigarette Excise Tax Increase

State	Tax Rate per Pack	Increase Amount	Effective Date of Tax Increase	Party of State Governor at Time of Enactment	State	Tax Rate per Pack	Increase Amount	Effective Date of Tax Increase	Party of State Governor at Time of Enactment
Washington	\$1.425	\$0.60	1/1/2002	Democratic	Montana	\$0.70	\$0.52	5/1/2003	Republican
Connecticut	\$1.11	\$0.61	4/3/2002	Republican	West Virginia	\$0.55	\$0.38	5/1/2003	Democratic
New York	\$1.50	\$0.39	4/3/2002	Republican	Idaho	\$0.57	\$0.29	6/1/2003	Republican
Utah	\$0.695	\$0.18	5/6/2002	Republican	Arkansas	\$0.59	\$0.25	6/1/2003	Republican
Puerto Rico	\$1.23	\$0.40	5/16/2002	Other Party	New Jersey	\$2.05	\$0.55	7/1/2003	Democratic
Maryland	\$1.00	\$0.34	6/1/2002	Democratic	Vermont	\$1.19	\$0.75	7/1/2003	Democratic
Rhode Island	\$1.32	\$0.50	7/1/2002	Republican	New Mexico	\$0.91	\$0.70	7/1/2003	Democratic
New Jersey	\$1.50	\$0.70	7/1/2002	Democratic	Wyoming	\$0.60	\$0.48	7/1/2003	Democratic
Louisiana	\$0.36	\$0.12	7/1/2002	Republican	Rhode Island	\$1.71	\$0.39	7/1/2003	Republican
Illinois	\$0.98	\$0.40	7/1/2002	Republican	Georgia	\$0.37	\$0.25	7/1/2003	Republican
Indiana	\$0.555	\$0.40	7/1/2002	Democratic	Nevada	\$0.80	\$0.45	7/22/2003	Republican
Ohio	\$0.55	\$0.31	7/1/2002	Republican	Delaware	\$0.55	\$0.31	8/1/2003	Democratic
Pennsylvania	\$1.00	\$0.69	7/15/2002	Republican	Pennsylvania	\$1.35	\$0.35	1/7/2004	Republican
Tennessee	\$0.20	\$0.08	7/15/2002	Republican	Alabama	\$0.425	\$0.26	5/18/2004	Republican
Massachusetts	\$1.51	\$0.75	7/24/2002	Republican	Rhode Island	\$2.46	\$0.75	7/1/2004	Republican
Michigan	\$1.25	\$0.50	8/1/2002	Republican	New Jersey	\$2.40	\$0.90	7/1/2004	Democratic
Nebraska	\$0.64	\$0.30	10/1/2002	Republican	Michigan	\$2.00	\$0.75	7/1/2004	Democratic
Oregon	\$1.28	\$0.60	11/1/2002	Democratic	Hawaii	\$1.40	\$0.40	7/1/2004	Democratic
Arizona	\$1.18	\$0.60	11/26/2002	Republican	New Jersey	\$2.40	\$0.35	7/1/2004	Democratic
Washington, DC	\$1.00	\$0.35	1/1/2003	Democratic	Virginia	\$0.20	\$0.175	9/1/2004	Democratic
Kansas	\$0.79	\$0.55	1/1/2003	Republican	Alaska	\$1.60	\$0.60	1/1/2005	Republican
Connecticut	\$1.51	\$0.40	3/15/2003	Republican	Montana	\$1.70	\$1.00	1/1/2005	Republican
South Dakota	\$0.53	\$0.20	3/24/2003	Republican	Oklahoma	\$1.03	\$0.80	1/1/2005	Democratic

Source: Tobacco Free Kids 2004

### Public Support for Increased Tobacco Taxes in Mississippi

National and state opinion surveys provide evidence of support for increases in cigarette excise taxes in the state of Mississippi. The John C. Stennis Institute of Government conducted the Mississippi Health Policy Survey, a computer-assisted telephone interview with a random sample of 601 Mississippi adults in 2004. This Stennis Institute survey included multiple questions on health policy issues in Mississippi, including questions regarding cigarette tax increases in the state of Mississippi. When asked if they would support a \$1.00 tax increase on a pack of cigarettes, 63.5 percent of respondents indicated their support of a \$1.00 tax increase on cigarettes.

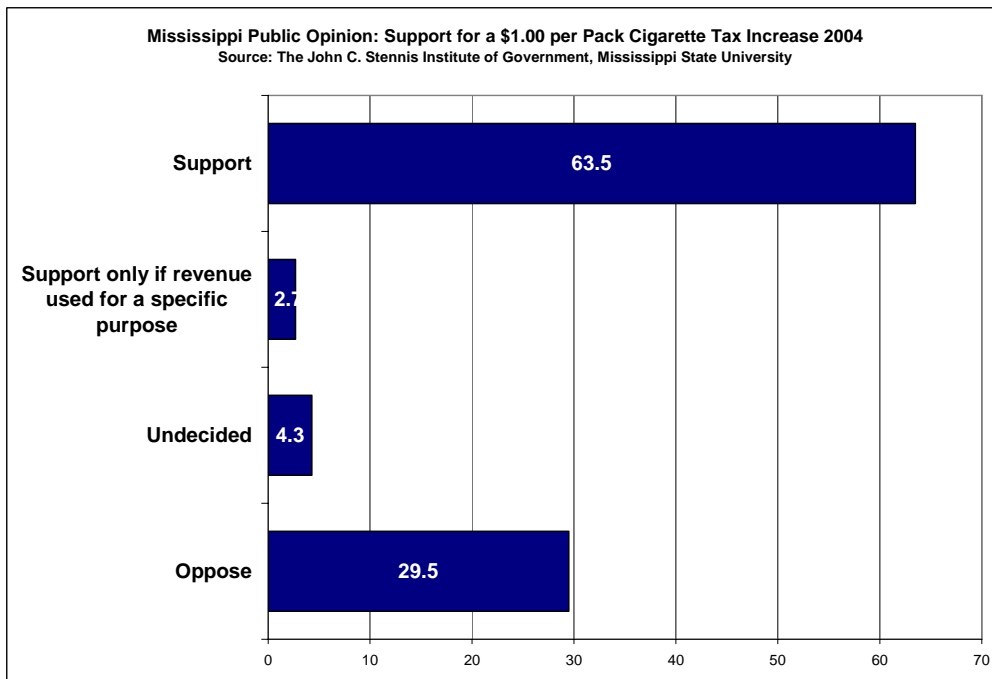


Figure 29: Mississippi Public Opinion Survey 2004: \$1.00 Increase on Cigarettes

The 2004 Mississippi Health Policy Research conducted by the Stennis Institute found strong bipartisan support for a \$1.00 increase in the state cigarette tax, with 62.8 percent of Republican respondents and 69.6 percent of Democrat respondents expressing support for the tax increase.

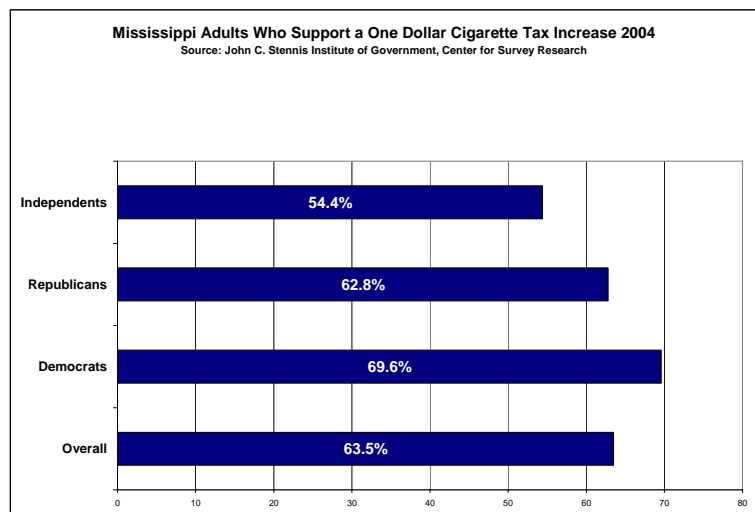


Figure 30: Cigarette Tax Support by Political Party

The 2004 Mississippi Health Policy Survey also polled respondents on strategies for dealing with the state budget deficit, public opinion provided the greatest support for increases in tobacco taxes.

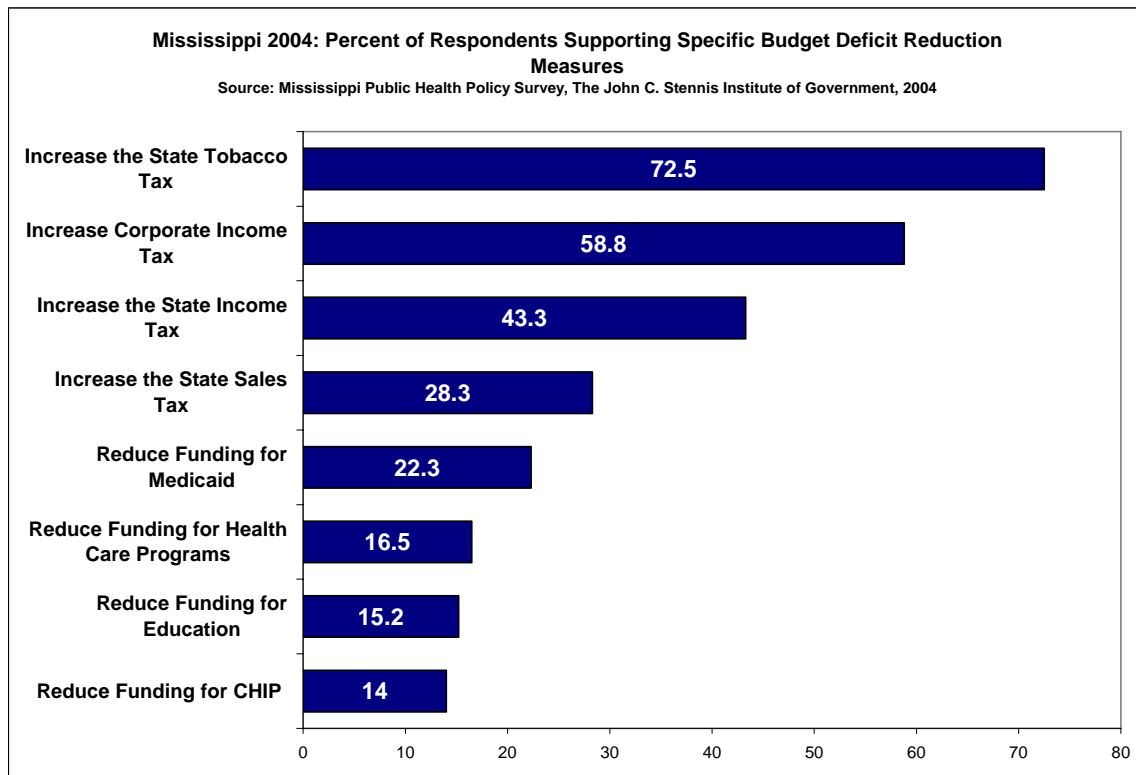


Figure 31: Mississippi Support for Tobacco Taxes as Budget Deficit Reduction Strategy

Alan Newman Research, Inc. conducted a telephone survey of 803 age 18+ Mississippi self-identified registered voters for AARP between August 31st and September 12th, 2006. This survey reported that 55 percent of respondents support increasing the cigarette tax by \$1.<sup>130</sup>

The Mississippi Social Climate Survey of Tobacco Control 2000-2001, a computer-assisted telephone interview of 1,013 randomly sampled Mississippi adults conducted by the Social Science Research Center at Mississippi State University found that 79.7 percent of Mississippi voters support an increase in the state tobacco excise tax to fund education programs to prevent youth tobacco use.<sup>131</sup>

A survey of 1,000 African American households that focused on 10 Congressional districts served by African American representatives, funded by the Substance Abuse Policy Research Program

(SAPRP) of the Robert Wood Johnson Foundation, was published in the May issue of the American Journal of Public Health. The ten Congressional districts surveyed were: Atlanta (Georgia's 5th District), Birmingham (Alabama's 7th District), Chicago (Illinois' 1st District), Dallas (Texas' 30th District), Detroit (Michigan's 14th District), Los Angeles (California's 32nd District), Memphis (Tennessee's 9th District), New York City (New York's 10th District), Raleigh (North Carolina's 1st District) and Washington, DC. The Principal Investigator, Gary King, Ph.D., of Pennsylvania State University, found support among the African American community for increases in cigarette taxes. According to Dr. King: "In fact, 75 percent of respondents disagreed with the idea that raising cigarette taxes is unfair to African Americans." Nearly half of African Americans surveyed believe that taxes on tobacco products should be increased, and almost 58 percent reported that they would not be opposed to increasing taxes on cigarettes even if low-income smokers were the group most affected. About 30 percent of respondents believed that cigarette taxes should be reduced.<sup>132</sup>

### *Mississippi Tobacco Taxes*

Mississippi tobacco tax revenues in 2005 were \$56 million, increasing \$430,000 from 2004.

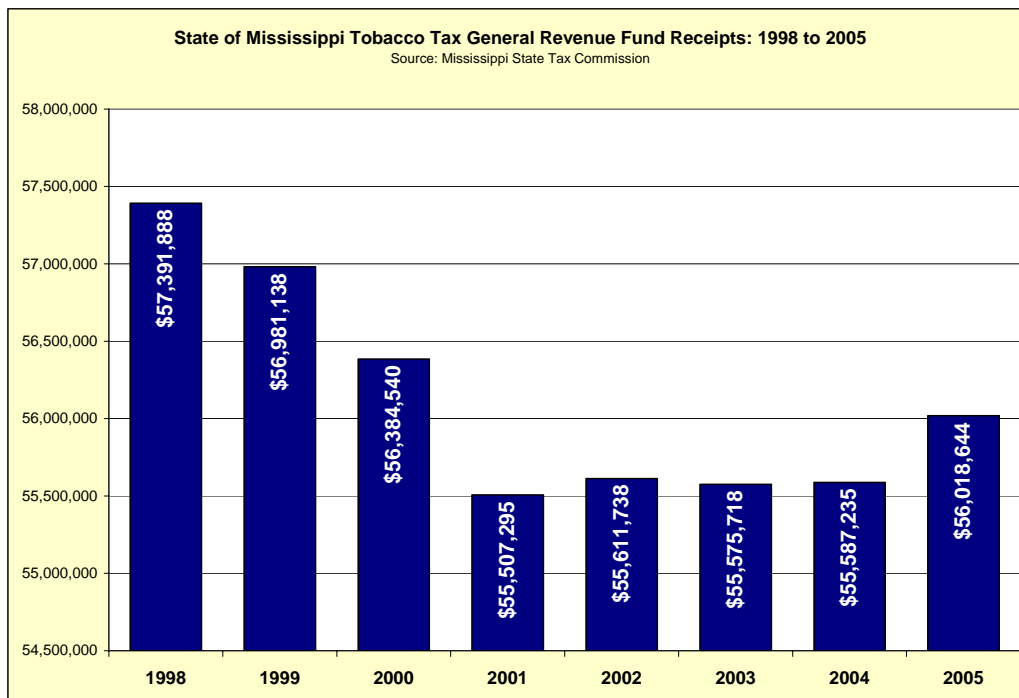


Figure 32: Mississippi Tobacco Tax Collections 1998 to 2005

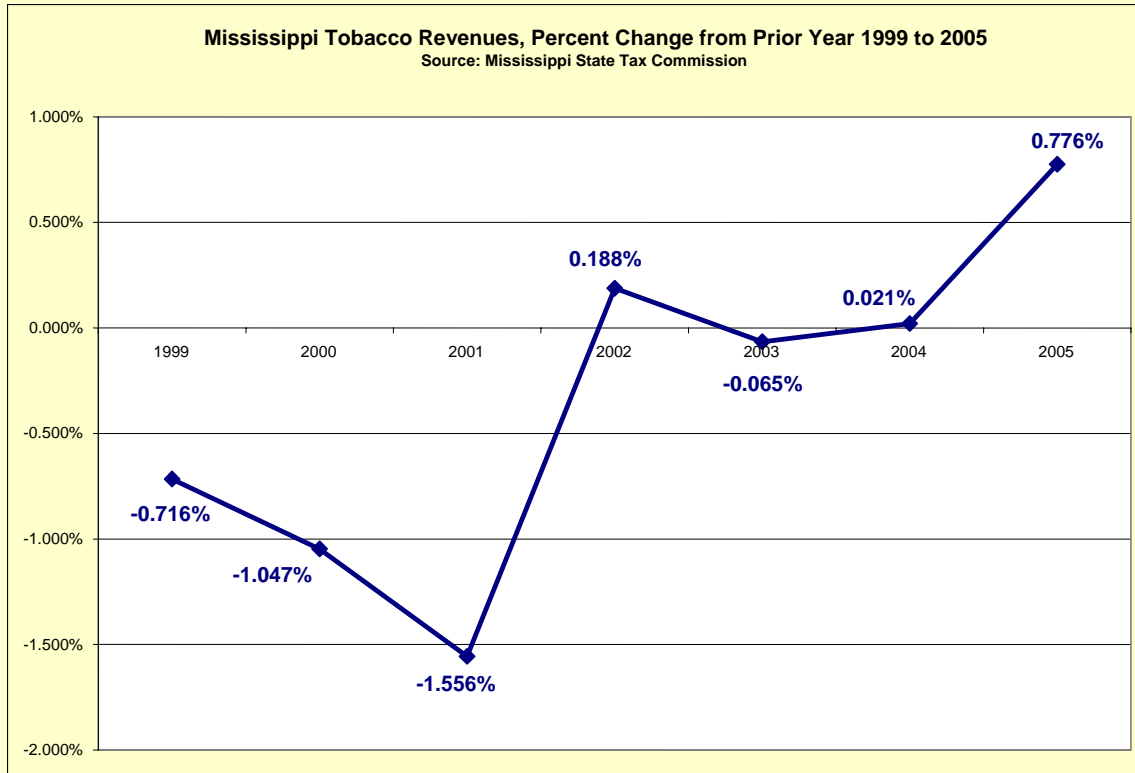


Figure 33: Mississippi Percent Change in Tobacco Tax Revenue Collection 1999 to 2005

In 2004, Mississippi had the third lowest cigarette excise tax in the United States – 18 cents per pack - and has not increased the excise tax on cigarettes since 1985. Inflation has eroded the real value of the cigarette excise tax in Mississippi; compared to 1985 the inflation adjusted Mississippi cigarette tax rate would be 32 cents per pack.

In 2004, 254.7 million packs of cigarettes were sold in the state of Mississippi; per capita (based on the total population) cigarette consumption was 88.4 packs per capita or 119.1 packs per capita for only the population 18 and over.<sup>4</sup> The weighted average price for a pack of cigarettes in Mississippi was \$3.22. Cigarettes represent 77.2 percent of total tobacco taxes collected or \$42,901,000 of the total \$55,543,000 tobacco taxes collected in 2004 in the state of Mississippi. The cigarette share of total tobacco tax collections within the state of Mississippi (77.2 percent) is

<sup>4</sup> No data was able to be obtained from the Mississippi State Tax Commission to analyze tobacco and cigarette taxes, or cigarette consumption for 2005 – other than total tobacco tax revenues reported on the Mississippi State Tax Commission website. This analysis was conducted using data provided by The Tax Burden on Tobacco, Historical Compilation Volume 29, 2004. The Tax Burden on Tobacco has been published annually and provide the best longitudinal and most reliable and comparable data on tobacco that is available.



the lowest ratio in the nation. The U.S. average cigarette share of total tobacco tax collections is 95 percent.

Table 19: Cigarette Revenues as Percent of Total State Tobacco Tax Revenues 2004

<i>State</i>	<i>Cigarettes as Percent Share of Total State Tobacco Taxes</i>
Mississippi.....	77.24%
Oklahoma.....	77.79%
Colorado.....	82.07%
South Carolina.....	85.10%
Wyoming.....	85.47%
Texas.....	86.05%
Arkansas.....	86.06%
Alaska.....	86.06%
Idaho.....	87.91%
North Dakota.....	88.65%
Minnesota.....	89.18%
Louisiana.....	89.45%
Utah.....	90.13%
<b>Total 50 states.....</b>	<b>95.0%</b>

*Source: Tobacco Institute, The Tax Burden on Tobacco, Historical Compilation, Volume 39, 2004, Orzechowski and Walker 2004*

### Demand Analysis for Cigarettes in Mississippi assuming a One Dollar Increase in Excise Tax

Price elasticities of demand, specific to Mississippi, were estimated for cigarette consumption, based upon data (for 1970 through 2005) from the Center for Disease Control's *STATE State Tobacco Activities Tracking and Evaluation (STATE) System*. The estimated elasticities at the mean vary from -0.28 to -0.35 depending on functional form. Initially, 20 variations (including alternative functional forms) on a wide variety of different basic models ranging from a simple conventional model with real price as the only dependent variable to Myopic and Rational Learning models. These models were estimated based upon prior national and international tobacco use models. The final model used was the simplest conventional model adjusted for serial correlation and estimated using simple linear, double log, log-linear and linear log functional forms. The results of these alternate functional forms fell within a fairly narrow range of results and the extreme high and low estimates are used as boundaries for revenue estimates.

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At an aggregated level, the estimated reductions in packs per adult sold, resulting from a \$1.00 increase in state excise taxes, are estimated to range from 8.65 to 14.17 packs per adult per year, with a resulting increase in aggregate state tax revenue ranging from \$173.0 million to \$184.6 million. This does not include the increase in sales tax which should be an additional 7 percent of the increased excise tax revenue or an estimated \$12.1 million for the lower bound to \$12.9 for the upper bound. Thus the total fiscal impact at an aggregate level should range from \$185.1 to \$197.5 million of additional revenue using consumption estimated for 2005 as a base.

### *Objectives of the Analysis*

The objective of the demand analysis included here is to determine the responsiveness of cigarette consumption in Mississippi to an increase in price brought about through a substantial increase in cigarette excise taxes. That information can then be used to estimate both the changes in consumption and the changes in tax revenues that are likely to come about with the change. Here, we assume a nominal (not adjusted for inflation) increase of \$1.00 per pack.

In simple terms, one may think of a price elasticity as the percentage decrease in the quantity sold relative to the percentage increase in price, given that everything else remains constant or  $\text{Elasticity} = (\% \text{ change in Quantity demanded}) / (\% \text{ change in Price.})$  Thus, if one knows that the price elasticity of demand is -.30 and that the price will rise by 10 percent then this means the quantity consumed should decline by 3 percent.

In general, cigarettes are considered as a classic example of a commodity for which the price elasticity of demand is relatively inelastic (the absolute value of the price elasticity of demand is less than one.) Consumers consider the commodity to be essential. This is the case with any commodity that is addictive. In such cases, if the price increases, consumers will decrease consumption but they will not decrease their consumption as much as they would for products that are not considered to be necessities by them. If the product is price inelastic, the decrease in sales of the product will be more than compensated for by the increase in price. The result is that revenue will rise. Part of the objective of this study is to estimate a price elasticity of demand for cigarettes that is specific to Mississippi rather than using estimates done at the national level. Estimates at the national level vary widely, according to some estimates ranging from -0.3 to -0.5

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(McMillen and Valentine (2006) or even as large a range as -3.12 to +1.41 according to Gallet and List (2003.)

This study uses aggregate data to estimate price elasticities for further use in estimating overall fiscal impacts for the state. Such aggregate analysis does not provide indications of specific effects on sub-populations (such as teens, older adults, by gender or race, etc). Moreover, at the aggregate level some variables which are important at the individual level of analysis become collinear and other aggregated variables may hide important relationships after the aggregation.

Consumption of cigarettes is a complex phenomenon and not everyone responds in the same way. We know that some of the factors influencing consumer demand (how much they will consume at any given price) for cigarettes include income level, peer or group pressures, age, race, type of job, alcohol consumption, employment status, spatial consideration (rural vs. urban and regional location), advertising (both for and against), legal smoking restrictions, education, and family background, as well as factors concerned with smuggling in and out of the state (see for example: Chan and Capehart, 2004; Farrelly, Pachacek, and Chaloupka, 2003; Gallet and List, 2003). These are factors that would ideally be considered for individuals or at least for smaller areas like towns and counties. Unfortunately, Mississippi cigarette consumption data is not available in such a way as to incorporate those individual demand factors into the analysis. The analysis is therefore limited to an aggregate state level. Thus there must be significant compromise with respect to the inclusion of variables in the demand specification.

The responsiveness to price changes can also be affected by such influences as religion, availability of substitutes (such as other forms of tobacco, cheap marijuana, smuggled cigarettes, non-taxed cigarettes), legal smoking restrictions, and various attempts to inform the public about the health hazards of smoking.

The tool used in this analysis is econometric analysis. Data used for the tool is aggregate time-series data. Aggregate refers to totals rather than data on individuals. In addition, per capita measures of consumption are used and those too are based on aggregate data. So for example if 20,000 packs of cigarettes are sold and there are 1000 potential consumers, then the per capita

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consumption is 20 packs per person. This could mean that each adult actually consumes 20 packs per year. Or, half the people could consume 40 packs per year and half could consume nothing. More likely, people will consume in a wide variety of intensities and some people (juveniles) not considered in the denominator may consume as well. Harris (1994) used aggregate national data to show the importance of number of cigarettes smoked as well as incidence of smoking. The amount of nicotine per cigarette has even been found to be important in determining the response to tax increases (Lee, Hwang, Ye, and Chen, 2004). Such individual data would be ideal and would not only allow the estimation of changes in aggregate consumption and revenues but would also allow the estimation of the effects on individual consumption intensities and how such changes would effect juveniles and other particular groups. Given the data available for Mississippi, the best we can do is to use the aggregate estimates to produce county estimates of aggregate consumption and tax revenue changes and rely upon studies done at the national level and with interviews and surveys for clues as to the particular changes.

There are really two general types of demand models to choose from when estimating the demand for cigarettes (Wilkins, Yurelki, and Hu, 2006). These are conventional and addictive demand models. Conventional demand models are static, meaning they only examine the impacts of explanatory variable within the same time periods. Addictive models, on the other hand are dynamic in that they assume that demand in one period influence demand in another period. Addictive models include two primary sub-models, the myopic addiction and the rational addiction models. Myopic (short sighted) addictive models are learning models in that the economic actors are assumed to learn from the past and alter their future actions based upon the past. In these models, current consumption is partially a function of past consumption. Rational addiction models look both forward and backward with current consumption dependent upon both past and future consumption.

For any of these basic models of behavior there are multiple functional forms by which estimates may be calculated studies (see for example: Chan and Capehart, 2004; Farrelly, Pachacek, and Chaloupka, 2003; Gallet and List, 2003; Raptou, Mattas, Tsakiridou, and Katrakilidis, 2005; and Wilkins, Yurekli, and Hu, 2006). The primary forms are linear, double log (or log-log), log linear, or linear log. In linear models, both the dependent and independent variables are left in their original

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amounts or levels rather than being transformed into logarithmic values. Semi-log functional form includes both log linear and linear log forms. In the log-linear functional form, the dependent variable is transformed into logarithmic values while the independent variables are left in their original values. In the linear-log form, the dependent variable is left in its original amounts while the independent variables are transformed into logarithmic values.

There is very little theoretical reason to choose one over the other functional forms given in the literature on cigarette price elasticity. There are, however differences in implications for calculating elasticities. The double log forms result in constant elasticities which may not be a very good assumption for behavior over a significant range of prices. The other functional forms result in dynamic elasticities that change based upon the particular price at which the elasticity is measured. This is the precise problem that occurs when trying to use elasticities to estimate the reaction to large increase in prices that are brought about by tax changes. The other major problem in trying to estimate large increases in price is that the pattern of reaction to price changes may change after some point of increase and without any historic data of a similar size increase, there is no way to know whether the estimated reaction will still be valid.

#### *Important Lessons from the Literature*

Estimates of price elasticity of demand for cigarette smoking vary depending on the modeling techniques used to come up with those estimates as well as the population under study and the time-frame. Gaillet and List (2003) examined 86 different studies via meta analysis. Those studies estimated 523 different price elasticities, and found that the average price elasticity was -0.48, but the individual estimates varied from -3.12 to +1.41. They found that median price elasticities of demand varied by many factors:

*With respect to the demand specification and data categories, several factors significantly influence the price elasticity estimates. First, the price elasticity is larger when cigarette demand is estimated jointly with alcohol demand. Second, price elasticity is lower when demand is modeled as an almost ideal demand system. Third, although significance is sparser across the three regression models, estimating a double-log specification of demand within a rational addiction framework tends to increase the price elasticity. Fourth, measuring the dependent*

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*variable as country-level tobacco consumption tends to raise the price elasticity estimate; while women (teens) tend to be less (more) sensitive to price, as indicated by the larger (smaller) price elasticity estimate. Fifth, although the impact of smuggling on the price elasticity estimate is significant for the random effects and group means results, given the opposing signs of the coefficients, it is difficult to predict with confidence the likely impact of smuggling on the price elasticity (Gaillet and List, 2003 p. 833).*

Perhaps more surprising than what they found did cause a difference was what they found did not cause a significant difference in price elasticities. Those factors included accounting for myopic addiction or estimating a double-hurdle model, whether the data is times series or cross-sectional, only includes men or young adults. And corrections for serial correlation or heteroskedasticity appeared to have little if any effect on price elasticity. In the majority of the estimates, a simple OLS estimation method was used with a conventional demand function (Gaillet and List, 2003).

Farrelly and Nimisch (2003) focus specifically on Southern states and estimate the effects of raising cigarette excise taxes to the national average of \$.70 per pack. They note that there are a number of responses to increased taxes other than outright quitting. Smokers may reduce their consumption. They may also simply switch to cheaper brands or shop cheaper stores. Additionally, some smokers who live near Indian reservations begin to buy more of their cigarettes in such places or begin to smuggle cigarettes either from bordering states or by purchasing from internet. But in all cases where excise taxes have been raised, the result has been an increase in tax revenue because the increase in tax revenue per pack overwhelms the decline in packs smoked. This is another way of saying that the price elasticity of demand is relatively inelastic. Formally, this means that the absolute value of the price elasticity is less than one. The smaller the absolute value of the price elasticity of demand, the less responsive are consumers to a price increase and the greater the tax revenue from an increase in tax rates. Farrelly and Nimisch (2003) also note that there is evidence to suggest that the initial effects of tax increases in terms of tax avoidance decline over time. Farrelly and Nimisch also estimated declines in sales and increases in tax revenues by state for nine southern states. Their estimates are predicated upon an assumption of a price elasticity of demand of -.40 rather than any estimation of the elasticity.

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This number was based on their search of the literature and primarily upon nationwide studies rather than studies of particular states. Because Mississippi generally has lower educational attainment, and a higher incidence of blue collar workers than many other states it would be reasonable to assume that the state might have a more inelastic price elasticity of demand than is the case for the nation as a whole. Strangely enough, the estimates provided by Farrelly and Nemisch are very close to those resulting from the estimates in this study. Farrelly and Nemisch estimate revenue with a 70 cent tax as \$171 million (using 2001 rates as a base) and our study indicates with an increase in tax of \$1.00 (to a total of \$1.18) total revenue would be about \$173.0 to \$184.6 million based on 2005 as a base. This is certainly reasonable as smoking rates have declined in the state somewhat between 2001 and 2005, dropping from 93.9 packs per adult in 2001 to 88.8 packs per adult in 2005.

Cross border smuggling will also be likely to reduce the overall change in smoking due to tax changes. Yurelki and Zhang (2000) estimated 6 percent of aggregate state tax revenues for the nation were lost due to smuggling. Farrelly and Nemisch (2003) estimated of cross border sales under their 70 cent sales tax scenario versus the existing situation (assuming other states do not also increase their taxes). They estimate that the total packs imported from Alabama, Arkansas, Louisiana, Tennessee with the 18 cent tax are about 367,664, long distance imports from Kentucky, North Carolina, Virginia are estimated as 938,201 and whereas the exports to other states are 1,137,406 packs. With the change to a 70 cent tax, they estimate imports from neighboring states as 19,937,738 packs, long distance imports as 4,236,192 packs and exports to Mississippi of zero (Farrelly and Nemisch, 2003 p. A-7)

### *The Analysis*

County level data was not available for Mississippi, so the only alternative was to use state-wide data. The source of this data was CDC's The State Tobacco Activities Tracking and Evaluation (STATE) System (United States Department of Health and Human Services, 2006). Additional data on income and employment from the Regional Economic Information System (Bureau of Economic Analysis) was employed in some of the initial models. Standard models were used for estimating elasticities (Wilkins, Yurelki, and Hu, 2006). Ideally, such a model would be carried out at a less aggregate level and would include many of the factors discussed above. With the paucity of

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disaggregated data, the models used here are simple (quantity as a function of price) demand models.

Initially, 20 variations (including functional form) on 5 different basic models ranging from a simple linear model with real price as the only dependent variable to a Myopic learning model including real price, real income and lagged consumption were estimated based upon prior national and international tobacco studies. After significant evaluation including Hausman tests, normality tests, tests for multicollinearity and for stationarity and recognizing that, the objective here was simply to obtain elasticities to be used to estimate the effects of tax rather than to explain complex behavior, a simple model appealing to Occam's Razor (the best model is the simplest workable model) seemed best suited to the task. The final model used was a simple conventional model adjusted for serial correlation and estimated using simple linear, double log, log-linear and linear log functional forms.

The model was estimated using observations from 1970 through 2005. The model estimated per adult cigarette consumption in packs as a function of real price per pack. The functional forms estimated included simple linear. The following nomenclature was used:

PACP = per adult cigarette packs

LPACP = natural log of PACP

RPRICE = real price including excise taxes

LRPRICE = natural log of RPRICE

Nominal prices were converted to real prices using the Consumer Price Index (1982-84=100).

The model was estimated with the following functional forms:

Linear:  $PACP = \text{Constant} + \beta_1 RPRICE$ ;

Log Log:  $LPACP = \text{Constant} + \beta_1 RPRICE$ ;

Log Linear:  $LPACP = \text{Constant} + \beta_1 PRICE$ ; and

Linear Log:  $PACP = \text{Constant} + \beta_1 PRICE$ ;

The results of the estimations are shown in Table 20 on the following page.



Table 20: Summary of Regression Results

Summary of Regression Results			
	Coefficient		Adjusted
<i>Functional Form</i>	<i>Constant</i>	<i>On Price<sub>1</sub></i>	<i>R<sup>2</sup></i>
Linear	141.423	-27.677	0.9198
Log Log	4.725	-0.348	0.9254
Log Linear	5.003	-0.272	0.9189
Linear Log	113.893	-36.378	0.9268
Results shown are from regressions adjusted for serial correlation.			
All coefficients were significant at the 95% level of confidence.			

All of the estimated coefficients were significant at a 95% level of confidence (or better). Adjusted R<sup>2</sup> values were above .91 for all functional forms.

The estimated functions were then used to calculate elasticities at the mean (see Table 21, page 86). Those elasticities varied between -0.348 and -0.615. This is very close to some of the studies utilizing aggregate annual time-series and some state specific variables such as Farrelly, Pachacek, Chaloupka's (2003) estimate of -0.32. This is more elastic than is the case for most of the studies based on national aggregate data, but that is not a particularly surprising result since this is a much larger percentage increase than most of the studies have investigated. Elasticity of demand for cigarettes tends to be more elastic for higher levels of education, for areas with more anti-smoking laws, for higher skill employment, for areas with higher levels of employment, and for higher incomes (except for less developed countries where extremely low incomes result in higher elasticities.) These should be thought of as short term elasticities which will change over time as people have time to adjust to tax increases.

In the long run there should be more of a reduction in smoking because of the increase in taxes for a number of reasons. First, some individuals will stop smoking. Others will not stop but may cut back on the number of cigarettes smoked per day. The higher prices will help prevent some smokers from starting and, as older smokers die off, the consumption of cigarettes will also drop (assuming that youth and teenaged cigarette consumption does not increase). There should be an increase in cross border shopping to get around the higher taxes, but Gallet and List maintain that

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such cross border shopping is normally short run and as smokers adjust to the new higher taxes they will eventually reduce cross border shopping as well.

For each of the functional forms, the quantity of cigarettes (in packs per adult) were predicted for the 2005 real price of cigarettes with and without the tax increase. The difference between the predicted quantities with and without the tax are shown in column 3 of Table 21, on page 86. The change in consumption from the increase of \$1.00 in cigarette taxes is expected to range from a decrease of 8.65 packs per adult per year to a decrease of 14.17. The change in packs per adult was multiplied by the number of adults in 2005 to estimate the number of packs sold. Tax revenue was calculated for each of the four cases with and without the tax increase and the difference between those are shown in column 4 of Table 21. The result is an increase in annual tax revenues ranging from \$173.0 million to \$184.6 million. This does not include the increase in sales tax which should be an additional 7 percent of the increased excise tax revenue or and estimated at \$12.1 million for the lower bound to \$12.9 for the upper bound. Thus the total fiscal impact at an aggregate level should range from \$185.1 to \$197.5 million of additional revenue using consumption estimated for 2005 as a base.

#### *Caveats*

This study is limited by available data at the state level for Mississippi. Ideally, less aggregated data (individual if possible, but at least at the county level) would be desirable. The estimated revenue changes are short run only and will obviously change over the longer term. Revenue changes in the future will also depend upon anti-smoking legislation by individual cities, anti-smoking advertising and education, national trends, and basic demographic changes. Because effects on smoking are cumulative the revenue expected from such an increase should decline over time and could decline substantially given all of the other factors which could affect smoking habits. Therefore, the increased revenues should not be considered as a stable source of revenue in the future.

Research has proven that price increases are the single most effective method for reducing cigarette consumption, but price increases combined with public health education are the most effective.

Table 21: Mississippi - Estimated Price Elasticities and Changes in Consumption in Response to \$1.00 Cigarette Tax Increase

<i>Estimated Price Elasticities of Demand and Changes in Consumption and State Tax Revenue in Response to a \$1.00 increase in Mississippi State Sales Tax per Pack of Cigarettes (using 2005 as a base)</i>			
<i>Type and Functional Form</i>	<i>Resulting Elasticity at Means</i>	<i>Change in average Packs per Adult From 2005</i>	<i>Change In Revenue</i>
<b>Simple Conventional</b>			
Linear	-0.615	-14.17	\$173,011,298
Double Log	-0.348	-8.65	\$184,566,804
Log Linear	-0.582	-12.43	\$175,844,626
Linear Log	-0.422	-9.95	\$183,407,650

## Grocery Taxes

Forty-five states plus the District of Columbia levy sales taxes, the majority of states have reduced, eliminated, or developed mechanisms to offset sales taxes on food for consumption at home. According to the Center for Budget and Policy Priorities:<sup>133</sup> thirty states and the District of Columbia exempt food purchased for consumption at home; five states tax groceries at lower rates than other goods; five states tax groceries but offer tax credits or rebates to provide eligible households with relief on grocery sales taxes; and only three states apply full sales taxes to groceries with no offsetting relief for lower income families – Mississippi, Alabama, and Arkansas. Generally, local governments follow the state policy on exempting groceries from sales tax, with the exception of Colorado, Georgia, Arizona, Louisiana, and North Carolina where groceries are still taxed by localities.

### ***Consumer Expenditures on Food***

As demonstrated in Table 22 and Figure 34, low income consumers spend a larger share of their total food budget (64.98%) on food at home than do higher income groups and a larger percentage of their total income is spent on food at home (20.46%). According to the U.S. Census Bureau's 2005 American Community Survey approximately 600,000 people (21.3% of total population) in Mississippi live in poverty, the poverty rate in the U.S. was 12.6 percent. In 2005, per capita income in Mississippi was \$ 17,971 compared to a U.S. per capita income of \$ 25,035.

Table 22: U.S. Consumer Food Expenditures by Income Quintile 2005

<b><i>U.S. Consumer Expenditures by Income Quintile 2005 for all Consumer in U.S.</i></b>						
	<u>All Consumer Units</u>	<u>Lowest 20 Percent</u>	<u>Second 20 Percent</u>	<u>Third 20 Percent</u>	<u>Fourth 20 Percent</u>	<u>Highest 20 Percent</u>
Income before taxes	\$58,712	\$9,676	\$25,546	\$42,622	\$67,813	\$147,737
<i>Income after taxes</i>	\$56,304	\$9,688	\$25,200	\$41,557	\$65,275	\$139,644
All Food	\$5,931	\$3,047	\$4,064	\$5,295	\$7,194	\$10,051
Food at home	\$3,297	\$1,980	\$2,527	\$3,017	\$3,952	\$5,007
Food away from home	\$2,634	\$1,067	\$1,538	\$2,277	\$3,242	\$5,044
Percent of Pre tax Income on Food at Home	5.62%	20.46%	9.89%	7.08%	5.83%	3.39%
Percent of Income on Food Away from Home	4.49%	11.03%	6.02%	5.34%	4.78%	3.41%
Percent of Food Budget Spent on Food at Home	55.59%	64.98%	62.18%	56.98%	54.93%	49.82%

*Source: U.S. Consumer Expenditure Survey, Bureau of Labor Statistics*

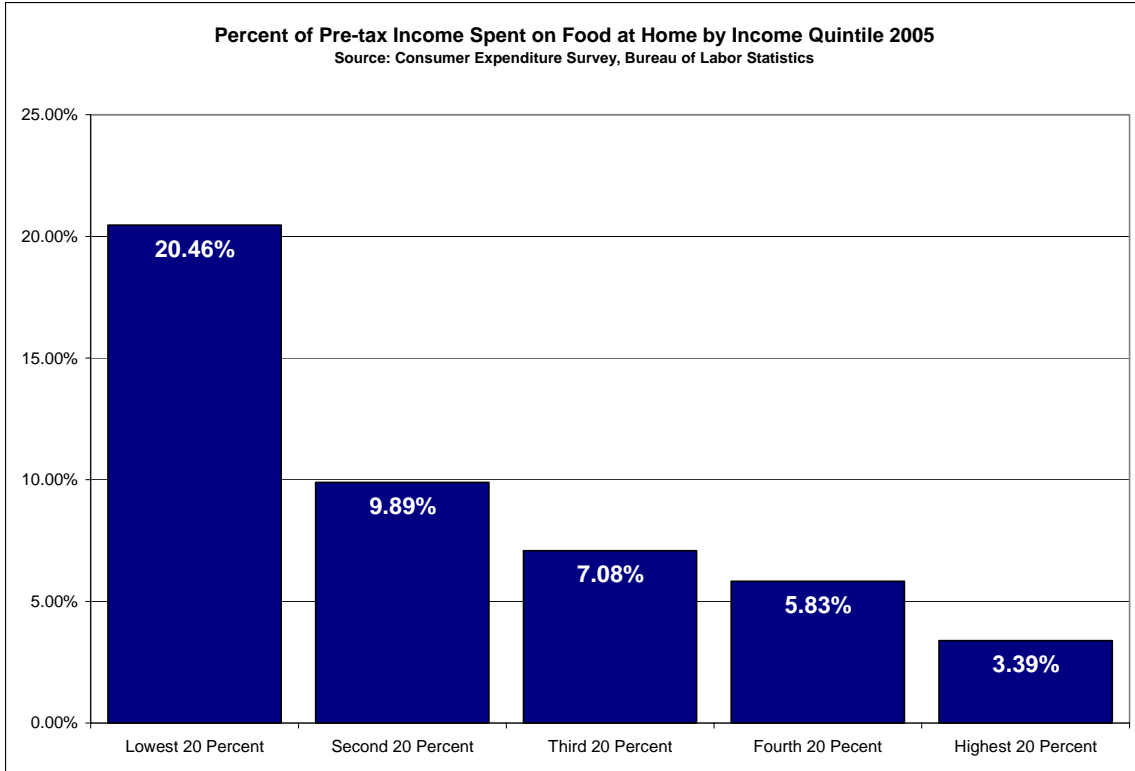


Figure 34: Percent of Pre-tax Income Spent on Food at Home by Income Quintile 2005

To develop a heuristic for analysis, estimates of food expenditures by income category for Mississippi were developed. This information is presented in Table 23 on the following page, to provide a perspective of income distributions and food spending in Mississippi. The most recent reliable data available for the state of Mississippi that provides data for income by category is U.S. Census 2000 data and this data is only available for the population 15 years and older. Due to population growth and changes in income, the estimates provided in Table 23 are not accurate for 2005, but do provide a good representation for understanding the regressive nature of food taxes – note that 63 percent of the tax burden from sales tax on food at home in Mississippi falls upon those with incomes of \$30,000 or less and only 15.3 percent of the tax burden falls on those with incomes \$50,000 or more.

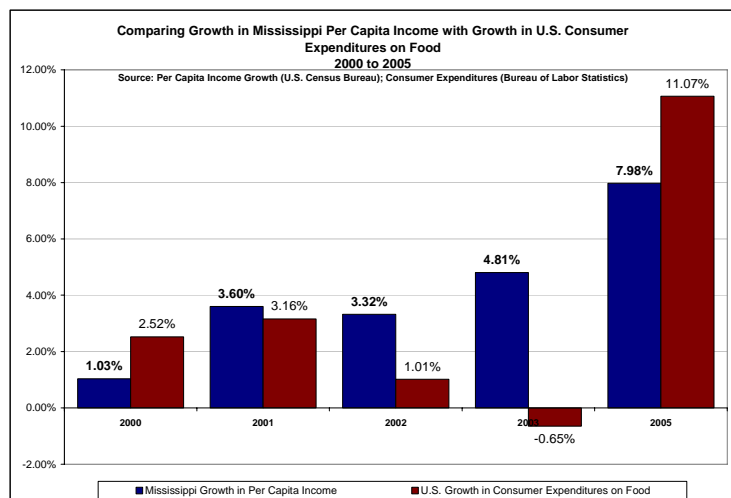


Figure 35: Mississippi per capita income growth

Table 23: Estimates of Mississippi Grocery Expenditures by Income Group FY 2005

<b>U.S. Consumer Expenditures by Income Group for South 2005</b>										
Item	Total south	Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 and more
Income before taxes	\$52,066	\$1,798	\$7,764	\$12,543	\$17,413	\$24,867	\$34,608	\$44,493	\$59,095	\$118,948
Income after taxes	50,106	1,747	7,807	12,678	17,499	24,441	34,129	43,484	56,958	112,933
Average annual expenditures	\$40,903	\$16,736	\$14,116	\$17,967	\$22,100	\$27,489	\$33,320	\$37,938	\$45,943	\$74,618
Food	5,404	3,098	2,364	3,083	3,528	3,896	4,649	5,116	6,100	8,648
Food at home	3,065	1,947	1,673	2,185	2,338	2,572	2,742	2,930	3,390	4,329
Food away from home	2,340	1,151	691	898	1,189	1,324	1,907	2,186	2,710	4,319
Tobacco products and smoking supplies	304	226	228	259	306	324	373	342	318	283

Source: Consumer Expenditure Survey, Bureau of Labor Statistics, 2005

<b>Estimate of Mississippi Expenditures</b>										
Mississippi Population in Income Category*		196,838	156,947	183,193	164,138	282,533	175,765	88,206	78,479	59,843
Food at home		1,947	1,673	2,185	2,338	2,572	2,742	2,930	3,390	4,329
Food away from home		1,151	691	898	1,189	1,324	1,907	2,186	2,710	4,319
Food at home	\$3,422,017,509	\$383,243,586	\$262,572,331	\$400,276,705	\$383,754,644	\$726,674,876	\$481,947,630	\$258,443,580	\$266,043,810	\$259,060,347
Food away from home	\$2,067,894,181	\$226,560,538	\$108,450,377	\$164,507,314	\$195,160,082	\$374,073,692	\$335,183,855	\$192,818,316	\$212,678,090	\$258,461,917
Sales Tax Revenues Food At Home	239,541,226*	26,827,051	18,380,063	28,019,369	26,862,825	50,867,241	33,736,334	18,091,051	18,623,067	18,134,224
Sales Tax Revenues Food Away from Home	\$144,752,593	\$15,859,238	\$7,591,526	\$11,515,512	\$13,661,206	\$26,185,158	\$23,462,870	\$13,497,282	\$14,887,466	\$18,092,334
Percent sales tax revenues on food at home		11.2%	7.7%	11.7%	11.2%	21.2%	14.1%	7.6%	7.8%	7.6%

Note: U.S. Census Bureau 2000 most recent estimate of population by income therefore Mississippi population in each income group is underestimated, but still representative of income distribution

\* It is of interest to note that this estimate of total sales tax revenues from Food At Home for Mississippi (\$239,541,226) is not significantly different than the subtotal amount of for sales tax revenues subtotal of \$240,462,816 found in Table 31 on page 105

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### ***Issues Related to Grocery Taxes***

It might benefit the discussion to step back and look at two specific issues regarding sales taxes. The first is the degree of regressivity in the tax structure and the role of sales taxes in that regressivity. The second issue is the extent to which sales taxes make up total tax revenues and the trend in the importance of sales taxes as a revenue base.

McIntyre et al. (2003) found that most state tax systems take proportionally more income from middle and lower income families than from the wealthy. In other words, most state and local tax systems are income regressive. The McIntyre study indicates the characteristics that make a state tax system regressive include a reliance on sales and excise taxes rather than income taxes and the use of flat rather than progressive income taxes. States, which are the least regressive, rely little on sales and excise taxes but heavily on highly progressive income taxes. Income taxes are usually somewhat progressive and may be designed to be highly progressive. Sales and excise taxes are very regressive. As with much of the nation Mississippi relies heavily on its more income regressive taxes.

*The state and local tax rate on the best off one percent of Mississippi families -- with average incomes of \$509,000 -- is 6.9% before accounting for the tax savings from federal itemized deductions. After the federal offset, the effective tax rate is a mere 5.3%.*

*The tax rate on families in the middle of the income distribution -- those earning between \$19,000 and \$29,000 -- is 9.8%, three quarters more than the effective rate the richest pay.*

*But the tax rate on the poorest Mississippi families--those earning less than \$11,000 -- is the highest of all. At 10% it is also more than three quarters higher than the effective rate of the wealthiest Mississippians. (McIntyre et al, 2003)*

For each kind of tax it is important to see the differences in the effect on taxpayers of different income levels. If the share of total income going to taxes is greater for lower income taxpayers than for higher paying taxpayers the tax system is regressive. It is also important to consider, the extent to which each tax contributes to overall tax revenues. For example, while a state may have

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a highly progressive income tax, if the majority of tax revenues come from sales taxes (which are themselves income regressive), then the overall tax system is income regressive.

Sales taxes are generally a fixed percentage of some broad range of goods and sometimes services. Since sales taxes are imposed on the amount of expenditure, and because consumption generally decreases as a percentage of income as income grows, these taxes are income regressive.

According to McIntyre et al (2003), for the lowest 20 percent of non-elderly income earners in Mississippi, 8.1 percent of family income goes to sales and excise taxes, 1.7 percent goes to property taxes, and 0.2 percent goes to income taxes, for a total of 10 percent of total income to taxes. For the top 1 percent of income families, Mississippi's percentages of income going to sales and excise, property, and income taxes were 1.3, 1.5, and 4.0 percent respectively, for a total of only 6.9 percent (The total being .1 greater than the sum of the parts is due to rounding). In general, the pattern is consistent with the percentage of family income going to taxes falling as the income of the group rises. This indicates the system is indeed income regressive.

Overall, Mississippi state and local tax burdens are relatively high by national standards (15<sup>th</sup>), although its overall tax burden, including federal taxes is quite low (43<sup>rd</sup> in 2002) owing to the progressive nature of the federal tax system (Tax Foundation, 2002). The Nelson Rockefeller Institute of Government, Fiscal Studies Program (2003) ranked Mississippi 9th in the nation in percent of income going to sales taxes (see Table 24 page 92). Since sales taxes represent such a high degree of regressivity, why do state and local governments rely so heavily on the tax?

Those who favor the sales tax generally do so, not in order to decrease the progressivity of taxes, but rather in order to broaden the tax base, with the hope that by doing so, some of the instability in tax revenues caused by economic fluctuations will be reduced. Fox and Campbell (1984) and others have shown that sales tax is actually a more stable source of revenue than income taxes. However, expenditures on taxable sales items have, over the last few years, been declining as a percentage of total consumer expenditures. This is largely due to a shift toward the purchase of services which are not taxable in most jurisdictions.



**Table 24: General Sales Tax Collections by State Fiscal Year 2005**

General Sales Tax Collections by State Fiscal Year 2005									
State	Sales Tax Collections* (\$thousands)	Sales Taxes Per Capita	Per Capita Rank	Sales Taxes As a % of Total State Taxes	State	Sales Tax Collections* (\$thousands)	Sales Taxes Per Capita	Per Capita Rank	Sales Taxes As a % of Total State Taxes
Alabama	\$2,033,192	\$446	43	26.10%	Nebraska	\$1,516,705	\$862	11	39.90%
Alaska	\$0	\$0	-	0.00%	Nevada	\$2,255,055	\$934	6	45.00%
Arizona	\$5,208,070	\$877	10	47.30%	New Hampshire	\$0	\$0	-	0.00%
Arkansas	\$2,573,503	\$926	8	39.30%	New Jersey	\$6,552,200	\$752	20	28.60%
California	\$29,967,136	\$829	12	30.40%	New Mexico	\$1,556,600	\$807	14	34.80%
Colorado	\$2,003,066	\$429	44	26.20%	New York	\$11,003,520	\$571	36	21.90%
Connecticut	\$3,267,726	\$931	7	28.20%	North Carolina	\$4,602,082	\$530	38	24.70%
Delaware	\$0	\$0	-	0.00%	North Dakota	\$410,216	\$644	29	29.20%
Florida	\$19,056,249	\$1,071	3	56.20%	Ohio	\$8,194,419	\$715	24	34.10%
Georgia	\$5,310,121	\$585	34	33.90%	Oklahoma	\$1,660,825	\$468	42	24.20%
Hawaii	\$2,136,604	\$1,676	1	48.20%	Oregon	\$0	\$0	-	0.00%
Idaho	\$1,128,485	\$790	18	38.50%	Pennsylvania	\$8,064,868	\$649	28	29.60%
Illinois	\$7,195,445	\$564	37	27.20%	Rhode Island	\$844,087	\$784	19	32.10%
Indiana	\$5,001,049	\$797	17	38.90%	South Carolina	\$2,903,274	\$682	27	39.70%
Iowa	\$1,721,763	\$581	35	29.90%	South Dakota	\$621,812	\$801	15	56.00%
Kansas	\$1,990,835	\$725	22	35.60%	Tennessee	\$6,118,001	\$1,026	5	61.10%
Kentucky	\$2,594,976	\$622	31	28.50%	Texas	\$16,356,284	\$716	23	49.90%
Louisiana	\$2,861,435	\$633	30	33.10%	Utah	\$1,710,379	\$692	26	36.50%
Maine	\$934,848	\$707	25	30.40%	Vermont	\$310,805	\$499	41	13.90%
Maryland	\$2,889,997	\$516	40	21.40%	Virginia	\$3,093,725	\$409	45	19.40%
Massachusetts	\$3,890,945	\$608	32	21.60%	Washington	\$9,147,303	\$1,455	2	61.60%
Michigan	\$8,074,095	\$798	16	33.20%	West Virginia	\$1,095,341	\$603	33	25.50%
Minnesota	\$4,203,736	\$819	13	26.50%	Wisconsin	\$4,039,450	\$730	21	30.00%
<b>Mississippi</b>	<b>\$2,587,970</b>	<b>\$886</b>	<b>9</b>	<b>47.60%</b>	Wyoming	\$522,262	\$1,026	4	30.00%
Missouri	\$3,036,441	\$524	39	31.80%	All States	\$212,246,900	\$717	-	32.70%
Montana	\$0	\$0	-	0.00%					

Source: Tax Foundation

\* Does not include local-option sales taxes.

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One policy that has been suggested for the state of Mississippi is to eliminate the sales tax on food and use an increased excise tax on cigarettes in order to compensate for those lost revenues. It should be noted that not all of the tax revenue directly lost from an exemption on groceries would ultimately be lost as sales tax revenues. For the lowest-income groups, the money saved from not paying taxes on groceries and the lower ultimate prices on food, the savings would likely be spent to purchase more non-taxable food or for non-taxable services, resulting in an actual loss of tax revenues. However, for higher-income groups the savings from not paying taxes on groceries would more likely be spent on taxable items, such as eating out, apparel, home furnishings, or personal care products, as well as for non-taxable services. Analysis of the most recent Consumer Expenditure Survey data suggests that the propensity to purchase food for consumption at home from increased income is 5 to 10 percent (dependent upon income level and age group). This would leave 90 to 95 percent of the savings from not paying taxes on non-prepared foods available for other purchases. Again, using data from the Consumer Expenditure Survey, and assuming that food in restaurants, alcohol, housekeeping supplies, household furnishings, apparel, new care expenditures, personal care items and tobacco products are all taxable, leads to the assumption that at least 12 to 13 percent of savings would be consumed as taxable expenditures. Assuming sales taxes on unprepared food ranges from \$300 million to \$336 million, this would reduce the actual tax loss from the sales tax exemption of unprepared food by about \$36 million because savings from not paying taxes on food would be spent on items that are taxable.<sup>5</sup>

Mikesell (2003) and others have argued that eliminating all sales tax would reduce tax revenues by about 20 percent on average for all states. For Mississippi, it would be appreciably higher, about 40 to 42 percent of total Tax Commission receipts. However, the tax on Grocery Store sales is a small portion of the overall sales tax revenues. Mississippi data suggest the loss of non-prepared food from the Grocery Store sales tax base would be in the range of two to three percent (Table 25, column 4). If all Grocery Store Sales were included in the exemption, the loss would be in the 5 to 6 percent range (Table 25, column 3).

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<sup>5</sup> Note: this potential recapture of sales tax revenues has not been included into the calculations of the impact on revenues presented in other sections of this report.

Table 25: Mississippi Food and Beverage Sales Tax Collections – Grocery Stores 1999 to 2005

Mississippi Food and Beverage Sales Tax Collections			
Category: Grocery Stores – General			
Sales Tax Collections			
1999-2005			
YEAR	Grocery Store Sales Tax Revenues (millions)	Grocery Stores Sales Tax as % of Gross Sales Tax	Sales Tax Revenues from Groceries as a Percentage of Total Tax Commission Receipts*
1999	\$160.02	7.84%	3.25%
2000	\$152.00	7.13%	2.95%
2001	\$147.89	6.85%	2.83%
2002	\$135.08	6.14%	2.74%
2003	\$129.47	5.86%	2.38%
2004	\$127.70	5.46%	2.29%
2005	\$123.72	5.11%	2.11%

*Source: Annual Reports of the Mississippi Tax Commission 1999 to 2005*

Grocery Store sales tax revenues have been declining in importance as a source of tax revenues. Grocery Store tax revenues have been declining in amounts (Figure 36) and declining as a percent of total sales tax revenues (Table 25).

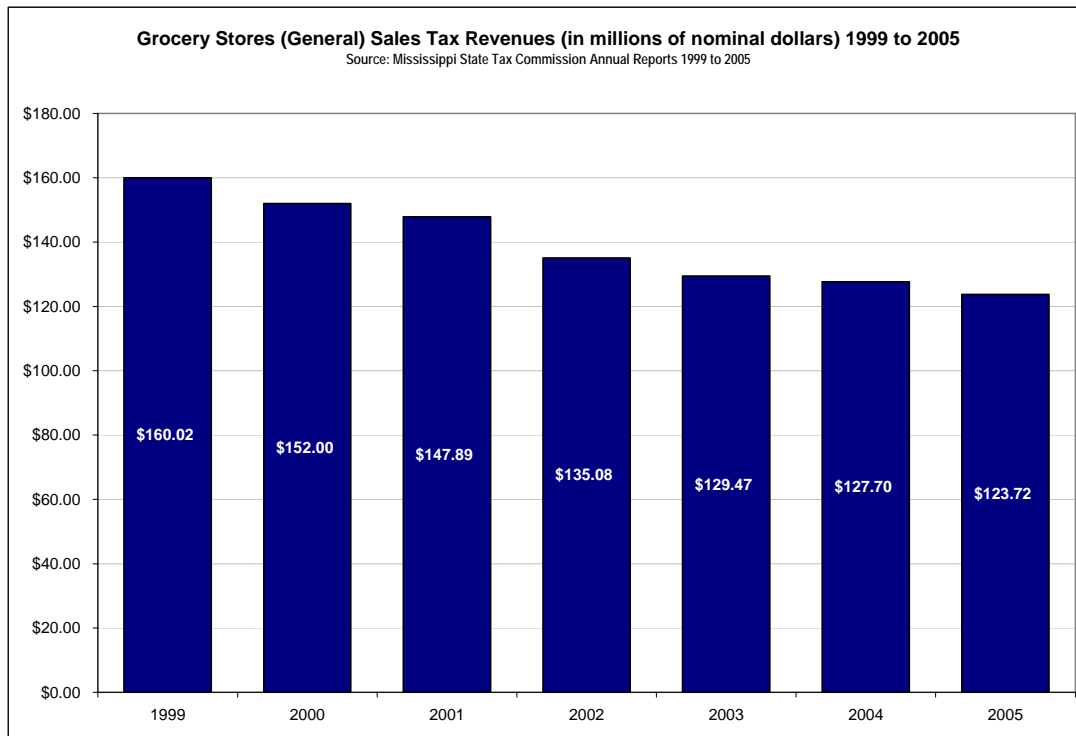


Figure 36: Mississippi Grocery Stores Sales Tax Revenues 1999 to 2005

Grocery Store sales taxes are a component of Food and Beverage sales taxes. While grocery sales taxes have been declining (Figure 37) as a percent of total Food and Beverage tax collections, Food and Beverage sales taxes have actually been increasing (Figure 38). This reflects the national trend away from unprepared food toward restaurant and other prepared food purchases.

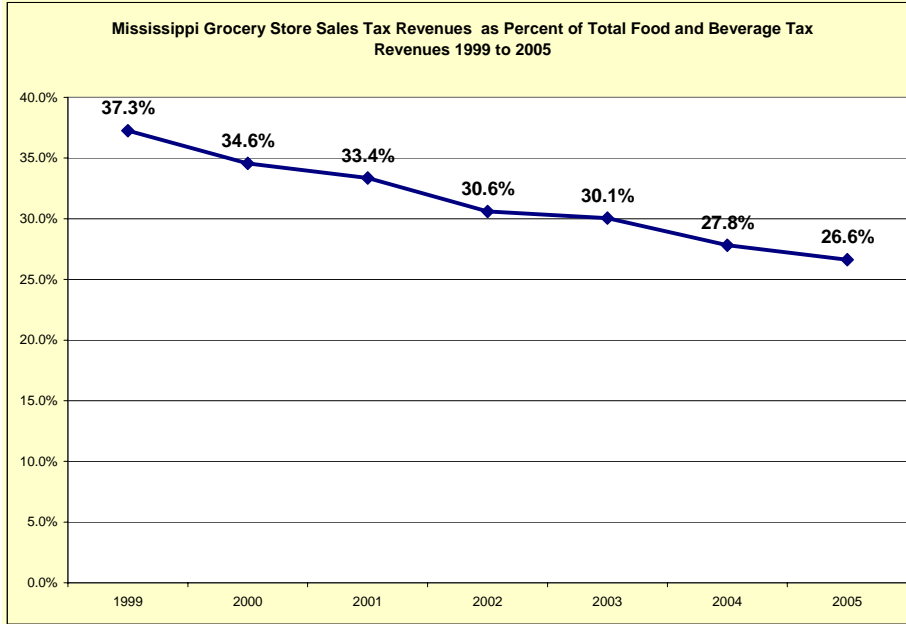


Figure 37: Mississippi Grocery Store Sales Tax Revenues as Percent of Total Food and Beverage

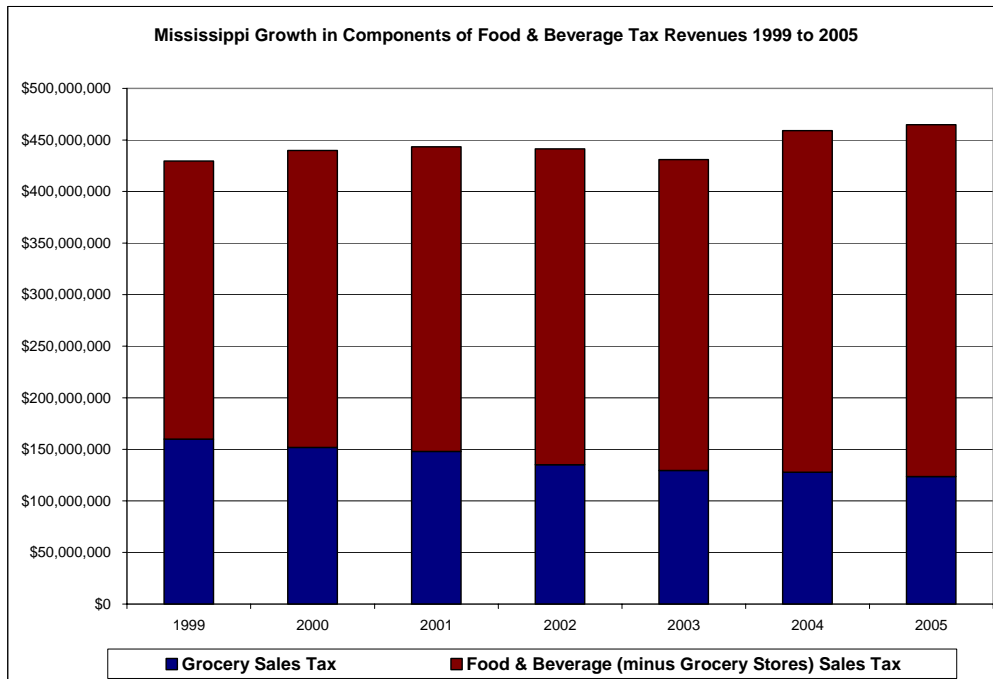


Figure 38: Mississippi Growth in Components of Food & Beverage Tax Revenues 1999 to 2005

Overall sales taxes have been growing in the last few years, but they are not growing as fast as total tax revenues and therefore they too are becoming less important to Mississippi as a source of revenue and again following the national trend (Table 26 and Figure 39).

Table 26: Mississippi Grocery Sales and Total Tax Commission Receipts 1999 to 2005

Mississippi Grocery Sales and Total Tax Commission Receipts				
	Gross Sales Tax	Grocery Sales Tax	Food and Beverage Tax	Total Tax Commission Receipts
1999	\$2,042,077,534	\$160,023,656	\$429,543,890	\$4,927,656,448
2000	\$2,130,636,371	\$151,999,404	\$439,762,196	\$5,149,104,524
2001	\$2,158,940,010	\$147,891,056	\$443,344,151	\$5,234,968,212
2002	\$2,199,917,532	\$135,076,023	\$441,369,365	\$4,927,656,448
2003	\$2,208,570,211	\$129,473,593	\$430,817,549	\$5,442,984,168
2004	\$2,338,086,247	\$127,702,845	\$459,042,570	\$5,585,062,081
2005	\$2,421,536,722	\$123,712,765	\$464,743,083	\$5,857,668,768

Source: Annual Reports of the Mississippi State Tax Commission 1999 to 2005

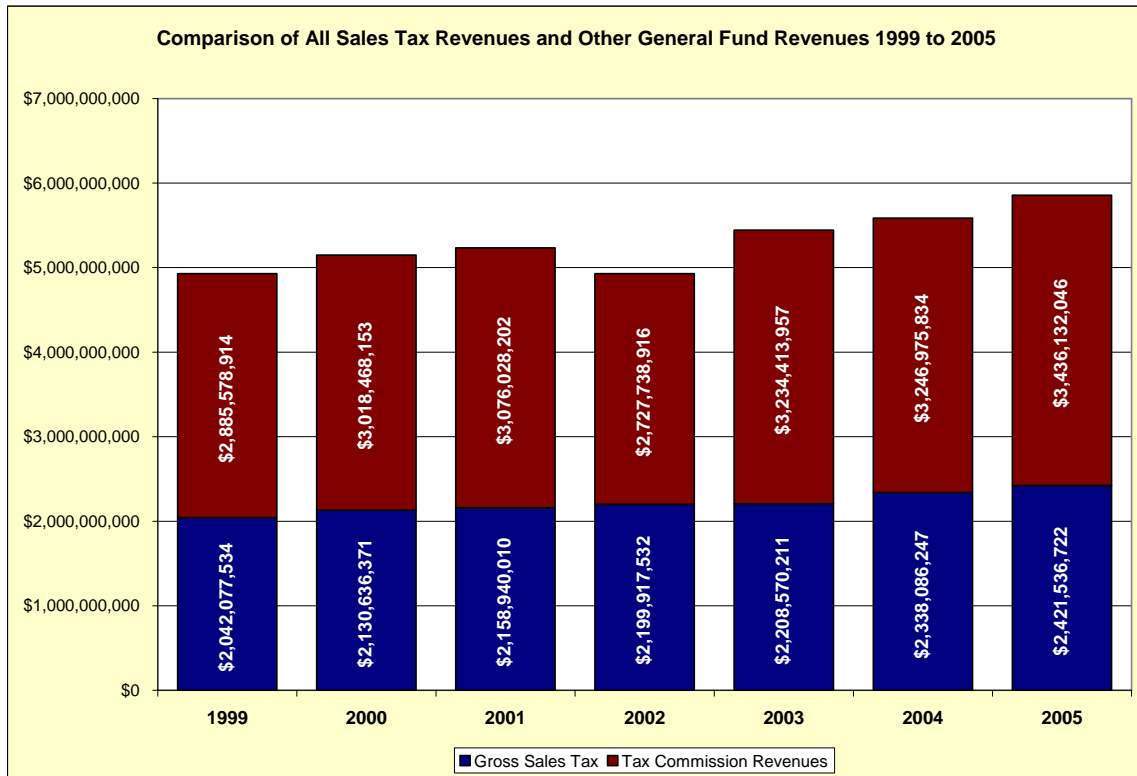


Figure 39: Comparison Mississippi Sales Tax Revenues with other Sources of Revenue 1999 to 2005

\* Note: sales tax revenues in Mississippi increased significantly during the aftermath of Hurricane Katrina due to significant increases in replacement purchases, as rebuilding continues these sales tax revenues should remain elevated in the near term but from 2004 to 2005 the rate of growth in sales tax revenue decline from the prior period

Sales Tax % rate of growth from prior year	
2000	4.34%
2001	1.33%
2002	1.90%
2003	0.39%
2004	5.86%
2005	3.57%

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The sales tax base as a percentage of personal income has been falling for decades (Fox 2003, Fox 1998, Mikesell, 2003). Fox attributes the decline in sales taxes to "cross border shopping, technological change, legislated exemptions and changing purchasing patterns." Bruce and Fox (2003) attribute a nation-wide loss of \$14 Billion in sales taxes for the year 2003 to electronic commerce, alone, and expect that growth to rise to nearly \$4.5 trillion by 2007.

### **Should Food be Exempted from Mississippi Sales Taxes?**

There is a good deal of public debate throughout the nation and in Mississippi, about sales taxes on groceries. Should food be exempt from sales taxes? If so, how should the lost revenue be recaptured. Little can be discerned from observing the actions of other states. Simple comparisons are very difficult and often misleading. Multiple variables that impact this decision differ to a significant degree from one state to another. Factors of particular concern include the socioeconomic characteristics of a specific state and its' citizens, such as income, poverty levels, food insecurity, the regressivity or progressivity of the entire tax system within a state, population growth (or decline), and the economic climate of the state.

As previously stated, nineteen states have some sort of sales tax on groceries. In Alaska, Louisiana, North Carolina, and Georgia there are no state sales taxes on groceries, but there are local sales taxes on groceries. In some states (Illinois, Missouri, Tennessee, Virginia, and West Virginia), the state sales tax on food is lower than is the general state sales tax. In six states (Arkansas, Alabama, Idaho, Kansas, Oklahoma, and South Dakota) local jurisdictions may add additional sales taxes to the state sales tax. This is also true of South Carolina, which, starting in October 2006, will have a lower tax on food than on other goods, but will allow local jurisdictions to add their own tax (Kabler, 2006.) In July 2006, Wyoming began an experiment by eliminating the sales tax on food for two years, after which time the Legislature will determine whether or not to extend the measure (Schmidt 2006.)

Numerous arguments can be made both for and against the exemption of food from the sales tax base. The most obvious argument in favor of the exemption, and one that is often cited, is that sales taxes are income regressive and sales taxes on food are particularly regressive. As an example, in 1999, Governor Sundquist's (Tennessee) exemption of food from the Tennessee sales tax was offered with the explanation that as a percentage of income, the savings would be much

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greater for low income families since they spend a much higher percentage of their income on food (McNichol 1999.). A counter argument that has been made is that since food stamps are given to the poor, such a tax exemption is more likely to benefit the middle and upper class. There is a question as to how many of those who are targeted to benefit from the exemption are already benefiting because many low-income persons are receiving food stamps. But just because someone technically qualifies for food stamps does not necessarily mean they are using or applying for the benefit. This can happen because of a lack of understanding about qualifications or because some individuals have individual opposition to accepting food stamps.

Food stamps are a federal benefit with states having responsibility for making decisions regarding the application, recertification, and reporting requirements for the program. In 2006 the federal poverty level for a family of four was \$20,000. U.S. measures of poverty were developed in the 1950s and although efforts have been made to improve the federal standards to measure poverty, research suggests that families need an income approximately twice the federal poverty level to meet basic needs such as adequate food, housing, and health care.<sup>134</sup>

Families with incomes below twice the poverty rate (\$40,000 for a family of four) are referred to as low income. The official poverty measures do not integrate income and payroll taxes, nor do they include costs associated with working such as child care or transportation.

In 2006 Food Stamp eligibility criteria in the state of Mississippi is as follows:

Eligibility Criteria

- |  |                         |
|--|-------------------------|
| • Net income limit for family of three             | \$16,092/year (FY 2006) |
| • Gross income limit for family of three           | \$20,928/year (FY 2006) |
| • Assets disregarded for eligibility determination | No                      |
| • Asset Limit                                      | \$2,000 per household   |

Benefit Level

- |   |                            |
|---|----------------------------|
| • Monthly Maximum benefit Family of three | \$399 per month (FY 2006)  |
| • Annual Maximum benefit Family of three  | \$4,788 per year (FY 2006) |

In fiscal year 2004, 88,000 households with children in Mississippi were recipients of food stamps and 201,000 children received the benefits of food stamps. In FY 2004, total federal spending for food stamps in Mississippi in 2004 was \$361 million and spending per household was \$2,380.<sup>135</sup>

Table 27: U.S. Family Unit Consumer Expenditures on Food 2005

<b>Family Unit Consumer Expenditures on Food 2005</b>									
Item	Husband and wife consumer units							One parent and at least one child under 18	Single person and other consumer units
	Total	Husband and wife only	Husband and wife with children				Other husband and wife consumer units		
			Total	Oldest child under 6	Oldest child 6 to 17	Oldest child 18 or older			
All Food	7,698	6,351	8,764	6,943	9,156	9,308	8,508	5,283	3,901
Food at home	4,269	3,413	4,878	4,070	5,031	5,161	5,280	3,099	2,154
Other food at home	\$1,483	\$1,175	\$1,721	\$1,529	\$1,755	\$1,794	\$1,713	\$1,099	\$774
Food prepared by consumer unit on out-of-town trips	59	61	57	49	57	62	67	16	24
Food away from home	3,429	2,938	3,886	2,873	4,125	4,147	3,228	2,185	1,748

Source: Consumer Expenditure Survey, Bureau of Labor Statistics

According to the U.S.D.A.,<sup>136</sup> in 2004 there were 615,000 people in Mississippi eligible to receive food stamps, but only 61 percent of those eligible participated in the program; there were 290,000 working poor in Mississippi in 2004 that were eligible to participate in the food stamp program, but only 51 percent of those eligible participated in the program. These statistics for Mississippi are similar to those at the national level.

Food stamps are exempt from state sales taxes. An important question regarding the impact of a reduction in grocery taxes is the impact on both state revenues and also on low income persons in the state of Mississippi. Due to the relatively low participation rates by food stamp eligible families and the working poor, the burden of grocery taxes falls heavily upon low-income people in Mississippi. Even though many poor families in Mississippi may qualify for food stamps which would relieve the burden of the sales tax on food, existing data indicate that poor families in Mississippi are heavily burdened by grocery taxes. One element contributing to this burden is the low Food Stamp program participation rate. Another element is the gap between average



consumer expenditures on food and the average Food Stamp benefit level in the state of Mississippi which is \$2,380 per household – once food stamps are expended, families' must spend out-of-pocket dollars for food costs that exceed Food Stamp program allotments.

Table 28: U.S. Average Annual Expenditures for Food for a Family of Three 2004

<i>Average Annual Expenditures for Food for Families 2004</i>		
	Family of Three	Family of Four
All Food	\$6,930	\$8,622
Food at Home	\$4,007	\$4,846
Food away from Home	\$2,924	\$3,776
<i>Source: Consumer Expenditures 2004, U.S. Department of Labor, U.S. Bureau of Labor Statistics, April 2006 Report 992</i>		

There is also the question of policy priorities regarding food insecurity. National food security statistics are derived from the Census Bureau's Current Population Survey, developed under the jurisdiction of the U.S.D.A, this data provides a consistent longitudinal basis for measuring food insecurity and hunger prevalence. This data provides a measure for the coping strategies that families use when experiencing anxiety about food insufficiency that lead to decisions to reduce the household's food budget by altering the quantity or variety of food consumed by a family. If respondents answer "yes" to three or more of the 18 core food security questions, they are classified as food insecure. The three least severe conditions that classify a household as food insecure are:

- They worried whether their food would run out before they got money to buy more
- The food they bought didn't last, and they didn't have money to get more
- They couldn't afford to eat balanced meals

*Low food security households* are defined as avoiding the disruption of their eating patterns and reducing food intake by using a variety of coping strategies, such as eating less varied diets, participating in Federal food assistance programs, or getting emergency food from community pantries. *Very low food security* households are defined as having normal eating patterns (of one or more household members) disrupted and food intake reduced because of insufficient money or other resources for food.

Mississippi had the second highest average prevalence of food insecurity during the period 2003 to 2005 in the nation (16.5); New Mexico had the highest prevalence of food insecurity (16.8). There are only 10 states that exhibit a prevalence of food insecurity that is above the U.S. average.<sup>137</sup>

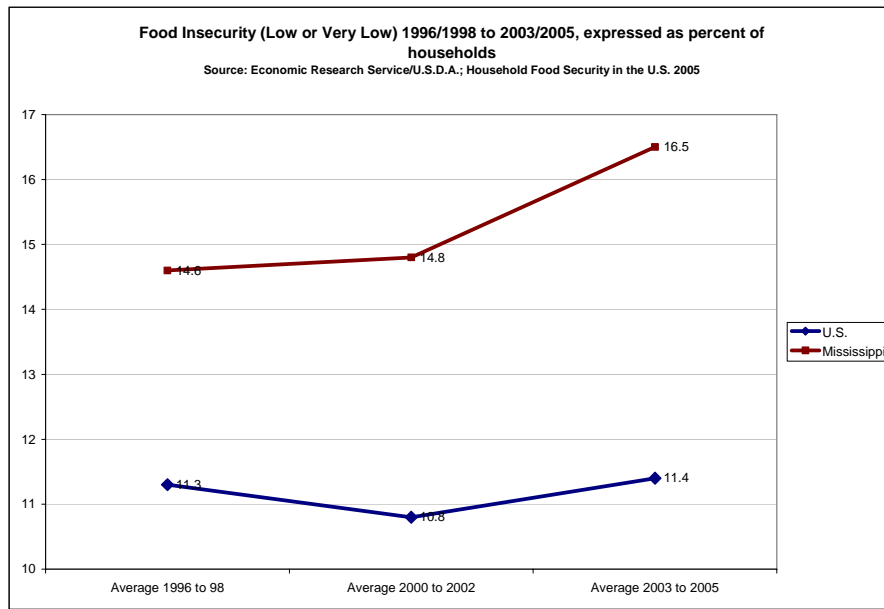


Figure 40: Food Insecurity Mississippi and U.S.

Research on food insecurity has found that households with children have double the rate of food insecurity when compared to households without children (17.6% compared to 8.9%).<sup>138</sup> Parents try to protect their children from hunger, but even moderate hunger can impede the cognitive development of children. Hungry children miss more days of school, score lower on standardized tests, and have more emotional health problems.

It is difficult to find a good model of exactly how the exemption of non-prepared food from sales taxes would impact state revenues. There is discussion in the literature that few states have exempted food from sales taxes recently so there is little information on what follows such an exemption. For example, in the case of Georgia, while groceries were exempted from state sales taxes, county level sales taxes remained at 5 and (mostly) 6 percent.

The answer to whether to substitute an increase in cigarette excise taxes for the food tax is clearly qualitative rather than quantitative in nature. Several facts may be offered into evidence. The

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sales tax on food is clearly regressive in nature, but food stamps help to minimize some of the impact of sales taxes on food. However, the regressivity of the sales tax is a particular issue in a state like Mississippi where overall incomes are generally low and where the income of the richest citizens are taxed less than the poor, and where over the last thirty years incomes of the richest have been growing faster than the incomes of the poor (Table 29, page 103).

Table 29: Comparative Income Growth

Average Income (2002 dollars)** * Income is post-tax and includes the the value of the EITC, realized capital gains or losses, and the cash value of food stamps, subsidized school lunch, and housing subsidies. See Tables 7 and 8 of the report for pre-tax income data.				
	Bottom Quintile	Middle Quintile	Top Quintile	Top 5%
Early 1980s	11,029	28,983	64,342	
Early 1990s	10,829	28,539	68,813	
Early 2000s	13,456	37,162	95,406	145,342
Change in Average Income (Dollar changes in bold are statistically significant at the 95% level)				
<i>Long-term change: Early 1980s to Early 2000s:</i>				
	Bottom Quintile	Middle Quintile	Top Quintile	Top 5%
Dollar Change	2,428	8,179	31,064	
Percent Change	22.0%	28.2%	48.3%	
<i>More recent change: Early 1990s to Early 2000s:</i>				
	Bottom Quintile	Middle Quintile	Top Quintile	Top 5%
Dollar Change	2,627	8,623	26,593	
Percent Change	24.3%	30.2%	38.6%	
Did average incomes change at the same pace?*				
	Top vs. Bottom	Top vs. Middle	Top 5% vs. Bottom	
Early 1980s to Early 2000s	Top grew faster	Top grew faster		
Early 1990s to Early 2000s	Same rate	Same rate		

Income Ratios (Calculated by dividing the average family income of the Top Quintile or Top 5% by the average family income of the Bottom or Middle Quintile)				
	Top to Bottom	Top to Middle	Top 5% to Bottom	
Early 1980s	5.8	2.2		
Early 1990s	6.4	2.4		
Early 2000s	7.1	2.6	10.8	
Change in Income Ratios (Changes not statistically significant at the 95% level are labeled n/a)				
	Top to Bottom	Top to Middle	Top 5% to Bottom	
Early 1980s to Early 2000s	1.3	0.3		
Early 1990s to Early 2000s	n/a	n/a		
Rankings of Income Ratios*				
	Top to Bottom	Top to Middle	Top 5% to Bottom	
Early 2000s	17th	15th	25th	
Change from Early 1980s to Early 2000s	32nd	35th		
Change from Early 1990s to Early 2000s	n/a	n/a		
<ul style="list-style-type: none"> <li>• Rankings are from largest to smallest, such that 1st signifies the most income inequality or the greatest increase in income inequality. Rankings labeled as n/a indicate that changes in income ratios were not statistically significant at the 95% level.</li> <li>** Was the difference in percentage changes significant at the 95% level? If not, the quintiles grew at the same rate.</li> <li>*** Source: Bernstein, Jared, Elizabeth McNichol, and Karen Lyon.2006</li> </ul>				

### **Analysis of Non-prepared Food and Related Sales Taxes**

In Fiscal Year 2005, total sales tax collections in the state of Mississippi were \$1,583,459,076 representing 41.9 percent of total General Revenue Fund receipts in FY 2005 (Table 30 and 31).

Table 30: Mississippi General Fund Receipts Fiscal Year 2005

<b>General Fund Receipts Fiscal Year 2005</b>		<b>% of Total</b>
Sales Tax	\$1,583,459,076	41.91%
Individual Income	\$1,165,899,674	30.86%
Corporate	\$361,298,066	9.56%
Use Taxes	\$157,385,180	4.17%
Gaming Fees and Taxes	\$168,540,140	4.46%
Insurance Premiums	\$135,637,033	3.59%
Tobacco Taxes	\$56,018,644	1.48%
Alcoholic Beverage	\$50,474,330	1.34%
Other Taxes	\$99,124,646	2.62%
<b>Total</b>	<b>\$3,777,836,789</b>	<b>100.00%</b>

*Source: Mississippi State Tax Commission Annual Report 2005*

Food and Beverage sales tax collections were \$464,743,083 in fiscal year 2005, representing 19.2 percent of total Sales Tax collections and 12.3 percent of total General Revenue Fund receipts in FY 2005.

Table 31: Mississippi Gross Sales Tax Collections by Industry Group 2005

<b>Mississippi Gross Sales Tax Collections by Industry Group 2005</b>		<b>% of Total</b>
Automotive	\$338,187,675	13.97%
Machinery, Equipment & Supplies	\$125,266,622	5.17%
Food and Beverage	\$464,743,083	19.19%
Furniture	\$53,710,239	2.22%
General Merchandise	\$464,513,222	19.18%
Lumber and Building Materials	\$184,936,838	7.64%
Miscellaneous Retail	\$228,369,937	9.43%
Miscellaneous Services	\$135,959,817	5.61%
Wholesale	\$45,484,350	1.88%
Public Utility	\$209,730,613	8.66%
Contracting	\$162,870,191	6.73%
Recreation	\$7,764,135	0.32%
<b>Total</b>	<b>\$2,421,536,722</b>	<b>100.00%</b>

*Source: Mississippi State Tax Commission Annual Report 2005*

Analysis of the impact of exempting non-prepared foods from sales taxes in Mississippi depends upon how these policies and categories are defined and the accuracy of the data. For example, as demonstrated in Table 32, will only Grocery Stores and Quick Stops be included in the exemption, or will the exemption be extended to Concessions and Ice Cream Parlors, and will Restaurants and Beer Parlors be included or excluded? The analysis of the revenue impact of eliminating the sales tax on non-prepared foods used in this document is developed using a range of analysis that considers possible alternative policies.

Table 32: Mississippi Total Food and Beverage Sales Tax Collections FY 2005

<i>Mississippi Total Food and Beverage Sales Tax Collections Fiscal Year 2005</i>	
Grocery Stores - General	\$123,712,766
Quick Stop Grocery Stores	\$98,727,185
Meat, Poultry, and Fish Products	\$2,343,581
Specialty Food Related	\$15,679,284
<b>Subtotal</b>	<b>\$240,462,816</b>
Concessions, Quick Food, Ice Cream Parlors	\$15,848,106
<b>Subtotal</b>	<b>\$256,310,922</b>
Restaurants and Cafes - Nonalcoholic	\$122,163,482
Restaurants and Cafes - Alcoholic	\$49,885,274
Liquor Stores - Bars Only	\$19,062,976
Liquor Stores - Package Stores	\$14,055,572
Beer Parlors	\$3,264,857
<b>Total Sales Tax Collections on all Food and Beverage</b>	<b>\$464,743,083</b>

Source: Mississippi State Tax Commission Annual Report 2005

### Data Issues

The Mississippi State Tax Commission generated statistics of sales tax collections on non-prepared foods for Fiscal Year 2005. A printout of non-prepared food tax collections for each municipality and county within the state of Mississippi was also prepared by the Mississippi State Tax Commission. These printouts were scanned and converted into electronic data by the John C. Stennis Institute of Government for further analysis.

The statistics provided by the Mississippi State Tax Commission are quoted below:

Total Sales Tax Collected on Sales of Non-prepared Foods:	\$336,350,000
Total Sales Tax with 2.4 % Growth for FY 2006:	\$345,000,000
Total City Diversion on Non-prepared Foods at 18.5%:	\$ 56,100,000
Total City Diversion with 2.5% Growth for FY 2006:	\$57,500,000
FY 2005 City Diversion Received:	\$342,499,301
Non-prepared Foods Diversion as Percentage of Total Diversion*	16%

\* This figure represents the average percentage statewide. The specific city percentages range from a low of 0% to a high of 67%

Source: provided by the Mississippi State Tax Commission

Analysis developed by the Stennis Institute yielded a discrepancy between its' database and the printout of the Mississippi State Tax Commission in the amount of \$ 3,150,627 or approximately one percent of the total. Although subtotals for each county and municipality reconciled with figures provided by the Tax Commission, the total for sales tax on non-prepared foods reported by the Tax Commission equaled \$336,350,000; the total sales tax collected on non-prepared foods from the Stennis Institute database totaled \$333,199,373 (see Table 33, below). Repeated comparative scrutiny and proofreading of the Tax Commission printouts and the Stennis Institute database could not identify the source of this error. Therefore analysis of the impact of a sales tax exclusion on non-prepared foods takes was conducted using both of these figures.

Table 33: Mississippi Sales Taxes Collected on Food by Sector 2005

<b>Sales Taxes Collected on Food by Sector 2005</b>	
Grocery Stores General	\$104,983,482
Quick Stop	\$83,712,790
Meat poultry fish products	\$2,006,542
Specialty Food Related	\$13,752,035
Restaurants & Cafés No Alcohol	\$6,107,735
Restaurants & Cafés Alcohol	\$2,506,807
Concessions	\$814,473
Department Stores	\$112,160,610
General Merchandise NEC	\$927,227
Gift, Novelty, Souvenir	\$507,321
Drug Stores	\$752,950
Gasoline Service Stations	\$691,824
Dry Goods & Apparel	\$77,186
Groceries General	\$2,226,184
Soft Drinks	\$1,071,886
Dairy Products	\$255,107
Fish and Seafood	\$20,411
Meat & Meat Products	\$116,277
Fresh Fruit	\$46,559
Grocery Related	\$461,967
<b>Total Sales Tax Collections on Sales Food</b>	<b>\$333,199,373</b>
<i>Source: Stennis Institute prepared from documents prepared by Mississippi Tax Commission</i>	

As illustrated in Table 32 on page 105, total Food & Beverage sales tax collections in Fiscal Year 2005 were \$464,743,083. Estimation of the revenue impact from an exclusion from sales tax on “non-prepared” foods, will determine how this term is defined. In many states, “non-prepared” foods are defined as identical to those qualifying for Food Stamp benefits. This approach simplifies the administration of these exemptions because grocery stores, quick stops, and other retail outlets

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(i.e. Wal-Mart) have cash register and inventory systems already set up to make these calculations and experience no additional administrative costs associated with the implementation of exemptions on these grocery items. Many states define food eligible for food tax exemption as *“food sold for human consumption as the types and kinds of food products eligible for sales tax exemption shall be the same types and kinds of food products that are eligible for purchases made with coupons issued under the Federal Food Stamp act of 1977 and the Food Security Act of 1985 and do not include restaurant sales of food.”*

Some states, such as Louisiana exclude more items from the food sales tax exemption. For example, Louisiana Revised Statutes 47:305 (D)(1)(n-r) includes bakery products, dairy products, soft drinks, fresh fruits and vegetables, and packaged food requiring further preparation and consumption in the home by the purchaser are exempted, but *“Items such as malt beverages, beer, other alcoholic beverages, distilled water, carbonated water, water in containers, vitamins, and ice are not food items and are fully taxable. Food for sale in restaurants, drive-ins, snack bars, candy and nut counters, private clubs, and similar establishments who furnish facilities for the consumption of food on the premises are not covered by the “food” exemption.”*

Using guidelines similar to those used for Federal Food stamps, assuming the exclusion of Restaurants and Cafes, Liquor Stores and Beer Parlors from unprepared food tax exemptions, would reduce estimates of sales taxes on non-prepared foods in Mississippi to a maximum of \$256,310,922; further exclusion of concessions, quick food, and ice cream parlors – again using the assumption of the guidelines used for Federal Food Stamps, further reduces the current sales tax collections on non-prepared foods to \$240,462,816. Both of these figures are lower than those provided by the Mississippi State Tax Commission or those generated by the Stennis Institute from data provided by the Mississippi State Tax Commission. Although these differences do not create an insurmountable obstacle to enacting legislation related to sales tax on unprepared food, the potential difference must be considered. For this reason, estimates have been developed that integrate these potential differences into the calculations presented in this document (Table 34, page 109). These estimates may then be used to evaluate alternative policies options for placing limitations or exclusions on the sales tax exemption for food in Mississippi.



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***Cigarette Taxes to Replace Lost Sales Tax Revenues from an Exemption on Non-prepared Foods.***

At an aggregated level, the estimated reductions in packs per adult sold, resulting from a \$1.00 increase in state excise taxes, are estimated to range from 8.65 to 14.17 packs per adult per year, with a resulting change in aggregate increased state tax revenue ranging from \$173.0 million to \$184.6 million. This does not include the increase in sales tax which will be an additional 7 percent of the increased excise tax revenue or an estimated \$12.1 million for the lower bound to \$12.9 for the upper bound. Thus the total fiscal impact at an aggregate level should range from \$185.1 to \$197.5 million of additional revenue using consumption estimated for 2005 as a base.

As demonstrated in Table 34, predicted new revenues associated with a \$1.00 increase on cigarettes would be sufficient to bridge the lost revenue gap from the exclusion of unprepared foods from sales tax only if this exclusion was limited to Grocery Stores; if the exclusion from sales taxes on unprepared foods was extended to include department stores and quick stops, then the new revenues from a \$1.00 increase on cigarettes would come close to bridging the lost revenue gap but still leave a potential revenue shortfall of between \$25 and \$37.3 million.<sup>6</sup>

An alternative solution may be to reduce the sales tax on unprepared foods by 50 percent to a 3.5% sales tax on unprepared foods. This approach yields a relatively revenue neutral solution, and bridges the lost revenue gap from reducing sales tax on unprepared foods. A high degree of confidence may be placed in the assumption that sales tax revenue figures generated by the Mississippi State Tax Commission for unprepared foods - \$336,350,000 – is the upper limit of the actual revenues. Therefore, this approach would still provide \$16 to \$29.3 million in new “surplus” revenues to compensate for modeling error (see Table 34).

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<sup>6</sup> This estimate does not include the potential for an additional \$36 million in additional sales tax mentioned on page 93

Table 34: Predicted New Revenues for Increased Cigarette Taxes and Predicted Changes in Revenues based on Elimination and Reducing Existing Sales Tax on Non-Prepared Foods in Mississippi

a. Predicted Changes in Revenues based on Eliminating Existing Sales Tax on Non-Prepared Foods						
	Tax Commission Printout	Stennis Institute	Grocery Stores (General); Quick Stops; Meat, Poultry and Fish Products; and Specialty Food Stores	Grocery Stores (General); Quick Stops; Meat, Poultry and Fish Products; and Specialty Food Stores plus Concessions	Grocery Stores Only	Grocery Stores and Quick Stops
Current Sales Tax Revenues	\$336,350,000	\$333,199,373	\$240,462,816	\$256,310,922	\$123,712,766	\$222,439,951
Lower Bound Cigarette Tax Revenue Increase	185,100,000	185,100,000	185,100,000	185,100,000	185,100,000	185,100,000
Upper Bound Cigarette Tax Revenue Increase	197,500,000	197,500,000	197,500,000	197,500,000	197,500,000	197,500,000
<i>Lower Bound Difference in total Revenue Collections</i>	<i>(\$151,250,000)</i>	<i>(\$148,099,373)</i>	<i>(\$55,362,816)</i>	<i>(\$71,210,922)</i>	\$61,387,234	<i>(\$37,339,951)</i>
<i>Upper Bound Difference in Total Revenue Collections</i>	<i>(\$138,850,000)</i>	<i>(\$135,699,373)</i>	<i>(\$42,962,816)</i>	<i>(\$58,810,922)</i>	\$73,787,234	<i>(\$24,939,951)</i>
b. Predicted Changes in Revenues based on Reducing Existing Sales Tax on Non-Prepared Food by fifty percent to 3.5% Tax						
Current Sales Tax Revenues	\$336,350,000	\$333,199,373	\$240,462,816	\$256,310,922	\$123,712,766	\$222,439,951
Sales Tax Revenue from 3.5 % tax	\$168,175,000	\$166,599,687	\$120,231,408	\$128,155,461	\$61,856,383	\$111,219,976
Lower Bound Cigarette Tax Revenue Increase	185,100,000	\$185,100,000	185,100,000	185,100,000	185,100,000	185,100,000
Upper Bound Cigarette Tax Revenue Increase	197,500,000	\$197,500,000	197,500,000	197,500,000	197,500,000	197,500,000
<i>Lower Bound Difference in total Revenue Collections</i>	<i>\$16,925,000</i>	<i>\$18,500,314</i>	<i>\$64,868,592</i>	<i>\$56,944,539</i>	<i>\$123,243,617</i>	<i>\$73,880,025</i>
<i>Upper Bound Difference in Total Revenue Collections</i>	<i>\$29,325,000</i>	<i>\$30,900,314</i>	<i>\$77,268,592</i>	<i>\$69,344,539</i>	<i>\$135,643,617</i>	<i>\$86,280,025</i>

The final concern is how changes in sales taxes on groceries will affect municipalities within the state of Mississippi. Currently, sales tax collections brought into the General Revenue Fund from establishments located within the municipalities are diverted back to the municipality. These sales tax diversions to municipalities are an important revenue stream for cities in Mississippi. According to data provided by the Mississippi Tax Commission, in Fiscal Year 2005 total diversions to municipalities were \$342,499,301, of this amount \$ 56.1 million or 16 percent was attributable to sales taxes collected on non-prepared foods. One of the more important policy considerations is to assure that municipalities are not negatively impacted by a policy decision to reduce or eliminate sales taxes on groceries. To achieve this objective would require diverting an amount equivalent to the current diversion received by municipalities from sales taxes on groceries.

The impact of changes in sales tax on non-prepared foods will have different impacts at the municipal level; for some municipalities these sales taxes are a significant percentage of their total revenues. Take for example Hinds County, for the county as a whole the municipal diversion to all cities within Hinds County from sales tax collections on non-prepared foods contributed only 12.9 percent of total municipal revenues from sales tax diversions; however the importance of diversions from non-prepared food sales tax collections exhibit high variability from municipality to municipality – ranging from zero in Learned to a high of 41 percent in Utica.

Table 35: Hinds County Sales Tax Diversions

<b>Place Name</b>	<b>Sales tax non prepared foods</b>	<b>Total city diversion non prepared foods</b>	<b>FY 2005 Total Municipal Diversion all Sales Taxes</b>	<b>Percent of Total FY 2005 Diversion from Non-prepared Food</b>
Hinds County	\$29,514,657	\$5,153,505	\$39,991,113	12.89%
Jackson	\$22,829,696	\$4,223,493	\$35,994,542	11.73%
Clinton	\$3,943,615	\$729,569	\$3,327,347	21.93%
Utica	\$348,928	\$64,552	\$157,328	41.03%
Edwards	\$126,748	\$23,448	\$62,863	37.30%
Raymond	\$236,720	\$43,793	\$166,389	26.32%
Terry	\$222,256	\$41,117	\$132,014	31.15%
Bolton	\$148,825	\$27,533	\$143,237	19.22%
Learned	\$0	\$0	\$7,393	0.00%

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Additional variance exists between municipalities in the total dollar amount received from sales tax diversions and the relative percentage that sales tax diversions from non-prepared food comprise as a percent of total municipal sales tax diversions. For example, the City of Jackson's sales tax diversion from non-prepared food is \$4,223,493, but this accounts for only 11.7 percent of total municipal revenue from all diversions; however for the City of Utica, sales tax diversions from non-prepared food are \$64,552 but this accounts for 41 percent of total municipal revenue from all diversions.

The model for additional sales tax generated for a \$1.00 increase per pack in cigarette taxes predicts an increase in new sales tax revenues of between \$12.1 to \$12.9 million, diversions to cities from these new sales tax revenues at 18.5 percent will range from \$2,238,500 to \$2,386,500; representing potential new revenues from sales tax diversions to the municipalities. New total sales tax collections may be generated, under the assumption that middle- and upper-income groups will spend the savings from the taxes on groceries on taxable items; this amount is estimated to be approximately \$36 million (see page 93) in new sales taxes with diversions to the cities estimated at 18.5 percent for a total of \$6,660,000. These potential new revenues alone, are insufficient to compensate municipalities for the potential loss of \$56 million in diversions from the complete elimination of sales taxes on non-prepared foods or the loss of \$28 million in diversion if sales taxes on non-prepared foods are reduced to 3.5 percent.

Consideration for future and unknown changes that should be factored into the decision-making process include future population change including the socio-demographic composition of the population and economic growth including income growth, the composition of the retail base of each community, and future changes in consumer behaviors. The Stennis Institute has developed a database that can be used to predict cigarette sales through 2015 and related revenues and sales tax revenues at the municipal level (see Appendix A); a similar database, beyond the scope of this report, could be developed to predict non-prepared food sales. However, these predictions may be highly unreliable and the cost/benefit of such an analysis is questionable. Data from the Tax Commission does provide information on the absolute ceiling for sales tax collected on non-prepared foods. From the perspective of limiting the potential for negative and unknown impacts on sales tax revenue streams at both the state and municipal level, a reduction to 3.5 percent in

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sales taxes on unprepared foods may provide an initial transition that will enable decision-makers to gauge the impact of this policy on revenues, plus it would provide a simple metric for developing a formula to reimburse municipalities for lost revenues from sales tax diversions on unprepared foods. A simple metric that redistributes a 3.5 percent sales tax collected on non-prepared foods at a rate of 37 percent instead of 18.5 percent currently used to calculate diversions to municipalities would be sufficient to compensate municipalities for lost revenues associated with a reduction in sales taxes on non-prepared foods. Such an approach would integrate factors such as population change, change in the retail base of municipalities, and changes in consumer purchasing patterns over time – that would be very difficult to model into a formula without exact data due to the significant number of variables that impact consumer purchasing behaviors that change over the long-term. Depending upon decisions by policy-makers, municipalities might also have the opportunity to receive new increased revenues from tax diversions associated with the marginal increase in new sales taxes collection on the \$1.00 increase in the price of a pack of cigarettes and the potential new sales taxes collections related to new consumer spending from savings on grocery taxes. The benefit of such a policy would be highly dependent upon the retail and business infrastructure that exists within each municipality and the purchasing patterns of residents. It will also depend upon the price subsidizing strategies used by tobacco companies, tobacco distributors, and retailers.

The answer to whether to substitute an increase in cigarette excise taxes for a reduction in food taxes is predominantly qualitative rather than quantitative in nature. This document has offered several facts into evidence. The sales tax on food is clearly regressive in nature and the regressivity of the sales tax on food is a particular issue in a state like Mississippi where incomes are generally low and where the income of the richest citizens is taxed less than the poor. An increased tax on cigarettes is also regressive because cigarette consumption is higher among the poor and less educated, however cigarettes account for a much smaller percentage of consumer expenditures (less than one percent) and not all low income people are smokers; food is a necessity and cigarettes are not; food is necessary for the health of children, cigarettes are detrimental to the health of everyone. The costs related to the internalities and externalities of cigarette consumption are easier to quantify than are the costs related to the internalities and externalities of grocery taxes. Sales taxes and specifically sales taxes on food at home as a

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percent of total tax revenues are decreasing across the nation. In the long term, some other tax system will have to be found to replace the sales tax on food or tax revenues will decline. However, in the long term cigarette tax revenues are also likely to decline over time for two reasons: 1) cigarette taxes are excise taxes, so as inflation is taken into account the contribution of the cigarette tax will decrease over time solely due to inflation; and 2) cigarette consumption should decline over time due to the general secular trend toward decreased consumption by the young as the older smokers die off and due to decreased consumption related to price increases.

Appendix A of this document contains revenue estimates of the impact of a \$1.00 increase on the excise tax on cigarettes to \$1.18 for a pack of 20 cigarettes, plus potential marginal increases in sales taxes on the final cost of a pack of cigarettes. It also includes data on the sales tax diversion to municipalities from non-prepared foods based upon the 2005 estimates provided by the Mississippi State Tax Commission.



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Adams	Natchez	\$835,916	\$44,938	\$13,215	\$13,721
Alcorn	Corinth	\$922,949	\$47,790	\$11,399	\$11,835
Alcorn	Rienzi	\$1,334	\$336	\$261	\$271
Alcorn	Kossuth	\$6,129	\$160	\$138	\$144
Alcorn	Glen	\$521	\$180	\$235	\$244
Alcorn	Farmington	\$2,398	\$466	\$1,476	\$1,533
Amite	Liberty	\$57,867	\$2,293	\$550	\$571
Amite	Gloster	\$40,198	\$1,390	\$850	\$883
Attala	Kosciusko	\$385,429	\$17,672	\$5,747	\$5,966
Attala	McCool	\$3,746	\$85	\$147	\$153
Attala	Ethel	\$1,175	\$70	\$359	\$373
Attala	Sallis	\$1,347	\$53	\$85	\$88
Benton	Ashland	\$45,125	\$1,252	\$436	\$452
Benton	Hickory Flat	\$11,831	\$666	\$419	\$435
Benton	Snow Lake Shores	\$0	\$18	\$222	\$230
Bolivar	Cleveland	\$581,648	\$27,751	\$9,675	\$10,045
Bolivar	Shelby	\$34,088	\$1,076	\$2,039	\$2,117
Bolivar	Rosedale	\$38,271	\$965	\$1,827	\$1,897
Bolivar	Mound Bayou	\$13,284	\$512	\$1,523	\$1,581
Bolivar	Merigold	\$8,416	\$626	\$471	\$489
Bolivar	Boyle	\$16,770	\$1,405	\$511	\$531
Bolivar	Duncan	\$584	\$51	\$421	\$437
Bolivar	Alligator	\$2,042	\$106	\$155	\$161
Bolivar	Gunnison	\$3,386	\$96	\$457	\$474
Bolivar	Benoit	\$9,687	\$813	\$441	\$458
Bolivar	Beulah	\$1,412	\$55	\$337	\$350
Bolivar	Pace	\$2,479	\$79	\$279	\$290
Bolivar	Shaw	\$20,147	\$839	\$1,687	\$1,751
Bolivar	Winstonville	\$98	\$27	\$226	\$234



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Bolivar	Renova	\$91	\$237	\$436	\$452
Calhoun	Calhoun City	\$86,266	\$2,959	\$1,442	\$1,497
Calhoun	Bruce	\$97,528	\$3,943	\$1,615	\$1,676
Calhoun	Vardaman	\$26,195	\$747	\$810	\$841
Calhoun	Big Creek	\$221	\$68	\$98	\$101
Calhoun	Derma	\$1,575	\$598	\$895	\$929
Calhoun	Pittsboro	\$36	\$52	\$164	\$171
Calhoun	Slate Springs	\$0	\$36	\$94	\$97
Carroll	Vaiden	\$30,939	\$1,171	\$702	\$729
Carroll	Carrollton	\$5,828	\$348	\$325	\$338
Carroll	North Carrollton	\$6,844	\$305	\$389	\$404
Chickasaw	Houston	\$251,799	\$8,919	\$2,991	\$3,106
Chickasaw	New Houlika	\$31,450	\$874	\$530	\$550
Chickasaw	Okolona	\$81,661	\$2,612	\$2,221	\$2,306
Chickasaw	Woodland	\$2,006	\$1,318	\$118	\$123
Choctaw	Ackerman	\$65,410	\$2,936	\$1,279	\$1,327
Choctaw	Weir	\$12,949	\$248	\$415	\$431
Choctaw	French Camp	\$3,604	\$130	\$305	\$317
Claiborne	Port Gibson	\$82,943	\$2,540	\$1,378	\$1,431
Clarke	Quitman	\$130,816	\$4,335	\$1,863	\$1,934
Clarke	Enterprise	\$4,593	\$287	\$354	\$368
Clarke	Shubuta	\$9,406	\$435	\$506	\$525
Clarke	Stonewall	\$33,586	\$650	\$857	\$889
Clarke	Pachuta	\$6,291	\$208	\$184	\$191
Clay	West Point	\$344,207	\$15,516	\$8,845	\$9,184
Coahoma	Clarksdale	\$528,105	\$26,971	\$13,669	\$14,192
Coahoma	Jonestown	\$8,614	\$609	\$1,164	\$1,208
Coahoma	Friars Point	\$5,180	\$294	\$995	\$1,033
Coahoma	Lula	\$2,357	\$541	\$244	\$253





County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Coahoma	Lyon	\$3,569	\$344	\$277	\$288
Coahoma	Coahoma	\$1,933	\$58	\$242	\$252
Copiah	Hazlehurst	\$253,643	\$8,712	\$3,395	\$3,525
Copiah	Crystal Springs	\$203,756	\$6,347	\$4,592	\$4,768
Copiah	Wesson	\$20,619	\$1,300	\$1,314	\$1,364
Copiah	Georgetown	\$11,191	\$318	\$273	\$283
Copiah	Beauregard	\$0	\$24	\$213	\$221
Covington	Seminary	\$25,504	\$779	\$266	\$277
Covington	Collins	\$165,485	\$10,353	\$2,107	\$2,188
Covington	Mount Olive	\$23,254	\$700	\$687	\$713
DeSoto	Hernando	\$386,536	\$16,282	\$7,531	\$7,819
DeSoto	Olive Branch	\$805,729	\$49,561	\$21,293	\$22,107
DeSoto	Horn Lake	\$715,087	\$37,457	\$16,867	\$17,512
DeSoto	Walls	\$5,323	\$177	\$344	\$357
DeSoto	Southaven	\$1,279,176	\$87,262	\$29,574	\$30,705
Forrest	Hattiesburg	\$2,497,097	\$173,417	\$35,367	\$36,719
Forrest	Petal	\$314,494	\$14,388	\$8,024	\$8,331
Franklin	Meadville	\$1,450	\$965	\$401	\$416
Franklin	Bude	\$28,648	\$1,019	\$812	\$843
Franklin	Roxie	\$25	\$97	\$445	\$462
George	Lucedale	\$333,502	\$14,647	\$2,169	\$2,252
Greene	Leakesville	\$60,280	\$2,497	\$817	\$848
Greene	State Line	\$18,863	\$674	\$256	\$266
Greene	McLain	\$6,771	\$177	\$473	\$491
Grenada	Grenada	\$435,338	\$36,597	\$11,248	\$11,679
Hancock	Bay St. Louis	\$121,808	\$13,194	\$6,626	\$6,880
Hancock	Waveland	\$475,311	\$21,775	\$5,758	\$5,978
Harrison	Gulfport	\$1,929,439	\$175,224	\$55,960	\$58,101
Harrison	Biloxi	\$1,125,646	\$123,593	\$38,774	\$40,257



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Harrison	Pass Christian	\$337,745	\$12,188	\$5,291	\$5,493
Harrison	Long Beach	\$338,988	\$14,434	\$13,347	\$13,857
Harrison	D'Iberville	\$664,387	\$34,276	\$6,101	\$6,334
Hinds	Jackson	\$4,223,493	\$349,973	\$134,394	\$139,534
Hinds	Clinton	\$729,569	\$32,352	\$19,714	\$20,468
Hinds	Utica	\$64,552	\$1,530	\$699	\$725
Hinds	Edwards	\$23,448	\$611	\$989	\$1,027
Hinds	Raymond	\$43,793	\$1,618	\$1,274	\$1,322
Hinds	Terry	\$41,117	\$1,284	\$531	\$551
Hinds	Bolton	\$27,533	\$1,393	\$463	\$481
Hinds	Learned	\$0	\$72	\$36	\$37
Holmes	Pickens	\$36,049	\$983	\$900	\$935
Holmes	Durant	\$70,864	\$2,726	\$2,060	\$2,139
Holmes	Lexington	\$120,328	\$4,267	\$1,406	\$1,459
Holmes	Tchula	\$19,206	\$672	\$1,632	\$1,695
Holmes	Goodman	\$20,015	\$473	\$884	\$917
Holmes	Cruger	\$222	\$46	\$315	\$327
Holmes	West	\$2,156	\$246	\$147	\$153
Humphreys	Belzoni	\$154,191	\$4,979	\$1,821	\$1,891
Humphreys	Isola	\$7,809	\$367	\$514	\$533
Humphreys	Louise	\$7,067	\$164	\$212	\$220
Humphreys	Silver City	\$623	\$42	\$226	\$234
Issaquena	Mayersville	\$1,393	\$86	\$561	\$583
Itawamba	Fulton	\$228,275	\$11,591	\$3,275	\$3,400
Itawamba	Mantachie	\$28,708	\$1,578	\$905	\$940
Itawamba	Tremont	\$2,489	\$220	\$316	\$328
Jackson	Pascagoula	\$856,981	\$52,711	\$19,401	\$20,143
Jackson	Moss Point	\$211,467	\$13,774	\$11,657	\$12,103
Jackson	Ocean Springs	\$718,472	\$36,466	\$13,706	\$14,230



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Jackson	Gautier	\$337,604	\$20,314	\$12,984	\$13,480
Jasper	Bay Springs	\$141,166	\$6,069	\$1,687	\$1,752
Jasper	Heidelberg	\$49,198	\$3,248	\$623	\$647
Jasper	Louin	\$7,157	\$230	\$258	\$268
Jasper	Montrose	\$4,590	\$76	\$97	\$101
Jasper	Paulding	\$2,460	\$58	\$13,965	\$14,499
Jefferson	Fayette	\$66,183	\$1,736	\$1,634	\$1,697
Jefferson	Prentiss	\$115,897	\$4,951	\$821	\$853
Jefferson	Bassfield	\$60,629	\$1,457	\$222	\$231
Jones	Laurel	\$1,213,025	\$71,418	\$14,295	\$14,842
Jones	Ellisville	\$121,177	\$5,781	\$2,918	\$3,030
Jones	Sandersville	\$18,680	\$2,783	\$626	\$650
Jones	Soso	\$8,885	\$825	\$300	\$311
Kemper	De kalb	\$65,909	\$2,175	\$734	\$762
Kemper	Scooba	\$17,002	\$778	\$475	\$493
Lafayette	Oxford	\$853,210	\$45,880	\$11,639	\$12,084
Lafayette	Taylor	\$8,534	\$139	\$251	\$261
Lafayette	Abbeville	\$2,166	\$196	\$365	\$379
Lamar	Purvis	\$90,393	\$4,652	\$1,873	\$1,945
Lamar	Sumrall	\$55,264	\$2,211	\$891	\$925
Lamar	Lumberton	\$56,215	\$1,827	\$1,876	\$1,947
Lauderdale	Meridian	\$1,936,653	\$122,089	\$29,601	\$30,733
Lauderdale	Marion	\$32,514	\$1,711	\$1,065	\$1,106
Lawrence	Monticello	\$131,213	\$3,932	\$1,338	\$1,389
Lawrence	New Hebron	\$16,646	\$595	\$346	\$359
Lawrence	Silver Creek	\$13,101	\$346	\$181	\$188
Leake	Carthage	\$295,065	\$14,798	\$3,528	\$3,663
Leake	Lena	\$4,539	\$134	\$124	\$128
Leake	Walnut Grove	\$11,620	\$486	\$932	\$967



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Lee	Baldwyn	\$121,272	\$5,256	\$1,131	\$1,174
Lee	Tupelo	\$2,049,261	\$149,878	\$27,227	\$28,268
Lee	Verona	\$32,138	\$2,681	\$2,579	\$2,678
Lee	Saltillo	\$80,002	\$4,673	\$2,892	\$3,003
Lee	Guntown	\$47,784	\$1,266	\$1,001	\$1,039
Lee	Plantersville	\$12,218	\$442	\$1,006	\$1,044
Lee	Shannon	\$12,218	\$1,604	\$1,301	\$1,350
Leflore	Greenwood	\$653,979	\$38,039	\$12,924	\$13,419
Leflore	Itta Bena	\$19,855	\$1,437	\$1,505	\$1,562
Leflore	Sidon	\$2,149	\$10	\$445	\$462
Leflore	Morgan City	\$2,412	\$64	\$223	\$231
Leflore	Schlater	\$3,474	\$123	\$276	\$287
Lincoln	Brookhaven	\$746,606	\$39,843	\$7,745	\$8,041
Lowndes	Columbus	\$1,263,029	\$79,411	\$18,476	\$19,183
Lowndes	Artesia	\$759	\$53	\$364	\$378
Lowndes	Crawford	\$1	\$90	\$480	\$498
Lowndes	Caledonia	\$16,577	\$624	\$737	\$765
Madison	Flora	\$97,106	\$2,930	\$1,123	\$1,166
Madison	Canton	\$323,335	\$19,486	\$9,504	\$9,868
Madison	Madison	\$731,385	\$31,071	\$12,719	\$13,205
Madison	Ridgeland	\$1,194,067	\$90,201	\$16,138	\$16,755
Marion	Columbia	\$456,297	\$28,560	\$4,903	\$5,091
Marshall	Holly Springs	\$275,991	\$11,661	\$6,222	\$6,460
Marshall	Potts Camp	\$26,328	\$720	\$395	\$410
Marshall	Byhalia	\$31,288	\$4,866	\$556	\$577
Monroe	Aberdeen	\$152,186	\$8,951	\$4,871	\$5,058
Monroe	Nettleton	\$65,980	\$2,171	\$592	\$615
Monroe	Amory	\$322,067	\$16,362	\$5,801	\$6,023
Monroe	Smithville	\$23,488	\$710	\$688	\$714



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Monroe	Gattman	\$2,144	\$48	\$90	\$93
Monroe	Hatley	\$1,097	\$70	\$370	\$384
Montgomery	Winona	\$194,729	\$9,388	\$3,843	\$3,990
Montgomery	Duck Hill	\$9,952	\$295	\$1,130	\$1,173
Montgomery	Kilmichael	\$23,779	\$581	\$573	\$594
Neshoba	Philadelphia	\$668,298	\$30,451	\$5,708	\$5,926
Newton	Newton	\$264,102	\$9,852	\$2,855	\$2,964
Newton	Decatur	\$35,700	\$1,037	\$1,100	\$1,142
Newton	Union	\$66,427	\$3,168	\$427	\$443
Newton	Chunky	\$1,919	\$70	\$274	\$284
Newton	Hickory	\$6,214	\$498	\$395	\$410
Noxubee	Macon	\$126,720	\$3,440	\$1,738	\$1,805
Noxubee	Brooksville	\$51,790	\$1,018	\$850	\$883
Noxubee	Shuqualak	\$6,990	\$373	\$404	\$420
Oktibbeha	Starkville	\$838,890	\$40,828	\$18,642	\$19,355
Oktibbeha	Maben	\$24,845	\$777	\$428	\$444
Oktibbeha	Sturgis	\$6,617	\$368	\$158	\$164
Panola	Sardis	\$63,729	\$2,461	\$1,532	\$1,590
Panola	Como	\$23,065	\$1,327	\$995	\$1,033
Panola	Batesville	\$430,426	\$32,711	\$5,808	\$6,030
Panola	Crenshaw	\$13,243	\$409	\$538	\$559
Panola	Courtland	\$1,340	\$153	\$360	\$374
Panola	Pope	\$7,927	\$205	\$185	\$192
Pearl River	Picayune	\$758,121	\$33,473	\$8,449	\$8,772
Pearl River	Poplarville	\$120,682	\$5,109	\$2,078	\$2,157
Perry	Richton	\$83,222	\$2,616	\$769	\$798
Perry	Beaumont	\$38,151	\$836	\$744	\$773
Perry	New Augusta	\$42,900	\$1,417	\$531	\$551
Pike	McComb	\$831,939	\$46,041	\$10,037	\$10,421



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Pike	Magnolia	\$39,734	\$2,953	\$1,576	\$1,636
Pike	Summit	\$58,165	\$3,007	\$1,215	\$1,261
Pike	Osyka	\$9,949	\$374	\$376	\$390
Pontotoc	Pontotoc	\$370,706	\$15,189	\$4,477	\$4,649
Pontotoc	Sherman	\$29,427	\$1,188	\$1	\$1
Pontotoc	Ecru	\$40,116	\$1,126	\$786	\$816
Pontotoc	Toccopola	\$3,127	\$66	\$214	\$222
Pontotoc	Thaxton	\$2,762	\$132	\$453	\$470
Pontotoc	Algoma	\$3,839	\$162	\$413	\$428
Prentiss	Booneville	\$365,274	\$15,566	\$6,823	\$7,084
Prentiss	Marietta	\$11,961	\$275	\$197	\$205
Prentiss	Jumpertown	\$59	\$96	\$323	\$335
Quitman	Crowder	\$6,209	\$144	\$230	\$238
Quitman	Lambert	\$10,767	\$390	\$1,330	\$1,381
Quitman	Marks	\$75,509	\$2,843	\$1,385	\$1,438
Quitman	Sledge	\$5,726	\$214	\$358	\$371
Quitman	Falcon	\$1,781	\$31	\$223	\$232
Rankin	Brandon	\$333,040	\$34,249	\$15,249	\$15,832
Rankin	Pelahatchie	\$97,825	\$2,792	\$1,172	\$1,217
Rankin	Florence	\$107,115	\$5,237	\$2,409	\$2,501
Rankin	Flowood	\$944,737	\$63,268	\$5,318	\$5,521
Rankin	Puckett	\$23,963	\$881	\$278	\$289
Rankin	Pearl	\$885,726	\$66,459	\$18,175	\$18,870
Rankin	Richland	\$455,082	\$36,484	\$5,545	\$5,757
Scott	Forest	\$362,157	\$15,983	\$4,561	\$4,735
Scott	Morton	\$162,551	\$4,486	\$2,603	\$2,703
Scott	Sebastopol	\$46,400	\$1,274	\$1	\$1
Scott	Lake	\$11,399	\$558	\$11	\$12
Sharkey	Rolling Fork	\$80,040	\$3,383	\$1,634	\$1,696



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Sharkey	Anguilla	\$9,682	\$356	\$594	\$616
Sharkey	Cary	\$2,564	\$204	\$282	\$293
Simpson	Magee	\$464,803	\$17,823	\$3,273	\$3,398
Simpson	Mendenhall	\$122,174	\$5,075	\$1,939	\$2,013
Simpson	D'Lo	\$5,920	\$490	\$299	\$310
Simpson	Braxton	\$0	\$118	\$140	\$146
Smith	Taylorville	\$90,108	\$2,932	\$1,004	\$1,043
Smith	Raleigh	\$51,604	\$1,589	\$973	\$1,010
Smith	Mize	\$10,955	\$943	\$219	\$227
Smith	Polkville	\$2,710	\$43	\$101	\$105
Smith	Sylvarena	\$1,918	\$28	\$93	\$96
Stone	Wiggins	\$251,088	\$12,962	\$3,501	\$3,635
Sunflower	Indianola	\$281,264	\$14,702	\$8,695	\$9,027
Sunflower	Ruleville	\$54,622	\$1,809	\$2,254	\$2,340
Sunflower	Drew	\$49,883	\$1,591	\$1,701	\$1,766
Sunflower	Moorhead	\$20,477	\$696	\$1,899	\$1,971
Sunflower	Doddsville	\$145	\$26	\$78	\$81
Sunflower	Inverness	\$10,835	\$690	\$815	\$846
Sunflower	Sunflower	\$1,957	\$233	\$493	\$512
Tallahatchi	Charleston	\$89,954	\$3,062	\$1,540	\$1,598
Tallahatchi	Tutwiler	\$13,413	\$358	\$1,001	\$1,040
Tallahatchi	Sumner	\$3,444	\$537	\$288	\$299
Tallahatchi	Webb	\$20,479	\$896	\$405	\$420
Tallahatchi	Glendora	\$775	\$44	\$204	\$212
Tate	Senatobia	\$337,038	\$19,136	\$5,304	\$5,506
Tate	Coldwater	\$33,711	\$1,760	\$1,273	\$1,322
Tippah	Ripley	\$246,760	\$10,891	\$4,435	\$4,605
Tippah	Walnut	\$68,861	\$2,003	\$598	\$620
Tippah	Blue Mountain	\$6,512	\$728	\$561	\$583



County	Municipality	Total City Diversion @ .37 % x 3.5% Sales Tax on Non-prepared Foods (no change from existing)	Estimate of Increased Diversion based upon \$18 million in New Sales Tax Collections from Consumer Savings on Grocery Taxes	Lower Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack	Upper Bound Marginal Increase in Diversion to City = .07% x .185 from \$1.00 increase per pack
Tippah	Falkner	\$4,889	\$453	\$164	\$170
Tippah	Dumas	\$1,805	\$102	\$361	\$374
Tishomingo	Luka	\$155,557	\$7,096	\$2,411	\$2,503
Tishomingo	Tishomingo	\$20,482	\$824	\$256	\$266
Tishomingo	Belmont	\$83,206	\$2,370	\$1,586	\$1,647
Tishomingo	Burnsville	\$38,598	\$1,288	\$840	\$872
Tishomingo	Paden	\$0	\$7	\$86	\$90
Tishomingo	Golden	\$21,108	\$421	\$163	\$169
Tunica	Tunica	\$107,808	\$5,454	\$789	\$819
Union	New Albany	\$460,729	\$21,601	\$6,238	\$6,476
Union	Myrtle	\$6,406	\$310	\$435	\$451
Union	Blue Springs	\$6,054	\$255	\$119	\$124
Walthall	Tylertown	\$133,425	\$5,485	\$1,454	\$1,510
Warren	Vicksburg	\$1,135,471	\$65,222	\$19,364	\$20,104
Washington	Greenville	\$987,099	\$62,786	\$28,156	\$29,233
Washington	Leland	\$72,677	\$3,754	\$3,750	\$3,893
Washington	Hollandale	\$56,196	\$1,737	\$2,319	\$2,407
Washington	Arcola	\$6,774	\$245	\$382	\$396
Washington	Metcalfe	\$2,743	\$110	\$899	\$933
Wayne	Waynesboro	\$421,327	\$17,864	\$4,356	\$4,523
Webster	Eupora	\$89,585	\$3,593	\$1,783	\$1,851
Webster	Mathiston	\$55,925	\$1,453	\$61	\$64
Webster	Mantee	\$3,697	\$163	\$130	\$135
Webster	Walthall	\$4,567	\$226	\$131	\$136
Wilkinson	Woodville	\$101,084	\$2,508	\$916	\$951
Wilkinson	Crosby	\$348	\$135	\$78	\$81
Wilkinson	Centreville	\$87,733	\$1,996	\$185	\$192
Winston	Louisville	\$337,161	\$14,653	\$5,318	\$5,521
Winston	Noxapater	\$25,974	\$733	\$325	\$337





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Yalobusha	Coffeeville	\$29,941	\$1,074	\$740	\$768
Yalobusha	Water Valley	\$132,206	\$4,056	\$2,986	\$3,101
Yalobusha	Oakland	\$1,022	\$327	\$466	\$484
Yazoo	Yazoo City	\$330,823	\$16,128	\$9,061	\$9,407
Yazoo	Bentonia	\$15,128	\$1,088	\$382	\$397
Yazoo	Eden	\$0	\$2	\$96	\$100
Yazoo	Satartia	\$2,952	\$130	\$52	\$54

Assumption 1: Sales Taxes on non-prepared groceries reduced to 3.5 percent

Assumption 2: Rate on diversions to municipalities of sales tax collections on non-prepared groceries increased from 18.5% to 37%

Assumption 3: Increase consumer expenditures on taxable items from savings on sales taxes on non-prepared groceries is 12 to 13%

Assumption 4: Increase of tobacco taxes to \$1.00 per pack of cigarettes

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