

**MICHIGAN'S CIGARETTE AND
TOBACCO TAXES
1999**



Office of Revenue and Tax Analysis
Michigan Department of Treasury
September 2000

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EXECUTIVE SUMMARY

Michigan has levied an excise tax on cigarettes since 1947. In May 1994 the tax was increased to 75 cents per pack. Almost 2/3 of the revenue from this tax is earmarked to the School Aid Fund (63.4 percent). The Michigan tax is in addition to the federal cigarette tax of 24 cents per pack. There is also a tax on tobacco products other than cigarettes equal to 16 percent of the wholesale price, although the revenue generated by this tax is small relative to the revenue raised by the cigarette tax.

In fiscal year 1999, the cigarette tax raised \$615.1 million or 2.8 percent of total tax revenues. This represented an 8.7 percent increase in cigarette tax revenues over fiscal year 1998. Taxable cigarette sales increased in fiscal year 1999 by 8.9 percent to 814.1 million packs sold taxed.

The 24-cent federal cigarette tax raised \$5.5 billion in fiscal year 1998, down from \$5.7 billion in fiscal year 1997. The decline was caused by a 4.6 percent decline in cigarette consumption nationally.

States continue to use cigarette taxes as a method to raise revenue and reduce smoking, especially among teenagers. Thirty-two states have increased their cigarette tax rate since 1990. Michigan had the highest tax rate in the nation in May 1994 at 75 cents per pack. By 1999, Michigan had fallen to 7th highest.

The retail price of cigarettes in Michigan was the 7th highest in the nation in 1998. Higher cigarette prices predominantly reflect higher state cigarette taxes. Cigarette prices nationwide jumped significantly following the November 1998 settlement of public health lawsuits brought by the states against the major tobacco companies.

Cigarette-smoking trends in Michigan generally mirror those in the remainder of the nation. Men are more likely to smoke than women. Smoking behavior does not differ significantly by race. Those with more schooling smoke less. Younger adults are more likely to smoke than older adults. Smoking is more common among lower income groups.

In response to sharp sales and tax revenue declines, Michigan enacted a cigarette stamping law in 1998. The new stamping law and increased enforcement contributed to the 8.7 percent increase in cigarette tax revenues in fiscal year 1999 as smuggling was reduced.

Growing concerns over the impact of smoking on public health expenditures resulted in 42 states filing lawsuits against the major tobacco companies to recover the costs of treating sick smokers. In November 1998, a settlement was reached between the states and the tobacco companies. The settlement contains payments over 25 years totaling more than \$206 billion to cover the increased public health costs due to smoking.

Under the settlement, Michigan is scheduled to receive more than \$8.5 billion between 1999 and 2025. As of May 2000, Michigan had received \$351.5 million. A large portion of the settlement Michigan will receive will be used to fund the Michigan Merit Award Scholarships created by Public Act 94 of 1999.

CHAPTER 1

INTRODUCTION

On May 1, 1994, Michigan began to levy the highest cigarette tax in the nation as the state tax on a pack of cigarettes was increased from 25 to 75 cents. Since that time Alaska (\$1.00), Hawaii (\$1.00), California (\$0.87), Washington (\$0.825), New Jersey (\$0.80), and Massachusetts (\$0.76) have increased their tax rates above 75 cents per pack but Michigan retains one of the highest tax rates in the nation (7th). As a result of the higher tax rate, taxes now comprise almost 35 percent of the final cost of a typical pack of cigarettes purchased in Michigan. For example, if the final cost (after all taxes) of a pack of cigarettes is \$3.50, then taxes comprise \$1.19 (\$0.75 state excise, \$0.24 federal excise and \$0.20 state sales tax) or 34 percent of the final price to the consumer. Michigan also levies a tax on other tobacco products equal to 16 percent of the wholesale price.

Cigarettes have been subject to taxation in Michigan for many years. Beginning July 1, 1947, Public Act 265 of 1947 specified a tax of 3 cents per pack to be levied on the privilege of selling and distributing cigarettes. Today, firms that buy, sell, or transport cigarettes to customers pay the cigarette tax. These firms, most of whom are wholesalers, must acquire a license from the Michigan Department of Treasury to conduct business within the state. Reports are then filed with the Department on or before the 20th of each month detailing both the amount or value of each tobacco product (cigarettes, cigars, chewing tobacco) acquired or disbursed and the wholesale price charged for tobacco products other than cigarettes during the prior month. To offset the administrative costs associated with collecting and remitting the cigarette tax, licensees are allowed to retain a collection fee equal to one percent of the tax collected. Effective April 15, 1998, the collection fee was increased to 1.25 percent of the tax collected on cigarettes to offset the increased administrative costs of stamping. Sales to military bases and Indian reservations are exempt from tax, though exempt sales must be reported to the Department of Treasury in monthly reports.

Currently, all states levy some type of tax on cigarettes, and most states are increasing their reliance on tobacco taxes as a source of revenue. Since 1990, 32 states have increased their cigarette tax rates. This trend towards higher cigarette taxation seems likely to continue. Some reasons include:

1. The taxation of cigarettes is politically acceptable because it does not affect the majority of taxpayers.
2. The cigarette tax is relatively easy to levy and administer. The system is already in place and few exclusions or deductions are permitted.
3. Higher cigarette taxes are thought to decrease future health care costs to taxpayers. The higher price should discourage smoking and reduce future state costs for medical treatments associated with smoking.

4. Some proponents of higher cigarette taxes claim that higher taxation compels smokers to internalize the effect their smoking may have on others. Higher cigarette tax rates may cause smokers to recognize monetarily the costs imposed on society through secondhand smoke and increased demand for public health resources.
5. Higher cigarette taxes may reduce teenage smoking. Studies have found that younger smokers are most sensitive to price increases. Approximately 80 to 90 percent of regular smokers start smoking by the age of 18.¹ Higher prices that result from increased cigarette taxes may prevent adolescents from starting to smoke.

However, there are also arguments against the trend towards increased cigarette taxation. The typical smoker tends to have a lower income than the average citizen. Raising taxes paid by smokers increases the regressivity of the overall tax system. The term regressive means lower income taxpayers pay a greater share of their income in taxes. Lower income individuals tend to buy more cigarettes and, therefore, a greater share of their income goes towards cigarette taxes. In addition, some argue that smokers already pay their “fair share” of taxes and that higher taxes are unwarranted. As noted, taxes now comprise approximately 35 percent of the final price of a pack of cigarettes sold in Michigan.

Report Data

Data for this report were compiled using seven primary data sources. The first source is the *Monthly Financial Report* issued by the Michigan Department of Management and Budget and Michigan Department of Treasury. This source lists monthly cash collections of tobacco taxes. The second source is the *Comprehensive Annual Financial Report* issued by the State of Michigan. This report contains annual cigarette tax collections. The third source is data provided by the Motor Fuel, Tobacco and Miscellaneous Taxes Division, Michigan Department of Treasury, aggregating the monthly reports filed by cigarette wholesalers as well as providing detail on exempt sales to military bases and Indian reservations and collection fees retained by wholesalers.

Data for interstate comparisons and characteristics of smokers are from *The Tax Burden on Tobacco* issued by the Tobacco Institute (December 1998), *State Tobacco Control Highlights 1998* issued by the Centers for Disease Control and Prevention, and *Significant Features of Fiscal Federalism (1995)* issued by the Advisory Commission on Intergovernmental Relations (ACIR). Additional data regarding the characteristics of Michigan smokers are from *Health Risk Behaviors 1996 (1996)* issued by the Michigan Department of Public Health, Center for Health Promotion and Chronic Disease Prevention. Specific sources are noted in the footnotes to the tables and graphs.

¹MacKenzie, Bartecchi, and Schrier, “The Human Costs of Tobacco Use,” The New England Journal of Medicine, Vol. 330, No. 14, April 7, 1994, p. 979.

Unless otherwise noted, figures associated with particular years represent fiscal years ending September 30. However, in a number of tables a fiscal year ending June 30 or calendar year is used. These instances are noted in the column headings or footnotes of the tables.

Report Layout

This report focuses on four general topics. First, Chapter 2 provides a history of cigarette tax collections and cigarette tax rates over the past 20 years in Michigan. It details the number of cigarette packs sold that were taxed or exempt over time. Also provided are per capita sales, average prices, and recent sales of exempt cigarettes to military bases and Indian reservations.

Chapter 3 provides a comparison of Michigan cigarette sales, tax rates, and tax revenues to other states and to national trends. Tables detailing per capita sales and other tobacco product (OTP) statistics are also presented.

Second, Chapter 4 discusses issues directly linked to tobacco use that may be affected by the tax rate (e.g., health issues, smoking by minors, the regressivity of the cigarette tax). It considers the factors that favor the taxation of cigarettes and discusses the characteristics of the typical smoker (e.g., age, gender, race, education and income).

Third, Chapter 5 examines the impact of cigarette stamping on cigarette tax revenues. Many officials expressed concern that black market activities had increased since Michigan implemented the higher tax rate in 1994. In response, the Legislature enacted legislation that required all cigarettes sold in Michigan after August 1998 to carry a stamp certifying that the full 75-cent cigarette tax had been paid. This Chapter analyzes the impact stamping has had on tax revenues. Regression analysis confirms that stamping is associated with significant increases in cigarette tax revenues.

Finally, Chapter 6 presents an overview of the Master Settlement Agreement reached between the major tobacco companies and representatives of 46 states, including Michigan. This overview includes a brief discussion of tobacco litigation, an outline of the settlement agreement, and a list of the fiscal year 2000 appropriations of the initial payments from the settlement. Details on the financial settlement are available from the National Conference of State Legislatures (www.ncls.org), the National Governors Association (www.nga.org), and the National Association of Attorneys General (www.naag.org). Numerous articles from these sites were reviewed during the preparation of this report.

CHAPTER 2

CIGARETTE TAX REVENUES AND SALES HISTORY

Michigan first enacted a tax on cigarettes in 1947 at the rate of 3 cents per pack. No tax was levied on other tobacco products such as chewing tobacco or cigars (except in 1960) until 1994. Since 1947, the cigarette tax rate has been adjusted on eight occasions:

<u>Year</u>	<u>Rate (Cents/Pack)</u>	<u>Date Changed</u>	<u>Other Tobacco Products</u>
1947	3	7/1/47	Not Taxed
1957	5	7/1/57	Not Taxed
1960	6	1/1/60	20 Percent Tax
1961	5	7/1/61	Not Taxed
1962	7	7/1/62	Not Taxed
1970	11	3/1/70	Not Taxed
1982	21	5/1/82	Not Taxed
1988	25	1/1/88	Not Taxed
1994	75	5/1/94	16 Percent Tax

This report analyzes rate changes and their impact since 1976.

Distribution of Cigarette Tax Revenues

On May 1, 1994, the tax rate on a pack of cigarettes increased from 25 to 75 cents. The higher cigarette tax rate was part of a school finance reform package that shifted funding for schools away from local property taxes and towards consumption taxes. Ninety percent of the 50-cent tax increase is earmarked for the School Aid Fund. Prior to ratification of the package, cigarette tax revenues were disbursed as follows:

<u>Before May 1, 1994</u>	<u>Tax (Cents)</u>	<u>Percent of Revenues</u>	<u>FY 1993 Revenue (Millions)</u>
General Fund	19.0	76.0%	\$185.1
School Aid Fund	2.0	8.0%	19.5
Health and Safety Fund	<u>4.0</u>	<u>16.0%</u>	<u>39.0</u>
Total	25.0	100.0%	\$243.6

Included in the Health and Safety Fund are distributions to hospitals, Wayne County, local health departments, public safety and other unallocated health program funding. As a result of school finance

reform, cigarette tax revenues are currently disbursed using the following allocation scheme:

<u>After May 1, 1994</u>	<u>Tax (Cents)</u>	<u>Percent of Revenues</u>	<u>FY 1999 Revenue (Millions)</u>
General Fund	19.0	25.3%	\$152.0
School Aid Fund	47.5	63.4%	381.0
Healthy Michigan Fund	4.5	6.0%	36.1
Health and Safety Fund	<u>4.0</u>	<u>5.3%</u>	<u>31.8</u>
Total	75.0	100.0%	\$600.9

(This breakdown does not include approximately \$14.2 million in other tobacco tax revenue. These revenues are distributed as follows: 94 percent to the School Aid Fund and 6 percent to the Healthy Michigan Fund. The Healthy Michigan Fund promotes awareness of the dangers of tobacco use. It is also used to improve the general health care of Michigan residents.)

Cigarette Tax Revenue Trends

Not surprisingly, higher tax rates have had a substantial impact on cigarette tax revenues (see Exhibits 1 and 2). In 1976, a tax of 11 cents per pack raised nominal (unadjusted for inflation) cigarette tax revenues of \$139.6 million (adjusted figure, see footnote in Exhibit 1). The tax rate did not change until 1982 when the rate was increased to 21 cents per pack. Nominal revenues responded by growing to \$242.1 million in 1983, the first full year of the higher tax rate. However, revenues soon began to taper off as time passed and sales slowed. In 1988, the rate was increased to 25 cents per pack, with revenue from the 4-cent increase earmarked to the Health and Safety Fund. In response, cigarette tax revenues increased to \$264.5 million. Once again, revenues began to slowly decline until the rate was increased to 75 cents per pack in 1994. By 1995, the first full year of the higher tax rate, tobacco tax revenues (including approximately \$10 million in revenue from other tobacco products such as cigars and chewing tobacco) peaked at \$619.4 million.

Revenues for fiscal years 1996 and 1997 declined 6.2 and 6 percent respectively, with fiscal year 1997 revenues \$73.4 million below 1995 revenues. This sharp decline in revenues exceeded the long-term trend of declining cigarette sales by approximately fourfold and was not supported by a similar decline in smoking rates. Beginning in September 1998, all cigarette packages sold in Michigan were required to have a stamp attached certifying that the cigarette tax had been paid. By fiscal year 1999, tax revenues had returned to \$615.1 million, only \$4.3 million below the revenue collected in fiscal year 1995. This sharp reversal in revenue collections is consistent with cigarette stamping reducing a substantial black market in cigarettes. More information on cigarette stamping is presented in Chapter 5.

This brief history of cigarette tax collections underscores a characteristic of excise taxes. An excise tax, like the 75-cent cigarette tax, charges the consumer a flat fee per unit of product. This fee does not depend on the price of the good and, therefore, total collections are solely determined by the quantity of the good that is sold and taxed. Due to declining consumption, revenues have tended to drop off shortly after higher rates became effective.

Exhibit 1
Cigarette Tax Revenues
(thousands)

Fiscal Year	Rate (Cents)	Nominal Cigarette Tax Revenue	Revenue Per Penny of Tax	Real Cigarette Tax Revenue (1)	Cigarette Revenue as a Percent of Total Tax Revenues
1976	11	\$139,647 (2)	\$12,695	\$245,858	2.85%
1977	11	140,261	12,751	231,072	2.95%
1978	11	140,739	12,794	215,527	2.61%
1979	11	140,364	12,760	190,712	2.32%
1980	11	141,205	12,837	165,539	2.30%
1981	11	152,827	13,893	163,977	2.47%
1982	11/21	188,003 (3)	12,396	193,818	2.95%
1983	21	242,068	11,527	242,553	3.30%
1984	21	240,957	11,474	233,485	2.87%
1985	21	241,037	11,478	225,690	2.69%
1986	21	236,489	11,261	218,365	2.55%
1987	21	237,382	11,304	212,517	2.47%
1988	21/25	264,496 (3)	11,021	227,817	2.57%
1989	25	267,016	10,681	218,329	2.46%
1990	25	255,339	10,214	198,553	2.31%
1991	25	259,160	10,366	194,711	2.21%
1992	25	246,005	9,840	181,019	2.01%
1993	25	243,648	9,746	174,533	1.89%
1994	25/75	395,715 (3)	8,634	274,802	2.62%
1995	75	619,401	8,259	416,824	3.55%
1996	75	580,772	7,744	380,834	3.14%
1997	75	546,026	7,280	349,345	2.81%
1998	75	566,046	7,547	354,222	2.74%
1999	75	615,129	8,202	375,308	2.80%

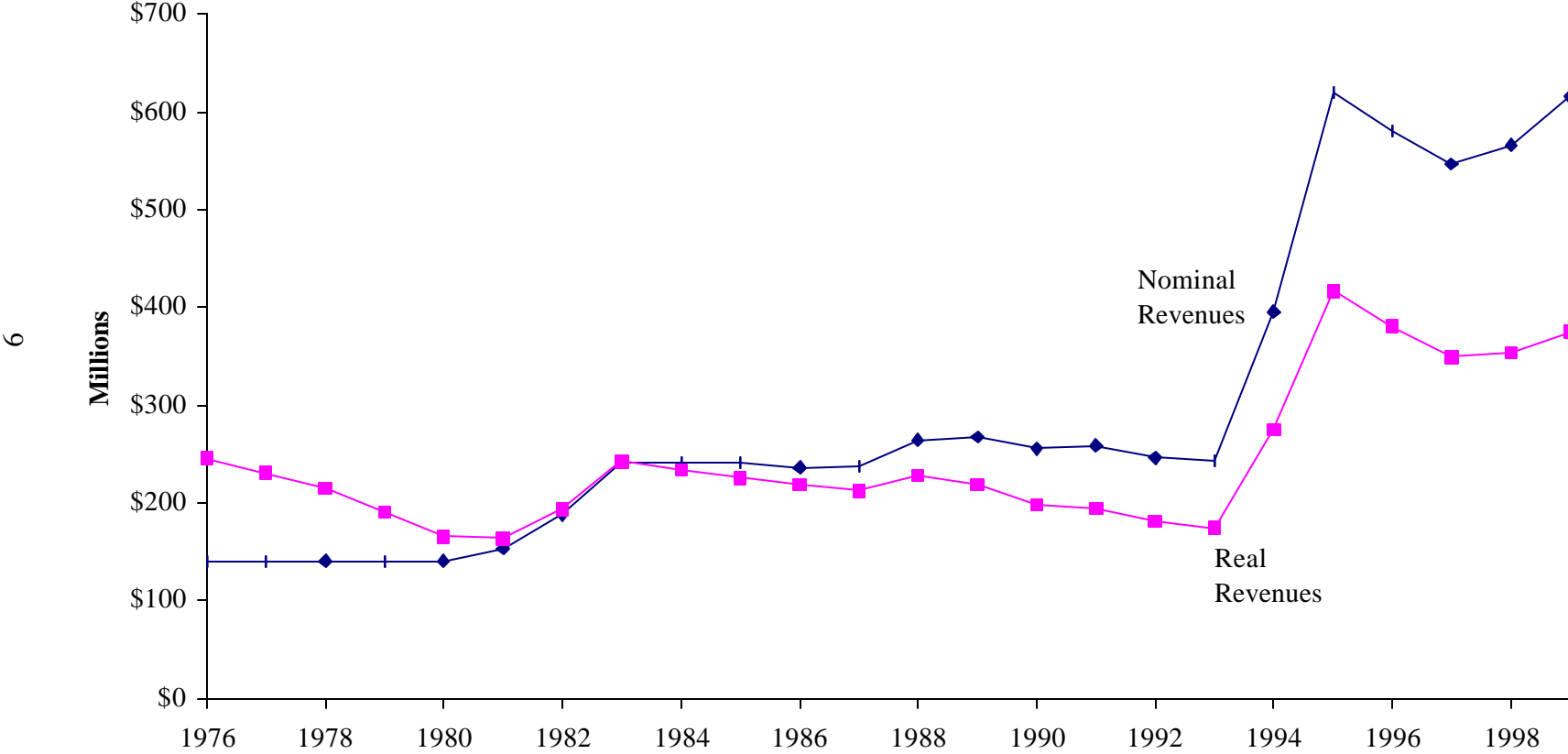
(1) Adjusted for inflation to 1983-84 dollars.

(2) Actual revenues listed at \$174.5 million due to extended fiscal year. Figure was deflated by 20 percent as adjustment. After 1994 figures include tax from other tobacco products.

(3) Includes approximately \$11 million collected from temporary inventory tax in 1982, \$5 million in 1988 and \$22 million in 1994.

Source: Consolidated Annual Financial Report and U.S. Bureau of Labor Statistics (CPI figures).

Exhibit 2 Michigan Cigarette Tax Collections



Source: State of Michigan, Comprehensive Annual Financial Report.

If an ad valorem tax had been used instead, then part of the decline in revenues would have been offset by rising prices. Ad valorem taxes are levied as a percentage of the final sales price of a good; the general sales tax is a popular example. Cigarettes, like most other products, tend to increase in price over time. As long as the percentage increase in price is greater than the percentage decrease in sales, ad valorem tax revenues will not decline, at least in nominal terms.

Cigarette tax revenues have exhibited a long-term downward trend for the past 20 years, except for years when rate increases took effect (see Exhibits 1 and 2). This trend is more apparent when examining real revenues, which are adjusted for inflation. The real tax revenue column in Exhibit 1 has been adjusted to reflect the purchasing power of cigarette tax revenues in 1983-84 dollars. For example, using Exhibit 1, 1976 cigarette tax revenues could purchase \$245.8 million worth of 1983-84 goods when the tax rate was 11 cents per pack. In 1983, cigarette tax revenues could purchase \$242.5 million worth of goods, approximately the same amount, yet the rate had been substantially increased to 21 cents per pack. By 1999, cigarette tax revenues could purchase \$375.3 million worth of 1983-84 goods at a rate of 75 cents per pack.

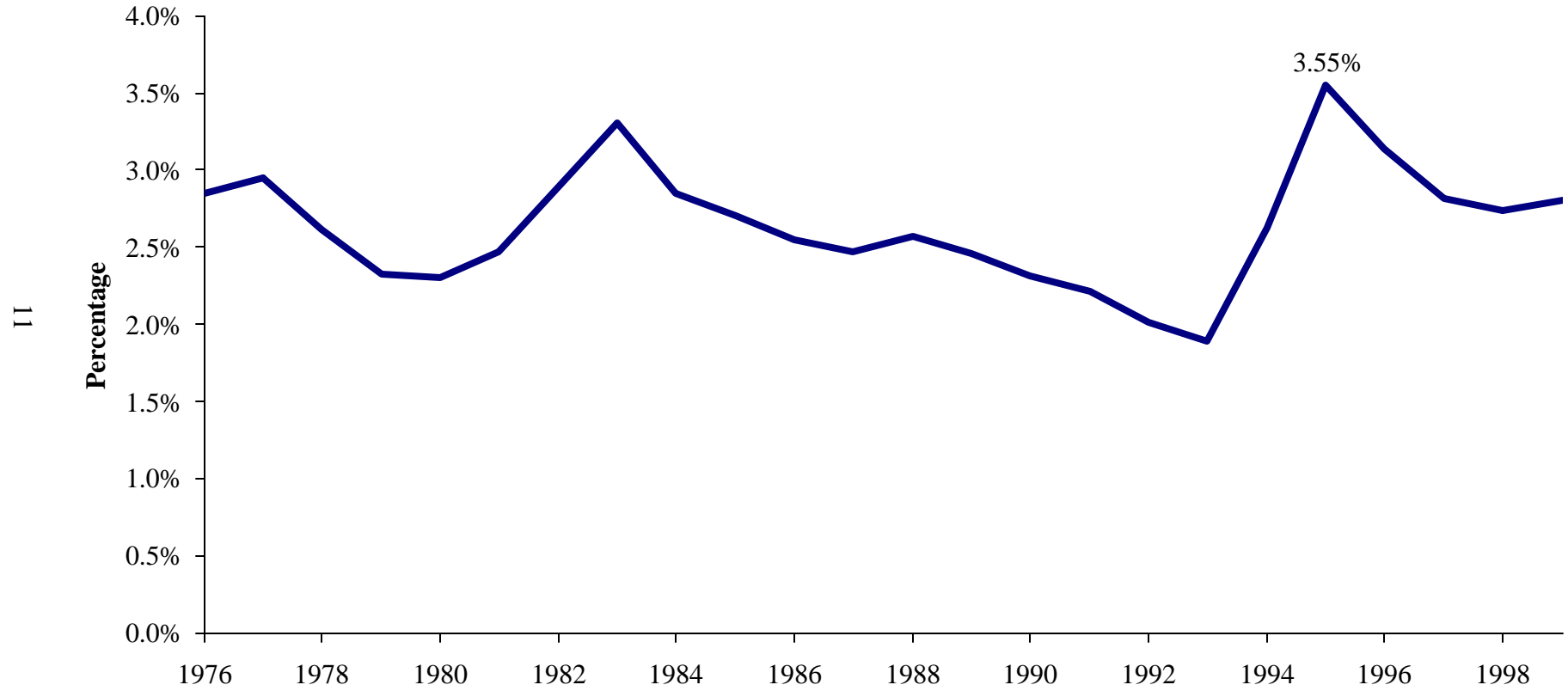
This simple comparison illustrates that although the current cigarette tax rate is much higher than before, the revenues generated represent only modestly more purchasing power. Between 1976 and 1999, the state tax per pack of cigarettes increased 581.8 percent, from 11 to 75 cents per pack. Over the same time period, the purchasing power of cigarette tax revenues increased only 52.7 percent. This disparity is attributable to the fact that cigarette sales have steadily declined over the time period, while the consumer price index has steadily increased reflecting general price inflation. As a result, increases in the cigarette excise tax are periodically needed to maintain the purchasing power of these revenues. Had an ad valorem tax been used, the purchasing power of cigarette tax revenues would not have eroded as quickly; revenues would increase along with rising prices.

The deteriorating purchasing power of cigarette tax revenues may have important implications. Tobacco tax revenues are now a larger source of total Michigan tax revenue than they were at the beginning of the decade. In 1993, cigarette taxes comprised only 1.9 percent of total state tax revenues (see Exhibits 1 and 3). By 1995 when the 75-cent tax rate had been in place for a full year, tobacco tax revenues comprised 3.6 percent of state tax revenues and 6.2 percent of the school aid fund revenues (excluding interfund transfers). While tobacco tax revenues as a percentage of total tax revenues have declined since 1995, they remained twice as high in 1999 as they were in 1993, both in nominal and inflation-adjusted terms.

Cigarette Sales Trends

Since 1976, the total quantity of cigarettes sold and taxed in Michigan (referred to as packs sold taxed) has trended downward (see Exhibits 4 and 5). Higher relative prices, a greater awareness of the potential dangers of smoking, and recent health trends have all contributed to this outcome. In 1976, the average (nominal) retail price of a pack of cigarettes in Michigan (including generics) was 48 cents, and the number of calculated packs sold that were taxed was 1,282.3 million. In 1999, it is estimated that the average retail price increased to \$3.38, while the number of packs sold that were taxed decreased to 814.1 million. This represents a 604.2 percent increase in the average retail price and a 36.5 percent decline in the number of packs sold taxed.

Exhibit 3
Michigan Cigarette Tax Revenue as Share
of Total State Tax Revenue



Source: State of Michigan, Comprehensive Annual Financial Report.

Exhibit 4
Cigarette Packs Sold Taxed

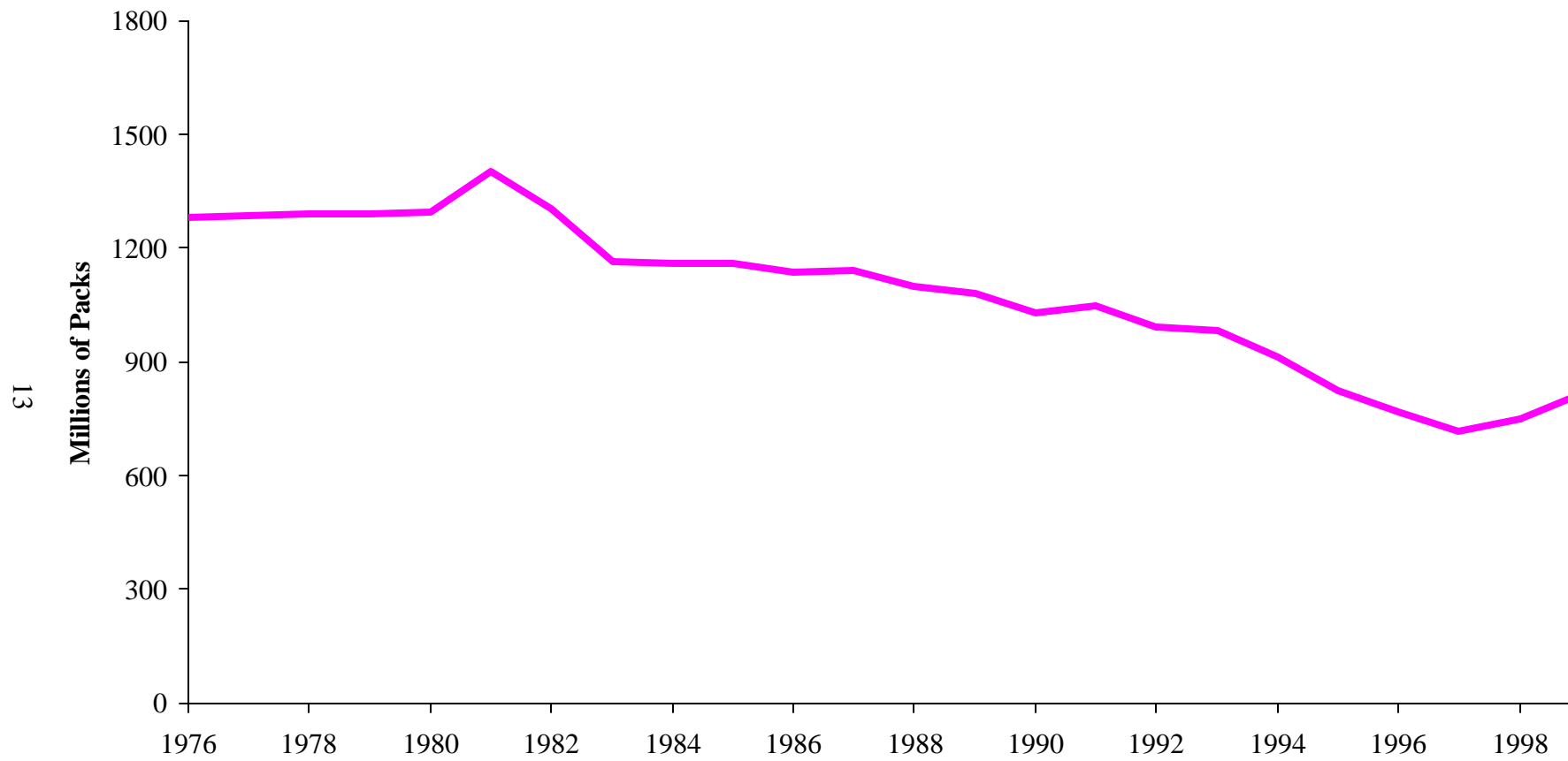
<u>Year</u>	<u>Average Retail Price</u>	<u>Percentage Change</u>	<u>Calculated Packs Sold Taxed (Thousands)</u>	<u>Percentage Change</u>	<u>Calculated Per Capita Packs Sold Taxed</u>	<u>Percentage Change</u>
1976	\$0.48	NA	1,282,342	NA	140.5	NA
1977	0.54	12.5%	1,287,980	0.4%	140.4	0.0%
1978	0.57	5.6%	1,292,369	0.3%	140.2	-0.2%
1979	0.60	5.3%	1,288,926	-0.3%	139.1	-0.8%
1980	0.62	3.3%	1,296,648	0.6%	140.0	0.6%
1981	0.68	9.7%	1,403,370	8.2%	152.4	8.9%
1982	0.88	29.4%	1,302,866	-7.2%	142.9	-6.2%
1983	0.97	10.2%	1,164,348	-10.6%	128.7	-10.0%
1984	1.01	4.1%	1,159,004	-0.5%	128.1	-0.5%
1985	1.06	5.0%	1,159,389	0.0%	127.7	-0.3%
1986	1.11	4.7%	1,137,513	-1.9%	124.6	-2.4%
1987	1.22	9.9%	1,141,809	0.4%	124.3	-0.3%
1988	1.33	9.0%	1,098,387	-3.8%	119.1	-4.1%
1989	1.44	8.3%	1,078,853	-1.8%	116.6	-2.1%
1990	1.45	0.7%	1,031,673	-4.4%	111.0	-4.8%
1991	1.77	22.1%	1,047,111	1.5%	111.5	0.5%
1992	1.85	4.5%	993,960	-5.1%	105.0	-5.8%
1993	1.63	-11.9%	984,436	-1.0%	103.4	-1.6%
1994	2.24	37.4%	912,267	-7.3%	95.2	-7.9%
1995	2.29	2.2%	822,089	-9.9%	85.1	-10.6%
1996	2.34	2.2%	770,063	-6.3%	79.1	-7.0%
1997	2.43	3.8%	719,227	-6.6%	73.6	-7.0%
1998	2.61	7.5%	747,448	3.9%	76.1	3.5%
1999 (1)	3.38	29.5%	814,081	8.9%	82.5	8.4%
Annual Average						
Change 1976 - 1999		8.9%		-2.0%		-2.3%

(1) Estimate

Note: Tobacco Institute average retail price based on a fiscal year ending June 30. The retail price estimates have been shifted forward one year to correspond to Michigan's fiscal year. The estimate for 1999 increases the 1998 estimate by the annual increase in the U.S. Consumer Price Index for tobacco.

Source: Michigan Department of Treasury, Office of Revenue and Tax Analysis (ORTA). Average price data from the Tobacco Institute.

Exhibit 5 Annual Packs Sold Taxed



Source: Michigan Department of Treasury, ORTA.

Given these figures, it is not surprising that per capita packs sold taxed have declined substantially over the past two decades (see Exhibit 4). The per capita packs figure represents the average number of packs of cigarettes every man, woman and child in the state would have to consume to equal the total number of packs sold taxed during the given year. Between 1976 and 1999, per capita sales fell 41.3 percent, from 140.5 in 1976 to 82.5 (estimated) in 1999.

This declining trend in per capita sales is attributable to several factors. The first factor is a decline in the smoking rate. The percentage of adults who smoke nationally has declined from more than 40 percent in the mid-1960s to less than 25 percent in 1995 according to the National Health Interview Survey conducted through the Centers for Disease Control and Prevention. In addition, the survey reports a slight decline in the average consumption per smoker. With a smaller percentage of smokers smoking fewer cigarettes, it is not surprising the overall consumption of cigarettes has declined. This decline in cigarette consumption results in lower excise tax collections.

Some of the recent dramatic decline in the sales of taxable packs may be due to smokers who have shifted their consumption away from taxed cigarettes towards cigarettes not taxed by Michigan. If true, at least a portion of their consumption is not captured by statistics measuring the number of packs sold taxed. There are basically four ways consumers can avoid paying Michigan taxes on cigarettes. Consumers may: (1) purchase cigarettes in other states (both legally or illegally, depending on the quantity), (2) purchase cigarettes from Michigan retailers who buy large quantities of smuggled cigarettes (and are able to offer lower prices), (3) purchase cigarettes directly from independent smugglers or middlemen, or (4) purchase tax-exempt cigarettes in Michigan at military post-exchanges or Indian reservations.

Tax avoidance was unlikely to have a major impact on taxable sales before 1994. Prior to 1994, cigarette tax rate differentials between states were probably too small to permit large-scale smuggling operations to be profitable, given the distances needed to bridge the two markets. However, the incentive to avoid taxation in Michigan became much stronger following the tax increase to 75 cents per pack.

Recent evidence demonstrates that sales of tax-exempt cigarettes by wholesalers to military posts have leveled off and then declined after steep increases immediately following the tax increase (see table on next page). Sales to Indian reservations have undergone even more radical shifts. Sales fell dramatically right after the tax increase but have risen dramatically in 1998 and 1999. Even with these significant fluctuations in tax-exempt sales, these sales still account for less than two percent of all cigarette sales. Given these figures, tax-exempt sales have not increased enough to explain the substantial decline in sales of taxable cigarettes.

Sales of Exempt Cigarettes

<u>Fiscal Year</u>	<u>Packs Sold to Military Bases</u>	<u>Packs Sold to Indian Reservations</u>	<u>Exempt Packs as % of Total Packs Sold</u>
1993	7,491,501	1,403,640	0.90%
1994	8,694,980	1,502,142	1.1
1995	13,683,644	327,621	1.68
1996	12,418,214	367,470	1.63
1997	10,595,660	427,599	1.51
1998	7,427,600	2,758,593	1.34
1999	4,279,952	5,566,751	1.20

CHAPTER 3

STATE COMPARISONS

National Cigarette Tax Trends

The federal government currently levies an excise tax equal to 24 cents on each pack of cigarettes. In 1998, the federal excise tax on cigarettes raised approximately \$5.5 billion (see Exhibit 6). Since 1976, national cigarette consumption has trended downward at an average annual rate of 1.38 percent per year, for an overall decline of 26.3 percent. However, nominal revenues increased by 125.0 percent over the same time period due to three tax increases. As discussed in Chapter 2, Michigan statistics tend to mirror these national trends of reduced consumption and higher tax collections.

State Cigarette Tax Trends

Tobacco taxes have become a popular source of revenue for many states. Most states (32) have increased their cigarette tax rate during the past nine years and nearly all (43) have since 1985 (see Exhibit 7). Many of these changes were substantial: 25 states have more than doubled their rates since 1985; 13 states more than tripled their rates. The seven states that did not increase their rates over the past 10 years are located in the southeast, tobacco-producing region: Alabama, Georgia, Kentucky, South Carolina, Tennessee, Virginia, and West Virginia. North Carolina, another large tobacco producer, only slightly increased its rate from 2 cents to 5 cents per pack.

By 1999, Michigan had the 7th highest cigarette excise tax in the nation. Exhibit 8 ranks the states by their 1999 cigarette tax rate and shows 1998 tax revenues each state. Exhibit 9 presents a graphical presentation of 1999 rates. Michigan was fourth in the nation in cigarette tax collections (\$525.0 million) for the 12-month period ending in June 1998. Only New York (\$656.9 million, at 56 cents per pack), California (\$612.1 million, at 37 cents per pack), and Texas (\$548.9 million, at 41 cents per pack) raised more revenues from cigarette taxes. All three states have populations nearly double the size of Michigan's population.

Not surprisingly, higher cigarette taxes caused the total quantity of packs sold taxed to decline in most states (see Exhibit 10). Between 1990 and 1998, the number of packs sold taxed aggregated over all states fell from 24.9 to 22.8 billion, a total reduction of 8.7 percent and an average annual decline of 1.1 percent per year.

Exhibit 6
National Cigarette Tax Trends

<u>Year</u>	<u>Tax Rate Per Pack (Cents)</u>	<u>Federal Revenues (Millions) (1)</u>	<u>Consumption (Millions of Packs) (2)</u>	<u>Percent Change Consumption</u>
1976	8.0	\$ 2,434.8	30,955.9	NA
1977	8.0	2,279.2	29,812.8	-3.69%
1978	8.0	2,374.1	30,477.3	2.23%
1979	8.0	2,356.1	30,755.9	0.91%
1980	8.0	2,604.4	30,288.3	-1.52%
1981	8.0	2,488.2	31,666.4	4.55%
1982	8.0	2,496.1	31,611.8	-0.17%
1983	8.0/16.0 (3)	3,424.4	29,991.1	-5.13%
1984	16.0	4,749.2	29,837.0	-0.51%
1985	16.0	4,442.5	29,770.9	-0.22%
1986	16.0	4,430.8	29,051.2	-2.42%
1987	16.0	4,752.3	28,965.5	-0.29%
1988	16.0	4,466.5	27,790.8	-4.06%
1989	16.0	4,237.8	26,487.5	-4.69%
1990	16.0	4,069.8	25,436.5	-3.97%
1991	16.0/20.0 (3)	4,754.6	25,376.5	-0.24%
1992	20.0	5,043.0	25,215.7	-0.63%
1993	20.0/24.0 (3)	5,528.0	24,730.1	-1.93%
1994	24.0	5,599.5	23,350.0	-5.58%
1995	24.0	5,716.8	23,818.0	2.00%
1996	24.0	5,679.1	23,660.0	-0.66%
1997	24.0	5,743.4	23,929.2	1.14%
1998	24.0	5,478.4	22,826.8	-4.61%

Annual Average Change

1976 - 1998

3.75%

-1.38%

(1) Revenues are based on fiscal year ending September 30.

(2) Consumption is based on fiscal year ending June 30.

(3) Rate changed during year.

Source: The Tobacco Institute.

Exhibit 7
State Cigarette Tax Rate Trends

State	Tax Rate (Cents)			Change, 1985 - 1999	
	1985	1990	1999	Actual	Percent
Alaska	8.0	29.0	100.0	92.0	1150.0%
California	10.0	35.0	87.0	77.0	770.0%
Illinois	12.0	30.0	58.0	46.0	383.3%
Utah	12.0	23.0	51.5	39.5	329.2%
Hawaii	24.0	42.0	100.0	76.0	316.7%
Arizona	15.0	18.0	58.0	43.0	286.7%
Maine	20.0	31.0	74.0	54.0	270.0%
Washington	23.0	34.0	82.5	59.5	258.7%
Oregon	19.0	28.0	68.0	49.0	257.9%
Michigan	21.0	25.0	75.0	54.0	257.1%
New Jersey	25.0	40.0	80.0	55.0	220.0%
Idaho	9.1	18.0	28.0	18.9	207.7%
Rhode Island	23.4	37.0	71.0	47.6	203.4%
Massachusetts	26.0	26.0	76.0	50.0	192.3%
Maryland	13.0	13.0	36.0	23.0	176.9%
New York	21.0	39.0	56.0	35.0	166.7%
Vermont	17.0	17.0	44.0	27.0	158.8%
North Carolina	2.0	2.0	5.0	3.0	150.0%
North Dakota	18.0	30.0	44.0	26.0	144.4%
Wisconsin	25.0	30.0	59.0	34.0	136.0%
Nevada	15.0	35.0	35.0	20.0	133.3%
New Hampshire	17.0	25.0	37.0	20.0	117.6%
Texas	19.5	41.0	41.0	21.5	110.3%
Minnesota	23.0	38.0	48.0	25.0	108.7%
Iowa	18.0	31.0	36.0	18.0	100.0%
Connecticut	26.0	40.0	50.0	24.0	92.3%
Nebraska	18.0	27.0	34.0	16.0	88.9%
New Mexico	12.0	15.0	21.0	9.0	75.0%
Pennsylvania	18.0	18.0	31.0	13.0	72.2%
Delaware	14.0	19.0	24.0	10.0	71.4%
Ohio	14.0	18.0	24.0	10.0	71.4%
Mississippi	11.0	18.0	18.0	7.0	63.6%
Florida	21.0	33.9	33.9	12.9	61.4%
Arkansas	21.0	21.0	31.5	10.5	50.0%
Kansas	16.0	24.0	24.0	8.0	50.0%
Wyoming	8.0	12.0	12.0	4.0	50.0%
Indiana	10.5	15.5	15.5	5.0	47.6%
South Dakota	23.0	23.0	33.0	10.0	43.5%
Colorado	15.0	20.0	20.0	5.0	33.3%
Missouri	13.0	13.0	17.0	4.0	30.8%
Oklahoma	18.0	23.0	23.0	5.0	27.8%
Louisiana	16.0	20.0	20.0	4.0	25.0%
Montana	16.0	18.0	18.0	2.0	12.5%
Alabama	16.5	16.5	16.5	0.0	0.0%
Georgia	12.0	12.0	12.0	0.0	0.0%
Kentucky	3.0	3.0	3.0	0.0	0.0%
South Carolina	7.0	7.0	7.0	0.0	0.0%
Tennessee	13.0	13.0	13.0	0.0	0.0%
Virginia	2.5	2.5	2.5	0.0	0.0%
West Virginia	17.0	17.0	17.0	0.0	0.0%
Average	16.0	23.3	39.4	23.5	147.1%
Federal Tax	16.0	16.0	24.0	8.0	50.0%

Sources: ACIR and the Tobacco Institute.

Exhibit 8
State Comparisons, 1999 Cigarette Tax

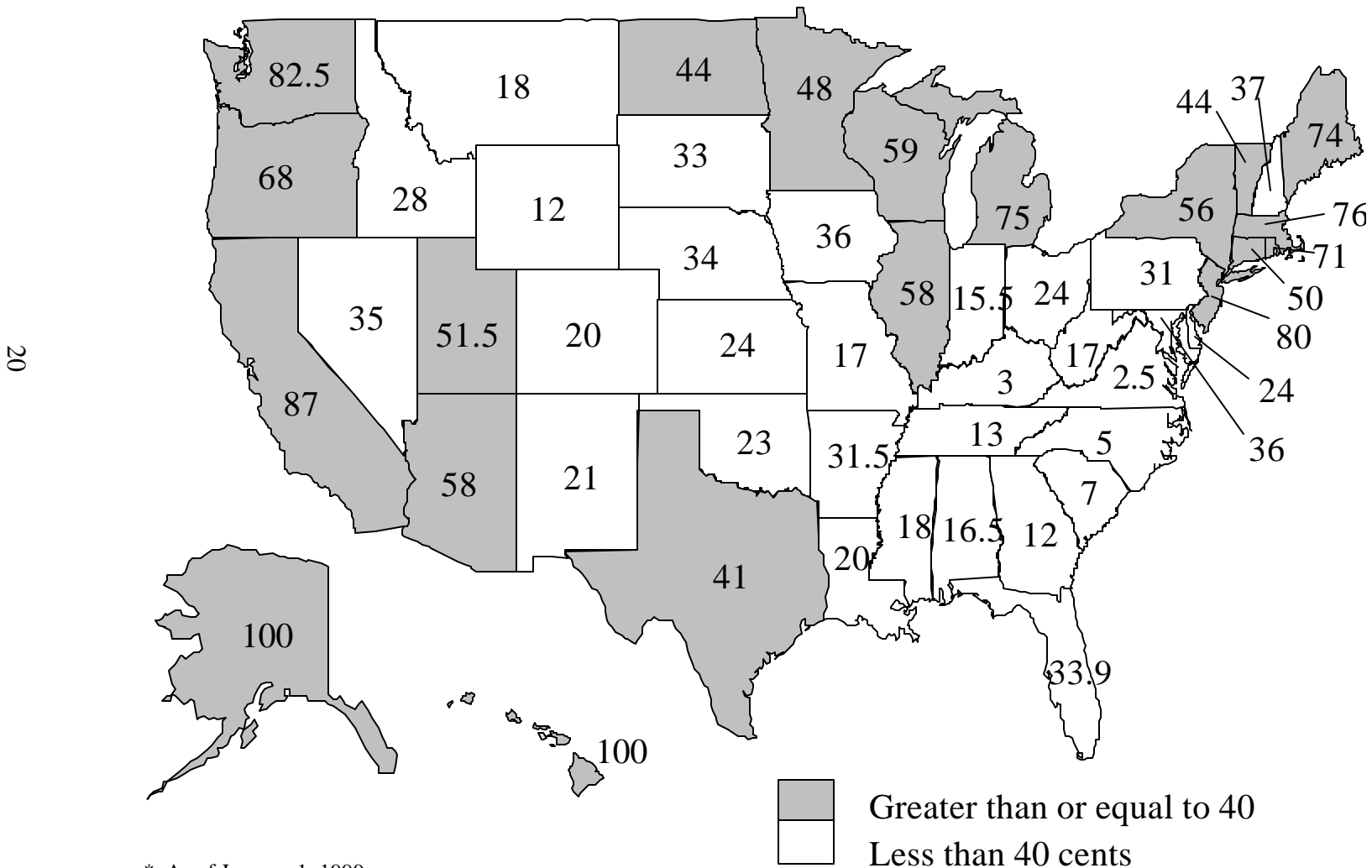
<u>State</u>	<u>Tax Rate (Cents) (1)</u>	<u>Rank</u>	<u>Revenues (Thousands) (2)</u>
Alaska	100.0	1	\$28,431
Hawaii	100.0	1	32,418
California	87.0	3	612,066
Washington	82.5	4	258,465
New Jersey	80.0	5	302,206
Massachusetts	76.0	6	293,052
Michigan	75.0	7	525,030
Maine	74.0	8	71,721
Rhode Island	71.0	9	61,756
Oregon	68.0	10	183,511
Wisconsin	59.0	11	247,743
Illinois	58.0	12	457,213
Arizona	58.0	12	166,138
New York	56.0	14	656,942
Utah	51.5	15	42,626
Connecticut	50.0	16	120,617
Minnesota	48.0	17	180,596
Vermont	44.0	18	24,796
North Dakota	44.0	18	22,380
Texas	41.0	20	548,936
New Hampshire	37.0	21	73,952
Iowa	36.0	22	94,555
Maryland	36.0	22	128,271
Nevada	35.0	24	55,749
Nebraska	34.0	25	44,656
Florida	33.9	26	437,514
South Dakota	33.0	27	19,895
Arkansas	31.5	28	83,300
Pennsylvania	31.0	29	336,463
Idaho	28.0	30	24,951
Ohio	24.0	31	275,048
Kansas	24.0	31	52,559
Delaware	24.0	31	22,714
Oklahoma	23.0	34	65,200
New Mexico	21.0	35	22,010
Colorado	20.0	36	59,566
Louisiana	20.0	36	83,518
Montana	18.0	38	13,490
Mississippi	18.0	38	47,909
West Virginia	17.0	40	34,170
Missouri	17.0	40	106,092
Alabama	16.5	42	68,323
Indiana	15.5	43	118,143
Tennessee	13.0	44	80,760
Georgia	12.0	45	85,134
Wyoming	12.0	45	5,755
South Carolina	7.0	47	31,303
North Carolina	5.0	48	44,279
Kentucky	3.0	49	18,143
Virginia	2.5	50	15,664
Average/Total	38.0		\$7,385,729

(1) As of January 1, 1999.

(2) For fiscal year ending June 30, 1998.

Source: The Tobacco Institute.

Exhibit 9 1999 State Cigarette Tax Rates (Cents Per Pack)*



* As of January 1, 1999.

Exhibit 10
Taxed Cigarette Consumption Trends (Millions)

<u>State</u>	<u>1990 Packs Sold Taxed</u>	<u>1998 Packs Sold Taxed</u>	<u>Percent Change</u>
Oklahoma	293.3	370.4	26.3 %
New Hampshire	171.7	201.9	17.6 %
Delaware	83.2	96.3	15.7 %
South Carolina	416.3	469.5	12.8 %
Montana	69.5	78.3	12.7 %
Nevada	146.9	164.2	11.8 %
Indiana	718.7	794.0	10.5 %
Mississippi	271.6	290.7	7.0 %
Tennessee	602.6	636.8	5.7 %
Colorado	294.5	310.5	5.4 %
North Carolina	876.1	922.5	5.3 %
West Virginia	199.8	209.2	4.7 %
Wyoming	47.5	49.5	4.2 %
Missouri	620.1	643.4	3.8 %
Idaho	92.4	93.8	1.5 %
South Dakota	63.8	64.6	1.3 %
Georgia	732.9	738.6	0.8 %
Alabama	452.4	453.8	0.3 %
Arkansas	275.5	274.9	-0.2 %
Louisiana	453.3	449.1	-0.9 %
Wisconsin	463.1	457.9	-1.1 %
Minnesota	392.5	387.6	-1.2 %
Iowa	271.5	268.0	-1.3 %
New Mexico	108.8	107.2	-1.5 %
Virginia	719.2	704.6	-2.0 %
Kentucky	688.6	665.2	-3.4 %
Texas	1,449.0	1,399.3	-3.4 %
North Dakota	52.9	50.9	-3.8 %
Florida	1,376.6	1,320.7	-4.1 %
Oregon	282.4	269.9	-4.4 %
Kansas	236.8	225.2	-4.9 %
Ohio	1,258.3	1,188.7	-5.5 %
Arizona	315.7	292.2	-7.4 %
Utah	91.7	84.7	-7.6 %
Pennsylvania	1,219.8	1,110.8	-8.9 %
Nebraska	144.7	131.6	-9.1 %
Alaska	53.9	47.7	-11.5 %
Rhode Island	101.1	87.8	-13.2 %
Illinois	1,098.9	951.6	-13.4 %
Maine	141.5	117.5	-17.0 %
Connecticut	298.7	247.2	-17.2 %
Vermont	69.2	57.1	-17.5 %
Washington	385.9	312.2	-19.1 %
Hawaii	54.0	42.0	-22.2 %
Maryland	479.6	365.0	-23.9 %
New Jersey	763.9	579.8	-24.1 %
California	2,222.3	1,668.4	-24.9 %
Michigan	1,031.7	747.4	-27.5 %
New York	1,689.9	1,180.2	-30.2 %
Massachusetts	587.1	387.2	-34.0 %
Total	24,931.4	22,767.6	-8.7 %

Source: Michigan data from ORTA, Michigan Department of Treasury. Other data from The Tobacco Institute.
Figures correspond to fiscal year ending June 30.

Cigarette Sales Prices

Due to Michigan's relatively high cigarette tax rate, it also has one of the highest average retail prices per pack of cigarettes. In 1998, the average weighted retail price (including generics) of a pack of cigarettes in Michigan was \$2.61 (see Exhibit 11), seventh highest in the nation. The six states with higher average retail prices were Alaska, Washington, Hawaii, New Jersey, Massachusetts, and Maine. With the exception of Maine (74 cents per pack), all of these states had higher tax rates than Michigan. Conversely, states with the lowest tax rates tended to have the lowest prices (top of Exhibit 11). This simple comparison provides some evidence that most excise taxes on cigarette are passed on to the final consumer in the form of higher prices.

Lower tax rates also tended to be associated with higher per capita cigarette consumption (see Exhibit 12). In 1998, Michigan ranked 39th in the nation in per capita consumption of taxed packs with an average of 73.7 packs consumed per year for every man, woman and child in the state. However, as early as 1994, per capita consumption of taxed packs was as high as 112.9 packs per year, and Michigan ranked 8th in per capita consumption. (Per capita figures are from The Tobacco Institute to allow a comparison across states.)

Exhibit 12 presents the effect state excise taxes have on cigarette prices. The group of states to the left of the graph represents states with the highest weighted average retail prices, while the group to the right represents states with the lowest average retail prices. This graph shows that state excise taxes are the driving force behind the differences in average weighted retail prices between states, with the other components resulting in only minimal interstate variation. This provides strong support for the assumption that taxes on cigarettes are passed on to the final consumer.

Exhibit 13 presents the composition of the final retail price of a pack of cigarettes in Michigan throughout the 1990s. Two-thirds of the 99-cent retail price increase that occurred between 1990 and 1998 was due to state and federal tax increases. The large jump in 1999 immediately followed the tobacco settlement in November 1998, still more evidence that cigarette tax increases (and legal settlements for product liability) are passed on to the consumer in the form of higher prices.

Other Tobacco Products

In addition to taxing cigarettes, most states also tax other tobacco products (see Exhibit 14). Other tobacco products include cigars, chewing tobacco, snuff, and tobacco sold separately for rolling cigarettes. However, instead of levying an excise tax, the tax is typically levied as a percentage of the wholesale price. Revenues from other tobacco products rarely account for more than 10 percent of total tobacco product taxes in any state. Michigan is no exception. In 1998, other tobacco revenues totaled approximately \$13.4 million and accounted for 2.5 percent of total Michigan tobacco tax revenues, 6th lowest among states taxing other tobacco products.

Exhibit 14 also provides smokeless tobacco usage rates for both men and women over the age of 18. For all states, men use smokeless tobacco at a rate roughly 10 times that of women. For Michigan, the difference is even greater: approximately 2.8 percent of men use smokeless tobacco, while only 0.1 percent of women use it.

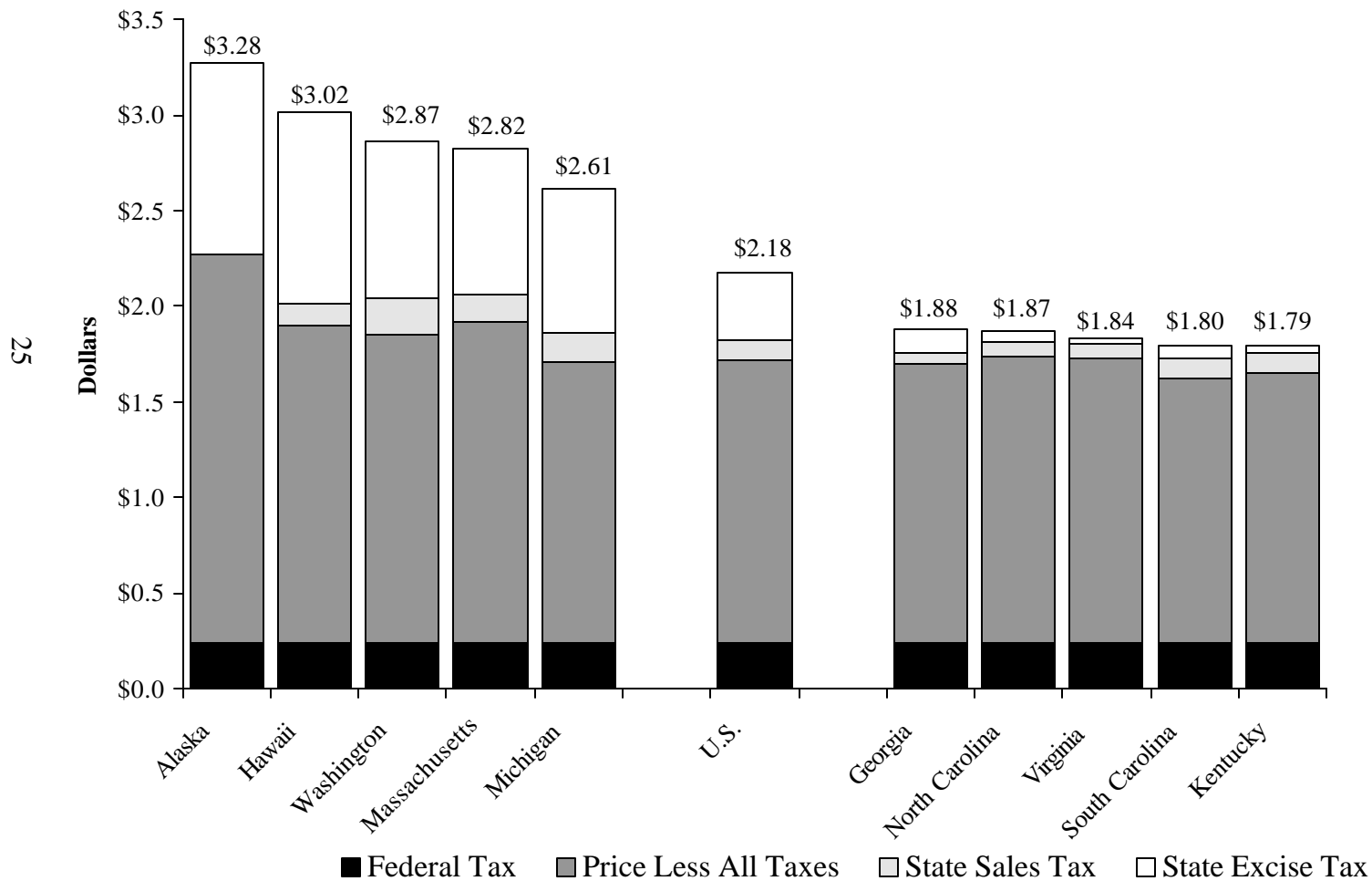
Exhibit 11
1998 Cigarette Prices and Sales, Ranking by Tax Rate

<u>State</u>	<u>State Excise Tax</u>	<u>Weighted Avg. Retail Price (1)</u>	<u>Rank by Price</u>	<u>Per Capita Sales (Packs)</u>	<u>Rank by Per Capita Sales</u>
Virginia	\$0.03	\$1.84	48	105.6	15
Kentucky	0.03	1.79	50	171.3	2
North Carolina	0.05	1.87	47	126.0	6
South Carolina	0.07	1.80	49	126.9	5
Georgia	0.12	1.88	46	100.5	19
Wyoming	0.12	1.90	44	102.9	17
Tennessee	0.13	1.90	45	119.7	8
Indiana	0.16	1.90	43	135.9	3
Alabama	0.17	1.96	40	106.2	14
Missouri	0.17	1.97	38	120.1	7
West Virginia	0.17	1.92	42	114.6	9
Montana	0.18	1.96	39	89.1	25
Mississippi	0.18	2.00	36	107.0	12
Colorado	0.20	2.04	33	81.2	32
Louisiana	0.20	2.08	28	103.2	16
New Mexico	0.21	2.02	35	62.6	46
Oklahoma	0.23	2.03	34	112.2	10
Kansas	0.24	2.07	30	87.6	29
Delaware	0.24	1.98	37	132.8	4
Ohio	0.24	1.93	41	106.4	13
Idaho	0.28	2.11	27	78.9	36
Pennsylvania	0.31	2.05	32	92.1	23
Arkansas	0.32	2.07	31	109.5	11
South Dakota	0.33	2.08	29	88.3	28
Florida	0.34	2.16	24	91.7	24
Nebraska	0.34	2.15	25	79.7	34
Nevada	0.35	2.26	18	102.4	18
Iowa	0.36	2.13	26	94.0	22
Maryland	0.36	2.20	23	72.0	42
California	0.37	2.25	20	52.3	48
New Hampshire	0.37	2.23	22	173.8	1
Texas	0.41	2.25	19	73.2	40
Vermont	0.44	2.34	16	97.0	20
North Dakota	0.44	2.24	21	79.1	35
Minnesota	0.48	2.27	17	83.2	31
Connecticut	0.50	2.37	15	75.5	38
Utah	0.52	2.44	12	42.3	49
New York	0.56	2.54	9	64.9	44
Arizona	0.58	2.50	11	66.0	43
Illinois	0.58	2.41	14	80.3	33
Wisconsin	0.59	2.44	13	88.7	26
Oregon	0.68	2.58	8	84.2	30
Rhode Island	0.71	2.52	10	88.7	26
Maine	0.74	2.68	6	94.5	21
Michigan	0.75	2.61	7	73.7	39
Massachusetts	0.76	2.82	4	63.6	45
Hawaii	0.80	3.02	2	35.5	50
New Jersey	0.80	2.73	5	72.6	41
Washington	0.83	2.87	3	56.4	47
Alaska	1.00	3.28	1	78.6	37
US Average	0.35	\$2.18		93.4	

(1) Includes generic brands.

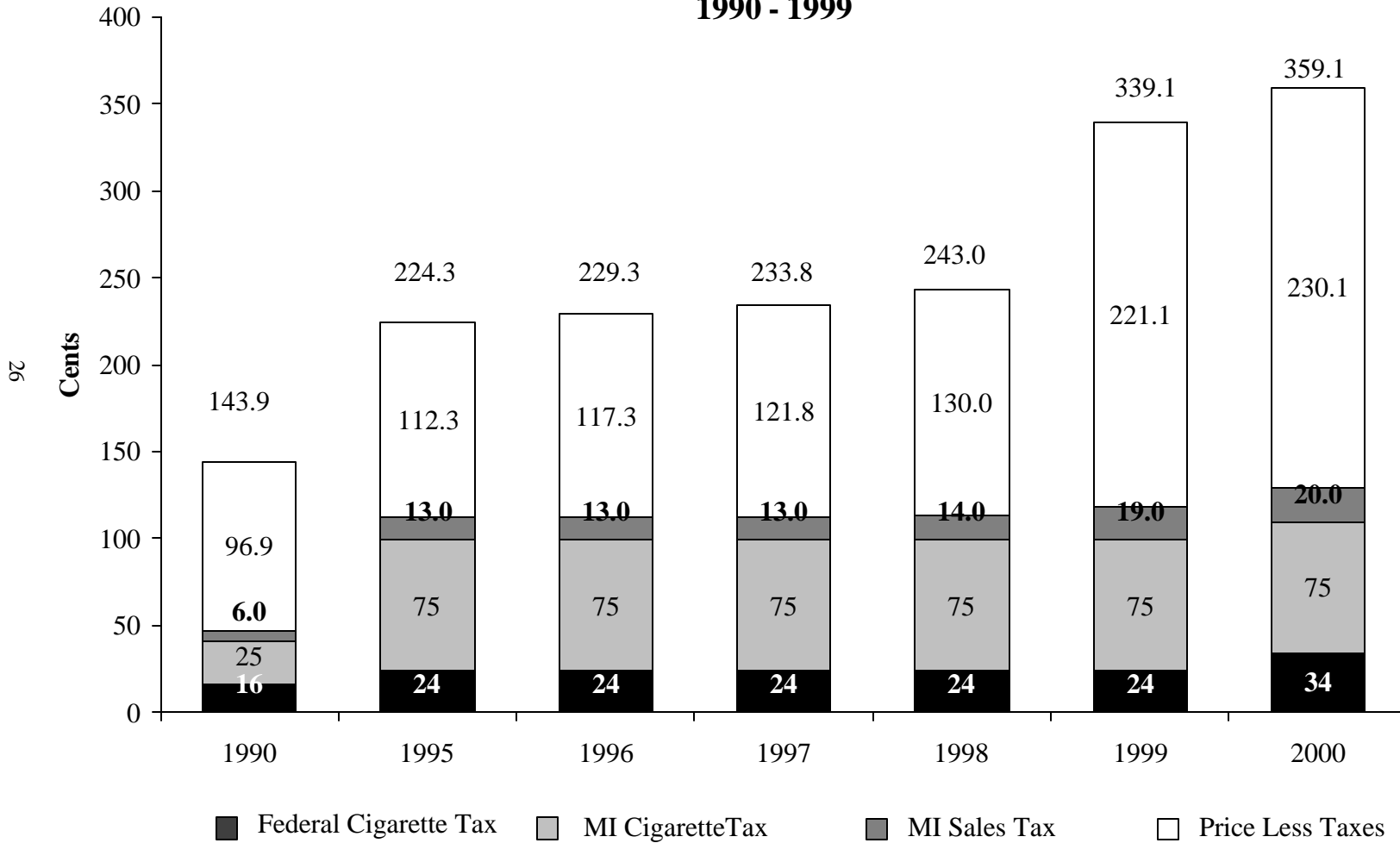
Source: The Tobacco Institute.

Exhibit 12 1998 Weighted Average Retail Price, Selected States



Source: The Tobacco Institute.

Exhibit 13
Composition of Price of Cigarettes in Michigan
1990 - 1999



Sources: The Tobacco Institute and the U.S. Bureau of Labor Statistics.

Exhibit 14
Other Tobacco Products Tax Revenue, FY 1998

State	Net Collections (000's)	Percent of Tobacco Taxes From OTP	Smokeless Tobacco Tax Rate	Smokeless Tobacco Use	
				Men Over 18	Women Over 18
Alabama	\$2,310.6	3.0 %	0.75 cents/ oz.(1)	9.0 %	2.0 %
Alaska	3,534.8	11.1 %	75.0 %	6.3 %	0.1 %
Arizona	3,522.5	2.0 %	6.5 cents/ oz.(1)	4.3 %	0.0 %
Arkansas	11,440.7	11.7 %	23.0 %	11.1 %	1.9 %
California	39,492.2	6.0 %	61.6 %	1.6 %	0.1 %
Colorado	8,186.9	12.0 %	20.0 %	5.3 %	0.1 %
Connecticut	5,091.5	4.0 %	20.0 %	0.1 %	0.1 %
Delaware	716.0	3.0 %	15.0 %	1.5 %	0.0 %
Florida	20,011.2	4.3 %	25.0 %	2.3 %	0.3 %
Georgia	1,415.0	1.6 %	NA	6.8 %	2.6 %
Hawaii	3,503.9	9.8 %	40.0 %	1.2 %	0.2 %
Idaho	4,070.5	13.4 %	40.0 %	7.7 %	0.1 %
Illinois	17,111.1	3.6 %	18.0 %	2.1 %	0.1 %
Indiana	10,776.6	8.1 %	15.0 %	4.9 %	0.2 %
Iowa	6,094.3	5.9 %	22.0 %	6.1 %	0.1 %
Kansas	3,411.6	5.9 %	10.0 %	6.5 %	0.0 %
Kentucky	NA	NA %	NA	8.5 %	0.5 %
Louisiana	3,806.5	4.1 %	NA	6.7 %	0.7 %
Maine	2,649.1	3.5 %	62.0 %	1.7 %	0.0 %
Maryland	NA	NA %	NA	1.3 %	0.1 %
Massachusetts	6,577.6	2.2 %	75.0 %	0.5 %	0.0 %
Michigan	13,378.0	2.5 %	16.0 %	2.8 %	0.1 %
Minnesota	13,745.9	6.9 %	35.0 %	4.1 %	0.1 %
Mississippi	9,646.7	15.6 %	15.0 %	11.1 %	1.7 %
Missouri	7,747.4	6.6 %	10.0 %	6.0 %	0.2 %
Montana	1,804.1	12.2 %	12.5 %	11.9 %	0.2 %
Nebraska	2,629.4	5.5 %	15.0 %	5.7 %	0.0 %
Nevada	4,944.8	7.9 %	30.0 %	2.6 %	0.1 %
New Hampshire	1,291.1	1.7 %	17.9 %	1.7 %	0.0 %
New Jersey	11,061.8	3.4 %	48.0 %	0.4 %	0.1 %
New Mexico	3,206.9	12.4 %	25.0 %	5.2 %	0.1 %
New York	19,994.9	2.9 %	20.0 %	1.0 %	0.1 %
North Carolina	2,898.4	6.1 %	2.0 %	6.8 %	3.1 %
North Dakota	1,852.0	7.6 %	28.0 %	6.0 %	0.1 %
Ohio	21,030.6	7.0 %	17.0 %	3.6 %	0.1 %
Oklahoma	13,107.2	16.2 %	30.0 %	8.0 %	0.4 %
Oregon	20,020.1	9.8 %	65.0 %	5.7 %	0.1 %
Pennsylvania	NA	NA %	NA	4.4 %	0.0 %
Rhode Island	1,349.1	2.1 %	20.0 %	0.4 %	0.1 %
South Carolina	8.9	0.0 %	5.0 %	4.4 %	1.7 %
South Dakota	1,045.1	4.7 %	10.0 %	8.2 %	0.1 %
Tennessee	6,217.6	7.0 %	6.0 %	9.0 %	2.1 %
Texas	62,215.6	10.1 %	35.2 %	6.3 %	0.3 %
Utah	5,100.2	10.5 %	35.0 %	2.6 %	0.0 %
Vermont	1,830.6	6.8 %	41.0 %	2.5 %	0.1 %
Virginia	NA	NA %	NA	5.3 %	0.2 %
Washington	21,955.3	7.8 %	74.9 %	4.0 %	0.1 %
West Virginia	NA	NA %	NA	15.6 %	0.6 %
Wisconsin	9,353.1	3.6 %	20.0 %	3.7 %	0.0 %
Wyoming	NA	NA	NA	13.5 %	0.3 %
Total/National	\$411,157.4	5.6 %	12.0 cents/ lb.(1)	4.0 %	0.4 %

(1) Chewing tobacco.

Sources: Data on collections are from The Tobacco Institute while data on usage are from the Centers for Disease Control and Prevention.

CHAPTER 4

THE ECONOMICS OF CIGARETTE TAXATION

When cigarettes and tobacco products are taxed, smokers most likely “bear the burden” of the tax, i.e., they ultimately pay most of the tax. This is referred to as the incidence of taxation. In the case of cigarettes, wholesalers must technically pay or remit the tax to the state, but consumers bear most of the cigarette tax burden through higher prices. Data from Michigan and other jurisdictions tend to support this contention.² Given that smokers pay the cigarette tax, a number of interesting questions arise. Who is the typical smoker in both Michigan and the United States? How does the cigarette tax burden change with education and income levels? Answers to these and related questions are addressed in this chapter.

Incidence of the Cigarette Tax: Who Pays?

Statistics used in this section are derived from two basic sources. The primary source is *State Tobacco Control Highlights 1998* published by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. This source defines current smokers as people who reported smoking at least 100 cigarettes and who currently smoke every day or on some days. The latest data available are for 1997 at the state level and 1995 for most of the aggregate national data.

The second source is *Health Risk Behaviors, 1996* (referred to generally as the Michigan Survey) compiled by the Michigan Department of Community Health. In general, data from the Michigan Survey support the data released by the U.S. Department of Health and, in certain instances, are able to provide greater detail on the demographic characteristics of smokers. Both sources are used to identify the demographic groups more likely to smoke.

Smoking and Gender

National and state data show that the prevalence of smoking is higher among males. For the entire U.S. in 1995, it was estimated that approximately 24.7 percent of all adults were current smokers (see Exhibit 15). Nationally, adult men tended to smoke at higher rates (27.0 percent) than women (22.6 percent).

The data illustrate that Michigan residents, especially males, are more likely than their national counterpart to smoke. For 1997, approximately 26.1 percent of Michigan adults were current smokers. Again, men smoked at a higher rate (29.6 percent) than women (22.8 percent) and this difference was more

²The analysis used later in this paper assumes that the supply of cigarettes is perfectly elastic, i.e., it is assumed that the entire cigarette tax is shifted forward to the final consumer. This assumption is generally supported by the tobacco tax data.

pronounced in Michigan than for the nation as a whole.

Data from the Michigan Survey report smoking rates for men and women that were less divergent. The survey found the male smoking rate was 27.7 percent and the female rate was 23.8 percent. Smoking rates for both men and women have risen since the 1993 survey.

Smoking and Race

According to the Centers for Disease Control, smoking rates for white and black persons are quite similar (see Exhibits 16 and 18). For 1995, the national average smoking rate for whites was 25.6 percent while for blacks it was 25.8 percent. Hispanic smoking rates (18.3 percent) were considerably lower. Though not shown in the table, the smoking rate for Asian/Pacific Islanders (16.6 percent) was the lowest while the rate for American Indian/Alaska Natives (36.2 percent) was the highest.

Michigan's rates were in general similar to the national averages. For 1997, approximately 25.8 percent of white Michigan adults were current smokers while 24.7 percent of black Michigan adults were current smokers. However, Hispanics in Michigan tended to smoke more than their national counterparts with an estimated 36.2 percent classified as current smokers. This estimate is both double the smoking rate reported for 1992-93 and double the national average for Hispanics. The Michigan Survey found that 26.2 percent of whites and 22.1 percent of blacks were smokers in 1996.

Smoking and Education Levels

In general, there is a negative correlation between education levels and smoking rates (see Exhibits 17 and 19). Americans with more than 12 years of education, i.e., attended some college, smoke much less (18.4 percent) than those with less than 12 years of education (30.4 percent). However, it does not appear that average smoking rates for Americans who obtain a high school diploma (29.5 percent) differ significantly from rates for those who never finished high school.

Data for Michigan show a similar trend. For residents who did not finish high school, approximately 31.6 percent were considered current smokers in 1997. For residents who obtained a high school diploma, 30.7 percent were classified as current smokers. Once again, there was a dramatic decline in smoking rates for those whose education went beyond the high school level. Only 20.6 percent of residents with more than 12 years of education were current smokers in 1997.

Exhibit 15
Cigarette Smoking Rates Among Adults, 1997

<u>State</u>	<u>Overall</u>	<u>Rank</u>	<u>Men</u>	<u>Women</u>
Kentucky	30.8 %	1	33.1 %	28.7 %
Missouri	28.7 %	2	31.7 %	26.0 %
Arkansas	28.5 %	3	32.1 %	25.2 %
Nevada	27.7 %	4	25.7 %	29.8 %
West Virginia	27.4 %	5	27.1 %	27.7 %
Tennessee	26.9 %	6	27.9 %	26.0 %
Alaska	26.7 %	7	27.4 %	25.8 %
Delaware	26.6 %	8	29.3 %	24.2 %
Indiana	26.3 %	9	29.2 %	23.7 %
Michigan	26.1 %	10	29.6 %	22.8 %
North Carolina	25.8 %	11	29.7 %	22.3 %
Ohio	25.1 %	12	26.4 %	24.0 %
New Hampshire	24.8 %	13	26.0 %	23.7 %
Alabama	24.7 %	14	28.6 %	21.3 %
Virginia	24.6 %	15	26.2 %	23.1 %
Oklahoma	24.6 %	15	25.2 %	24.1 %
Louisiana	24.6 %	15	29.3 %	20.4 %
South Dakota	24.3 %	18	28.1 %	20.8 %
Pennsylvania	24.3 %	18	26.2 %	22.5 %
Rhode Island	24.2 %	20	25.6 %	23.0 %
Wyoming	24.0 %	21	24.0 %	24.1 %
Washington	23.9 %	22	25.1 %	22.7 %
Florida	23.6 %	23	26.0 %	21.4 %
South Carolina	23.4 %	24	29.5 %	17.8 %
Illinois	23.2 %	25	25.0 %	21.6 %
Wisconsin	23.2 %	25	25.6 %	21.0 %
Mississippi	23.2 %	25	28.3 %	18.6 %
Vermont	23.2 %	25	25.1 %	21.5 %
New York	23.1 %	29	25.0 %	21.5 %
Iowa	23.1 %	29	25.5 %	20.9 %
Maine	22.7 %	31	25.2 %	20.4 %
Kansas	22.7 %	31	26.8 %	18.9 %
Texas	22.6 %	33	28.0 %	17.5 %
Colorado	22.6 %	33	24.0 %	21.2 %
Georgia	22.4 %	35	25.2 %	19.9 %
North Dakota	22.2 %	36	24.3 %	20.3 %
Nebraska	22.2 %	36	24.4 %	20.2 %
New Mexico	22.1 %	38	21.6 %	22.6 %
Minnesota	21.8 %	39	24.1 %	19.8 %
Connecticut	21.8 %	39	21.4 %	22.2 %
New Jersey	21.5 %	41	23.3 %	19.8 %
Arizona	21.1 %	42	22.1 %	20.2 %
Oregon	20.7 %	43	22.1 %	19.4 %
Maryland	20.6 %	44	21.8 %	19.4 %
Montana	20.5 %	45	20.8 %	20.2 %
Massachusetts	20.4 %	46	21.8 %	19.2 %
Idaho	19.9 %	47	21.8 %	18.0 %
Hawaii	18.6 %	48	21.4 %	15.8 %
California	18.4 %	49	22.4 %	14.5 %
Utah	13.7 %	50	16.1 %	11.5 %
US Average	24.7 %		27.0 %	22.6 %

Source: State Tobacco Control Highlights, 1998 edition, Centers for Disease Control and Prevention.

Exhibit 16
Cigarette Smoking Rates by Race, 1997

<u>State</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
Alabama	25.1 %	18.3 %	24.7 %
Alaska	25.0 %	NA %	23.2 %
Arizona	22.5 %	22.8 %	23.7 %
Arkansas	27.8 %	19.7 %	16.4 %
California	19.2 %	24.4 %	16.7 %
Colorado	22.1 %	31.4 %	24.6 %
Connecticut	20.9 %	26.9 %	30.7 %
Delaware	25.7 %	26.3 %	18.9 %
Florida	24.5 %	16.4 %	17.5 %
Georgia	22.6 %	17.7 %	24.8 %
Hawaii	20.3 %	20.9 %	23.8 %
Idaho	20.3 %	NA %	15.8 %
Illinois	24.3 %	26.5 %	20.4 %
Indiana	27.2 %	28.4 %	30.6 %
Iowa	23.1 %	29.9 %	25.0 %
Kansas	22.7 %	17.5 %	22.2 %
Kentucky	31.3 %	30.0 %	NA %
Louisiana	27.2 %	21.2 %	20.2 %
Maine	24.0 %	NA %	NA %
Maryland	21.2 %	21.5 %	14.1 %
Massachusetts	22.1 %	21.8 %	15.1 %
Michigan	25.8 %	24.7 %	36.2 %
Minnesota	20.9 %	25.3 %	23.6 %
Mississippi	24.9 %	19.3 %	NA %
Missouri	27.4 %	31.3 %	50.2 %
Montana	20.1 %	NA %	23.4 %
Nebraska	21.6 %	28.2 %	24.6 %
Nevada	29.4 %	21.4 %	21.0 %
New Hampshire	24.6 %	NA %	NA %
New Jersey	22.8 %	22.6 %	22.0 %
New Mexico	21.7 %	NA %	24.1 %
New York	23.8 %	21.5 %	24.0 %
North Carolina	25.5 %	27.2 %	28.7 %
North Dakota	22.3 %	NA %	NA %
Ohio	27.0 %	27.7 %	16.1 %
Oklahoma	23.5 %	27.0 %	33.7 %
Oregon	21.9 %	19.7 %	19.9 %
Pennsylvania	23.8 %	31.4 %	28.0 %
Rhode Island	23.4 %	26.6 %	17.5 %
South Carolina	25.9 %	20.0 %	11.1 %
South Dakota	20.7 %	NA %	33.5 %
Tennessee	28.5 %	20.6 %	37.5 %
Texas	23.8 %	25.6 %	19.1 %
Utah	14.1 %	NA %	23.3 %
Vermont	23.5 %	NA %	21.6 %
Virginia	25.6 %	23.0 %	23.9 %
Washington	23.5 %	34.0 %	21.6 %
West Virginia	27.0 %	27.3 %	30.3 %
Wisconsin	23.4 %	25.9 %	28.8 %
Wyoming	23.9 %	NA %	27.0 %
US Average	25.6 %	25.8 %	18.3 %

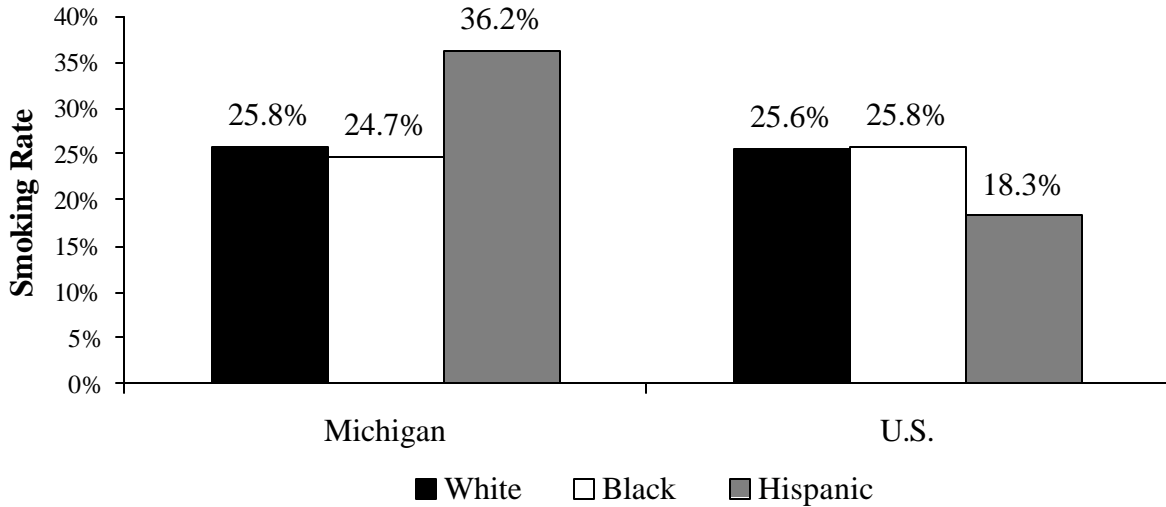
Source: State Tobacco Control Highlights, 1998 edition, Centers for Disease Control and Prevention.

Exhibit 17
Cigarette Smoking Rates by Education Level, 1997

<u>State</u>	<u>Less Than 12 Years</u>	<u>12 Years</u>	<u>More Than 12 Years</u>
Alabama	35.7 %	25.8 %	20.4 %
Alaska	35.0 %	33.0 %	18.4 %
Arizona	24.9 %	23.2 %	18.7 %
Arkansas	30.0 %	33.5 %	24.2 %
California	20.8 %	23.4 %	15.0 %
Colorado	31.0 %	31.3 %	15.8 %
Connecticut	29.1 %	26.5 %	15.8 %
Delaware	30.4 %	32.6 %	19.6 %
Florida	24.7 %	25.8 %	20.8 %
Georgia	27.9 %	28.9 %	17.9 %
Hawaii	26.2 %	24.1 %	14.4 %
Idaho	29.1 %	26.0 %	13.8 %
Illinois	26.4 %	25.6 %	19.1 %
Indiana	35.7 %	27.9 %	19.3 %
Iowa	26.3 %	27.6 %	16.9 %
Kansas	25.8 %	26.8 %	18.0 %
Kentucky	36.8 %	34.6 %	22.2 %
Louisiana	34.1 %	28.3 %	17.6 %
Maine	28.6 %	27.0 %	15.3 %
Maryland	31.1 %	26.9 %	14.1 %
Massachusetts	26.7 %	26.3 %	14.9 %
Michigan	31.6 %	30.7 %	20.6 %
Minnesota	26.7 %	26.0 %	16.9 %
Mississippi	30.0 %	26.9 %	16.8 %
Missouri	33.0 %	31.2 %	24.5 %
Montana	28.8 %	24.3 %	16.6 %
Nebraska	21.4 %	26.3 %	17.2 %
Nevada	29.0 %	34.3 %	24.7 %
New Hampshire	37.0 %	30.5 %	17.4 %
New Jersey	28.8 %	25.9 %	16.2 %
New Mexico	26.9 %	26.6 %	18.4 %
New York	27.3 %	27.0 %	19.7 %
North Carolina	31.5 %	30.0 %	20.1 %
North Dakota	17.3 %	29.3 %	18.9 %
Ohio	30.9 %	29.1 %	18.2 %
Oklahoma	36.5 %	28.2 %	16.8 %
Oregon	42.0 %	21.4 %	14.8 %
Pennsylvania	26.2 %	27.9 %	18.2 %
Rhode Island	29.9 %	27.1 %	17.6 %
South Carolina	31.4 %	30.4 %	14.4 %
South Dakota	24.6 %	27.5 %	20.1 %
Tennessee	35.7 %	30.6 %	19.5 %
Texas	28.7 %	27.8 %	17.8 %
Utah	29.6 %	21.2 %	9.0 %
Vermont	32.3 %	25.8 %	15.1 %
Virginia	33.2 %	29.5 %	18.3 %
Washington	38.7 %	28.2 %	18.9 %
West Virginia	32.7 %	29.6 %	18.0 %
Wisconsin	21.3 %	30.8 %	16.1 %
Wyoming	34.6 %	28.6 %	17.5 %
US Average	30.4 %	29.5 %	18.4 %

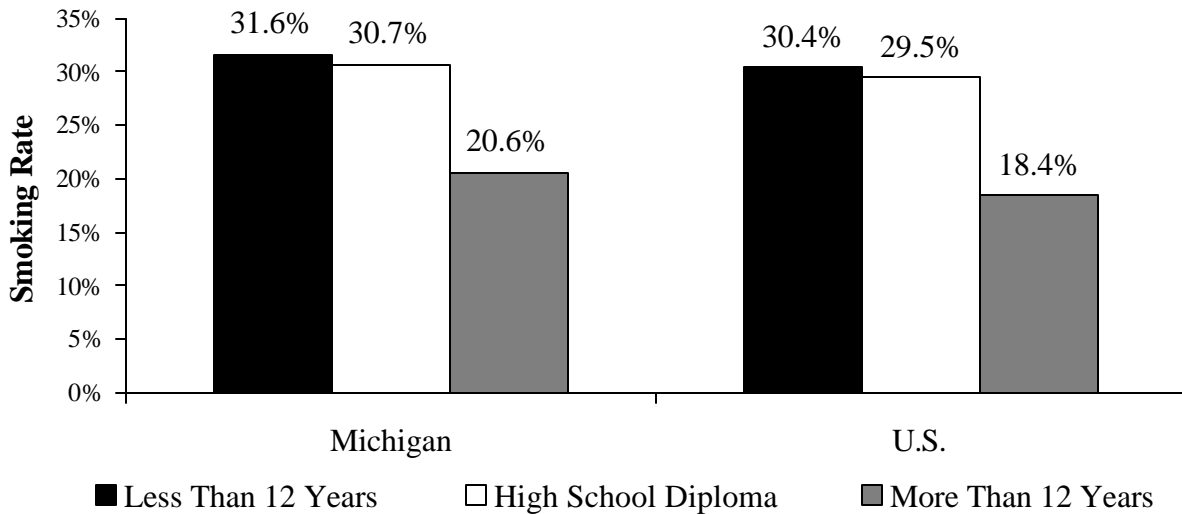
Source: State Tobacco Control Highlights, 1998 edition, Centers for Disease Control and Prevention.

Exhibit 18
Smoking Rates by Race, 1996-97



Source: State Tobacco Control Highlights, 1998 edition, Centers for Disease Control and Prevention.

Exhibit 19
Smoking Rates by Education Level, 1996-97



Source: State Tobacco Control Highlights, 1998 edition, Centers for Disease Control and Prevention.

For 1996, the Michigan Survey found that college graduates were far less likely to smoke (12.7 percent) than their counterparts who started college and did not finish (25.5 percent). High school graduates were also less likely to smoke (31.2 percent) compared to Michigan residents who did not finish high school (36.1 percent). These results, however, reverse the recent trend of declining smoking rates among the groups with higher educational achievement. Only the group that did not finish high school reported a decline in their smoking rate from the 1993 survey.

Smoking and Age

Not surprisingly, smoking rates also vary by age group (see Exhibit 20). The following estimates from the Centers for Disease Control and Prevention show the percentage of current smokers for both the U.S. and Michigan by age group:

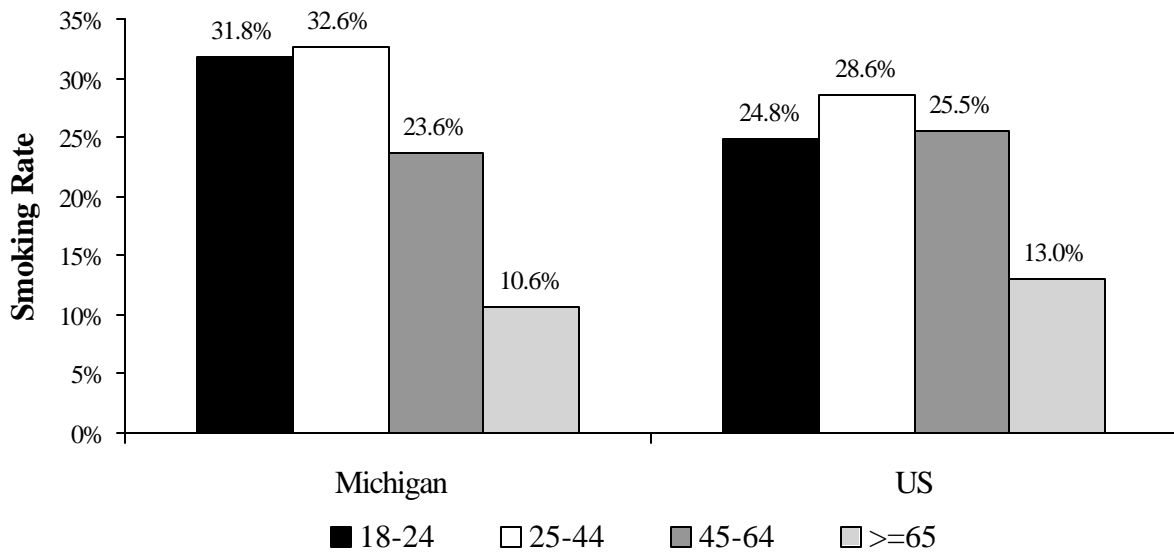
<u>Age Group</u>	<u>United States (1995)</u>	<u>Michigan (1997)</u>
18 - 24 years of age	24.8%	31.8%
25 - 44 years of age	28.6	32.6
45 - 64 years of age	25.5	23.6
Older than 65 years	13.0	10.6

The most noticeable difference between Michigan and the U.S. occurs in the 18-25 and 25-44 age groups, where the percentage of current smokers in Michigan is noticeably higher.

Once more, the Michigan Survey tends to corroborate these findings. For 1996, the Michigan Survey found the following smoking rates for Michigan residents: 32.3 percent for 18 to 24 year olds, 30.1 percent for 25 to 34 year olds, 30.0 percent for 35 to 44 year olds, 24.8 percent for 45 to 54 year olds, 22.1 percent for 55 to 64 year olds, 15.2 percent for 65 to 74 year olds, and 5.3 percent for residents over 75 years of age.

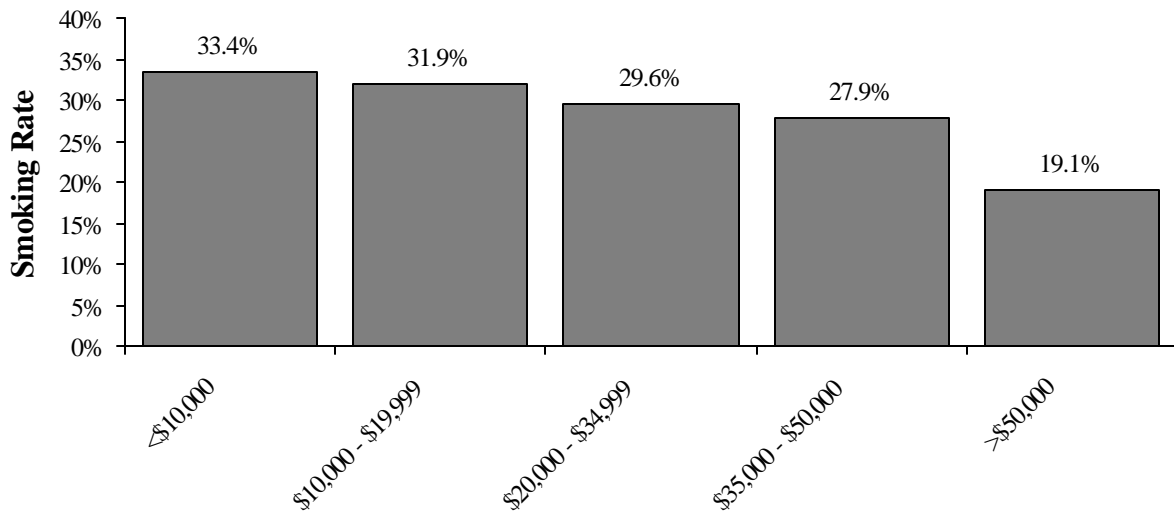
While they were not included in the statistics discussed above, younger smokers (below 18 years of age) have been the focus of considerable research. The reason for this is straightforward: the great majority of smokers begin the habit in their adolescent years. The Centers for Disease Control and Prevention found that nationally 36.4 percent of adolescents in grades 9-12 smoked cigarettes in the past month. Of adolescents, 16.7 percent were described as frequent smokers, i.e., smoking on 20 or more days in the last month. Smokeless tobacco usage rates were also high for this age group at 9.3 percent. Michigan adolescents smoked cigarettes at an even higher rate: 38.2 percent in 1997, with 19.8 percent characterized as frequent smokers. Michigan adolescents are less likely than their national counterparts to use smokeless tobacco with 8.4 percent reporting using smokeless products in the past month.

Exhibit 20
Smoking Rates by Age Group, 1995-96



Source: State Tobacco Control Highlights, 1998 edition, Centers for Disease Control and Prevention.

Exhibit 21
Smoking Rates by Income Level, 1996



Source: Health Risk Behaviors, 1996, Michigan Department of Community Health, 1998.

Cigarette tax policy may have a greater impact on adolescents than adults. Teenagers have presumably smoked for a shorter period of time and have less disposable income to spend on cigarettes. As a result, they may be more responsive to price increases which use up a greater percentage of their income. However, younger smokers are also more likely to be influenced by non-monetary considerations, e.g., peer pressure, advertising campaigns, and parental behavior, any or all of which may offset price considerations.

Smoking and Income Level

The Michigan Survey also identified smokers by income classification. The following table shows the results for selected years (also see Exhibit 21):

Smoking Rates by Income Level, Michigan Residents

<u>Income Level</u>	<u>1990</u>	<u>1993</u>	<u>1996</u>
Less than \$10,000	32.4	36.3	33.4
\$10,000 - \$19,999	35.6	26.7	31.9
\$20,000 - \$34,999	29.5	27.3	29.6
\$35,000 - \$50,000	27.7	23.8	27.9
Greater than \$50,000	NA	17.3	19.1

Note: Prior to 1992, the two highest income categories were combined.

Although the values fluctuated somewhat across years, this table demonstrates clearly that lower-income residents tend to smoke at much higher rates. However, only the lowest income group had a lower smoking rate in 1996 than in 1993. Still, the average person in the highest income group is significantly less likely to smoke. This result was not unexpected given the positive correlation between education and income levels.

Profile of the Typical Smoker

Given these gender, age, education, ethnicity and income characteristics, it is possible to derive a profile of a typical smoker for Michigan and the U.S. While this provides some insight regarding the group that bears more of the cigarette tax burden, it is *not* meant to identify a group that pays more cigarette taxes in absolute terms because it does not take into account the proportion each demographic group comprises of the total population. That is, a person from one income or age group may pay more cigarette taxes on average, yet the group as a whole may pay less overall simply because there are fewer of them.

The typical U.S. smoker is between the ages of 18 and 44, with a high school education or less. The typical Michigan smoker also tends to be between the ages of 18 and 44, is more likely to be white or Hispanic than his or her U.S. counterpart, and probably has an income below \$50,000 per year.

In general, residents with lower income pay more tobacco taxes because they tend to use tobacco products with a greater intensity. In addition, because they have lower incomes, the percentage of their income spent on cigarettes and tobacco taxes is most likely much higher. For example, two individuals each smoking one pack of cigarettes per day each spend \$273.75 per year in Michigan cigarette taxes, \$87.60 in federal cigarette taxes and approximately \$51.10 in sales taxes (assuming a final per pack cost of \$2.50), for total taxes of \$412.45. If one smoker has an income of \$30,000, then cigarette taxes equal 1.37 percent of his or her income. If the other smoker has an income of \$10,000, then cigarette taxes equal 4.12 percent of his or her income. This simple example demonstrates the regressivity of cigarette taxes.

Health Issues

While taxes are generally unpopular, the taxation of cigarettes is sometimes thought to be more acceptable because it discourages smoking, an activity which increases health care costs for both smokers and non-smokers. Research has demonstrated that smoking is linked to a number of cardiovascular diseases and cancers, the most prevalent being lung cancer. The Centers for Disease Control and Prevention estimate that smoking causes approximately 20 percent of all deaths. Data from the Office of the State Registrar and Center for Health Statistics, Department of Community Health, concluded that heart disease and cancer are the leading preventable causes of death in Michigan, and that tobacco use contributes greatly to these pathological conditions.

However, smoking not only imposes costs on those who choose to engage in the activity but also on society in general. It is estimated that the lifelong medical costs of a smoker will exceed those of a non-smoker by \$6,000.³ A report released in late January 1996 by the Centers for Disease Control found that smoking added approximately \$50 billion to health care costs in 1993. This translates into \$2.06 per pack of cigarettes sold in 1993. For that same year, it is estimated that cigarette taxes averaged 28.3 percent of the sales price or 52 cents per pack.⁴ Given these figures, it appears that smokers do not directly pay for the additional health care they receive. Typically, non-smokers pay part of these costs through higher health and life insurance premiums and higher taxes to finance public health programs like Medicaid and Medicare.

Smoking is also associated with costs that are not directly related to long-term health care. These are the indirect costs that are more difficult to quantify. On average, smokers are absent from work 6.5 more days and make roughly six more visits per year to health care facilities than non-smokers.⁵ Employers must charge higher prices in order to cover these costs associated with

³MacKenzie, et al., "The Human Costs of Tobacco Use," The New England Journal of Medicine, Vol. 330, No.14, April 7, 1994, p. 975.

⁴National Review, August 15, 1994, p. 16.

⁵MacKenzie, et al., p. 975.

additional absences, health care claims, benefits not related to health care, and decreased productivity.

It should be noted that estimating the total cost of smoking is inherently difficult and conflicting evidence exists. A report written by the Congressional Office of Technology Assessment found that smokers in 1993 paid \$13.3 billion in excise and sales taxes but cost governments only \$8.9 billion in health-care expenses (ignoring indirect costs).

There is also controversy surrounding the measures to include in the cost calculation. For instance, because smokers tend to die younger than non-smokers some have argued that the reduced Social Security payments paid due to premature death should be counted as a net savings of smoking. It has been estimated that for every pack of cigarettes smoked, the smoker's life is shortened by approximately 137 minutes.⁶ This amounts to nearly seven years for a typical two-pack-a-day smoker. The average Social Security benefit is approximately \$800 per month resulting in an average saving of \$67,200 to the Social Security Trust Fund for each potential beneficiary who smokes.⁷

⁶National Review, p. 16.

⁷ Highlights of Social Security Data, December 1999, The Office of Policy, Social Security Administration.

CHAPTER 5

CIGARETTE STAMPING

The Apparent Smuggling Problem

With the passage of Proposal A in 1994, Michigan's cigarette tax increased to \$0.75, the highest in the nation at that time. By January 1 1999, Michigan's tax rate had been surpassed by six other states. Alaska (\$1.00), Hawaii (\$1.00), California (\$0.87), Washington (\$0.825), New Jersey (\$0.80), and Massachusetts (\$0.76) all had cigarette taxes greater than \$0.75 in 1999, although Michigan's tax rate remained the highest in the upper Midwest region.

This report has documented that a large decline in taxable cigarette sales occurred in Michigan following the tax increase in 1994. The long-term trend in cigarette sales had been approximately a 1.5-percent annual decline, primarily due to health concerns but also influenced by rising cigarette taxes. The \$0.50 increase in the cigarette tax that accompanied the passage of Proposal A in 1994 raised cigarette prices in Michigan by approximately 30 percent.

The price elasticity for cigarettes permits analysts to estimate the reduction in cigarette sales that will accompany a change in the cigarette tax. Price elasticity is a measure of the responsiveness of consumers to a price change obtained by dividing the percentage change in sales by the percentage change in the price. Using the best existing estimates of the price elasticity for cigarettes (between -0.30 and -0.40), the 50-cent tax increase implied a decrease in sales of between 9.3 and 12.4 percent.

Several factors may reduce the response to such a large tax increase, especially in the short-run. The physical addiction to nicotine that smokers experience may result in different responses to large price changes as compared with small changes. Reducing cigarette consumption by one-half pack per week is different than reducing by one-half pack per day. Also, elasticity is only theoretically viable under the strong assumption of *ceteris paribus*, i.e., all other factors influencing the consumption of cigarettes besides the price of cigarettes remaining unchanged. The passage of Proposal A imposed a new tax on other tobacco products (cigars, chewing tobacco, and noncigarette tobacco) which can be substitutes for cigarettes. This price increase makes substitution away from cigarettes more expensive, thus reducing the behavioral change.

However, the number of packs sold between 1993 and 1995 declined by even more than expected. Sales declined by 16.4 percent between 1993 and 1995. Sales further declined by 6.3 percent in 1996 and by 6.6 percent in 1997, substantially more than the trend decline of approximately 2 percent. This decline occurred while the percentage of smokers in Michigan was stable, in fact the percentage increased between 1993 and 1997. Given that the prevalence of smoking in Michigan at least constant, why were cigarette sales declining so much?

State officials suspected cigarette smuggling might be increasing. There was additional evidence to support that conclusion. Sales in Michigan declined between fiscal year 1994 and fiscal year 1995 by 18 percent while overall U.S. sales of cigarettes increased by 2.1 percent. Exhibit 22 shows the corresponding changes in other states for this period. Sales in Indiana, Ohio, Kentucky, and West Virginia, all states with cigarette taxes less than one-third of Michigan's,

increased by more than double the U.S. average. North Carolina, which repealed its law that cigarettes sold in the state had to have a state stamp weeks before Michigan's cigarette tax increase took effect, saw an increase of 15.7 percent. North Carolina's cigarette tax is 5 cents per pack.

Certainly part of this decline in taxable Michigan cigarette sales may have been attributable to consumers inadvertently or deliberately purchasing smuggled cigarettes. Smuggling occurs when cigarettes are purchased and transported from low-tax states into Michigan for resale. Due to their relatively low tax rate on cigarettes, North Carolina (5 cents per pack), Kentucky (3 cents per pack) and Indiana (15.5 cents per pack) are favored purchasing points with smugglers. Individuals may legally purchase up to 300 cartons of cigarettes at a single location in any state without filing federal paperwork notifying the government of the purchase. Although North Carolina is further from the Michigan market and has a slightly higher tax rate than Kentucky, it remains a more popular point of origin for smuggled cigarettes, because North Carolina no longer affixes tax stamps to cigarette packages. Stamps are thought to make smuggling more difficult because they allow law enforcement officials to trace cigarettes to their point of origin.

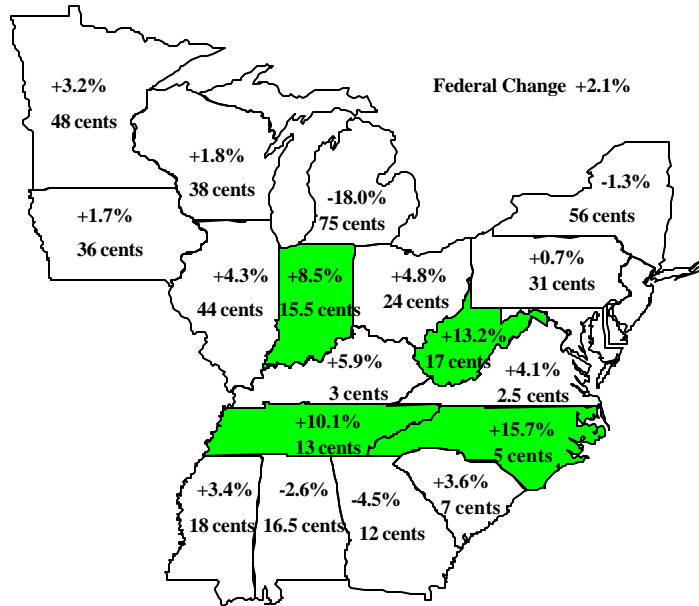
There are numerous types of potential smuggling activity. Casual smuggling occurs when individuals buy cigarettes out-of-state (for example Indiana or Ohio) and bring them back to Michigan either for personal use or for use by friends and family. It should be noted that it is not illegal to bring cigarettes back into Michigan as long as less than two cartons per vehicle are transported. Illegal smuggling would only occur if more than two cartons were transported into Michigan.

Residents need not leave the state to legally or illegally avoid payment of cigarette taxes. Indian reservations and military bases have become an attractive place to purchase cigarettes not only because cigarettes are exempt, but also due to growth in the Indian gambling industry. In the past couple of years, tax-exempt sales on reservations have risen sharply. The number of members in the tribe limits legal exempt sales to reservations. Certain tribes are supposed to collect tax on sales to non-members. Sales of cigarettes on military bases are also tax exempt. Military personnel are limited to 10 cartons of cigarettes per trip, although there is no limit on the number of trips. Sales of tax-exempt cigarettes, which still account for a relatively small percentage of total cigarette sales, are discussed in more detail in Chapter 2.

A second type of cigarette smuggling seems to occur through mail order and/or Internet sales. The seller obtains low-tax cigarettes and agrees to sell them to either a Michigan resident or business. The cigarettes are then shipped to Michigan. Sales of this type are limited because the only way to attract new business is to advertise and thus risk prosecution, hence their effectiveness is somewhat limited.

Exhibit 22

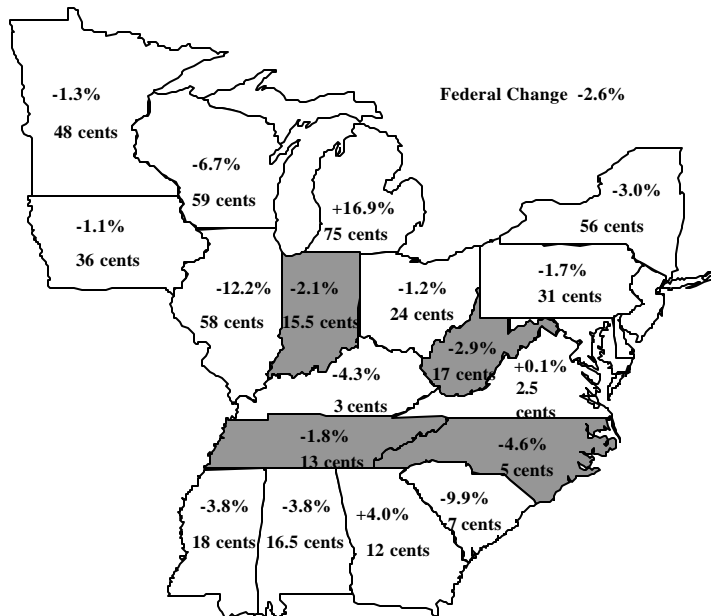
Change in Sales FY 1994 to FY 1995



Source: Michigan data from ORTA, Michigan Dept. of Treasury.
Data for other states from The Tobacco Institute.

Exhibit 23

Change in Packs Sold Taxed July 1997 to April 1998 Over July 1998 to April 1999



Source: Orzechowski and Walker, Economic Policy Research and Analysis.

A third type of smuggling is through organized networks delivering contraband cigarettes to Michigan from low-tax states. It appears much of this activity originated in North Carolina, Kentucky, and Indian reservations in upper New York State. Michigan officials even uncovered one licensed Michigan wholesaler buying cigarettes illegally from an out-of-state wholesaler.

The Policy Response – Stamping

Public Act 187 of 1997 was enacted to address the smuggling problem. The new law amended the Tobacco Products Tax Act to require that every pack of cigarettes sold to the general public after August 31, 1998, have a tax stamp affixed, certifying that the \$0.75 per pack cigarette tax had been paid. Beginning on May 1, 1998, a cigarette wholesaler or other person importing cigarettes for eventual resale in Michigan would have to purchase tax stamps from the Michigan Department of Treasury and attach the stamps to all packs of cigarettes held for eventual sale in Michigan.

As Exhibit 23 shows, the stamping program had a large and immediate effect. Michigan experienced a 16.9 percent increase in packs sold taxed while all of the neighboring states experienced declines. Cigarette tax revenues rose in 1998 and again in 1999 as smuggling was reduced. Revenues for 1999 were only \$4.3 million (0.7 percent) below the level of 1995, the first full year of the 75-cent tax rate. This dramatic increase in revenues also occurred while cigarette prices were increasing dramatically in the wake of the national tobacco settlement that is discussed in Chapter 6.

Success of the New Stamping Program

In order to assess the impact of stamping on preventing smuggling, a simple regression analysis was developed. Regression analysis is a statistical technique that allows identification of the separate effect of a policy or environmental change on the desired dependent variable by controlling for other factors influencing the dependent variable. All of the independent variables are placed on the right-hand side of the equal sign while the dependent variable is on the left. This analysis attempts to measure the impact of stamping on cigarette tax revenue.

The reduced form of the simple cigarette tax model is slightly modified from the model used in the 1996 version of this report. The new functional form is:

$$\begin{aligned} \text{Cigarette Tax Revenues} = & \text{"} + \$_1(\text{Michigan Tax Rate}) + \$_2(\text{Real Disposable Personal Income}) + \\ & \$_3(\text{Relative Price}) + \$_4(\text{Federal Tax Rate}) + \$_5(\text{Trend}) + \$_6(\text{Dummies}) + \\ & \$_7(\text{Inventory Accumulation}) + \$_8(\text{Inventory Depletion}) + \$_9(\text{Proposal A}) + \\ & \$_{10}(\text{Retail Stamp}) \end{aligned}$$

Some of the variables are self-explanatory but a few words of explanation are necessary. Real disposable personal income is a measure of Michigan income constructed from data collected by the Bureau of Economic Analysis. The relative price variable equals the U.S. Tobacco Consumer Price Index (CPI) divided by the Detroit CPI. The trend variable begins with a value of one in the first quarter of 1976 and increases by one every quarter of the 23-plus years covered

in this analysis. This variable is designed to capture the impact of health trends and changing consumer preferences. Seasonal dummies are used to control for seasonal changes in smoking. There is an observation-specific dummy for the fourth quarter of 1976 because that quarter is regarded as an outlier. There are also quarter specific dummies for the third and fourth quarters of 1998, the period stamping was implemented.

The inventory variables were included to control for tax collection policy for the quarters surrounding the passage of Proposal A in 1994. Wholesalers were allowed to pay the lower tax on inventory accumulated prior to February 1, 1994. As a result, wholesalers began to stockpile cigarettes. This artificially increased tax revenues in the early months of 1994. Wholesalers depleted these stockpiles immediately following the tax increase, which artificially suppressed tax revenues.

While a complete exposition of regression analysis is beyond the scope of this report, a brief summary of the methodology employed is necessary. Cigarette tax revenue is equal to the quantity of cigarettes sold times the cigarette tax rate, adjusted for the collection fee the state allows to wholesalers to offset the cost of collection. Because the price and quantity of cigarettes sold are coincidentally determined in the market, both belong on the left-hand side of the equal sign, i.e., price may be an endogenous variable in this regression. Using an endogenous variable in a simple regression will produce inconsistent estimates. In fact, statistical tests give significant evidence that price is endogenous.

To correct this problem, an instrumental variable was used. An effective instrument is a variable that is not relevant in the original equation but is correlated with the endogenous variable. It may be unrelated to dependent (left side of the equal sign) variable or it may be redundant. The chosen instrument here is the number of harvested acres of tobacco in the United States. It is strongly correlated with the price of tobacco, and all of its effect on Michigan cigarette purchases is captured by the price of tobacco, i.e., it would be redundant in the original equation.

The instrument is used through a process called two-stage least squares. The first stage generates estimated values for the price variable that are no longer endogenous. The estimated values are then used in the second stage to estimate the above equation. The results are presented in Exhibit 24.

The log transformation of the equation means the estimated coefficients can be thought of as elasticities. From Exhibit 24, this would imply that a one percentage point increase in the relative price of cigarettes, with all other factors influencing cigarette purchases unchanged, will decrease cigarette consumption by -0.46 percentage points. This is in the higher end of the estimated range of price elasticity estimates from prior studies.

The magnitudes of these estimates should be interpreted with caution, though. Price elasticity is conceptually defined for small changes in price. A number of the quarterly price changes in the sample period, e.g., the second quarter of 1994 (Proposal A) or the fourth quarter of 1998 (national tobacco lawsuit settlement), were not small. The 50-cent-per-pack tax increase that was implemented on May 1, 1994, as a part of Proposal A represented a 27.1 percent increase over the average retail price of a pack of cigarettes in 1993. In the fourth quarter of 1998 and the

first quarter of 1999 the U.S. Tobacco CPI increased by 8.0 percent and 15.7 percent, respectively, following the tobacco settlement. Price increases of this magnitude make interpreting the elasticity estimates more uncertain. This is perhaps especially true of cigarettes since large price increases may induce significant numbers of smokers to quit, at least temporarily. As discussed in the previous chapter, however, there is little evidence to support this conclusion.

Exhibit 24
Regression Results Using Data Through Third Quarter 1999

<u>Variable</u>	<u>Coefficient</u>	<u>T-Statistic</u>
Relative Price (log)	-0.4629	-5.660
Real Disposable Income (log)	0.4439	3.951
State Tax Rate (log)	0.9729	32.297
Federal Tax Rate (log)	0.0533	1.745
Seasonal Dummy 1	-0.0618	-6.527
Seasonal Dummy 2	-0.0138	-1.477
Seasonal Dummy 3	0.0640	6.833
1976 Q4 Dummy	-0.1899	-5.627
Inventory Accumulation	0.1907	5.720
Inventory Depletion	-0.1199	-8.134
Trend	-0.0023	-4.099
Proposal A Dummy	-0.2649	-8.378
Retail Stamping Dummy	0.2194	7.432
1998 Q3 Dummy	0.0929	2.889
1998 Q4 Dummy	-0.0183	-0.488

All of the coefficients are of the expected sign except for the federal tax rate. It would be expected that increased federal taxes would increase the cost of cigarettes and thus lower cigarette purchases. The above results, however, imply that increased federal taxes are correlated with increased state tax revenues, although the estimated coefficient is not significantly different from zero at the 95 percent confidence level. There is a downward trend in cigarette smoking that has been documented earlier in this report. The above results confirm that trend with an estimated coefficient of -0.0022 , an estimate that is significant at all standard confidence levels.

The implementation of the retail stamping program in Michigan is associated with significant increases in cigarette tax revenues resulting in an estimated coefficient of 0.2194 . Because of the structure of the stamping variable, the coefficient is an average of the estimated increase in revenue due to stamping. This estimate implies cigarette tax revenues increased by approximately \$20 million per quarter following the enactment of stamping. Actual revenues for four quarters following the enactment of stamping increased \$78.9 million over the prior four quarters.

The above estimate of the impact of stamping may be biased downward because the enactment of stamping was within 3 months of the tobacco settlement. The financial payments required by the settlement resulted in large price increases for cigarettes just after stamps were initially required on Michigan cigarettes. These almost coincident events are impossible to separately identify using quarterly dummy variables, so the estimate presented above is best interpreted as an average of the overall impact of both events. Assuming an estimated price elasticity of -0.45 , the price increases brought on by the tobacco settlement (discussed above) would imply sales declines of 3.6 percent and 7.1 percent in the fourth quarter of 1998 and the first quarter of 1999, respectively. Net revenue gains of 17.6 percent for those quarters imply that stamping, controlling for other factors, increased approximately 25 percent. This represents an annualized increase in revenue of between \$120 million and \$140 million.

The evidence from this section supports the conclusion that cigarette stamping has had a dramatic impact on cigarette revenues. This section does not prove Michigan had a cigarette smuggling problem, but the large increase in tax collections in the wake of declining national cigarette sales would support the conclusion that cigarette sales that were avoiding Michigan taxation prior to the stamping law are now paying the tax.

CHAPTER 6

LITIGATION AND THE TOBACCO SETTLEMENT

Summary of Tobacco Litigation

The health impacts of tobacco use have long been a subject of interest. In the first half of the century evidence that tobacco use was unhealthy began to emerge.⁸ In 1930, researchers in Cologne, Germany, were able to establish a statistical correlation between smoking and cancer. Eight years later Dr. Raymond Pearl of Johns Hopkins University reported research indicating that smokers die younger than non-smokers. Although a clear correlation was established between smoking and poor health, no causal relationship was established. Perhaps most importantly, the general public knew little of the dangers of smoking.

In the 1950s, the dangers of smoking became more widely reported. The first product liability suit was filed against a cigarette manufacturer. Although the suit was easily defeated, the knowledge that smoking posed health risks was becoming more widespread. In response, tobacco companies increased their marketing of healthier cigarettes, equipped with filters and containing less tar.

In 1964 Surgeon General Luther L. Terry released a report entitled “Smoking and Health.” The report declared that cigarette smoking caused cancer in men, and likely in women as well, although the data did not support a definitive conclusion. The report concluded that smokers face a much greater likelihood of contracting lung cancer and that numerous known carcinogens were present in cigarette smoke.

The report ushered in the beginning of widespread tobacco regulation. In 1965, the Federal Cigarette Labeling and Advertising Act was enacted requiring a message from the Surgeon General on the health risks of smoking to be printed on all cigarette packages. In 1967 the federal government began requiring one anti-smoking advertisement for every three cigarette ads. In 1971, all broadcast cigarette advertising was banned.

Even with the increased knowledge of the harmful effects of cigarette smoking, litigation against the tobacco industry was entirely unsuccessful. Following the first product liability suit in 1954, hundreds of suits were filed until the first successful verdict in 1988. Rose Cipollone, a smoker dying from lung cancer filed suit in 1983, charging the company failed to warn her about the dangers of tobacco use. In 1988, following Mrs. Cipollone’s death, a jury awarded her heirs \$400,000 but the verdict was overturned on appeal. Eventually her family dropped the suit.

⁸ The summary of tobacco litigation presented in this chapter was drawn from “A brief history of tobacco” published by the Cable News Network on CNN.com and benefited from numerous other news stories published by the American Broadcasting Company on ABCNEWS.com.

In the mid-1990s a stronger legal opponent for the tobacco industry appeared. In 1994, Mississippi became the first state to sue tobacco companies to recover the cost of treating smoking-related illnesses covered by Medicaid. Other states soon followed. Attorney General Frank Kelley filed suit on behalf of the State of Michigan on August 21, 1996, making Michigan the 13th state to sue to recover health expenses. By the end of June 1997, 38 states, Puerto Rico, and several California counties had filed lawsuits to recover smoking-related health care costs. The state lawsuits also sought to limit the tobacco companies advertising, especially that advertising believed to be directed at children.

On June 20, 1997, a settlement was reached between lawyers representing the tobacco companies and a group of attorneys general. The settlement would have set up payments to the states of \$368.5 billion over a 25-year period. Other major provisions of the settlement were to give the U.S. Food and Drug Administration the authority to regulate tobacco as a drug, to impose a ban on outdoor tobacco advertising, non-tobacco merchandise (caps, shirts, etc.), and free gifts requiring proof-of-purchase from a tobacco product, to ban use of Joe Camel and the Marlboro Man, and to require the tobacco industry to release research findings on the health effects of tobacco. The settlement required congressional approval in order to take effect. Disputes in Congress regarding the size of the financial settlement, protections for domestic tobacco farmers, and any potential future liability for tobacco companies complicated the debate. By the summer of 1998, it was clear the settlement had broken down.

Settlements

On July 2, 1997, Mississippi entered into a settlement with the tobacco industry whereby the state would receive \$3.6 billion in a series of annual payments. On August 25, 1997, Florida reached a settlement with the tobacco companies for \$11.3 billion and a ban on billboard advertisements. On January 16, 1998, Texas settled its lawsuit with the tobacco industry for \$15.3 billion as well as additional restrictions on tobacco advertising. On May 8, 1998, Minnesota became the fourth state to settle, agreeing to end its suit in return for a series of payments totaling \$6.5 billion. The settlement would also ban marketing practices believed to target minors, ban paying for products to be displayed in movies, restrict the sale of non-tobacco merchandise, and keep the tobacco document depository open to the public for 10 years.

In all, 42 states had filed lawsuits against the tobacco industry, including the four states mentioned above. A landmark agreement was reached between negotiators for the tobacco industry and representatives of the remaining states with pending lawsuits to settle their cases on November 16, 1998. In return the states covered by the settlement would receive payments totaling more than \$206 billion by 2025. Details of the financial settlement are available from the sources listed on page 3.

In addition to the financial payments, the settlement also:

- Requires the tobacco industry to provide \$250 million to fund the American Legacy Foundation, designed to perform and disseminate research related to youth smoking and substance abuse.
- Requires the industry to establish a \$1.45 billion national public education fund designed to educate the public on smoking-related diseases.
- Bans the use of cartoon characters in marketing tobacco products.
- Bans advertising and other marketing targeting minors.
- Bans all outdoor advertising including billboards and limits advertising visible outside of retail establishments.
- Prohibits paid product placements in movies, television shows, live productions, video games, and music productions.
- Prohibits sponsorship of events of significant interest to minors or with underage participants.
- Bans the distribution of free samples unless the facility ensures there are no minors present.
- Prohibits the distribution of gifts from tobacco companies without proof of age.
- Requires a minimum pack size of 20 cigarettes through December 31, 2000.
- Dissolves the Council for Tobacco Research, The Tobacco Institute, and the Council for Indoor Air Research.
- Requires the tobacco industry to establish and maintain a Web site for at least ten years containing all documents produced in smoking-related lawsuits.
- Prohibits the tobacco industry from opposing any state or local laws or administrative rules designed to reduce or restrict access to or consumption of tobacco products by minors.

The \$206 billion amount depends on several contingencies and the settlement agreement provides for several adjustments to the payment amounts. These payments may be reduced if a new federal cigarette tax is enacted or if the participating tobacco companies experience a market share decline of 2 percent or more due to the Master Settlement Agreement (MSA). In addition, payments to the states are adjusted if the participating companies experience a change in their domestic shipping volume. Payments to the states would be reduced on an essentially 1-to-1 ratio with sales declines. The annual payments are also adjusted annually for inflation.

Payments will increase by 3 percent or the percentage increase in the consumer price index, whichever is greater.⁹

The MSA was announced on November 16, 1998. The states had five days to accept the agreement. The 46 remaining states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, American Samoa, Guam, and the Northern Mariana Islands agreed to participate. (Mississippi, Florida, Texas, and Minnesota had already reached a settlement with the tobacco industry.) Governor John Engler, Attorney General Frank J. Kelley, and Department of Community Health Director James K. Haveman, Jr. announced Michigan's participation in the settlement on November 19, 1998. The MSA was signed and became effective on November 23, 1998.

The settlement agreement stipulated that payment of the settlement funds would begin upon final approval. Final approval required two steps. First, a Michigan court had to grant final approval to Michigan's settlement and consent decree. This is called state-specific finality. The court of jurisdiction must grant final approval and all appeals must be exhausted. If a state fails to obtain state-specific finality before December 31, 2001, it is no longer a participant in the settlement. Michigan obtained state-specific finality on April 7, 1999.

The second requirement for final approval is that 80 percent of the settling states, including the U.S. territories signing the MSA, obtain state-specific finality and those states represent 80 percent of the settlement payments. Final approval occurs on the date the required number of states obtain state-specific finality or June 30, 2000, whichever is earlier. Final approval was obtained in November 1999.

Initial payments were deposited into an escrow account. When the State of Michigan received state-specific finality, the funds earmarked for Michigan were transferred to a state-specific escrow account. The funds earned interest and became available on the final approval date.

Michigan received an initial payment of \$107.5 million on December 14, 1999. In 2000, Michigan will receive scheduled payments of \$107.6 million on January 10 and \$171.4 million on April 15 for a total of \$279.0 million, before any adjustments. Annual payments will continue in perpetuity with Michigan scheduled to receive more than \$8.5 billion between 1998 and 2025.

On September 22, 1999, the U.S. Department of Justice filed suit against the major tobacco companies, seeking to recover the costs of treating smoking-related illnesses, other damages, and funding for anti-smoking campaigns. Specifically, the Justice Department filed suit accusing the major tobacco companies of violating the racketeering statute by conspiring to conceal from consumers the risks of smoking. Expenses from smoking-related illnesses cost the federal government more than \$20 billion to cover veterans, military personnel, federal employees, and Medicare payments for the elderly¹⁰. The federal suit on its face will not affect state payments.

⁹ The information on the payment adjustment mechanisms in the MSA was taken from Federal Funds Information for States Issue Brief 99-16, "Estimating Tobacco Payments: How to Apply the Inflation and Volume Adjustments," September 1, 1999.

¹⁰ Taken from the press releases of U.S. Attorney General Janet Reno and Assistant U.S. Attorney General David Ogden, September 22, 1999.

However, if a judgment or settlement of the federal suit results in reduced cigarette shipments, either through additional marketing restrictions or additional cigarette taxes, state payments would be reduced proportionately. Also a large financial settlement might impair the industry's ability to make payments or induce bankruptcy proceedings, which would threaten state payments.

Wayne County filed a lawsuit on December 7, 1999, to recover health costs from treating sick smokers. Specifically, the suit requests at least \$20 million in health care costs plus additional funding for smoking treatment and prevention as well as attorneys' fees. Because of a provision in the multi-state agreement, any damages or other payments Wayne County receives would reduce payments to the State of Michigan.¹¹

Where to Spend All That Money?

States were given complete freedom under the MSA to appropriate their settlement proceeds. State legislatures used much of 1999 determining their priorities. Some argued that because the settlement is due to smoking and tobacco-related illness, the proceeds should be used to treat smoking illnesses, fund smoking cessation programs, and create smoking prevention initiatives. Others argued the settlement funds are a reimbursement for past expenditures necessitated by the tobacco industry. As such, the funds should be available for any spending priority. Education programs attracted a good deal of attention.

Additional debate centered on time preference. Specifically, some argued for immediate expenditures on projects to meet pressing needs such as educational infrastructure or health insurance for the uninsured. Others argued at least some of the settlement monies should be set aside to create investment income which could be a permanent source of funding for certain programs.

By the early summer of 1999, many states had already begun the process of appropriating funds from the settlement. Twenty-three states had enacted some form of legislation to handle their share of the settlement by July 20, 1999. Much of the new spending is directed at young people, either through health care or education.

Michigan Public Act 94 of 1999, the Michigan Merit Award Scholarship Act, was signed by Governor Engler on June 30, 1999. The Act creates the Michigan Merit Award Trust Fund, which will receive 30 percent of Michigan's tobacco settlement proceeds in fiscal year 1999-2000, 50 percent of the proceeds in fiscal year 2000-2001, and 75 percent of the proceeds for fiscal years after 2000-2001. The Act also creates a scholarship available to all high school students who attain qualifying results on the Michigan Education Assessment Program subject area assessments in each of the subject areas of reading, writing, mathematics, and science. A student who did not receive qualifying results in 1 or 2 of the above subjects but who scores high on a college entrance exam or job skills assessment test can also qualify for a scholarship.

¹¹ The information on the Wayne County lawsuit was taken from the article "Wayne County sues big tobacco," by Wendy Wendland, *Detroit Free Press*, December 8, 1999.

In addition to establishing the Merit Award Scholarships, numerous other initiatives were funded from Michigan's initial tobacco payment. Of the \$290.1 million in total appropriations, \$108.5 million was appropriated for health care programs with an emphasis on senior citizens and long-term care needs. The remaining \$181.6 million was targeted toward educational programs, with special emphasis on the Merit Award Scholarship program and the development of vocational education programs administered through the Michigan Technical Education Center. Michigan is scheduled to receive another \$98.8 million in fiscal year 1999-2000 that is as of yet unappropriated.

Exhibit 25
Tobacco Settlement Appropriations¹²

On-Going Appropriations

Michigan Merit Awards	\$86.3
Michigan Education Assessment Program (MEAP)	13.0
Senior Prescription Drug Program	30.0
Health and Aging Research and Development	50.0
Tuition Incentive Program (TIP)	5.3
Respite Care	5.0
Personal Needs Allowance	5.0
Long-Term Care Advisor	3.0
Merit Award Trust Fund Board	<u>2.0</u>
Total On-Going Appropriations	\$199.6

One-Time Appropriations

Michigan Technical Education Center Expansion	\$75.0
Long-Term Care Innovation Grants	10.0
Council of Michigan Foundations Grants	<u>5.5</u>
Total One-Time Appropriations	\$90.5
Total Appropriations	\$290.1

¹² Taken from Memorandum of January 7, 2000, by Gary S. Olson, Director, Michigan Senate Fiscal Agency.