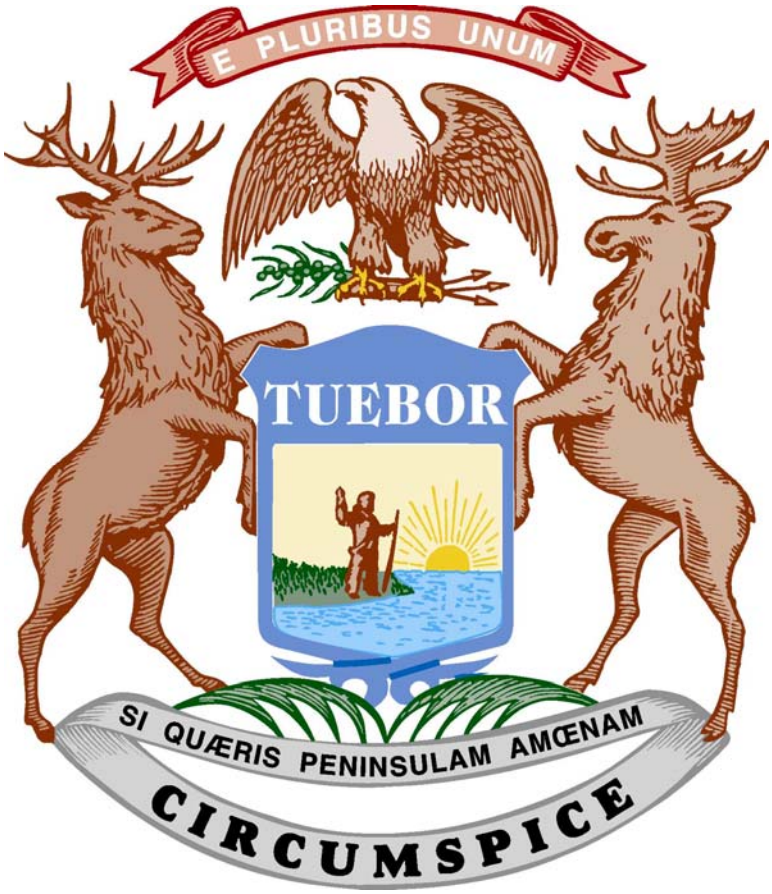
MICHIGAN'S CIGARETTE AND TOBACCO TAXES
2002



Office of Revenue and Tax Analysis
Michigan Department of Treasury
September 2003

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Acknowledgments

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EXECUTIVE SUMMARY

Michigan has levied an excise tax on cigarettes since 1947. In August 2002 the tax was increased by 50 cents to $1.25 per pack of 20 cigarettes. The Michigan tax is in addition to the federal cigarette tax of 39 cents per pack. There is also a state tax on tobacco products other than cigarettes equal to 20 percent of the wholesale price.

In fiscal year (FY) 2002, tobacco taxes raised $669.9 million, or 3.1 percent of total tax revenues. This represented a 12.4 percent increase in tobacco tax revenues over FY 2001, with the increase predominantly due to the tax increase. More than ½ of the revenue from tobacco taxes is earmarked to the School Aid Fund (54.7 percent). Taxable cigarette sales increased in FY 2002 by 0.6 percent to 791.1 million packs sold taxed. The federal cigarette tax raised $7.5 billion in the year ending June 2002, up from $7.1 billion in the preceding year. The increase in federal tax revenue was due to an increase in the federal cigarette tax that took effect on January 1, 2002. National cigarette consumption in 2002 was essentially unchanged from 2001.[1]

Forty-one 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. In July 2003, Michigan had the 9th highest tax rate in the nation. The retail price of cigarettes in Michigan was the 8th highest in the nation in 2002. Higher cigarette prices reflect higher state cigarette taxes. Increased cigarette taxes, along with the high costs of litigation for the cigarette industry, have resulted in large price increases in recent years.

Cigarette-smoking trends in Michigan generally mirror those in the remainder of the nation. Men are more likely than women to smoke. Younger adults are more likely to smoke than older adults. Smoking rates decline among adults with higher incomes and higher educational attainment. However, minorities in Michigan are more likely to smoke compared with national rates.

In response to sharp sales and tax revenue declines due to smuggling, Michigan enacted a cigarette stamping law in 1998. The new stamping law and increased enforcement contributed to the 9.2 percent increase in cigarette tax revenues for FY 2001 compared with FY 1997, the last year without cigarette stamping.

Increasing concerns over the impact of smoking on public health expenditures resulted in states filing lawsuits against the major tobacco companies to recover the costs of treating sick smokers. In November 1998, a settlement was reached between most of the states and the major tobacco companies. The settlement provides for payments to cover public costs that are attributable to smoking. The payments will continue in perpetuity, and total more than $206 billion for the first 25 years of the settlement. Under the settlement, Michigan is scheduled to receive more than $8.5 billion between 1999 and 2025. Based on Michigan cigarette sales, the settlement payments equate to a tax of about 41.5 cents per pack. As of July 2003, Michigan had received $1.26 billion, or approximately $300 million per year since payments began in December 1999. A large portion of the settlement Michigan will receive will be used to fund the Michigan Merit Award Scholarships.

[1] Orzechowski and Walker.

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. By 2002, the Michigan tax on cigarettes was the 12th highest in the nation. Effective August 1, 2002, Michigan's excise tax on cigarettes increased to $1.25 per pack of 20 cigarettes. As a result of the higher tax rate, taxes now comprise more than 40 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 $4.61, then taxes comprise $1.90 ($1.25 state excise, $0.39 federal excise and $0.26 state sales tax) or 41.2 percent of the final price to the consumer. Michigan also levies a tax on other tobacco products equal to 20 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. Firms that buy, sell, or transport cigarettes to customers pay the cigarette tax. These firms, with the exception of most retailers, must acquire a tax license from the Michigan Department of Treasury to conduct business in tobacco products within the state. Reports are then filed with the Department on or before the 20th of each month. These reports detail the volume of cigarettes or the wholesale prices of tobacco products other than cigarettes (cigars, smokeless tobacco, and non-cigarette smoking tobacco) acquired or disbursed 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 a fixed percentage of the tax collected. The legislation that raised tobacco taxes in 2002 also increased the collection allowance for licensees to 1.50 percent of the tax collected.

Sales to military bases are exempt from tax, although exempt sales must be reported to the Department of Treasury in monthly reports. Cigarettes sold to American Indian tribal members are exempt from the Michigan tobacco tax if the member is a resident member of the tribe and the sales transaction takes place within the tribe's Indian Country.

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, 41 states have increased their cigarette tax rates. During July 2003, Nevada increased the state's tax rate on cigarettes from 35 to 80 cents, making Nevada the 42nd state. Some reasons for increasing cigarette taxes include:

1. The taxation of cigarettes faces less political opposition 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. However, higher tax rates and the wide variance in tax rates across the country create more lucrative opportunities for tax avoidance and evasion, potentially leading to increased collection costs.
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. The demand for cigarettes is inelastic. That means that cigarette smokers only reduce consumption by a small amount when the price of cigarettes increases. The overall distribution of economic activity is distorted less when excise tax rates (like the cigarette tax) are higher on products that are more inelastic.

5. Some proponents of higher cigarette taxes claim that higher taxation compels smokers to take into account at least some of the effects their smoking may have on others. Environmental tobacco smoke (ETS) has adverse effects on nonsmokers, including the adverse health effects of secondhand smoke. Higher tax rates may cause smokers to recognize monetarily the costs imposed on society through ETS.

6. Higher cigarette taxes may reduce teenage smoking. Studies have found that younger smokers are the most sensitive to price increases, especially older teens.[2] Approximately 80 to 90 percent of regular smokers start smoking by the age of 18.[3] Higher prices that result from increased cigarette taxes may prevent adolescents from starting to smoke or induce quitting at a younger age.

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 will shift more of the overall tax burden onto low-income taxpayers. Since only cigarette smokers pay the cigarette tax, raising this tax will increase the overall tax burden on a relatively poor subset of the population. If cigarette and tobacco taxes provide an increasing share of total state-tax revenue, the tax burden becomes more concentrated on the subset of the population that chooses to smoke. The distribution of smoking behavior and the incidence of cigarette taxes across demographic groups will be discussed more in Chapter 4.

Report Data

Data for this report were compiled from several sources. The first source is the *Comprehensive Annual Financial Report* issued by the State of Michigan. This report contains annual cigarette tax collections. The second source is data provided by the Customer Contact Division, Special Taxes, Tobacco Unit, Michigan Department of Treasury, aggregating the monthly reports filed by cigarette wholesalers. These reports also provide detail on exempt sales to military bases and Indian reservations, and collection fees retained by wholesalers.

Data for interstate comparisons are from *The Tax Burden on Tobacco* published by Orzechowski and Walker (2002). The survey data on the characteristics of smokers are from *Tobacco Control State Highlights 2002: Impact and Opportunity,* issued by the Centers for Disease Control and

[2]The economic literature on youth smoking is summarized in Gruber and Zinman, (2001).
[3]MacKenzie, *et al*. (1994).

Prevention, U.S. Department of Health and Human Services. Additional data regarding the characteristics of Michigan smokers are from the 2002 Michigan Behavioral Risk Factor Survey compiled by the Michigan Department of Community Health. Specific sources are noted in the footnotes to the exhibits.

Unless otherwise noted, figures associated with particular years represent fiscal years ending September 30. However, in a number of exhibits, particularly those involving interstate comparisons, 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

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 to military bases and Indian reservations.

Chapter 3 provides a comparison of Michigan cigarette sales, tax rates, and tax revenues to other states, as well as to national trends. These exhibits also present statistics on per capita sales and taxes on other tobacco products (OTP).

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) are discussed in Chapter 4. It considers the factors that favor the taxation of cigarettes and discusses the characteristics of the typical smoker (for example, age, gender, race, education, and income).

A key argument offered in support of higher cigarette taxes is that higher taxes reduce smoking. The extent to which cigarette consumption declines following an increase in cigarette taxes is thus an important factor in evaluating whether raising cigarette taxes make good or bad public policy. To help evaluate the impact of higher taxes on smoking in Michigan, Chapter 5 presents statistical estimates of the responsiveness of consumers to the 2002 cigarette tax increase.

Chapter 6 summarizes the impact of cigarette stamping and the tobacco settlement. In 1998, significant and unexpected declines in taxable cigarette sales led to the implementation of cigarette stamping to counter illegal smuggling. Later that year, the major tobacco companies reached a historic agreement with 46 states to settle damage claims related to public health expenditures for sick smokers. A brief overview of the impact of the Master Settlement Agreement on Michigan is presented.

CHAPTER 2

CIGARETTE TAX REVENUES AND SALES HISTORY

Michigan initially 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, until 1994 (except in 1960). Since 1947, the tax on cigarettes has been adjusted on nine occasions, including the 2002 increase.

Year	Rate (Cents/Pack)	Date Changed	Other Tobacco Products
1947	3	7/1/47	Not Taxed
1957	5	8/1/57	Not Taxed
1960	6	2/1/60	20 Percent Tax
1961	5	7/1/61	Not Taxed
1962	7	7/1/62	Not Taxed
1970	11	4/1/70	Not Taxed
1982	21	5/1/82	Not Taxed
1988	25	1/1/88	Not Taxed
1994	75	5/1/94	16 Percent Tax
2002	125	8/1/02	20 Percent Tax

This report analyzes rate changes and their impact between 1976 and 2002.

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 package known as Proposal A, which shifted funding for schools away from local property taxes. Local property taxes were replaced in large part with increases in certain statewide consumption taxes, including the taxes on cigarettes and other tobacco products. Ninety-one percent of the 50-cent increase in the cigarette tax was earmarked for the School Aid Fund (SAF). Prior to ratification of the package, cigarette tax revenues were disbursed as follows:

Before May 1, 1994	Tax (Cents)	Percent of Revenues	FY 1993 Revenue (Millions)
General Fund	19.0	76.0%	$185.1
School Aid Fund	2.0	8.0%	19.5
Health and Safety Fund	4.0	16.0%	39.0
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. From May 1994 through July 2002, cigarette tax revenues were disbursed using the following allocation formula:

After May 1, 1994	Tax (Cents)	Percent of Revenues
General Fund	19.0	25.3%
School Aid Fund	47.5	63.4%
Healthy Michigan Fund	4.5	6.0%
Health and Safety Fund	4.0	5.3%
Total	**75.0**	**100.0%**

This breakdown does not include the tax revenue from other tobacco products. These revenues were 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, in addition to being used to improve the general health care of Michigan residents.

The August 2002 increase in the cigarette tax is distributed by a different formula. Of the 50-cent increase in the cigarette tax, 20.2 cents is earmarked to the School Aid Fund. A total of 7.6 cents is earmarked to health-related expenditures, with 3 cents going to the Healthy Michigan Fund, 3.7 cents going to the Medicaid Benefits Trust Fund, and 0.9 cents earmarked for indigent health care in Wayne County. The remaining 22.2 cents is earmarked to the general fund. However, for fiscal years (FY) 2005 through 2007, the general fund portion of the increase will be earmarked to the Budget Stabilization Fund (BSF). This earmarking is designed to replenish some of the funds removed from the BSF during the economic downturn associated with the economic recession of 2001. Following the 2002 tax increase, total cigarette tax revenues are distributed as follows:

After August 1, 2002	Tax (Cents)	Percent of Revenues	Estimated FY 2003 Revenue (millions)
General Fund	41.2	33.0%	$279.3
School Aid Fund	67.7	54.2%	458.8
Healthy Michigan Fund	7.5	6.0%	50.8
Health and Safety Fund	4.0	3.2%	26.9
Indigent Care	0.9	0.7%	6.1
Medicaid Trust Fund	3.7	2.9%	24.8
Total	**125.0**	**100.0%**	**$846.8**

The increase in the tax on other tobacco products, from 16 percent to 20 percent of the wholesale price, will be accompanied by a change in the earmarking of revenue from the tax. After July 2002, revenues from the tax on tobacco products other than cigarettes will be earmarked 75.6 percent to the School Aid Fund, 6 percent to the Healthy Michigan Fund, and 18.4 percent to the general fund. The general fund portion will be directed to the BSF for FY 2005 through FY 2007.

Cigarette Tax Revenue Trends

Not surprisingly, higher tax rates have had a substantial impact on revenues from the cigarette tax (see Exhibits 1 and 2). In 1976, a tax of 11 cents per pack raised nominal revenues (unadjusted for inflation) of $139.6 million (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 grew to $242.1 million in 1983, the first full year of the higher tax rate. However, revenues soon began to taper off as sales declined over time. 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, revenues from the tobacco tax (including approximately $10 million in revenue from other tobacco products such as cigars and chewing tobacco) peaked at $619.4 million.

Revenues for FY 1996 and FY 1997 declined 6.2 and 6.0 percent, respectively, with FY 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 FY 1999, tax revenues had returned to $615.1 million, only $4.3 million below the revenue collected in FY 1995. This sharp reversal in revenue collections is consistent with cigarette stamps reducing a substantial black market in cigarettes. More information on cigarette stamping is presented in Chapter 6. By 2001, revenue from tobacco taxes had declined to $596.1 million, a 3.1-percent decline from the 1999 total. This decline is much closer to the 25-year trend of -2 percent shown in Exhibit 4.

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. Revenues tend to fall after tax increases as consumers respond to the higher tax (and price) by reducing their purchases.

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 price of a good. The general sales tax is a popular example. Cigarettes, like most other products, tend to increase in price over time. If the percentage increase in price is greater than the percentage decrease in sales (i.e., demand for the good is inelastic), the revenues from an ad valorem tax will increase over time, at least in nominal terms.

Exhibit 1
Cigarette Tax Revenues
(thousands)

Fiscal Year	Rate (Cents)	Nominal Tax Revenue	Total Tax Revenue	Revenue Per Penny of Tax	Inflation Adjusted Revenue (1)	Tax as Percent of Total Taxes
1976	11	$139,647 (2)	$4,907,922	$12,695	$439,840	2.85
1977	11	140,261	4,760,007	12,751	413,389	2.95
1978	11	140,739	5,389,620	12,794	385,577	2.61
1979	11	140,364	6,044,023	12,760	341,184	2.32
1980	11	141,205	6,126,400	12,837	296,150	2.30
1981	11	152,827	6,195,020	13,893	293,356	2.47
1982	11/21	188,003 (3)	6,371,191	12,396	346,740	2.95
1983	21	242,068	7,337,434	11,527	433,928	3.30
1984	21	240,957	8,405,736	11,474	417,705	2.87
1985	21	241,037	8,958,027	11,478	403,760	2.69
1986	21	236,489	9,270,805	11,261	390,654	2.55
1987	21	237,382	9,591,731	11,304	380,194	2.47
1988	21/25	264,496 (3)	10,285,540	11,021	407,565	2.57
1989	25	267,016	10,850,896	10,681	390,590	2.46
1990	25	255,339	11,062,400	10,214	355,211	2.31
1991	25	259,160	10,865,460	10,366	348,338	2.39
1992	25	246,005	11,267,492	9,840	323,843	2.18
1993	25	243,648	11,891,105	9,746	312,239	2.05
1994	25/75	395,715 (3)	14,014,810	8,634	491,621	2.82
1995	75	619,401	17,009,114	8,259	745,699	3.64
1996	75	580,772	18,090,458	7,744	681,312	3.21
1997	75	546,026	18,970,316	7,280	624,978	2.88
1998	75	566,046	20,149,025	7,547	633,702	2.81
1999	75	615,129	21,472,775	8,202	671,425	2.86
2000	75	604,212	22,363,369	8,056	636,593	2.70
2001	75	596,082	21,872,223	7,948	611,463	2.73
2002	75/125	669,914 (3)	21,455,308	8,039	669,914	3.12

(1) Adjusted for inflation to 2002 dollars.

(2) Actual revenues listed at $174.5 million due to extended fiscal year. Figure was deflated by 20 percent as an 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, $22 million in 1994, and $22 million in 2002.

Sources: Michigan Department of Management and Budget and Bureau of Labor Statistics.

Revenues from the cigarette tax have exhibited a 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 column labeled "Inflation Adjusted Revenue" in Exhibit 1 has been adjusted to reflect the purchasing power of cigarette tax revenues in 2002 dollars. For example, using Exhibit 1, 1976 cigarette tax revenues could purchase $439.8 million worth of 2002 goods when the tax rate was 11 cents per pack. In 1983, cigarette tax revenues could purchase $433.9 million worth of goods, approximately the same amount, yet the rate had been substantially increased to 21 cents per pack. By 2002, cigarette tax revenues could purchase $669.9 million worth of goods with the August 2002 tax increase to $1.25 per pack of 20 cigarettes.

This simple comparison illustrates that, although the current cigarette tax rate is much higher than before, the tax generates a modest amount of additional purchasing power. Between 1976 and 2001, the state tax on each 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 39.0 percent. This disparity is attributable to the fact that cigarette sales have steadily declined over the time period, while the consumer price index has increased steadily. As a result, periodic increases in the cigarette tax are 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. Rather, revenues would increase along with rising prices.

The deteriorating purchasing power of cigarette tax revenues may have important implications for future revenues. Tobacco tax revenues for FY 2003 will comprise at least as large a percentage of total Michigan tax revenues as at any time since 1976. In 1993, cigarette taxes comprised only 1.9 percent of total state tax revenues (see Exhibits 1 and 3). Due to the tax increase in August 2002, revenues from tobacco taxes comprised 3.1 percent of total tax revenues for FY 2002. This percentage will increase in FY 2003 with the higher tax rate in place for the entire year.

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 and a greater awareness of the potential dangers of smoking have contributed to this decline. 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 2002, it is estimated that the average retail price increased to $4.35, while the number of packs sold that were taxed totaled to 791.1 million. This represents an 806.3 percent increase in the average retail price and a 38.3 percent decline in the number of packs sold taxed.

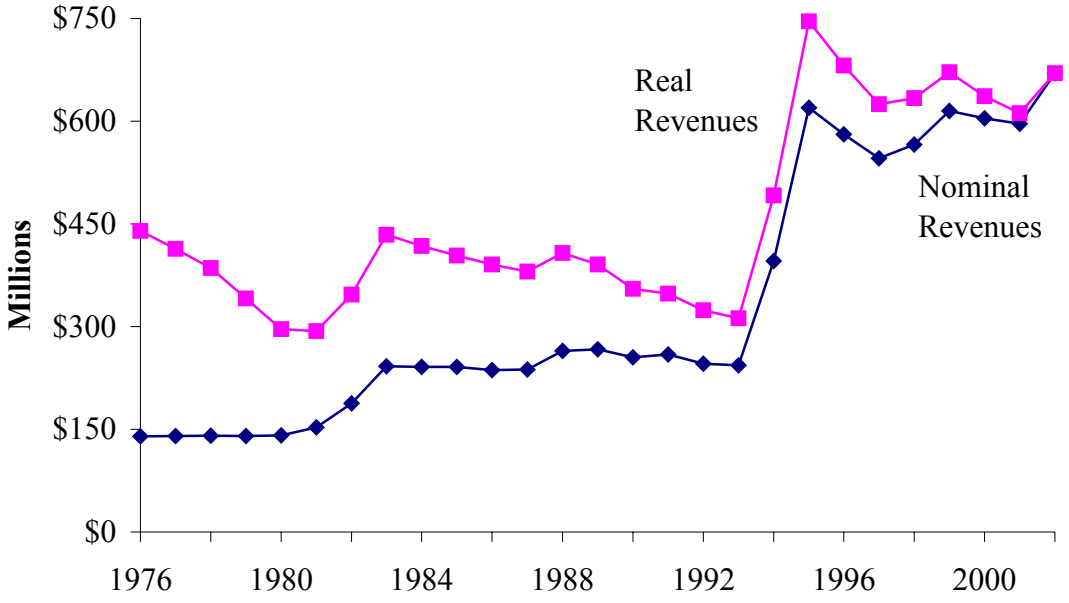
Lower cigarette consumption is also reflected in the declining number of packs that are sold per capita (see Exhibit 4). The per capita packs figure represents the average number of packs of cigarettes every man, woman, and child in the state would have to consume to equal the total number of packs sold taxed during the given year. Between 1976 and 2002, sales per capita fell 44.0 percent, from 140.5 in 1976 to 78.7 in 2002.

Some of the recent 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 avoid paying Michigan taxes on cigarettes. Consumers may: (1) purchase cigarettes in other states, (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 cigarettes without paying the tax in Michigan on military bases, Indian reservations, or through sellers located outside of Michigan who advertise in print or on the Internet. It should be noted that only military sales and certain sales to American Indians are tax-exempt (described below). Cigarettes obtained by the other means described above violate the Michigan Tobacco Products Act.

Tax avoidance was unlikely to have a major impact on taxable sales before 1994. Prior to 1994, the differential in tax rates between most states was 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 in 1994. The 2002 tax increase adds to the financial incentives to avoid paying Michigan's cigarette tax and may result in greater tax avoidance and evasion.

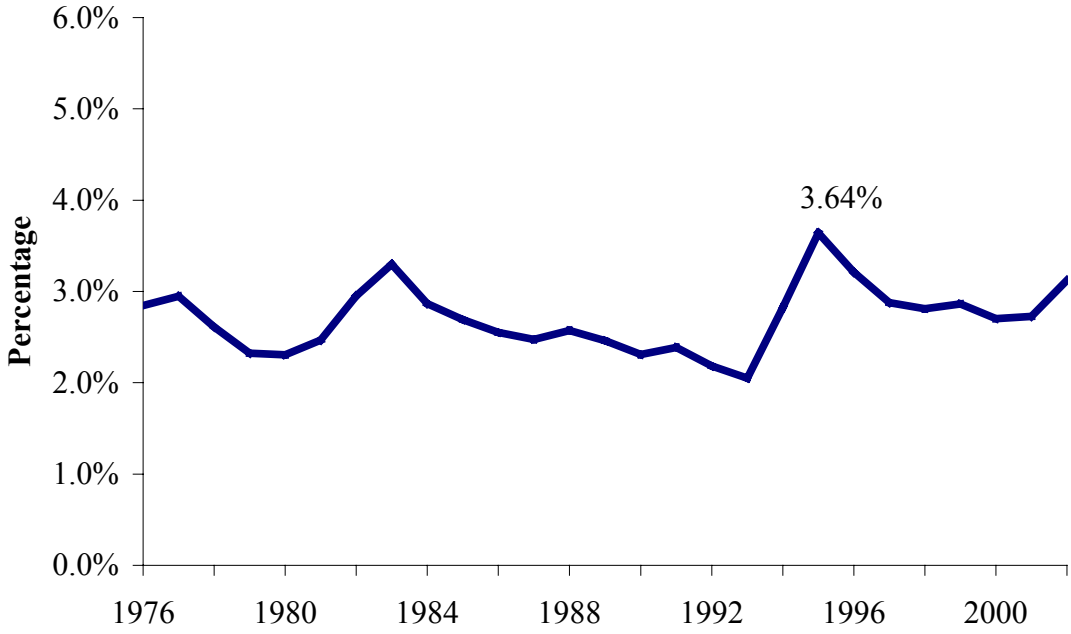
Recent evidence demonstrates that sales of tax-exempt cigarettes by wholesalers to military posts have leveled off and then declined after steep increases immediately following the tax increase (see Exhibit 6). Sales to Indian Country fell sharply following the tax increase, but rose from 1998 through 2000. During 2000, cigarette sales to certain Indian tribes, which had been exempted under state-tribal tax agreements, ceased to be tax-exempt due to the termination of those agreements. New tax agreements were signed with seven Michigan tribes in December 2002. These agreements cover the major Michigan taxes, including tobacco taxes. Retailers located within Indian Country may either apply for a refund of the cigarette tax on sales to resident tribal members or obtain a quota of cigarettes that may be sold to resident tribal members tax-exempt. Overall, exempt sales continue to account for less than two percent of all cigarette sales.

Exhibit 2
Michigan Cigarette Tax Collections



Source: Michigan Department of Management and Budget.

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



Source: Michigan Department of Management and Budget.

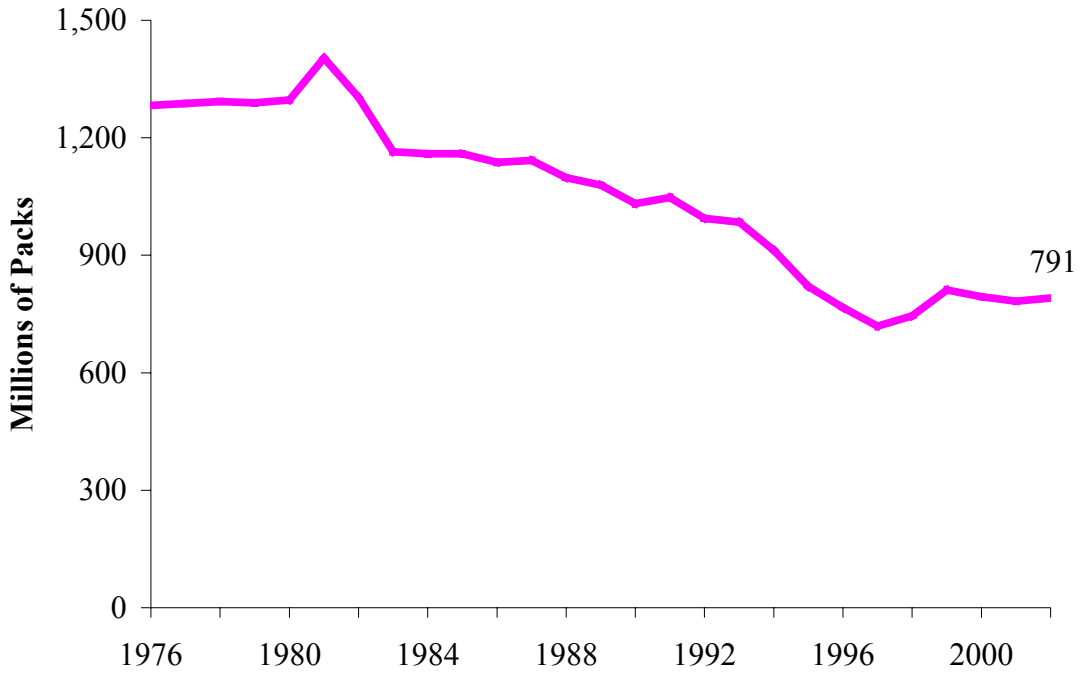
Exhibit 4
Cigarette Packs Sold Taxed

Year	Average Retail Price	Percentage Change	Calculated Packs Sold Taxed (000s)	Percentage Change	Calculated Per Capita Packs Sold Taxed	Percentage Change
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	820,601	-10.0	84.9	-10.8
1996	2.34	2.2	766,580	-6.6	78.8	-7.3
1997	2.43	3.8	719,355	-6.2	73.6	-6.6
1998	2.61	7.5	745,417	3.6	75.9	3.2
1999	3.34	27.7	810,939	8.8	82.2	8.3
2000	3.46	3.5	794,464	-2.0	79.8	-2.9
2001	3.79	9.8	782,589	-1.5	78.2	-2.0
2002	4.35	14.6	791,075	1.1	78.7	0.6
Annual Average Change 1976 - 2002		8.8%		-1.8%		-2.2%

Note: Average retail price data are from Orzechowski and Walker for November 1 of each year.

Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury.
Population data are from Census Bureau.

Exhibit 5
Annual Packs Sold Taxed



Source: Office of Revenue and Tax Analysis, Michigan Department of Treasury.

Exhibit 6
Sales of Exempt Cigarettes

Fiscal Year	Packs Sold to Military Bases	Packs Sold within Indian Reservations	Exempt Packs as % of Packs Sold Taxed
1993	7,491,501	1,403,640	0.90
1994	8,694,980	1,502,142	1.12
1995	13,683,644	327,621	1.71
1996	12,418,214	367,470	1.67
1997	10,595,660	427,599	1.53
1998	7,427,600	2,758,591	1.37
1999	4,279,952	5,566,747	1.21
2000	2,972,757	**5,615,612	1.08
2001	2,672,872	**2,040,752	0.60
2002	2,105,144	**4,172,376	0.79

Source: Michigan Department of Treasury.

** Sales to retailers within Indian Country are no longer made before tax. Refunds of the cigarette tax may be claimed for sales to resident tribal members purchasing cigarettes within their tribe's Indian County. The figures above are provided for comparison purposes only.

CHAPTER 3

STATE COMPARISONS

National Cigarette Tax Trends

Effective January 1, 2002, the federal excise tax on cigarettes increased to 39 cents on each pack of cigarettes. For the year ended June 30, 2002, the federal excise tax on cigarettes raised approximately $7.5 billion (at 34 cents per pack for six months and 39 cents for six months, see Exhibit 7). Since 1976, national cigarette consumption has trended downward at an average annual rate of 1.4 percent per year, for an overall decline of 31.4 percent. However, nominal revenues increased by 208.6 percent over the same time period due to five 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 (41 prior to July 2003) have increased their cigarette tax rate since 1990 and nearly all (47) have increased the tax since 1980 (see Exhibit 8). Many of these changes were substantial: 33 states have at least doubled their rates since 1990; and 26 states more than tripled their rates. The three states that did not increase their rates since 1980 are in the tobacco-producing region of the southeastern U.S.: Kentucky, South Carolina, and Virginia. North Carolina, another large tobacco producer, increased its rate from 2 cents to 5 cents per pack.

In July 2003, Michigan had the 9th highest cigarette excise tax in the nation. Exhibit 9 ranks the states by their 2003 cigarette tax rate and shows 2002 tax revenues in each state. Exhibit 10 presents a geographical view of tax rates in July 2003. Michigan was third in the nation in cigarette tax collections ($577.3 million at 75 cents per pack) for the 12-month period ending in June 2002. Only New York ($1,052.8 million, tax increased from $1.11 per pack to $1.50 per pack in April 2002), and California ($1,065.2 million, at 87 cents per pack), raised more revenue from cigarette taxes. Both of these states have significantly larger populations than Michigan.

Not surprisingly, higher cigarette taxes have resulted in a decline in taxed cigarette sales in most states (see Exhibit 11). Between 1990 and 2002, the number of packs sold taxed aggregated over all states fell from 25.0 to 20.4 billion, a total reduction of 18.3 percent and an average annual decline of 1.7 percent per year.

Exhibit 7
National Cigarette Tax Trends

Year	Federal Tax Rate Per Pack (Cents)	Federal Revenues (Millions) (1)	Consumption (Millions of Packs)	Percent Change in Consumption
1976	8.0	$ 2,434.8	30,955.9	NA
1977	8.0	2,279.2	29,812.8	-3.7
1978	8.0	2,374.1	30,477.3	2.2
1979	8.0	2,356.1	30,755.9	0.9
1980	8.0	2,604.4	30,288.3	-1.5
1981	8.0	2,488.2	31,666.4	4.6
1982	8.0	2,496.1	31,611.8	-0.2
1983	8.0/16.0 (2)	3,424.4	29,991.1	-5.1
1984	16.0	4,749.2	29,837.0	-0.5
1985	16.0	4,442.5	29,770.9	-0.2
1986	16.0	4,430.8	29,051.2	-2.4
1987	16.0	4,752.3	28,965.5	-0.3
1988	16.0	4,466.5	27,790.8	-4.1
1989	16.0	4,237.8	26,487.5	-4.7
1990	16.0	4,069.8	25,436.5	-4.0
1991	16.0/20.0 (2)	4,754.6	25,376.5	-0.2
1992	20.0	5,043.0	25,215.7	-0.6
1993	20.0/24.0 (2)	5,528.0	24,730.1	-1.9
1994	24.0	5,599.5	23,350.0	-5.6
1995	24.0	5,716.8	23,818.0	2.0
1996	24.0	5,679.1	23,660.0	-0.7
1997	24.0	5,743.4	23,929.2	1.1
1998	24.0	5,559.2	23,163.4	-3.2
1999	24.0	5,193.1	21,637.9	-6.6
2000	24.0/34.0 (2)	6,230.3	21,325.0	-1.4
2001	34.0	7,080.5	21,250.0	-0.4
2002	39.0	7,512.7	21,250.0	0.0
Annual Average Change 1976 - 2002		4.4%	-1.4%	

(1) Based on year ending June 30.

(2) Rate changed during year.

Source: Orzechowski and Walker.

Exhibit 8
State Cigarette Tax Rate Trends

State	Tax Rate (Cents)			Change, 1980 - 2003	
	1980	1990	2003	Actual	Percent
Alabama	12.0	16.5	16.5	4.5	37.5
Alaska	8.0	29.0	100.0	92.0	1,150.0
Arizona	13.0	18.0	118.0	105.0	807.7
Arkansas	17.8	21.0	59.0	41.3	232.4
California	10.0	35.0	87.0	77.0	770.0
Colorado	10.0	20.0	20.0	10.0	100.0
Connecticut	21.0	40.0	151.0	130.0	619.0
Delaware	14.0	14.0	24.0	10.0	71.4
Florida	21.0	24.0	33.9	12.9	61.4
Georgia	12.0	12.0	37.0	25.0	208.3
Hawaii	14.0	42.0	130.0	116.0	828.6
Idaho	9.1	18.0	57.0	47.9	526.4
Illinois	12.0	30.0	98.0	86.0	716.7
Indiana	10.5	15.5	55.5	45.0	428.6
Iowa	13.0	31.0	36.0	23.0	176.9
Kansas	11.0	24.0	79.0	68.0	618.2
Kentucky	3.0	3.0	3.0	0.0	0.0
Louisiana	11.0	20.0	36.0	25.0	227.3
Maine	16.0	31.0	100.0	84.0	525.0
Maryland	10.0	13.0	100.0	90.0	900.0
Massachusetts	21.0	26.0	151.0	130.0	619.0
Michigan	**11.0**	**25.0**	**125.0**	**114.0**	**1,036.4**
Minnesota	18.0	38.0	48.0	30.0	166.7
Mississippi	11.0	18.0	18.0	7.0	63.6
Missouri	9.0	13.0	17.0	8.0	88.9
Montana	12.0	18.0	70.0	58.0	483.3
Nebraska	13.0	27.0	64.0	51.0	392.3
Nevada	10.0	35.0	35.0	25.0	250.0
New Hampshire	12.0	25.0	52.0	40.0	333.3
New Jersey	19.0	40.0	205.0	186.0	978.9
New Mexico	12.0	15.0	91.0	79.0	658.3
New York	15.0	39.0	150.0	135.0	900.0
North Carolina	2.0	2.0	5.0	3.0	150.0
North Dakota	12.0	30.0	44.0	32.0	266.7
Ohio	15.0	18.0	55.0	40.0	266.7
Oklahoma	18.0	23.0	23.0	5.0	27.8
Oregon	9.0	28.0	128.0	119.0	1,322.2
Pennsylvania	18.0	18.0	100.0	82.0	455.6
Rhode Island	18.0	37.0	171.0	153.0	850.0
South Carolina	7.0	7.0	7.0	0.0	0.0
South Dakota	14.0	23.0	53.0	39.0	278.6
Tennessee	13.0	13.0	20.0	7.0	53.8
Texas	18.5	41.0	41.0	22.5	121.6
Utah	10.0	23.0	69.5	59.5	595.0
Vermont	12.0	17.0	119.0	107.0	891.7
Virginia	2.5	2.5	2.5	0.0	0.0
Washington	16.0	34.0	142.5	126.5	790.6
West Virginia	17.0	17.0	55.0	38.0	223.5
Wisconsin	16.0	30.0	77.0	61.0	381.3
Wyoming	8.0	12.0	60.0	52.0	650.0
Average	12.7	23.0	70.8	58.0	455.3
Federal Tax	8.0	16.0	39.0	31.0	387.5

Sources: Orzechowski and Walker and Federation of Tax Administrators.

Exhibit 9
State Comparisons, 2003 Cigarette Tax

State	Tax Rate (Cents) (1)	Rank	Revenues (Thousands) (2)
New Jersey	205.0	1	$391,456
Rhode Island	171.0	2	78,076
Connecticut	151.0	3	149,811
Massachusetts	151.0	3	269,032
New York	150.0	5	1,052,787
Washington	142.5	6	306,603
Hawaii	130.0	7	62,609
Oregon	128.0	8	154,981
Michigan	**125.0**	**9**	**577,292**
Vermont	119.0	10	24,520
Arizona	118.0	11	158,570
Alaska	100.0	12	40,433
Maine	100.0	12	94,100
Maryland	100.0	12	202,681
Pennsylvania	100.0	12	320,111
Illinois	98.0	16	464,262
New Mexico	91.0	17	19,538
California	87.0	18	1,065,193
Kansas	79.0	19	47,893
Wisconsin	77.0	20	288,769
Montana	70.0	21	11,726
Utah	69.5	22	47,090
Nebraska	64.0	23	43,498
Wyoming	60.0	24	5,070
Arkansas	59.0	25	76,813
Idaho	57.0	26	23,393
Indiana	55.5	27	110,342
Ohio	55.0	28	257,291
West Virginia	55.0	28	32,565
South Dakota	53.0	30	17,466
New Hampshire	52.0	31	84,066
Minnesota	48.0	32	166,081
North Dakota	44.0	33	19,093
Texas	41.0	34	497,509
Georgia	37.0	35	76,455
Iowa	36.0	36	87,994
Louisiana	36.0	36	98,073
Nevada	35.0	38	58,778
Florida	33.9	39	426,300
Delaware	24.0	40	26,938
Oklahoma	23.0	41	57,076
Colorado	20.0	42	56,177
Tennessee	20.0	42	75,287
Mississippi	18.0	44	44,025
Missouri	17.0	45	92,031
Alabama	16.5	46	61,738
South Carolina	7.0	47	25,428
North Carolina	5.0	48	38,777
Kentucky	3.0	49	16,026
Virginia	2.5	50	15,035
Average/Total	70.8		$8,416,858

(1) Includes tax law changes effective on or before July 1, 2003.
(2) For fiscal year ending June 30, 2002.

Sources: Orzechowski and Walker and Federation of Tax Administrators.

Exhibit 10
2003 State Cigarette Tax Rates (Cents Per Pack)*

* As of July 1, 2003.

Exhibit 11
Taxed Cigarette Consumption Trends (Millions)

State	1990 Packs Sold Taxed	2002 Packs Sold Taxed	Percent Change
New York	1,689.9	884.4	-47.7
California	2,222.3	1,234.9	-44.4
Massachusetts	587.1	354.0	-39.7
Maryland	479.6	301.0	-37.2
New Jersey	763.9	495.2	-35.2
Washington	385.9	269.5	-30.2
Maine	141.5	102.4	-27.6
Michigan	**1,068.3**	**780.1**	**-27.0**
Alaska	53.9	40.4	-25.0
Connecticut	298.7	227.4	-23.9
Rhode Island	101.1	79.1	-21.8
Illinois	1,098.9	885.2	-19.4
Oregon	282.4	231.3	-18.1
North Dakota	52.9	43.4	-18.0
Vermont	69.2	57.0	-17.6
Kentucky	688.6	572.5	-16.9
Alabama	452.4	378.5	-16.3
Arkansas	275.5	234.8	-14.8
Texas	1,449.0	1,244.3	-14.1
Arizona	315.7	276.1	-12.5
Ohio	1,258.3	1,101.0	-12.5
Pennsylvania	1,219.8	1,067.4	-12.5
New Mexico	108.8	95.4	-12.3
Wisconsin	463.2	408.3	-11.9
Kansas	236.8	208.8	-11.8
South Dakota	63.8	57.1	-10.5
Minnesota	392.5	352.8	-10.1
Missouri	620.1	558.3	-10.0
Idaho	92.4	83.6	-9.5
Georgia	732.9	666.2	-9.1
Nebraska	144.7	132.4	-8.5
Iowa	271.5	249.7	-8.0
Virginia	719.2	662.1	-7.9
North Carolina	876.1	806.6	-7.9
Florida	1,376.6	1,277.3	-7.2
South Carolina	416.3	396.2	-4.8
Louisiana	453.3	433.3	-4.4
Mississippi	271.6	261.5	-3.7
New Hampshire	171.7	165.7	-3.5
Montana	69.5	67.3	-3.2
Wyoming	47.5	46.1	-2.9
Tennessee	602.6	593.6	-1.5
Utah	91.7	91.0	-0.8
Colorado	294.5	292.6	-0.6
West Virginia	199.8	199.5	-0.2
Indiana	718.7	742.1	3.3
Hawaii	54.0	62.6	15.9
Nevada	146.9	173.1	17.8
Oklahoma	293.3	352.8	20.3
Delaware	83.2	113.4	36.3
Total	24,968.1	20,409.3	-18.3

Source: Orzechowski and Walker. Figures correspond to years ending June 30.

Cigarette Sales Prices

Due to the relatively high tax rate on cigarettes, the retail price of a pack of cigarettes in Michigan is also higher than average. In 2002, the average weighted retail price (including generic brands) of a pack of cigarettes in Michigan was $4.35, 8th highest in the nation (see Exhibit 12). Of the 7 states with higher average retail prices, 6 have higher tax rates than Michigan. Conversely, states with the lowest tax rates tended to have the lowest prices (bottom of Exhibit 12). This simple comparison provides some evidence that most excise taxes on cigarettes 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. In 2002, Michigan ranked 24th in the nation in per capita consumption of taxed packs with an average of 78.1 packs consumed per year for every man, woman, and child in the state. As recently as 1994, consumption of taxed packs per capita was as high as 112.9 packs per year, and Michigan ranked 8th in consumption per capita. (Per capita figures are from Orzechowski and Walker to allow a comparison across states.)

The legal settlement reached between the major tobacco companies and 46 state attorneys general in November 1998 resulted in large and immediate increases in the price of cigarettes. The Consumer Price Index (CPI) for cigarettes, published by the U.S. Bureau of Labor Statistics, increased by almost 19 percent between November and December 1998. By December 1999, the index had increased by 32.5 percent. As discussed in Chapter 4, it appears this large increase in the price of cigarettes may have led to a decline in the prevalence of smoking, especially among teenagers.

Exhibit 13 presents the effect state excise taxes have on cigarette prices. The group of states to the left of the exhibit represents states with the highest prices, while the group to the right represents states with the lowest prices. This graph shows that state taxes are an important force behind the differences in cigarette prices between states, with the other components resulting in only minimal interstate variation. This provides additional support for the assumption that taxes on cigarettes are passed on to the final consumer.

Exhibit 14 presents the composition of the final retail price of a pack of cigarettes in Michigan since 1990. Approximately 60 percent of the price increase that occurred between 1990 and 1997 ($1.07) was due to state and federal tax increases. The large price increase in 1999 followed immediately after the tobacco settlement in November 1998. The change in price due to the tobacco settlement was estimated by dividing the payment that Michigan received during the year by the number of taxable packs that were sold in Michigan. Again, the evidence indicates that cigarette tax increases, and legal settlements for product liability, are passed on to the consumer in the form of higher prices.

From the early 1970s, taxes have generally comprised a declining portion of the retail price of cigarettes, as shown in Exhibit 15. As recently as 1967, taxes comprised 50 percent of the retail price for a pack of cigarettes in Michigan. Throughout the 1970s and 1980s, taxes, as a percentage of the retail price, have declined consistently, reaching a low of 24.4 percent in 1993. The trend for the U.S. as a whole follows a similar path as Michigan. Factors other than taxes (for example, production costs, litigation and regulatory expenses, or profits) have comprised an increasing share

of the final retail price. With the passage of Proposal A in 1994 and the subsequent increase in the cigarette tax, taxes made up more than 40 percent of the retail price of cigarettes once again. The downward trend resumed after 1994. This increase in the non-tax component of the retail price is shown in Exhibit 16.

The rapid increase in non-tax payments as a percentage of the retail price from 1998 through 2001 may be misleading. The tobacco settlement resulted in large price increases that, while not formally a tax increase, were the result of lawsuits filed by state governments. The cost of this litigation includes the actual payments made by the tobacco companies to the states, as well as other costs necessary to comply with the provisions of the agreement that are not as easy to quantify. However, even after excluding the impact of tax increases and the explicit payments required by the tobacco settlement, the price of cigarettes net of taxes increased 41.1 percent between 1998 and 2002.

The price of cigarettes not including taxes, but including any price increase associated with the tobacco settlement, increased from about $1.30 in 1995 to $2.71 per pack in 2002 (108.5 percent). During this same period, inflation as measured by the Detroit CPI increased 20.4 percent.

Other Tobacco Products

In addition to taxing cigarettes, most states also tax other tobacco products (see Exhibit 17). 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. Generally revenues from taxes on other tobacco products account for no more than 10 to 15 percent of total tobacco taxes in any state, although there are exceptions (Wyoming and Oklahoma are notable examples). For 2002, other tobacco revenues totaled approximately $17.5 million and accounted for 2.9 percent of total Michigan tobacco tax revenues, 7th lowest among states taxing other tobacco products.

The Michigan tax on other tobacco products increased from 16 percent of the wholesale price to 20 percent on August 1, 2002. The increase in the tax rate for other tobacco products (25 percent) is less than the increase in the cigarette tax (67 percent). Consequently, revenues from the tax on other tobacco products will remain very small in comparison to the revenues raised by the cigarette tax.

Exhibit 17 also provides smokeless tobacco usage rates for both men and women over the age of 18. The use of smokeless tobacco is concentrated among men throughout the U.S., including Michigan. Even in states where the use of smokeless tobacco is somewhat more prevalent (say above 1 percent), the prevalence among men is at least three times higher than the prevalence among women.

Exhibit 12
2002 Cigarette Prices and Sales, Ranking by Tax Rate

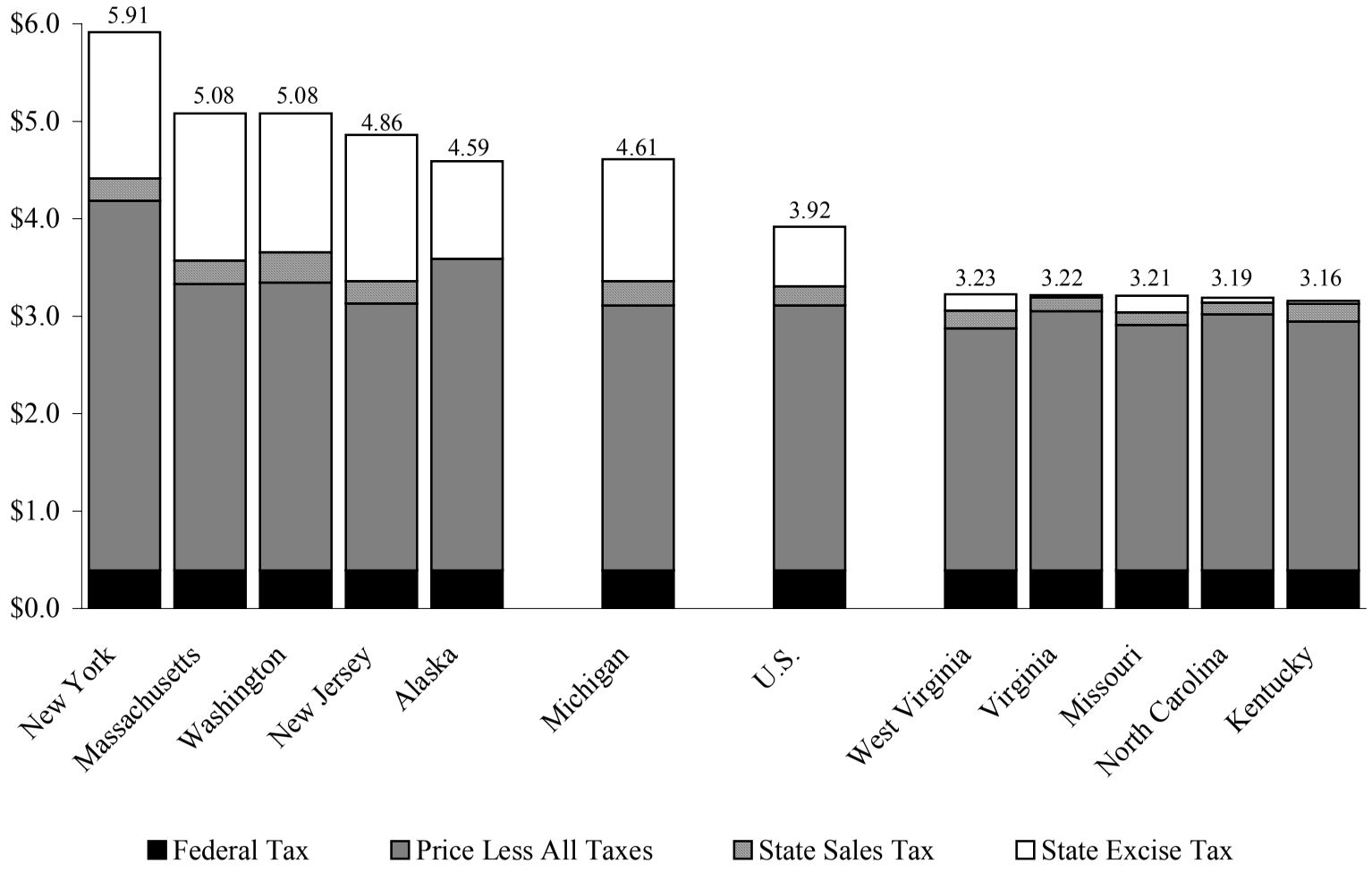
State	2003 State Excise Tax	Weighted Avg. Retail Price (1)	Rank by Price	Per Capita Sales (Packs) (2)	Rank by Per Capita Sales
New Jersey	$2.05	$4.63	4	58.4	40
Rhode Island	1.71	4.42	7	74.7	30
Connecticut	1.51	4.32	9	66.4	36
Massachusetts	1.51	4.84	2	55.5	43
New York	1.50	5.68	1	46.5	47
Washington	1.43	4.77	3	45.0	48
Hawaii	1.30	4.54	6	51.1	46
Oregon	1.28	4.05	12	66.6	35
Michigan	**1.25**	**4.35**	**8**	**78.1**	**24**
Vermont	1.19	3.90	17	93.0	14
Arizona	1.18	3.85	19	52.0	45
Alaska	1.00	4.59	5	63.7	38
Maine	1.00	4.18	10	79.6	22
Maryland	1.00	4.01	14	56.0	42
Pennsylvania	1.00	3.98	15	86.9	18
Illinois	0.98	4.04	13	70.9	33
New Mexico	0.91	3.35	31	52.2	44
California	0.87	4.08	11	35.8	50
Kansas	0.79	3.73	21	77.5	26
Wisconsin	0.77	3.95	16	75.3	29
Montana	0.70	3.22	39	74.4	31
Utah	0.70	3.81	20	40.1	49
Nebraska	0.64	3.87	18	77.3	27
Wyoming	0.60	3.14	44	93.2	13
Arkansas	0.59	3.52	28	87.2	17
Idaho	0.57	3.18	42	63.3	39
Indiana	0.56	3.57	25	121.4	4
Ohio	0.55	3.59	23	96.8	12
West Virginia	0.55	3.05	49	110.7	5
South Dakota	0.53	3.41	29	75.4	28
New Hampshire	0.52	3.58	24	131.6	3
Minnesota	0.48	3.52	27	71.0	32
North Dakota	0.44	3.60	22	68.5	34
Texas	0.41	3.53	26	58.3	41
Georgia	0.37	3.16	43	79.5	23
Iowa	0.36	3.31	33	85.4	19
Louisiana	0.36	3.33	32	97.0	11
Nevada	0.35	3.31	34	82.2	21
Florida	0.34	3.39	30	77.9	25
Delaware	0.24	3.23	38	142.4	1
Oklahoma	0.23	3.21	40	102.0	7
Colorado	0.20	3.26	37	66.2	37
Tennessee	0.20	3.27	36	103.4	6
Mississippi	0.18	3.19	41	91.5	16
Missouri	0.17	3.08	46	99.2	8
Alabama	0.17	3.28	35	84.8	20
South Carolina	0.07	3.11	45	97.5	10
North Carolina	0.05	3.07	48	98.5	9
Kentucky	0.03	2.98	50	140.8	2
Virginia	0.03	3.08	47	92.1	15
U.S. Average	$0.71	$3.72		79.8	

(1) As of November 1, 2002, and includes generic brands.

(2) Per capita sales are as of June 30, 2002.

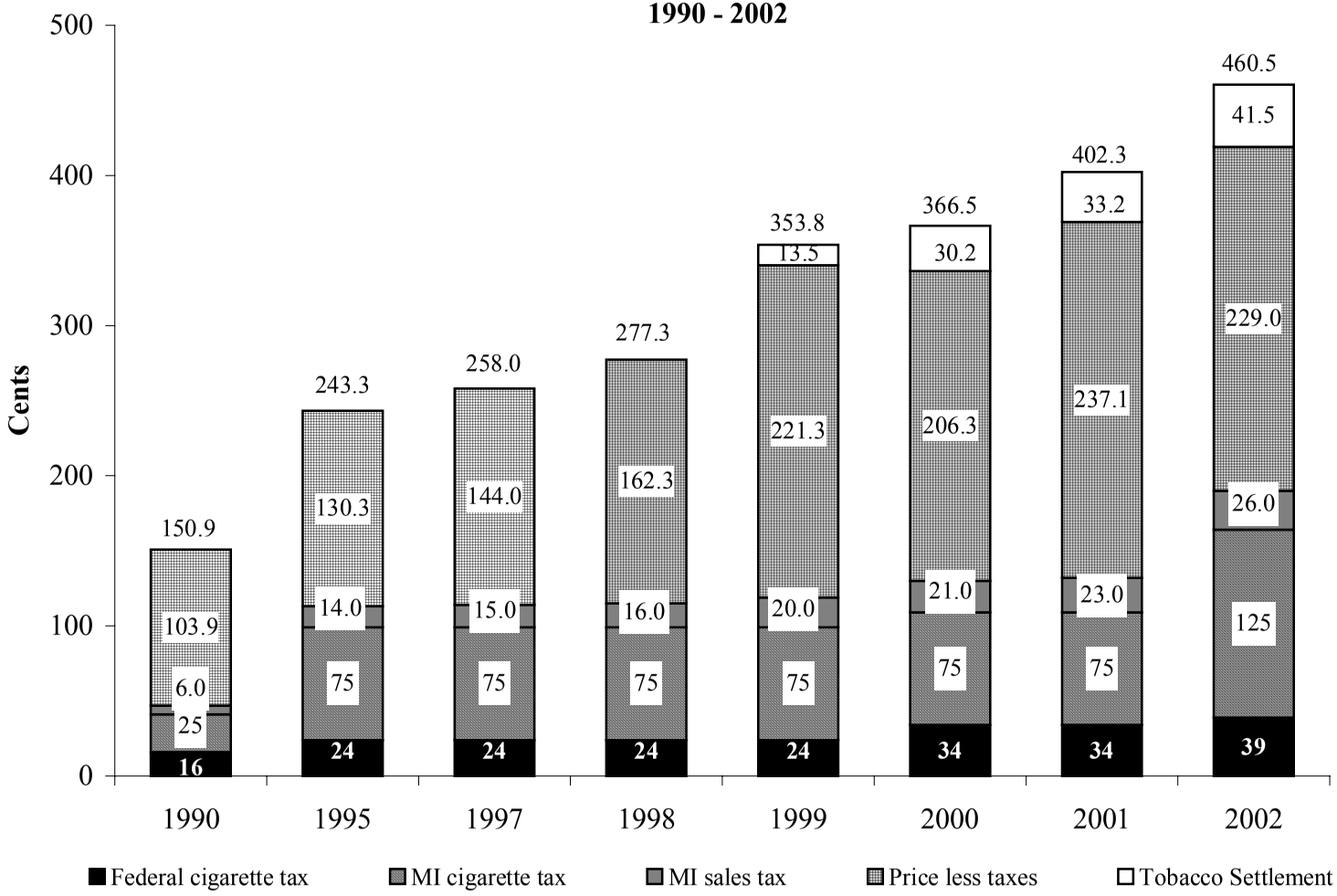
Source: Orzechowski and Walker.

Exhibit 13
2002 Weighted Average Retail Price, Selected States



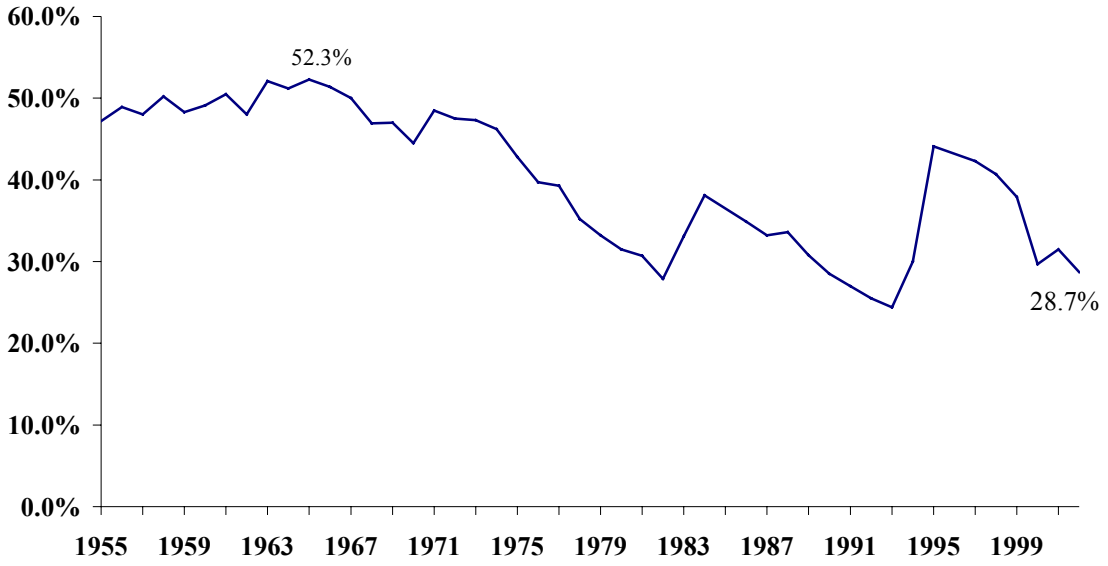
Source: Orzechowski and Walker. Final price includes sales tax.

Exhibit 14
Composition of Price of Cigarettes in Michigan
1990 - 2002



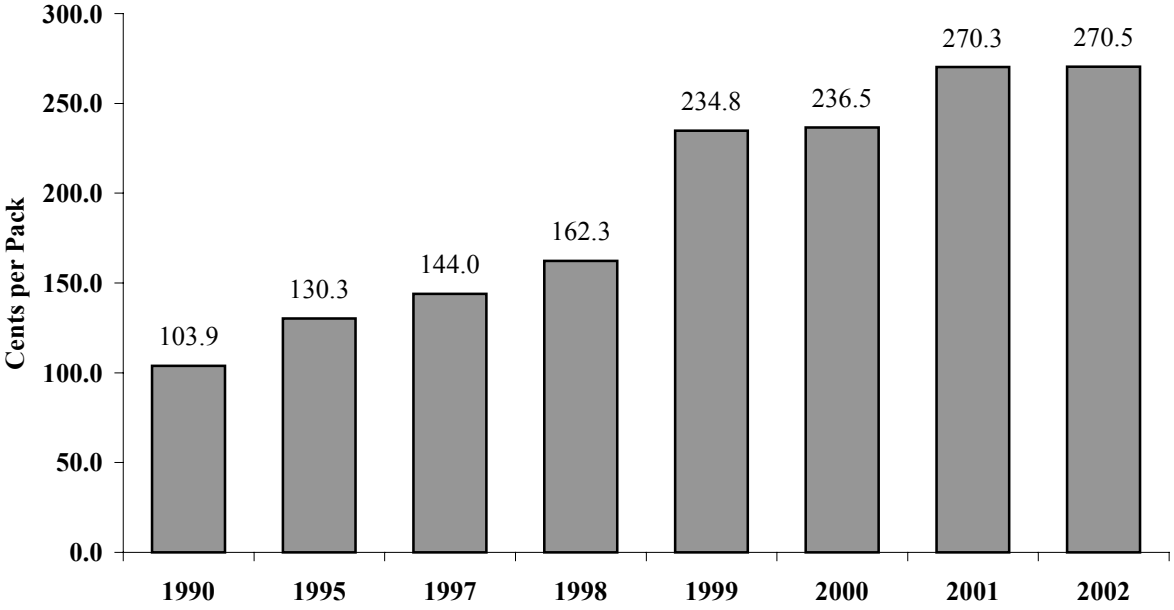
Source: Orzechowski and Walker. Final price includes sales tax.

Exhibit 15
Federal and State Cigarette Taxes
as Percentage of Michigan Retail Price



Source: Orzechowski and Walker.

Exhibit 16
Price of Cigarettes in Michigan
Net of Taxes



Source: Orzechowski and Walker. Price includes any effect of the Master Settlement Agreement.

Exhibit 17
Other Tobacco Products Tax Revenue, FY 2002

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	$2,828.7	4.4	0.75 cents/oz. (1)	9.6	0.9
Alaska	6,008.8	12.9	75.0 %	5.9	0.5
Arizona	3,480.1	2.2	13 cents/oz. (1)	2.7	0.0
Arkansas	15,638.7	16.4	25.0 %	6.8	1.2
California	46,872.8	4.2	48.9 %	1.3	0.1
Colorado	10,031.6	15.1	20.0 %	4.7	0.2
Connecticut	4,418.8	2.8	20.0 %	0.9	0.0
Delaware	1,068.5	3.8	15.0 %	1.3	0.0
Florida	21,445.5	4.8	25.0 %	2.4	0.1
Georgia	5,666.5	6.7	NA	5.7	1.5
Hawaii	2,898.7	4.4	40.0 %	0.3	0.1
Idaho	4,929.2	17.4	40.0 %	6.7	0.1
Illinois	17,721.3	3.6	18.0 %	2.6	0.0
Indiana	12,558.3	9.9	15.0 %	5.1	0.1
Iowa	7,087.9	7.3	22.0 %	6.7	0.1
Kansas	3,980.7	7.5	10.0 %	8.8	0.2
Kentucky	NA	NA	NA	9.4	0.5
Louisiana	17,418.9	14.3	20.0 %	6.0	0.7
Maine	3,520.0	3.6	62.0 %	2.0	0.1
Maryland	6,144.9	2.9	15.0 %	1.3	0.0
Massachusetts	5,965.1	2.2	90.0 %	0.8	0.1
Michigan	**17,514.6**	**2.9**	**20.0 %**	**2.2**	**0.0**
Minnesota	16,433.4	8.8	35.0 %	5.2	0.1
Mississippi	11,578.6	19.7	15.0 %	7.4	1.1
Missouri	8,846.9	8.5	10.0 %	5.3	0.3
Montana	2,224.7	16.4	12.5 %	15.9	0.3
Nebraska	3,335.3	6.9	20.0 %	6.7	0.2
Nevada	5,574.8	8.4	30.0 %	2.8	0.1
New Hampshire	907.9	1.0	21.9 %	1.6	0.0
New Jersey	15,087.8	3.7	48.0 %	0.5	0.0
New Mexico	2,148.2	9.7	25.0 %	5.6	0.3
New York	22,449.9	2.1	37.0 %	0.8	0.0
North Carolina	3,450.6	8.2	2.0 %	4.6	1.4
North Dakota	2,236.1	10.5	16 cents/oz. (1)	7.9	0.1
Ohio	25,572.9	9.0	17.0 %	5.1	0.1
Oklahoma	14,455.0	19.6	30.0 %	9.9	0.4
Oregon	20,053.2	11.3	65.0 %	5.0	0.2
Pennsylvania	NA	NA	NA	5.0	0.0
Rhode Island	1,688.2	2.1	30.0 %	0.5	0.0
South Carolina	3,719.7	12.4	5.0 %	4.9	0.8
South Dakota	1,246.8	6.2	10.0 %	8.1	0.4
Tennessee	7,844.5	9.2	6.6 %	8.2	0.6
Texas	62,285.2	10.8	35.2 %	5.5	0.3
Utah	4,931.7	9.4	35.0 %	2.8	0.0
Vermont	2,149.4	7.9	41.0 %	2.4	0.0
Virginia	NA	NA	NA	3.6	0.1
Washington	24,168.7	7.3	129.4 %	6.3	0.2
West Virginia	2,191.7	6.3	7.0 %	15.9	0.2
Wisconsin	13,932.1	4.5	25.0 %	4.9	0.1
Wyoming	2,175.8	28.8	20.0 %	15.5	0.7
Total/National	$497,888.8	5.7		5.1	0.1

(1) Chewing tobacco.

Sources: Orzechowski & Walker. Usage rates 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. Undoubtedly, some of the burden of cigarette taxes is borne by cigarette producers (tobacco farmers, cigarette manufacturers, and sales agents). As higher prices reduce cigarette sales, the profits of those involved in cigarette production decline. However, the small decline in cigarette consumption, when compared with recent price increases, point to the consumer bearing much of the burden of the tax.

Given that smokers pay most of the cigarette tax, a number of interesting questions arise. Who is the typical smoker in Michigan and across the United States? How does the cigarette tax burden change with education and income levels? Do higher cigarette taxes affect who smokes? Answers to these and related questions are addressed in this chapter.

Incidence of the Cigarette Tax: Who Pays?

The statistics cited in this section are derived from three sources. Data on the overall prevalence of smoking is from the *Morbidity and Mortality Weekly Report (MMWR)*, published by the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services. The primary source for detailed demographics on smoking is *State Tobacco Control State Highlights 2002: Impact and Opportunity*, also published by the CDC. The data for this publication are obtained using the 2000 Behavioral Risk Factor Surveillance System, a random national survey. A smoker is defined as a person who has smoked at least 100 cigarettes during their lifetime and who currently smokes at least some days.

Additional detail on tobacco use in Michigan was obtained from the 2002 Behavioral Risk Factor Surveillance Survey (referred to as the Michigan Survey) compiled by the Michigan Department of Community Health. The results from the Michigan Survey for 2002 are preliminary. In general, data from the Michigan Survey support the data released by CDC and the Michigan Survey provides greater detail on the demographic characteristics of smokers in certain instances. Both sources are used to identify the demographic groups with a higher prevalence of smoking.

Smoking and Gender

National and state data show that the prevalence of smoking is higher among males. For the entire U.S. in 2000, it was estimated that approximately 23.4 percent of all adults were current smokers (see Exhibit 18). Nationally, adult men tended to smoke at higher rates (25.5 percent) than do women (21.5 percent).

Exhibit 18
Cigarette Smoking Rates Among Adults, 2001

State	Overall	Rank	Men	Women
Kentucky	30.9	1	31.7	30.1
Oklahoma	28.8	2	31.2	26.6
West Virginia	28.2	3	28.9	27.6
Ohio	27.7	4	29.0	26.5
Indiana	27.5	5	29.7	25.4
Nevada	27.0	6	27.9	26.0
South Carolina	26.2	7	28.1	24.4
Alaska	26.1	8	26.2	25.9
Missouri	25.9	9	27.5	24.4
North Carolina	25.9	9	28.6	23.3
Michigan	**25.7**	11	**26.7**	**24.7**
Arkansas	25.6	12	27.4	23.9
Mississippi	25.4	13	29.4	21.9
Delaware	25.1	14	28.2	22.3
Louisiana	24.8	15	28.7	21.2
Pennsylvania	24.6	16	26.4	22.9
Tennessee	24.4	17	26.1	22.8
New Hampshire	24.1	18	25.5	22.8
Maine	24.0	19	27.1	21.1
Rhode Island	24.0	19	25.9	22.2
Alabama	23.9	21	25.8	22.1
New Mexico	23.9	21	27.9	20.1
Georgia	23.7	23	25.8	21.8
Illinois	23.6	24	26.6	21.0
Wisconsin	23.6	24	25.4	21.9
New York	23.4	26	26.2	20.9
Washington	22.6	27	24.6	20.6
Florida	22.5	28	25.7	19.5
Texas	22.5	28	25.2	19.9
Virginia	22.5	28	23.4	21.8
Colorado	22.4	31	23.8	21.1
South Dakota	22.4	31	23.3	21.5
Vermont	22.4	31	24.5	20.6
Iowa	22.2	34	24.2	20.4
Kansas	22.2	34	22.5	21.9
Minnesota	22.2	34	24.9	19.6
Wyoming	22.2	34	22.5	21.9
North Dakota	22.1	38	24.6	19.6
Montana	21.9	39	21.6	22.2
Arizona	21.5	40	23.1	20.0
Maryland	21.3	41	24.8	18.1
New Jersey	21.3	41	21.7	20.9
Connecticut	20.8	43	21.3	20.3
Hawaii	20.6	44	24.7	16.4
Oregon	20.5	45	21.4	19.7
Nebraska	20.4	46	20.8	20.0
Idaho	19.7	47	21.1	18.3
Massachusetts	19.7	47	20.5	18.9
California	17.2	49	20.6	14.0
Utah	13.3	50	14.6	12.1
U.S. Median	23.4		25.5	21.5

Source: *MMWR*, 2003.

The data illustrate that Michigan residents are more likely to smoke than the average U.S. resident. For 2000, the Michigan data from the CDC indicate that approximately 25.7 percent of Michigan adults were current smokers. Again, men smoke at a higher rate (26.7 percent) than do women (24.7 percent).

The results of the Michigan Survey for 2002 indicate a lower rate of smoking, 24.1 percent overall. This was down 2.1 percentage points from the 2001 value, and approximately the same as the 2000 value (24.0 percent). The 2002 survey found the male smoking rate was 25.4 percent and the female rate was 23.0 percent. While the results from the Michigan Survey are more recent, the annual variation in survey responses makes it impossible to classify the 2002 decline in smoking as a trend.

Smoking and Race

According to the CDC, there is no significant difference nationally in smoking rates by race (see Exhibits 19 and 21) among blacks, Hispanics, and whites. For 2000, the median smoking rate for the entire U.S. was between 23.0 and 23.3 percent across racial groups. Differences do appear among other racial groups. Though not shown in the table, the smoking rate for Asian/Pacific Islanders (13.4 percent) was the lowest while the rate for American Indian/Alaska Natives (34.5 percent) was the highest.

Michigan's rates were higher than the national averages for all races. For 2000, smoking rates among Michigan adults also varied across racial groups. Blacks were the racial group with the highest smoking rate, at 29.5 percent. Hispanics were next at 26.4 percent, with 23.8 percent of whites reported as current smokers.

The Michigan Survey found that 23.9 percent of whites, and 25.3 percent of blacks were smokers in 2002. Over the past couple of years, some evidence has emerged in the Michigan Survey to indicate that the prevalence of smoking among blacks may be declining. The percentage reported as current smokers in 2000 was 30.9 percent, 5.6 percentage points higher than the value for 2002.

Smoking and Education Levels

In general, there is a negative correlation between education levels and smoking rates (see Exhibits 20 and 22). Americans with more than 12 years of education, i.e., attended at least some college, are less likely to smoke (17.5 percent) than those with less than 12 years of education (30.1 percent). The average smoking rates for Americans who obtain a high school diploma (complete 12 years of education) is 26.6 percent, also lower than the rates for those who never finished high school. The lower incidence of smoking among individuals with more education may indicate greater exposure and acceptance of the evidence regarding the adverse health effects of long-term smoking.

Exhibit 19
Percentage of Adults Smoking Cigarettes by Race, 1999 - 2000

State	White	Black	Hispanic
Alabama	25.4	18.1	36.1
Alaska	23.9	24.3	17.9
Arizona	21.8	19.6	12.7
Arkansas	26.5	21.3	25.2
California	18.4	23.4	16.8
Colorado	20.8	28.5	23.0
Connecticut	21.3	23.7	22.6
Delaware	23.8	24.9	23.1
Florida	23.7	16.8	17.1
Georgia	26.1	17.3	26.5
Hawaii	19.7	7.9	24.9
Idaho	21.5	NA	20.4
Illinois	24.2	22.1	20.5
Indiana	26.6	27.5	23.0
Iowa	22.7	30.5	38.3
Kansas	21.1	19.5	19.5
Kentucky	30.4	26.4	30.9
Louisiana	25.4	19.6	25.4
Maine	23.0	NA	21.9
Maryland	20.7	21.5	17.9
Massachusetts	19.6	22.8	20.3
Michigan	**23.8**	**29.5**	**26.4**
Minnesota	19.2	15.9	23.5
Mississippi	24.7	18.5	28.0
Missouri	27.0	27.1	34.3
Montana	18.2	NA	27.8
Nebraska	21.6	23.6	21.7
Nevada	29.6	34.6	27.2
New Hampshire	23.5	NA	30.2
New Jersey	21.0	23.2	20.6
New Mexico	23.7	32.8	23.3
New York	22.6	22.2	18.9
North Carolina	25.8	24.1	35.3
North Dakota	21.9	NA	NA
Ohio	27.0	25.6	29.2
Oklahoma	24.3	18.3	28.5
Oregon	20.6	39.0	19.5
Pennsylvania	23.4	26.9	26.5
Rhode Island	23.2	27.5	19.6
South Carolina	26.3	18.7	21.2
South Dakota	21.0	NA	32.8
Tennessee	26.0	21.0	20.2
Texas	23.0	20.9	20.8
Utah	13.0	NA	17.1
Vermont	21.3	NA	23.0
Virginia	21.4	22.5	20.0
Washington	21.4	23.4	22.8
West Virginia	26.6	29.7	26.6
Wisconsin	23.3	27.3	28.6
Wyoming	23.3	NA	26.8
U.S. Median	23.2	23.3	23.0

Source: Centers for Disease Control and Prevention, 2002.

The CDC data for Michigan show that, for residents who did not finish high school, approximately 37.4 percent were considered current smokers in 2000. This estimate is 7.3 percentage points above the national average for this group. For residents with 12 years of education, 27.8 percent were current smokers. This is much closer to the national average than the rate for Michigan residents who did not finish high school. Again, there was a decline in smoking rates for those whose education went beyond high school. Only 18.1 percent of residents with more than 12 years of education were current smokers in 2000.

For 2002, the Michigan Survey found that college graduates were far less likely to smoke (12.2 percent) than their counterparts who started college and did not finish (24.6 percent). High school graduates were also less likely to smoke (31.4 percent) compared to Michigan residents who did not finish high school (34.8 percent). Although there is some variation between the national data for Michigan and the Michigan Survey, both indicate that Michigan residents are more likely to smoke than the average U.S. resident. The difference in smoking prevalence between the U.S. and Michigan declines with higher levels of educational attainment.

Smoking and Age

Not surprisingly, smoking rates also vary by age group (see Exhibit 23). The following estimates from the CDC show the percentage of current smokers for both the U.S. and Michigan by age group:

Smoking Rates by Age Group

Age Group	United States	Michigan
18 - 24 years of age	31.1%	30.0%
25 - 44 years of age	27.1	29.9
45 - 64 years of age	22.4	22.5
Older than 65 years	9.8	9.6

The differences between Michigan and the U.S. occur in the 18-25 and 25-44 age groups. The percentage of younger adults (18-24) who smoke is smaller in Michigan. However, the Michigan percentage remains unchanged as Michigan residents move into middle age (25-44), while the national number declines significantly.

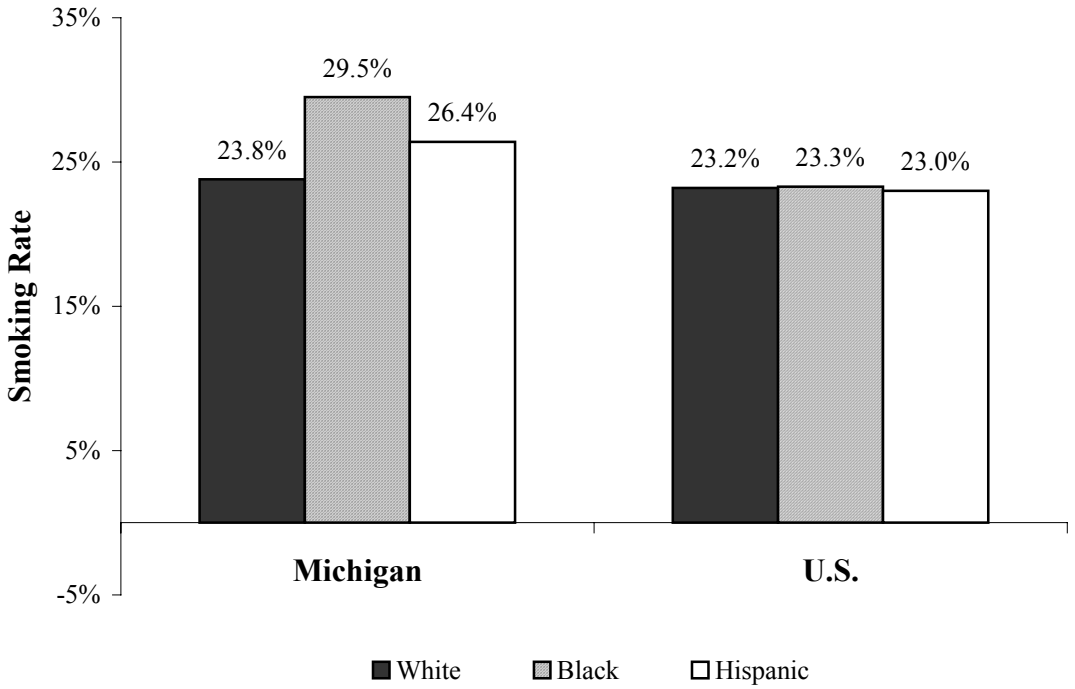
Once more, the Michigan Survey tends to corroborate these findings. For 2002, the Michigan Survey found the following smoking rates for Michigan residents: 31.7 percent for 18 to 24 year olds, 26.3 percent for 25 to 34 year olds, 30.7 percent for 35 to 44 year olds, 25.7 percent for 45 to 54 year olds, 21.0 percent for 55 to 64 year olds, 11.6 percent for 65 to 74 year olds, and 4.6 percent for residents over 75 years of age.

Exhibit 20
Percentage of Adults Smoking Cigarettes by Education Level, 1999 - 2000

State	Less Than 12 Years	12 Years	More Than 12 Years
Alabama	33.4	24.8	20.2
Alaska	49.5	31.7	17.6
Arizona	22.2	24.9	13.8
Arkansas	29.2	27.8	20.5
California	19.3	22.9	14.0
Colorado	33.7	25.5	14.8
Connecticut	26.2	25.3	14.0
Delaware	41.9	28.5	15.7
Florida	30.1	27.1	18.7
Georgia	29.5	29.5	16.1
Hawaii	21.4	26.2	14.9
Idaho	38.2	28.2	15.8
Illinois	30.1	25.6	17.5
Indiana	40.7	28.6	20.0
Iowa	34.8	24.3	16.8
Kansas	32.4	25.5	16.0
Kentucky	35.6	32.4	24.0
Louisiana	28.3	26.6	18.7
Maine	29.0	28.8	16.2
Maryland	30.4	28.1	14.6
Massachusetts	27.5	24.9	15.2
Michigan	**37.4**	**27.8**	**18.1**
Minnesota	15.9	25.9	15.1
Mississippi	29.7	22.4	18.8
Missouri	34.3	32.2	20.3
Montana	31.2	23.6	15.0
Nebraska	26.2	21.7	16.6
Nevada	45.6	30.9	23.0
New Hampshire	40.2	31.2	17.9
New Jersey	24.6	26.2	16.9
New Mexico	28.4	26.3	19.4
New York	22.5	24.5	17.5
North Carolina	29.9	29.6	19.2
North Dakota	19.4	27.8	18.1
Ohio	37.4	31.0	18.2
Oklahoma	28.1	26.3	18.6
Oregon	31.5	25.5	15.4
Pennsylvania	28.0	28.3	17.9
Rhode Island	27.2	25.7	18.6
South Carolina	30.7	26.0	20.6
South Dakota	24.7	25.3	17.2
Tennessee	29.8	29.4	19.5
Texas	24.8	26.1	17.6
Utah	31.0	19.4	7.7
Vermont	28.4	24.9	14.1
Virginia	28.9	27.2	15.9
Washington	31.9	29.0	15.1
West Virginia	33.4	29.8	17.5
Wisconsin	32.1	27.2	17.0
Wyoming	37.7	27.7	18.6
US Median	30.1	26.6	17.5

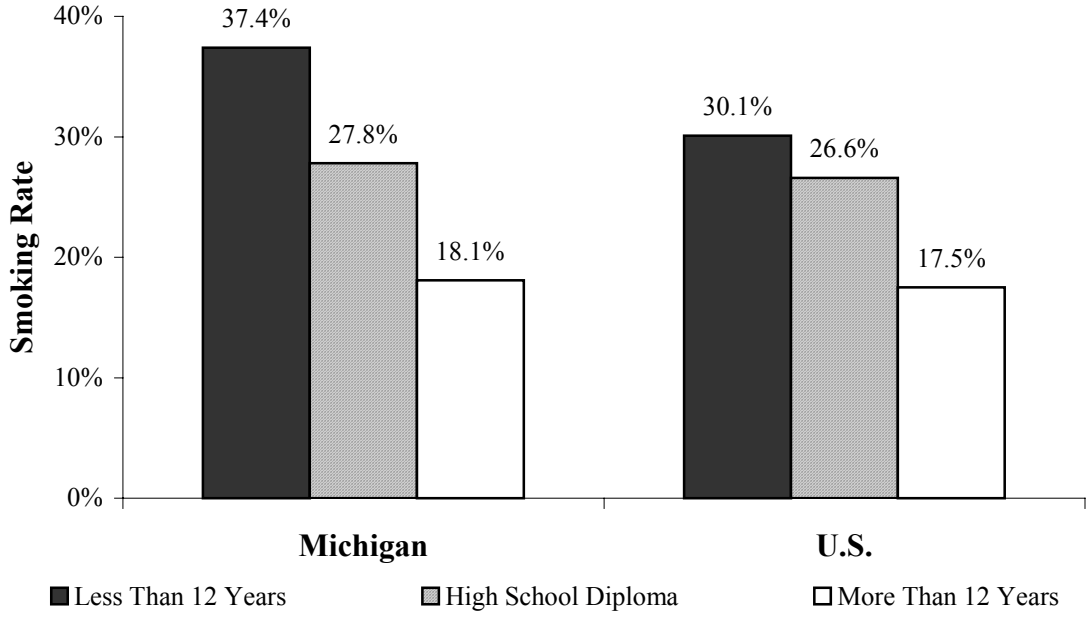
Source: Centers for Disease Control and Prevention, 2002.

Exhibit 21
Smoking Rates by Race, 1999 – 2000



Source: Centers for Disease Control and Prevention, 2002.

Exhibit 22
Smoking Rates by Education Level, 1999 - 2000



Source: Centers for Disease Control and Prevention, 2002.

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 CDC reports that for 2001, 28.5 percent of 9-12th graders nationwide smoked cigarettes in the past month. Michigan 9-12th graders report slightly lower usage rates, with 25.7 percent smoking cigarettes in the past month. Cigarette smoking rose among high-school students nationwide during the 1990s, appears to have peaked between 1997 and 1999, and then declined sharply.[4] The steep price increases that have followed recent tax increases and the national tobacco settlement may have contributed to this sharp decline.

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 (peer pressure, advertising campaigns, or parental behavior), any or all of which may offset price considerations. The addictive nature of smoking makes quitting a difficult step to take for many smokers.[5] The health dangers of long-term smoking raise the urgency to reduce the number of teens who begin and continue smoking.

Recent economic evidence indicates that higher cigarette taxes and prices may have little effect on the smoking behavior of younger teens. However, the choice to smoke seems to become more sensitive to higher prices by the time teens reach the end of high school.[6] The higher price sensitivity among older teens may reflect a change in the source of cigarettes smoked by teens. Younger teens may obtain cigarettes from other smokers while older teens may be buying their own cigarettes. The evidence that higher cigarette taxes result in reduced smoking among older teens leads many people to advocate higher cigarette taxes as an appropriate policy tool to curb smoking among young adults.

Smoking and Income Level

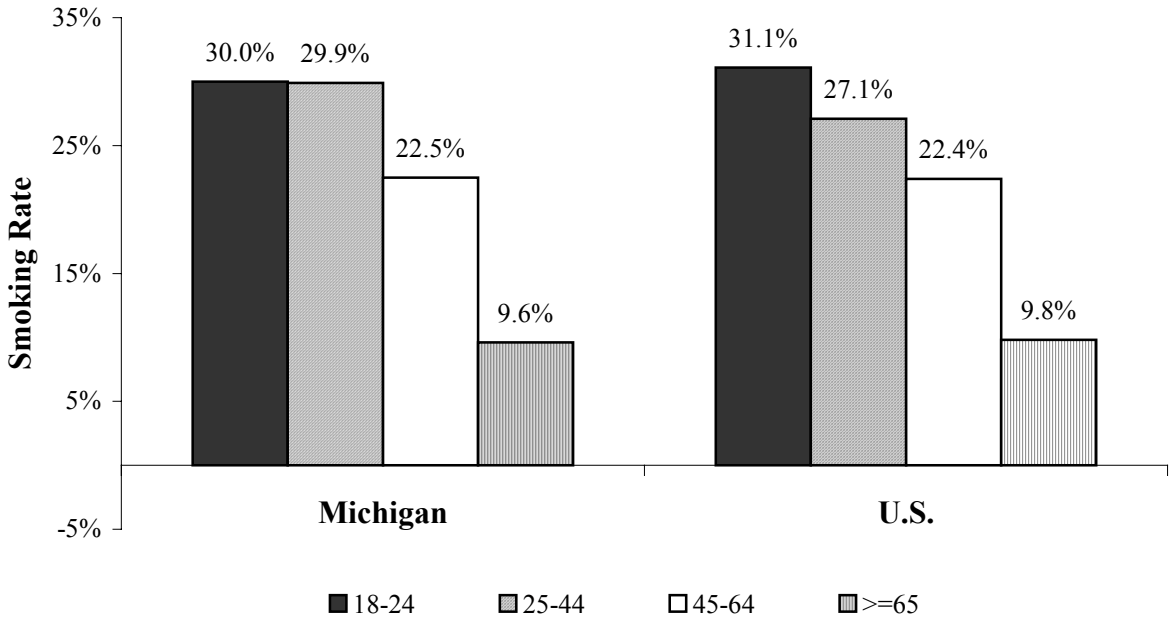
The Michigan Survey also identified smokers by income classification. The estimates for 2002 are presented in Exhibit 24. The probability that an individual adult in Michigan smokes cigarettes declines as income increases. The 2002 survey indicates that smoking rates have declined generally across income groups in recent years. The smoking rate in 2002 declined by almost 5 percentage points in the $35,000 to $50,000 income range.

[4] *MMWR* (2002a) and Monitoring the Future Survey (2003).

[5] The Michigan Survey indicates that almost 60 percent of current smokers report an unsuccessful attempt to quit smoking in the past year.

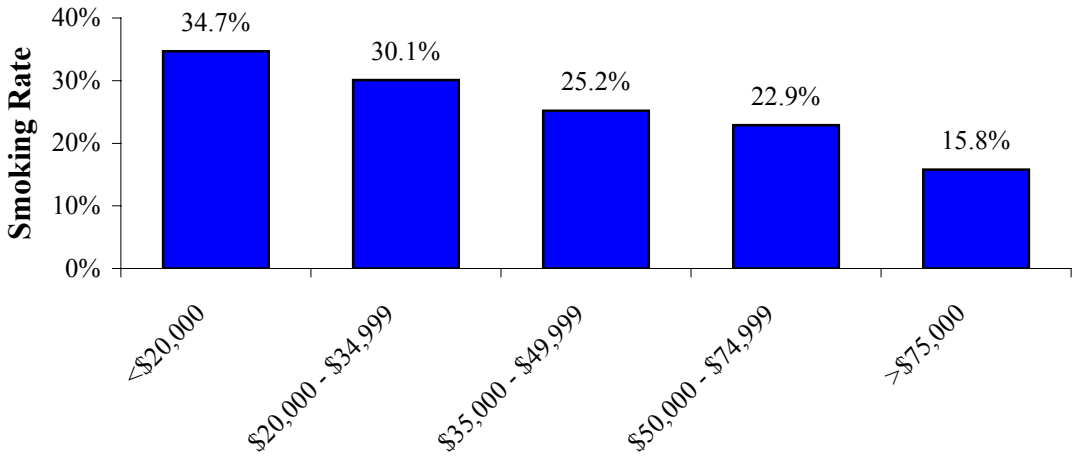
[6] Recent studies include Gruber and Zinman (2001), Gruber (2001), and DeCicca, Kenkel, and Mathios (2002).

Exhibit 23
Smoking Rates by Age Group, 1999 - 2000



Source: Centers for Disease Control and Prevention, 2002.

Exhibit 24
Smoking Rates by Income Level, 2002



Source: 2002 Michigan Behavioral Risk Factor Survey, preliminary estimates, Michigan Department of Community Health.

Profile of the Typical Smoker

Given the gender, age, education, ethnicity, and income characteristics discussed above, it is possible to derive a profile of a typical smoker for Michigan and the U.S. While this provides some insight into who bears more of the burden of the cigarette tax, it is *not* meant to identify a group that pays more cigarette taxes in absolute terms. Identifying a demographic group with a higher probability of smoking does not take into account how large a proportion that 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 black or Hispanic, and has an annual income below $50,000 per year.

In general, residents with lower incomes pay more tobacco taxes because they tend to use tobacco products with a greater intensity. Specifically, lower-income individuals are more likely to smoke than higher-income individuals. In addition, lower-income smokers spend a higher percentage of their incomes on cigarettes and tobacco taxes than do higher-income smokers, when the number of cigarettes smoked is similar. For example, two individuals, each smoking one pack of cigarettes per day, will spend $456.25 in Michigan cigarette taxes, $142.35 in federal cigarette taxes, and approximately $95.27 in sales taxes during 2003 (assuming a final cost of $4.35 per pack). The taxes imposed on each smoker total $693.87. If one smoker has an income of $75,000, then this smoker pays less than 1.0 percent of his or her income in cigarette taxes. If the other smoker has an income of $20,000, then cigarette taxes are almost 3.5 percent of his or her income. This simple example demonstrates the potential regressivity of cigarette taxes. The example assumes that a higher income will not increase the number of cigarettes a smoker chooses to consume.

Because low-income individuals are more likely to smoke, the cigarette tax is disproportionately borne by low-income smokers. Because of this concentration of the cigarette tax within the low-income population, economists classify the cigarette tax as regressive. However, increases in the cigarette tax are not necessarily regressive even if the existing tax is regressive. A growing body of economic research has found that low-income smokers reduce their consumption by more than do higher-income smokers when increases in cigarette taxes result in higher cigarette prices.[7] For an economist, this indicates that the demand for cigarettes by low-income individuals is more elastic. Two key implications flow from the more elastic demand for low-income smokers. First, increases in the cigarette tax make the tax less regressive overall. Second, the health benefits of reduced smoking due to higher cigarette taxes are concentrated among the poorer individuals in the state. This offsets the financial burden on poor smokers from high cigarette taxes. Given the observed prevalence of smoking among income groups and the strong correlation between education and income, it appears that certain policies will be more effective with some groups than with others. While individuals with more education more readily respond to the published information about the health consequences of smoking, individuals with less education (and generally lower incomes) respond more to higher cigarette taxes and prices.

[7]See Gruber and Koszegi (2002), Chaloupka and Warner (2001), and Farrelly, *et al.* (2001).

Economic Costs of Smoking

While taxes are generally unpopular, the taxation of cigarettes is sometimes thought to be more acceptable because it discourages smoking, an activity that increases health care costs for both smokers and nonsmokers. Research has demonstrated that smoking is linked to a number of cardiovascular diseases and cancers, the most prevalent being lung cancer. The Michigan Department of Community Health reports that cigarette smoking is the leading preventable cause of death in Michigan.[8]

Smoking not only imposes costs on those who choose to engage in the activity, but also on society in general. The CDC estimates that direct medical expenditures attributable to smoking totaled $75.5 billion in 1998. This translates into $3.26 per pack of cigarettes sold in 1998.[9] Typically, nonsmokers pay part of these costs through higher health and life insurance premiums, and higher taxes to finance public health programs like Medicaid and Medicare. For that same year, it is estimated that cigarette taxes averaged 28.2 percent of the sales price or 63 cents per pack.[10]

While there is evidence that nonsmokers incur some costs due to the smoking behavior of others, there is widespread controversy surrounding the measurement of those costs.[11] Smoking increases the smoker's consumption of health care services, reduces the smoker's labor productivity, and shortens the smoker's working career due to premature illness and death. However, much of this cost is borne directly by the smoker and his or her family. For example, lower productivity and a shorter career will result in reduced labor income in a competitive economy. On average, smokers are absent from their jobs 6.5 more days and make roughly six more visits per year to health care facilities than nonsmokers.[12] Yet to the extent the private costs of cigarette smoking are borne by the smoker, there would seem to be little reason for public policy directed at reducing cigarette consumption.

However, smoking also imposes economic costs on society. In general, any productivity loss (whether by war, natural disaster, or the consequence of behavioral choice like smoking) reduces the economic potential of a society. Also, while the lower wages and labor income associated with reduced productivity due to smoking directly affect the smoker, reduced labor income also reduces the amount of Social Security, Medicare, and income taxes paid by smokers. Lower tax revenue will either reduce the resources available for public spending or necessitate higher tax rates on other taxpayers. In addition, the resources used to provide health care services consumed by ill smokers could have been used to provide alternative health care services, such as prescription assistance for low-income seniors. To some extent, the reduction in income-based taxes paid by smokers will be offset by cigarette taxes.

In order to present a balanced picture, one must also consider other economic impacts of smoking. For instance, because smokers tend to die younger than nonsmokers, the reduced Social Security and other pension payments paid due to premature death should be counted as a net saving from

[8]Michigan Department of Community Health, (2002).
[9]Centers for Disease Control and Prevention (2002).
[10]Orzechowski and Walker.
[11]Warner (2000) has an excellent discussion of the economic effects of smoking.
[12]MacKenzie, *et al*., (1994).

smoking. Life expectancy for adult smokers is reduced by an estimated 13.2 years for males and 14.5 years for females.[13] Assuming that the average smoker lives up to the Social Security retirement age, the decline in life expectancy results in an average saving to the Social Security Trust Fund of $138,442 for males and $152,076 for females. This is based on an average Social Security benefit of $874 per month.[14] This estimate does not include any potential benefits for surviving spouses.

As a result of long-term smoking, smokers become ill and die at earlier ages. Premature illness and death accelerate health care expenditures for many smokers. As a result, smokers in total incur far less health care expenditures related to old age, since many smokers die prior to old age. As a result, there is some controversy regarding the net impact of smoking on lifetime health expenditures. While smokers on average experience health problems at an earlier age, it is not clear that total health care expenditures for smokers exceed total expenditures for nonsmokers.

Overall, the economic impact of smoking is unclear with the net effect probably small. While smokers are less productive economically than they would have been had they not smoked, other workers are employed in the place of the absent smokers, resulting in a small overall macroeconomic impact. The cigarette taxes smokers pay and the lower public pension benefits that smokers receive due to premature mortality offset the lower payroll and income taxes paid by smokers. Higher public health care expenditures necessary due to smoking are at least somewhat offset by reduced health care expenditures for smokers associated with old age.

[13] *MMWR*, (2002b).
[14] *State Statistics, Michigan,* Office of Policy, Social Security Administration.

CHAPTER 5

IMPACT OF THE 2002 TAX INCREASE

Background on Elasticity

Michigan enacted a 50-cent increase in the cigarette tax, effective August 1, 2002. This tax increase provides an opportunity to evaluate the short-term impact of higher taxes on cigarette sales. Using monthly sales data for cigarettes sold subject to Michigan's tax, this chapter will provide an estimate of how responsive consumers are to higher taxes. The short-term elasticity estimate is a crucial piece of information for policy analysts, budget forecasters, and legislators when considering increases 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. The price elasticity for cigarettes permits analysts to estimate the reduction in cigarette sales that will accompany a change in the cigarette tax. The consensus from the research on cigarette taxes is that the price elasticity is around -0.4. This implies that a 10 percent increase in the price of cigarettes will reduce cigarette consumption by 4 percent.

Several factors may alter the response to large tax increases, like the 1994 and 2002 increases in Michigan's cigarette tax, 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 ½ pack per week is different than reducing by ½ 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 2002 tax increase also increased the tax on other tobacco products (cigars, smokeless tobacco, and non-cigarette smoking tobacco) which can be substitutes for cigarettes. This higher tax made substitution away from cigarettes more expensive, thus reducing the behavioral change. So there is reason to believe that cigarette sales might decrease by less than would be predicted using the average price elasticity.

However, permanent smoking cessation is difficult for both adults and adolescents. Strong initial reductions in cigarette consumption might be reversed somewhat as smokers who, for instance, stopped smoking in reaction to an increase in the cigarette tax, reacquire the habit over time. A higher cigarette tax in Michigan creates an incentive for Michigan residents to acquire cigarettes from a low-tax source, either a lower-tax state or through the mail. Eventually, the time costs involved with using these alternative sources of cigarettes may overcome the higher monetary costs of cigarettes purchased from a Michigan retailer, and these consumers will resume buying cigarettes taxed in Michigan. Thus the long-run response to cigarette tax increases may differ from the short-run response, but it not clear which response will be larger.

2002 Cigarette Tax Increase

Public Act 503 of 2002 increased the tax on a pack of 20 cigarette from $0.75 to $1.25, effective August 1, 2002. This act also increased the tax on other tobacco products from 16 percent of the wholesale price to 20 percent. The 50-cent increase in the cigarette tax would raise the price of cigarettes by approximately 13.6 percent, assuming the tax increase was passed through to consumers. Using an elasticity estimate of -0.7, it was anticipated that the tax increase would reduce cigarette consumption by 9.5 percent. The larger elasticity (in absolute value) used for this estimate anticipated a larger short-run response to the tax increase. The net effect on cigarette tax revenue was estimated to be $282.4 million for fiscal year 2003.

Elasticity Estimates

In order to estimate the behavioral response to the higher cigarette tax, this section makes use of monthly data collected from tax returns submitted by cigarette wholesalers to the Michigan Department of Treasury. The monthly count of taxable cigarettes provides timely and accurate data on cigarette sales across Michigan. A series of estimates are presented in Exhibit 25, each obtained using a slightly different methodology.

The first estimate is based on the overall change in cigarette consumption for September 2002 through May 2003 compared to consumption in the period September 2001 through May 2002. July and August 2002 were avoided because cigarette consumption appears to have been altered due to limited consumer stockpiling of cigarettes prior to and following the tax increase. The tax increase raised cigarette prices by an estimated 13.8 percent, including the 2002 federal tax increase. As a result, cigarette consumption fell by 7.65 percent. This implies a price elasticity of –0.556, reasonably close to the value of -0.7 used to prepare the revenue estimate discussed above.

A more formal econometric analysis was also conducted using a regression model. Regression analysis is a statistical technique that allows for the identification of the impact of a policy or environmental change on a specific dependent variable by controlling for other factors influencing the dependent variable.

For this analysis, monthly cigarette sales were assumed to be dependent on the price of cigarettes and economic conditions. Since monthly price data for cigarettes is not available, the combined state and federal tax was used as a proxy variable. The comparisons in Chapter 3 provide strong evidence that cigarette taxes are passed through to consumers and account for a large amount of the variation in prices across states. The tax rate should provide a good proxy for cigarette prices. Total Michigan employment was used to capture changes in monthly economic conditions.

The data used for this analysis cover the period from January 1999 through May 2003. The period excludes the 4th quarter of 1998 when Michigan's stamping law took effect and the Master Settlement Agreement was adopted. These events combined to increase the price of cigarettes markedly while also increasing the number of cigarettes that were subject to tax. Monthly sales data for May 2003 were the latest information available.

Estimates were obtained using four different specifications. The estimated effect of changes in cigarette taxes on cigarette sales was obtained using the monthly data in levels and in natural logarithms. Because cigarette sales exhibit a strong seasonal pattern, dummy variables were included for each month. An annual trend variable was also included to account for the annual decline in cigarette consumption that is highlighted in Chapter 2. The procedures were then repeated using the year-over-year change in the monthly data. This compares February sales in one year with February sales in the next year, eliminating the need for seasonal adjustment. A constant time trend remains in this model to account for declining sales over time. Separate dummy variables were used in all four specifications to control for any stockpiling that occurred around the tax increase.

The estimates presented in the bottom part of Exhibit 25 range from -0.468 to -0.672. Each estimate is statistically significant. These estimates imply that a 10 percent increase in the price of cigarettes would reduce consumption by 4.7 percent to 6.7 percent. The estimates obtained using logarithms are larger and are probably more precise. Since the sample period only includes 10 months of data following the tax increase, these estimates should be interpreted as short-run elasticities.

The estimates obtained here imply that state revenue collections from the cigarette tax should run ahead of schedule in the near-term, since the estimates imply smaller behavioral effects than were assumed in the revenue forecast. If the long-run change in cigarette consumption due to the 2002 tax increase more closely resembles the consensus elasticity of -0.4, taxable cigarette sales in Michigan should rise over the next year or so as smokers move away from alternative sources of cigarettes and some cessation efforts fail. An increase in overall consumption may result as the final adjustments to the 2002 tax increase offset the long-term trend of declining cigarette sales.

Exhibit 25
Elasticity Estimates for 2002 Tax Increase

Simple Average Elasticity Estimate

Percentage Change in Taxable Cigarette Sales (1)	-7.65%
Percentage Change in Price (2)	13.76%
Elasticity	-0.556

Econometric Elasticity Estimate

Sales in Levels	-0.468 *
Change in Level of Sales	-0.548 *
Log of Sales	-0.587 *
Difference in Log of Sales	-0.672 *

* Estimate is statistically significant at 5% confidence level.

(1) Monthly taxable cigarette sales were provided by the Customer Service Bureau, Michigan Department of Treasury. Compares consumption for Sept. 2002 - May 2003 with Sept. 2001 - May 2002.

(2) This estimate is based on the average retail price for November 2001 published by Orzechowski and Walker and assumes the 5-cent federal tax increase and the 50-cent state tax increase were fully passed on to consumers.

CHAPTER 6

CIGARETTE STAMPING AND THE TOBACCO SETTLEMENT

Tax Increase and Cigarette Smuggling

The enactment of school finance reform culminated with the passage of Proposal A in 1994. As a result, Michigan's cigarette tax increased from $0.25 to $0.75, the highest in the nation at that time. This report has documented that a large decline in taxable cigarette sales occurred in Michigan following the tax increase in 1994 (7.6 percent per year from 1994-1997). The long-term trend in cigarette sales had been approximately a 1.5 percent annual decline, due to health concerns and rising cigarette taxes and prices.

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. 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.

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 long-term, downward trend of less than 2 percent and more than could be explained by the price elasticity of demand. Declining sales resulted in reduced revenues, as shown in Exhibit 26.

This decline occurred while the percentage of smokers in Michigan was stable. The percentage of Michigan adults who smoke was estimated to be 25.2 percent in 1993, 26.1 percent in 1997, and 24.2 percent in 2000. Given that the prevalence of smoking in Michigan was similar across the years, why did cigarette sales decline so much?

State officials suspected cigarette smuggling might be increasing. There was additional evidence to support that conclusion. Sales in Michigan declined between FY 1994 and FY 1995 by 18 percent while overall sales of cigarettes in the U.S. increased by 2.1 percent. Sales in Indiana, Ohio, Kentucky, and West Virginia increased by more than double the U.S. average. All of these states had cigarette taxes less than one-third of the tax in Michigan. Weeks prior to Michigan's cigarette tax increase in 1994, North Carolina repealed its law requiring a state stamp be affixed to cigarettes sold in the state. North Carolina's cigarette tax is 5 cents per pack. Not surprisingly, North Carolina saw an increase of 15.7 percent in cigarette sales.

Exhibit 26
Effects of Higher Tax Rate and Cigarette Stamping

Fiscal Year	Tax Rate (cents)	Tax Revenue	Percentage Change
1990	25	255,339	
1991	25	259,160	1.50
1992	25	246,005	-5.08
1993	25	243,648	-0.96
Tax increased to $0.75 effective May 1, 1994			
1994	25/75	395,715	62.41
1995	75	619,401	56.53
1996	75	580,772	-6.24
1997	75	546,026	-5.98
Wholesale cigarette stamping effective May 1, 1998			
1998	75	566,046	3.67
1999	75	615,129	8.67
2000	75	604,212	-1.77
2001	75	596,082	-1.35
2002	75/125	669,914	12.39

Source: Michigan Department of Management and Budget.

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 (formerly 15.5 cents per pack) are favored purchasing points for smugglers. Under federal law, 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 small quantities of cigarettes out-of-state (for example, in Indiana or Ohio) and bring them back to Michigan, either for personal use or for use by friends and family.

Residents need not leave the state to legally or illegally avoid payment of cigarette taxes. Indian reservations and military bases became an attractive place to purchase cigarettes, not only because cigarettes were tax-exempt, but also due to growth in the gambling industry within Indian Country as more smokers were visiting Indian gambling casinos. For a couple of years, tax-exempt sales on reservations rose sharply. In January 2000, the State of Michigan ended the sales of untaxed cigarettes to retailers within Indian Country. Cigarette retailers on a reservation must now buy stamped cigarettes, on which the cigarette tax has been paid, and may claim a refund of the cigarette tax on sales to a resident tribal member when the transaction takes place within their own Indian Country.

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 growing type of illegal cigarette smuggling seems to occur through mail order and/or Internet sales. The seller obtains low-tax cigarettes, sells them to either a Michigan resident or business, and then ships the cigarettes to Michigan. The growth in the use of the Internet and e-commerce has led to growth in on-line cigarette sales. A number of Web sites operated by Indian tribes advertise and sell "tax-free" cigarettes. While these operations seemed to be increasing in number, the magnitude of their current impact is unclear. A recent study found 88 Internet sellers operating in 23 states. Some industry analysts believe 20 percent of cigarette sales will be made over the Internet within 10 years.[15]

A final 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. A recent criminal case in North Carolina involved individuals accused of smuggling cigarettes into Michigan and other states, and then using the proceeds to support an organization named as a terrorist group by the U.S.[16]

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 have a tax stamp affixed, certifying that the $0.75 per pack cigarette tax had been paid. The law took effect for cigarettes sold after August 31, 1998. 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

[15]"Web Poses New Problems for Tobacco Control." CNN.com, December 10, 2001.

[16]For more details, see "Brothers Guilty in Charlotte Terror Trial" from CNN.com, June 25, 2002, and "Cigarette-tax evasion aided terror, U.S. says" from *Detroit Free Press*, February 5, 2003.

held for eventual sale in Michigan.

The stamping program had a large and immediate effect as shown in Exhibit 26. The decreases in cigarette tax revenue experienced in 1996 and 1997 were reversed in 1998 and 1999. 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. Revenues for 2000 through 2002 more closely mirror the long-term trend. This dramatic increase in revenues also occurred while cigarette prices were increasing dramatically in the wake of the national tobacco settlement.

Previous versions of this report have contained a statistical analysis of the impact of stamping. The evidence indicated that stamping was associated with statistically significant increases in taxable cigarette sales. This is consistent with cigarette stamping reducing a substantial amount of cigarette smuggling.

Summary of Tobacco Litigation

In November 1998, 46 states, the District of Columbia, and several U.S. territories reached an agreement with five major tobacco companies to settle lawsuits relating to the public costs of treating smoking-related illnesses. This settlement was entitled the Master Settlement Agreement (MSA). Four states, Mississippi, Florida, Texas, and Minnesota, had reached separate agreements with the tobacco companies previously. The MSA provided for annual payments from the tobacco companies to the states continuing in perpetuity, with the payments totaling more than $206 billion by 2025. Provisions limiting tobacco advertisements and other marketing activities were also contained within the MSA. The annual payments required under the MSA will result in an increase in the cost of an average pack of cigarettes of between 30 and 40 cents, based on U.S. cigarette consumption for 2000.

The $206 billion amount depends on several contingencies. These payments may be reduced if a new federal cigarette tax is enacted, or if the participating tobacco companies experience a decline in market share of 2 percent or more due to the MSA. In addition, payments to the states are adjusted if the participating companies experience a change in their domestic shipping volume. Essentially, payments to the states would be reduced by a one-to-one ratio if sales decline. The payments are also adjusted annually for inflation. Payments will increase by 3 percent, or the percentage increase in the CPI, whichever is greater.

The MSA stipulated that the payment of the settlement funds would begin once final approval was obtained. Final approval required two steps. First, a Michigan court had to grant final approval to Michigan's settlement and consent decree. This was called state-specific finality. The court of jurisdiction must grant final approval and all appeals must be exhausted. Michigan obtained state-specific finality on April 7, 1999.

The second requirement for final approval was that 80 percent of the states involved, including the U.S. territories signing the MSA, obtain state-specific finality, and that payments due to those states represent 80 percent of the total settlement payments. Final approval occurred in November 1999.

Michigan took additional steps to protect its share of the settlement. Public Act 244 of 1999 requires cigarette manufacturers that did not enter into the MSA to make annual deposits into an escrow account, based on the volume of cigarettes sold within Michigan. This provision was designed to protect the tobacco companies that are a party to the MSA from unfair price competition from manufacturers who are not a party to the settlement. States that do not enact legislation requiring escrow deposits from non-participating manufacturers are subject to potential reductions in the state's settlement payments.

Michigan received an initial payment of $107.5 million on December 14, 1999. Settlement payments totaled $1.26 billion from 1999 through 2003, including $323.3 million in 2003. Annual payments will continue in perpetuity with Michigan scheduled to receive more than $8.5 billion between 1998 and 2025. Before any adjustments, Michigan's annual payment will be approximately $300 million for the foreseeable future.

The continuation of settlement payments is contingent on the ability of the tobacco companies to remain economically viable. While the MSA resolved legal liability with the states, the tobacco companies continue to face litigation from private parties and from the federal government. To the extent that outside litigation forces any or all of the tobacco companies into bankruptcy or out of business, future payments under the MSA would be threatened and programs that rely on those payments (such as the Merit Award) would require alternative funding sources in order to continue.

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 initial lawsuits were 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 payments were a reimbursement for past expenditures necessitated by the tobacco industry. Expenditures necessary to treat smoking-related illnesses drew funds away from other desirable spending in areas such as education, transportation, and natural resources. The reimbursements received from the tobacco companies allow states to pursue other important spending priorities.

Additional debate centered on time preference. Specifically, some argued for immediate expenditures to meet pressing needs such as repairing school buildings or to purchase health insurance for the uninsured. Others argued that some of the settlement monies should be set aside in trust funds to create investment income that could become a permanent source of funding.

Nationally, the initial indications were that states were spending more of the payments from the MSA on health-related programs than on any other area. The National Conference of State Legislatures reported that 46 percent of the proceeds received by the states from 1999 through 2001 was allocated to health care.[17] This includes tobacco prevention, long-term care, and other health

[17] "Health Programs Benefit from Tobacco Settlement." News release from the National Conference of State

services. Significant portions of the payments were also allocated to education and budget reserve accounts.

For Michigan, a large portion of the settlement proceeds was directed to education. Public Act 94 of 1999, the Michigan Merit Award Scholarship Act, was signed by Governor Engler on June 30, 1999. The Act created the Michigan Merit Award Trust Fund. This fund received 30 percent of Michigan's tobacco settlement proceeds in fiscal year 1999-2000, 50 percent of the proceeds in fiscal year 2000-2001, and will receive 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.

Chapter 4 discusses the inverse relationship that is observed between educational attainment and smoking. Individuals who have more schooling are less likely to smoke cigarettes. While there may be other reasons for this relationship, one possible explanation is that additional schooling provides an opportunity for students to become more familiar with the dangers of smoking. If this is correct, using the funds received from the tobacco settlement to expand the opportunities for students to attend colleges and universities may lead to a decline in the number of future smokers.

Public Act 489 of 2000 established the Michigan Tobacco Settlement Trust Fund. This trust fund received 70 percent of the proceeds from the MSA for fiscal year 1999-2000, 50 percent in fiscal year 2000-2001, and will receive 25 percent of the proceeds for fiscal years after 2000-2001. Expenditures from the Tobacco Settlement Trust Fund must be appropriated by public act.

In November of 2002, Michigan voters defeated a proposal that would have constitutionally earmarked 90 percent of the annual proceeds received by the state from the MSA to health-related expenditures, such as non-profit hospitals and a fund to prevent future smoking. This controversial proposal was eventually defeated by a wide margin, although early indications were that the idea of spending more of the MSA payments on health care had broad public support.

Legislatures, August 11, 2001.

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