Tobacco Regulation through Litigation: The Master Settlement Agreement

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Abstract

The 1998 Master Settlement Agreement resolved the unprecedented litigation in which the states sought to recoup the cigarette-related Medicaid costs. The litigation was settled through a combination of negotiated regulatory requirements and financial payments of about $250 million over 25 years. Settlement payments received by states are strongly related to smoking-related medical costs but are also related to political factors. The payments largely took the form of an excise tax equivalent, raising potential antitrust concerns. The regulatory restrictions imposed by the agreement also raised antitrust concerns. The increase in advertising and marketing expenses has largely taken the form of price discounts. However, there has been no evident shift in industry concentration. The settlement sidestepped the usual procedures pertaining to the imposition of taxes and the promulgation of new regulations.

1. Introduction

For decades individual lawsuits by smokers against the cigarette industry were unsuccessful. In 1995 state attorneys general launched a series of lawsuits seeking to recoup the Medicaid-related costs associated with cigarettes. The prospects for such lawsuits were not great because the same demonstration of wrongful conduct required in individual tort cases would also be required for the states' claims. In addition, the states were seeking to recoup the value of a financial externality, which involves a more novel legal theory than in a standard torts claim.[1] This litigation was undertaken during a period of increased anti-tobacco sentiment as well as new legislation, particularly by states imposing restrictions on locations in which smoking is permitted, such as restaurants and hospitals.[2] This changing sentiment in turn would affect juror attitudes and the companies' prospects in court.

The 1998 Master Settlement Agreement (MSA) that resolved this cigarette litigation was innovative in several respects. First, this settlement marked the end of an unprecedented line of litigation in which the state attorneys general sued the tobacco industry for the state Medicaid-related costs generated by cigarettes. Second, the nature of the financial settlement also was pathbreaking in that it did not involve a damages payment that took a conventional form, but instead imposed the equivalent of a per pack cigarette tax that was called a 'settlement' payment. Third, the settlement was not restricted to financial compensation as it also imposed numerous, sweeping regulatory restrictions. Thus, a tax was imposed without legislative approval and national regulations were enacted without the usual rulemaking process. The absence of such

[1] The existence of a financial externality from cigarettes is not a sufficient basis for a valid legal claim as there also must be wrongful conduct by the cigarette industry that led to the smoking behavior and the subsequent costs. Otherwise, automobile manufacturers and producers of all other risky products would be liable for accident costs irrespective of producer negligence or the presence of product defects.

[2] See Hersch, Del Rossi, and Viscusi (2004) and the State Tobacco Activities Tracking and Evaluation (STATE) System, which can be found online at www2.cdc.gov/nccdphp/osh/state/.

standard political processes has raised a series of questions about the effects of the settlement on new entrants, the introduction of new products, and market competition generally. Finally, after decades of successfully defending lawsuits against the tobacco industry, this agreement marked the first major litigation-related payoff by the cigarette industry.

In this paper we analyze the terms of the settlement and its implications. The stakes involved in the settlement were substantial—about $250 billion over the first 25 years. How this money was spent is of policy interest as well in that the stated rationale for the payments was to defer the health-related costs of cigarettes and to decrease youth smoking. The regulatory restrictions likewise were targeted at decreasing smoking but may have had anti-competitive effects as well. Thus, the appropriate reference point for judging the settlement is how it performed as an unconventional public policy initiative with both regulatory and tax components.

The MSA may have had broader ramifications both for the cigarette industry and tort liability. By imposing a de facto tax and a series of regulatory constraints, the MSA greatly expanded the degree of regulation of the cigarette industry. The 2009 law giving the Food and Drug Administration (FDA) authority to regulate cigarettes can be traced to the attempt by the U.S. Congress to legislate a settlement of the state tobacco litigation. The MSA also influenced tort liability generally, both through providing billions of dollars in contingency fees to plaintiff attorneys and through an anchoring effect that set litigation damages award targets in the billions of dollars rather than millions.

2. The Master Settlement Agreement[3]

The Master Settlement Agreement of Nov. 23, 1998 marked the end of the tobacco litigation launched by the state attorneys general against the cigarette industry.[4] Whether the lawsuits would have succeeded was never resolved as no trials were completed in any of the cases. The MSA settled possible claims for 46 states. Previously, four states—Mississippi, Minnesota, Florida, and Texas—reached separate settlements with the tobacco industry. Because of the national scope of many of the requirements imposed by the MSA, our main focus is on the MSA itself rather than presenting parallel discussions of each feature of the individual state settlements.

Financial Externalities and the Litigation Focus

The cases on behalf of the states involved claims for the Medicaid-related costs incurred by the states. Thus, the damages did not pertain to the harms that cigarettes caused to smokers' health but rather focused on the Medicaid costs generated by smoking behavior. The states' claims consequently focused on the gross cigarette costs to the states from one program, Medicaid, rather than on the net costs across all programs. Estimates in Viscusi (1995, 2002a) found that on balance cigarettes did not impose net financial costs, but rather yielded net cost savings.[5]

The first state to file a financial claim against the cigarette companies for smoking-related Medicaid costs was Mississippi in 1995. Even though the cigarette industry had never advocated

[3] For previous treatments of the MSA and regulation through litigation generally, see Bulow and Klemperer (1998), Wagner (1999), Viscusi (2002a, b), and Cutler et al. (2002).

[4] Because of the political sensitivity of the settlement, some states did not sign on to the agreement until after the November 1998 elections. One such example is Massachusetts, where anti-tobacco groups lobbied for more punitive settlement terms.

[5] The national net financial costs per pack in 1995 dollars at a 3% interest rate were $0.58 total medical care, $0.01 sick leave, $0.14 life insurance, -$0.24 nursing home care, -$1.26 retirement and pension, $0.02 fires, and $0.43 taxes on earnings, for a net cost of -$0.32.

the net financial cost approach, nevertheless, Mississippi's opening salvo in the cigarette litigation was its *Memorandum* that explicitly targeted the net financial cost reasoning in the NBER working paper version of Viscusi (1995):

> A credit to the cigarette industry for any monetary savings in elderly health care, as well as other savings resulting in the premature deaths of smokers, is utterly repugnant to a civilized society and must be rejected on grounds of public policy….The contention of entitlement to an 'elderly death' credit is, on its face, void as against public policy. That policy and basic human decency preclude the defendants from putting forth the perverse and depraved argument that by killing Mississippians prematurely, they provide an economic benefit to the State. No court of equity should countenance, condone, or sanction such base, evil, and corrupt arguments….The defendants' argument is indeed ghoulish. They are merchants of death. Seeking a credit for a purported economic benefit for early death is akin to robbing the graves of Mississippi smokers who died from tobacco-related illnesses. No court of law or equity should entertain such a defense or counterclaim. It is offensive to human decency, an affront to justice, uncharacteristic of civilized society, and unquestionably contrary to public policy.[6]

What is particularly noteworthy is that Mississippi's *Memorandum* was the opening salvo in the tobacco litigation before the defendants had put forth any arguments.[7] But it was clear to the states that by framing the litigation in terms of the gross financial costs associated with Medicaid that the states could enhance their prospective payoff.[8] All states adopted a similar approach although there were some differences in the calculations of the damages payments owed to the states.

The MSA settled this litigation, putting an end to the claims on behalf of the states. Not all states had filed claims. For example, the state of Alabama opposed the litigation but

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[6] See Viscusi (2002a) p. 87. *Memorandum in Support of the State's Motion for Ruling in Limine, or Alternatively, for Partial Summary Judgment*, in re Moore, Attorney General ex Rel., State of Mississippi Tobacco Litigation, Cause No. 94-1429, (August 11, 1995). Pp. 3, 21, and 23. The Viscusi (1995) NBER study received no financial support from the tobacco industry, which was not aware of the study. To the best of Viscusi's knowledge, the study has never been presented in testimony on behalf of the tobacco industry.

[7] For the state of Mississippi, which was the state that launched the litigation, the financial externalities from cigarettes were $0.02 medical care, -$0.03 nursing homes, -$0.05 pensions, $0.02 taxes on earnings, for a net financial externality of -$0.04. In addition, the Mississippi state cigarette excise tax was $0.18. See Viscusi (1999, 2002a).

[8] The states also included the Federal share of Medicaid costs in the claim as well as other costs that the states did not actually incur. See Viscusi (2002a).

nevertheless participated in the MSA.[9] The MSA had no direct effect on individual lawsuits, class action lawsuits, and punitive damages. These efforts were not restricted by the MSA despite attempts by the cigarette industry to obtain protections in these areas. In 1997 and 1998 there were legislative attempts by the U.S. Congress to settle the litigation at the national level through the imposition of cigarette tax payments and regulatory reforms. In this proposed legislation, which was referred to as the Proposed Resolution, the cigarette industry had sought protections against punitive damages and class actions. No legislation was enacted because Congress's late drafts of the Proposed Resolution omitted such protections and escalated the tax payments. The tobacco industry withdrew its participation, decreasing support for the legislation in Congress. The benefits reaped by the states from the MSA included a variety of regulatory restrictions and financial payments.

Financial Characteristics of the Settlement

The first distinctive aspect of the MSA is that this settlement of the litigation did not involve settlement payments of the usual type. Financial settlements typically involve either lump sum payments or structured payments to the claimant, where in each instance the payments are being made by the defendant. For the MSA some of the minor costs, such as the costs of the MSA executive committee and enforcement costs, were borne directly by the companies, but the primary thrust of the settlement terms was to impose the equivalent of an additional excise tax on

[9] The reasoning for the state of Alabama was articulated by then Deputy Attorney General and now Federal Judge William Pryor: "We recommend to the Governor and the Attorney General that the State of Alabama not file a Medicaid reimbursement suit. We do not believe that filing such a suit would serve the interests of the citizens of Alabama. First, such a suit would advance weak legal or equitable theories which, even if the State won the suit, would threaten to undermine Alabama law generally. Second, the State's burden of proving net harm is problematic, because widely respected economic studies conclude that there is no net harm to the State's treasury as a result of cigarette consumption. Third, this litigation would effectively raise taxes on tobacco companies without going through the ordinary legislative process. As a matter of judicial and political economy, if the State of Alabama wants to raise taxes on tobacco, the Legislature, not the judiciary, should do so." See Viscusi (2002a) p. 48.

cigarettes for which payments would go to the states. In effect, the states used the MSA to impose additional cigarette taxes rather than obtaining the authorization of state legislatures. Specifically, the MSA imposed fees in perpetuity based on cigarette sales so that the fees are tantamount to an excise tax. The preferences of the citizenry in the affected states were not reflected in the same manner as they might have been if legislation were required. The decision to participate in the MSA and the terms of the participation were the result of a series of bargains involving representatives of the affected companies and the states, with a small group of attorneys general playing a pivotal role.[10] The imposition of a tax equivalent through litigation rather than legislation involved efficiency costs as well as the possible issue of appropriateness of bypassing the usual legislative processes. Moreover, this type of intervention is asymmetric as such deals can boost tax rates but not decrease them.

The settlement did not emerge in the abstract but took shape only after the efforts in 1997 and 1998 to pass the Proposed Resolution were unsuccessful. At the time of that legislation's demise, the cigarette industry favored greater protections against other forms of litigation than would be provided by the subsequent MSA, while anti-tobacco advocates favored higher tax rates and more regulation than the MSA would ultimately impose.

Settlement in the form of a tax equivalent rather than a lump sum payment has two principal economic ramifications. First, taxes raise the price of the product, discouraging smoking behavior through the incentive effect. Second, because of the finite financial resources of the affected firms, the total present value of the payments to the states could be larger if the damages were paid in the form of a unit tax rather than a lump sum penalty. Some anti-smoking advocates had favored a lump sum damages payment to maximize the immediate harm to the

[10]None of the state legislatures were involved in ratifying the agreements, and at least in some instances, notably Massachusetts, the actions of the state attorney general conflicted with the views of the governor.

industry, while others placed greater weight on the objectives of discouraging smoking behavior and maximizing the state's financial gain. The choice of the form of the payment influences the extent to which each of these objectives can be fostered as there is an inevitable tradeoff involved in the choice of the payment structure.

In a standard tort claim, the damages bear a direct relation to the harm. Because the basis of the suits was recovery of Medicaid costs, a natural question to ask is what relationship does a cigarette tax have to the state's financial costs attributable to the wrongful conduct of the companies? The trigger for the payment of any damages is the alleged wrongful conduct by the companies, such as that relating to claims of deceptive advertising and concealment of the product risks.[11] However, if this behavior was in the past and will not continue into the indefinite future, as will the per unit tax equivalent feature of the MSA, then the penalty being levied is not directly related to the alleged wrongful conduct or even the time period in which the wrongful conduct is alleged to have occurred. Similarly, if all major manufacturers are not guilty of the same wrongful conduct, then the imposition of penalties on all firms may not be warranted from the standpoint of setting prices at an efficient level. For prices to be efficient, they should reflect the marginal costs associated with the product. Penalties related to past harmful conduct that is no longer occurring are not well suited to establishing efficient prices for currently produced products. In a competitive market situation, such costs linked to past behavior are fixed costs and cannot be embedded successfully in the product price.

The pivotal economic actors consist of parties that are not subject to these damages payments. The extreme case is that of potential new entrants that did not exist during the period of wrongful conduct. Nevertheless, the MSA is structured so that new entrants will share in a

[11] The states' damages claims assumed that all Medicaid-related costs of cigarettes were attributable to the industry's wrongful conduct. However, it is unreasonable to assume that smoking rates would be zero in the absence of possible wrong conduct.

variant of the penalty structure to be discussed below. The MSA did not provide for a damages payment in any real sense but rather imposed a disguised form of cigarette tax. Likewise, the total amounts of the tax were not driven solely by the damages in the cases, but emerged from the bargaining power of the respective parties, which included the major cigarette producers but not potential new entrants. The same types of political factors also influenced the relative payment shares for each of the states, as will be discussed below.

The financial stakes in the tobacco litigation settlements were quite substantial. In 1997 and earlier in 1998 before the MSA was finalized, four states reached separate agreements with the cigarette industry: $3.6 billion for Mississippi, $11.3 billion for Florida, $15.3 billion for Texas, and $6.6 billion for Minnesota, for a total of $36.8 billion. These four states had made the most progress in developing their cases.[12] In addition to the $36.8 billion in settlements for these four states, there was the MSA settlement in the remaining states for $206 billion. The combined undiscounted total of payments to all 50 states over the first 25 years is $243 million. There were also about $7 billion in additional payments, including payments for a foundation and anti-smoking education as well as enforcement, making the total of all settlements about $250 billion.

While some of the payments were initial payments made in the first five years of the agreement, the bulk of the payments consisted of annual payments. The annual payment levels were set so that for the $8 billion payment amount from 2004 to 2007, the MSA agreement would impose a tax-equivalent charge of $0.33 per pack. Combined with the four separate state settlements, the total tax equivalent is $0.40 per pack. New entrants were required to pay these

[12] The first state to file a lawsuit was Mississippi. The trial was about to begin in Mississippi at the time of the settlement. The amount of the settlement exceeded the damages sought in the case, much to the surprise of the attorneys litigating the case. The first of the state tobacco trials took place in Minnesota, but the settlement occurred before the trial was concluded. Texas and Florida had completed most of the depositions of experts before the settlement.

amounts into a fund even if they had never sold any cigarettes before 1998 and thus could not even be affected by the type of litigation that the MSA was settling. For these companies, there was no previous wrongful conduct or previous cigarette market conduct of any sort. In this way the MSA provided a competitive shield so that firms that were not parties to the litigation could not have a cost advantage.[13] Payments will decline if cigarette sales decline, so the agreement does function effectively as a tax.

The Political Economy of the Settlement Amounts

How the settlement funds would be divided among the 46 MSA participants was determined by a political bargain, the results of which are summarized in Table 1.[14] The first column of statistics is a calculation of the percentage share of the state's medical costs calculated by Viscusi (1999, 2002a). These costs are calculated using state-specific information on smoking rates and medical cost structures including the state's Medicaid expenses, state expenditures on community hospitals, and other state medical costs. The sum of all states' expenses comprise the national medical costs that are being addressed by the MSA, where these calculations follow the states' procedures of assuming that the defense is liable for all such smoking-related costs.[15] Thus, the denominator in the calculation is the total U.S. smoking-attributable state health costs, while the numerator is the state-specific value. These estimates are the actual economic costs calculated using the same procedure for each state and are not identical to the diverse approaches used by the handful of states that undertook such calculations

[13] Potentially these new entrants could obtain reimbursement for these payments 25 years later if they could demonstrate that there was no wrongful conduct throughout the period. At least one new entrant, the South African firm Carolina Tobacco Company, claimed that the payments to the states threatened the firm's profitability.
[14] The procedures used for calculating the state-specific costs reported in Table 1 are calculated by Viscusi (1999) using his economic cost calculation procedure, not that of the states.
[15] If states had differed in whether the alleged wrongful conduct contributed to the costs, then the percentage of recoverable medical costs would need to be adjusted.

at the time of the settlement.[16] With the exception of the states' calculation of the medical costs for Massachusetts, the states' calculations of the medical costs generally included the federal costs share as well as the state share, and also did not account for the net incremental costs of smoking behavior.[17] All economic estimates reported here follow the practice in the economics literature of isolating the net incremental costs incurred by the states where the reference point is the nonsmoking smoker.

The second column of statistics in Table 1 presents the percentage share of the settlement received by the different states. Interestingly, New York received a 12.995 percent share that is almost identical to that of California's 12.997 percent share, even though New York accounted for 15.17 percent of the national smoking-related Medicaid costs as compared to 8.551 percent for California. This disparity highlights the political influences on the MSA.

The best measure of how the states fared is represented by the statistics in the final column of Table 1, which divides the payment share by the medical cost share. States with a value above 1 reaped a disproportionate share of the settlement. The state of Washington, which was represented by the lead MSA broker Christine Gregoire, then attorney general and subsequently governor, received a relatively high ratio of 1.396. The most prominent tobacco states fared particularly poorly, as North Carolina, Virginia, and Kentucky all had ratios in the 0.6 to 0.8 range. The state of Iowa, where the state's tobacco case had been dismissed, nevertheless had a ratio of 0.901, and the state of Alabama, where the state attorney general refused to file a case because he did not believe such cases had validity, had a ratio of 1.08. Factors other than the state's expected damages amounts in the litigation clearly influenced the distribution of the payments.

[16] A critique of the state cost calculations appears in Viscusi (2002a).
[17] Cutler et al. (2000) present the estimates for the state of Massachusetts, where these calculations are consistent with sound economic principles.

Using this sample of 46 states, we estimate the determinants of the percentage share of the settlement. The key variable included in the regression is the state share of the medical costs, which should fully account for the division of the payments if the payments are distributed based on the rationale for the claims. As a proxy for anti-tobacco political sentiments and political pressures to secure revenues from cigarettes, we include the per pack cigarette excise tax that prevailed in the state in 1998.[18] One would expect that states with a stronger anti-smoking sentiment would be more aggressive in waging the litigation with respect to the Medicaid claims and in obtaining a lager share of the MSA. We also include a dummy variable for whether the state had a Republican governor in 1998. The regression results reported in the first column of Table 2 indicate that the settlement share is strongly related to the medical cost share, but on less than a one-to-one basis. States with a higher cigarette excise tax fared better in terms of the settlement share, but the political party of the governor did not have a statistically significant effect.[19]

The regression in the second column of Table 2 reframes the issue in terms of the state's relative gain from the settlement, or the settlement share minus the share of medical costs divided by the medical cost share.[20] As expected based on the previous results, states with higher cigarette tax rates reaped a greater relative gain from the settlement based on what they should have received given their state-specific smoking-related medical costs.

Because the details of the MSA negotiations were not made public, one can only speculate as to the source of the positive influence of the state excise tax variable. One

[18] These data are from Orzechowski and Walker (2008).
[19] In exploratory regressions we examined other possible determinants of the state settlement share, such as whether the state is a major tobacco producer. However, most of these tobacco-related political factors are already reflected in the state's cigarette excise tax rate. For example, the major tobacco producing states of North Carolina, Virginia, and Kentucky have very low cigarette excise taxes.
[20] Thus, the dependent variable is the data in the third column on Table 1 minus 1.

prominent possibility is that the strong anti-tobacco states required more compensation to sign onto the agreement. A second possibility is that the negotiations were not based on actual medical expenditures reflecting state-specific differences in smoking rates. Smoking rates are lower in states with higher excise taxes so that population-based compensation levels will overcompensate the high excise tax states.

Regulatory Components of the MSA

In addition to the financial structure that generates payments to the states, the MSA included additional regulatory provisions as well. As with taxes, the MSA could only increase regulatory restrictions and not decrease them. The MSA banned the targeting of youths in advertising and cigarette marketing, which led to subsequent debate over which publications were youth oriented and which were not.[21] Youths were no longer permitted to have access to free samples of cigarettes. In that same spirit, the MSA also banned the use of cartoons in advertising, such as the penguin that appeared in the Kool ads and Joe Camel in the Camel ads. A year before the MSA, R.J. Reynolds had voluntarily retired Joe Camel, who was the most prominent cigarette cartoon character.[22] The MSA also banned outdoor advertising and cigarette advertisements, tobacco name brand merchandise, and payments for product placements in movies and television shows. The MSA imposed limits but not a ban on corporate sponsorship of events. The agreement also disbanded the two main trade associations, the Tobacco Institute and the Council for Tobacco Research, and prohibited the companies from lobbying against policies attempting to reduce youth smoking.

[21] R.J. Reynolds in particular became embroiled in a controversy over the target age group for *Rolling Stone* magazine.

[22] The role of Joe Camel with respect to youth smoking had been the subject of an FTC case that the agency dropped. Joe Camel retired just before his tenth birthday.

The various restrictions on advertising and marketing raise two classes of possible concerns: the effect on market concentration, and the effect on the introduction of new types of cigarettes, such as those that are less hazardous to health.

A final noteworthy component of the settlements with the states involved the release of tobacco industry documents. As part of the settlement with the state of Minnesota, the tobacco industry documents obtained during the course of the litigation were posted online and made available for future private suits and class actions against the industry (see www.tobaccodocuments.org). This measure consequently reduced the litigation costs that plaintiffs in future cases would have to bear by making the results of the discovery process in this case a public good.

3. The Levels and Allocation of the State Payments

Payments and Their Role in State Budgets

The MSA provided for a series of upfront payments ranging from $2.4 billion to $2.7 billion per year from 1998–2003. The annual payments continuing into perpetuity were $4.5 billion in 2000, $5 billion in 2001, and $6.5 billion in 2002 and 2003. Including the four states that settled separately, the states received $8.0 billion in payments in 2003 and a total of $37.5 billion from 2000 to 2003 (McKinley et al. 2003, 3).

While the proceeds from the MSA are substantial, they do not constitute a major part of states' budgets. Table 3 provides a breakdown by state of the MSA payments and the share these payments have of the total tax revenues for each state in 2003. For comparison, Table 3 also presents comparable statistics for cigarette taxes. With the exception of Mississippi, the MSA payments, while substantial, constitute under 1% of the states' total revenues. Because the MSA

payments are comparable to a $0.40 per pack tax, the MSA revenues are sometimes less than the revenues from cigarette taxes.

Although the MSA provides for payments to the states that will continue indefinitely, some states obtained much of the future value of the funds by securitizing part of their share of the MSA payments. The principal impetus for these efforts is that many states faced budget deficits so that cashing in on future payments might shortchange future residents but had the advantage of providing immediate political benefits. From fiscal year 2000–2005, total MSA-related payments to the 46 states were $52.6 billion, of which $36.5 billion were annual MSA payments and $16.0 billion were securitized proceeds (U.S. Government Accountability Office 2007).

Table 4 lists the securitized proceeds received by the states in fiscal years 2000–2005. The states with the largest securitized proceeds for fiscal years 2000–2005 are New York with $4.2 billion, New Jersey with $2.8 billion, California with $2.5 billion, and Louisiana with $1.1 billion. Some states have had multiple bond issues as they have securitized greater portions of their payments over time. Regression estimates show that the amounts securitized by the states are positively related to the state's share of the MSA payments.[23] State fiscal crises also have affected whether the state securitized (Sloan et al. 2005).

The value of the bond issues hinged on the ability of the cigarette companies to continue to make their MSA payments. Litigation that led to court awards that threatened the viability of the industry consequently reduced the value of the bonds so that in this domain the interests of the cigarette industry and the states were aligned. After the $10.2 billion verdict in the Illinois class action cigarette case, *Price v. Philip Morris Inc.*, Philip Morris was required to post a $12

[23] Specifically, a Tobit regression yields the following coefficient estimates, with standard errors reported in parentheses: Amount securitized in $millions = -1584 (500) + 268 (73) Share of settlement + 1236 (814) Cigarette excise tax in 1999.

billion bond if it wished to appeal the case. Because this amount threatened the company's ability to pay its April 2003 MSA payments to the states, the value of the MSA tobacco bonds dropped by 20% (McKinley et al. 2003, 26). Because of this threat to the solvency of Philip Morris, the prospects for securitization dimmed. California cancelled the sale of its bonds, and New York proceeded with its $4.2 billion sale only after pledging to make up any shortfall in the tobacco companies' payments with the state's general revenue funds (McKinley et al. 2003, 18). Although the Illinois Supreme Court subsequently overturned the verdict in the *Price* case in 2006, this incident highlights the continued financial stake that the states have in the financial well-being of the cigarette industry.

How the Payments Were Spent

The allocation of the payments by the states bore little relation to the avowed objective of decreasing tobacco smoking, particularly among underage smokers. Table 5 summarizes the spending distribution of both the payments and the securitized proceeds. Note that these allocations are gross allocations, not net, so they may not necessarily indicate an increase in state spending in particular areas. Almost one-third of the funds were designated for health programs. While Medicaid is included among the targeted efforts, other funded programs included cancer prevention programs generally, drug addiction programs, the provision of adult health insurance, medical assistance for the disabled, and pharmaceutical assistance for the elderly (U.S. Government Accountability Office 2007, 8-9). As Table 5 indicates, most of the funds were for deficit reduction, unallocated general revenues, general purposes, and other categories unrelated to smoking and health. Many states had quite targeted allocations, as Tennessee allocated all the funds to general revenues to balance the budget, and Kentucky allocated 50% of the funds for

economic assistance to tobacco farmers (McKinley et al. 2003, 59, 37). Tobacco control efforts received only 3.5% of the funds, and this categorization is sufficiently broad that it overstates the amount actually targeted at anti-smoking efforts.[24] Gross et al. (2002) found that in 2001, the per capita level of spending targeted at tobacco control efforts was negatively related to the percentage of smokers in the state and to whether the state was a tobacco-producing state.[25] Similarly, Sloan et al. (2005) found that the per capita settlement funds allocated to tobacco control followed expected patterns with tobacco control expenditures negatively related to tobacco production and positively related to medical lobbies. With rare exceptions, the funds obtained from securitization were targeted to deficit reduction, economic development, education, capital projects, and other matters unrelated to smoking or health. Louisiana and South Carolina included health care among the purposes of the securitized funds (Johnson 2004).

As a result, anti-smoking groups have expressed dissatisfaction with how the funds have been allocated. Irrespective of state differences, the levels of expenditure for tobacco control are low. The Centers for Disease Control established funding guidelines for tobacco-use prevention that few states have been able to meet. In 2000 the only state that met the guidelines was Mississippi, which was not part of the MSA. The three states that met the guidelines in subsequent years were Hawaii, Indiana, and Maine in 2001; Maine, Massachusetts, and Mississippi in 2002; and Arkansas, Maine, and Mississippi in 2003. With the exception of Maine and Mississippi, there are no repeat players in meeting the minimum guidelines

[24] The relatively ambitious efforts by the state of Illinois in FY 2004 included "$1 million for the American Lung Association, $2.3 million for school-based health clinics, $5 million for grants to local health departments, $1.2 million to the Liquor Control commission for age enforcement, $0.5 million for MSA enforcement, $1 million for tobacco control research, and $5 million for tobacco-use prevention" (McKinley et al. 2003, 34).

[25] Over the 1981-2000 time period that includes many years before the MSA, expenditures on tobacco control efforts have been found to reduce per capita cigarette sales. See Farrelly, Pechacek, and Chaloupka (2003). Marlow (2007) found that California's tobacco control expenditures accounted for much of the decline in that state's per capita cigarette sales since 1988.

established by the CDC. The MSA funds have proven to be quite fungible, bearing little relation to the intended purpose of the funds.

4. The Effects of Advertising Restrictions

A particularly visible consequence of the MSA is that it bolstered the already stringent restrictions on the advertising and marketing of cigarettes. Table 6 reports the different expenditure categories from MSA year of 1998 and the most recent year for which data are available, 2005, based on data compiled by the U.S. Federal Trade Commission (2007). All data have been converted to $2005. The "Total" figures at the bottom of Table 6 indicate an overall rise in advertising and marketing expenditures from 1998 to 2005. This jump in total advertising and marketing expenditures is frequently cited in the literature, in the press, and by the U.S. Congress as evidence that the MSA failed to influence advertising expenditures for cigarettes. However, advertising and marketing tallies that also include price discounts from the much higher post-MSA cigarette prices are a quite misleading measure of the temporal shifts. By far the three largest component categories in Table 6 involve pricing effects rather than advertising. The largest component are promotional allowances and price discounts, which rose from $3.4 billion in 1998 to $10.6 billion in 2005. The second largest category in 2005 is coupons, which likewise represent a form of price discount. The third price-related component is the retail-value-added category. Almost all of the retail-value-added component, or 99% in 2005, is from offers such as buy one pack, get one pack free. The remainder involves bonus items such as a T-shirt given away when the customer purchases three packs of cigarettes. Together the three price-related marketing practices involve total expenditures in 2005 of $12.2 billion, which is

93% of all advertising and marketing expenditures. In contrast, in 1998 these categories accounted for 76% of all expenditures, as the advertising components had a larger share.

The net effects over the 1998–2005 period involve substantial declines in the advertising components, with the exception of the modest internet marketing that increased and sampling distributions which were quite stable. Advertising in newspapers, magazines, outdoor ads, and transit ads plummeted.

The three largest advertising categories in 2005 were specialty item distribution, public entertainment, and point-of-sale advertising, each of which accounted for about $200 million in expenditures. The overwhelming share of specialty items distributed were non-branded items such as lighters and sporting goods distributed with cigarettes. Sponsorships of events in adults-only facilities such as a bar night and sponsorships of general-audience entertainment such as fishing tournaments comprise the public entertainment category. Point-of-sale advertising declined post-MSA. This advertising consists of ads posted at the retail location, not including outdoor ads posted on the property.

Table 7 reports the regression coefficient (standard error) from a regression of the expenditure category against a simple time trend variable and a 0-1 dummy variable for the post-MSA period. In most instances, data used for the regressions are available annually from 1975–2005 so that there are 31 observations per expenditure category. There are two matters of interest – whether there has been a general time trend in the spending category, and whether there has been a post-MSA shift in the level of spending.

As shown in Table 7, promotional allowances and price discounts have been rising by $163 million annually, with an additional jump of $4.8 billion in the post-MSA period. There is

no temporal trend in the retail-value-added component, but there is an increase of $1.9 billion after the MSA.

The restrictions imposed by the MSA on marketing and advertising led to statistically significant post-MSA declines for outdoor advertising, transit advertising, point-of-sale displays, and specialty item distribution. For total advertising and marketing expenditures, there has been an annual temporal increase of $186 million coupled with a post-MSA rise of $6.0 billion.

Coupled with the increase in product prices due to the MSA and subsequent state cigarette tax increases, the advertising restrictions led to a substantial shift in the marketing efforts for cigarettes. Constrained forms of marketing and advertising declined, while unconstrained forms often increased. Chief among these marketing efforts is the use of price discounts, which by their very nature are targeted to legal purchasers of cigarettes and are also responsive to the demand effects arising from the increased cost of cigarettes.

Reduced yield cigarettes such as Eclipse have not made major inroads in the market. Consumers have continued to shift into the "light" cigarette segment, but the very low tar yield cigarette share has declined. From 1998 to 2005 the market share of cigarettes with 12 mg. or less of tar rose from 56.8% to 58.4%, but there was a decline from 22.9% to 18.7% for the 9 mg. or less category, from 13.2% to 11.5% for the 6 mg. or less category, and from 1.6% to 0.6% for the 3 mg. or less category (U.S. Federal Trade Commission 2007, Table 4A). Increases in cigarette prices coupled with the rise of higher tar generic brands contributed to these trends.

5. Market Structure[26]

In addition to the aforementioned effects of advertising on introducing new lower risk products, there might also be effects of advertising restrictions on market structure. To the extent that the MSA restrained market competition, one might expect there to be a rise in market concentration. Such an increase may boost price-cost margins and diminish the consumer surplus received by purchasers of cigarettes. An alternative hypothesis is that market concentration will not be affected, but that advertising limitations will freeze market shares. That there might be anti-competitive effects of the advertising restrictions is a concern that was raised after the fact by some economists, though it was not a prominent part of the policy debate.[27] It is noteworthy that a classic textbook case of where industry collusion would be desirable is with respect to advertising expenditures, which tend to have a Prisoners' Dilemma type of structure (Viscusi, Harrington, and Vernon 2005, 102). While industry collusion to restrict advertising is illegal, collusion can be accomplished legally through a mechanism such as the MSA in which the restrictions are instituted under the guise of decreasing smoking rather than reducing advertising costs to the industry. Whether the MSA was in fact a form of collusion is less important than whether it led to the anti-competitive effects associated with collusion.

The data reported in Table 8 suggest that the most extreme fears of the effects of the advertising restrictions were not well founded. Table 8 summarizes the market shares for the major tobacco companies from 1997 through 2005. Philip Morris, the clear market leader, had a 48-51% market share throughout the period and a 49% share both in 1998 and 2005. Lorillard

[26] Data discussed in this section are drawn from the Maxwell Consumer Report, March 16, 1999, and the Maxwell Report dated March 9, 2000; March 3, 2001; February, 2002; March, 2003; February, 2004; and February, 2006. These are the year end and fourth quarter sales estimates for the cigarette industry in the respective preceding years. Reports include data for multiple years.

[27] Discussion of the possible anti-competitive effects appears in Viscusi (2002a) and in the Expert Report of Joseph E. Stiglitz (2005) in *Schwab et al. v. Philip Morris,* Civil Action No. 04-1945. U.S. District Court, Eastern District of New York.

likewise maintained a 9-10% share throughout this period, and Liggett remained an insignificant player in the market in the 1-3% range.

This considerable stability is not shared by the performance of the other firms. R.J. Reynolds experienced a modest decline in market share from 24% in 1998 to 22% in 2005, but the company with which it merged, Brown & Williamson, dropped from a 15% market share in 1998 to 11% in 2003. The two growth categories were the "Others" grouping of generic cigarettes and Commonwealth Brands, which marketed six discount brands that it purchased from Brown & Williamson.[28] Overall, there appears to be sufficient volatility in the market shares to indicate that market shares were not locked in by the MSA.

The effects on market concentration likewise are modest. The bottom row of Table 8 reports the Herfindahl Hirschman Index (HHI) values based on the cigarette industry categories shown in the table.[29] While the HHI values are relatively high, which would certainly be expected given that a single firm accounts for half the market, there is no evidence of an anti-competitive increase in concentration based on the change in the HHI. The HHI index in 1998 is 3327, which is a bit larger than the 2003 pre-merger value of 3222. After the R.J. Reynolds-Brown &Williamson merger, the HHI index rises modestly to 3271 and continues to increase to 3336 in 2005.

An additional instructive reference point is to ask what the pattern of HHI index values would have been if R.J. Reynolds and Brown & Williamson were treated as a single entity throughout the 1997–2005 period. If that industry structure had prevailed, the HHI index would

[28] The brands were Tuscany, which Commonwealth Brands calls its "premium" brand, and the generic brands USA Gold, Montclair, Malibu, Sonoma, and Riviera.

[29] The HHI index is defined as follows. Letting s_i represent the fraction of industry sales by firm i, then HHI = $(100s_1)^2 + (100s_2)^2 + \ldots + (100s_n)^2$, where there are n firms in the industry. For purposes of our calculations, we treat sales by "Others" as being sales by a single firm.

have exhibited a decline from 4066 in 1997 to 3336 in 2005, indicating a substantial decrease in market concentration.

6. Legal Fees and Subsequent Litigation

The MSA had four principal ramifications for subsequent litigation against the cigarette industry. First, because the attorneys representing the states received billions of dollars in payments associated with the settlement, the financial resources of the plaintiffs' bar were enhanced, thus providing potential financial backing for additional litigation. Second, the tobacco industry's payment of a record-breaking amount of $250 billion to settle lawsuits launched by the states garnered substantial publicity and may have signaled to jurors that the companies were guilty of record breaking wrongful conduct. Third, the settlement of the lawsuits in the billions gave jurors a new anchor value for damages in the billions rather than the millions.[30] Fourth, the Minnesota settlement provided for the public disclosure of the tobacco industry documents obtained during the discovery process, reducing litigation costs in future lawsuits.

The states contracted out the tobacco cases on a contingency fee basis. Because these deals were not put out for open competitive bids, there is a strong possibility that the process was used to reward political allies with excessively lucrative arrangements that were not in the public interest. The attorneys representing Mississippi received 35% of the state's settlement amount as their fee, or equal to $1.43 billion.[31] The attorney fee share of the Florida settlement amount was 26%, leading to a payout of $3.43 billion. The attorneys representing Texas in the litigation received 19% of the settlement amount, or $3.3 billion. Attorney fees were $111 million for the

[30] Some observers have hypothesized that the subsequent large verdicts against other companies, such as GM, were also influenced by the anchoring effect of the MSA.
[31] The state-specific figures discussed here are from Viscusi (2002a), p. 51. References are provided therein.

state of Missouri and $265 million for Ohio. Although no comprehensive tally of the amount of the fees is available, the U.S. Chamber of Commerce's partial tally in 2001 identified $11 billion in fees that had been received by attorneys.[32]

Until the MSA the tobacco industry had a record of never having paid out an individual smoker liability claim. After the MSA the companies did not fare as well. In individual cases and class actions resolved after the MSA, cigarette companies were not only found to be liable for compensatory damages but also were found liable for punitive damages, for which there are much more stringent legal criteria. To justify an award of punitive damages, there must be an assessment that the defendant's conduct displayed a reckless and callous disregard for the victim's safety.

Table 9 summarizes the results of the five largest punitive damages verdicts against the industry. Three of the cases were individual smoker cases but nevertheless involved enormous verdicts, chiefly in the punitive damages component. The level of punitive damages awarded is $150 million in *Schwarz v. Philip Morris Inc.*, $3 billion in *Boeken v. Philip Morris Inc.*, and $28 billion in *Bullock v. Philip Morris Inc.* The Florida cigarette class action *Engle v. R.J. Reynolds* had punitive damages of $145 billion, while the Illinois "light" cigarettes class action *Price v. Philip Morris* had punitive damages of $3.1 billion and compensatory damages of $7.1 billion.[33] The *Price* case verdict had broad ramifications with respect to the market for securitizing the MSA payments, as it threatened the solvency of Philip Morris and its continued participation in the MSA payment system. While these decisions were all appealed, the litigation landscape of

[32] U.S. Chamber of Commerce, "Chamber Targets Excessive Legal Fees: Files 21 FOIA Requests on Tobacco Settlements," March 14, 2001.

[33] Although the *Engle* class action verdict was overturned, the findings in the case regarding the addictive properties of cigarette and wrongful conduct can be used in the thousands of individual *Engle* progeny cases that may follow. To date, plaintiffs in the few *Engle* progeny cases that have been tried have had some successes in these individual cases.

the cigarette industry had undergone a dramatic shift. Rather than putting an end to litigation against the industry, the MSA increased it.[34] The protections against punitive damages and class actions that were part of the draft Proposed Resolution were not included in the MSA but would have proven to be valuable to the industry.

7. Policy Ramifications

Tax Policy Changes

The MSA also marked a pronounced shift in the treatment of the tobacco industry with respect to taxes and regulations. Although the MSA imposed a tax equivalent fee that generated revenues for the states, states also imposed substantial additional excise taxes. Table 10 summarizes the excise tax trends from 1998 to 2008.[35] Only 5 states did not boost the excise tax amounts over that decade. The absolute tax increase per pack is shown in the second to last column of Table 10, and the percentage tax increase shown in the final column. New York has been a leader in terms of the magnitude of the tax increase, as it raised excise taxes by $2.19 per pack, or 391%. Altogether there were 20 states that boosted the cigarette tax by $1.00 or more in addition to the MSA payments.

Raising cigarette taxes and cigarette prices will have the expected economic effects on demand. The estimates of the price elasticity of demand for cigarettes range from -0.4 to -0.7.[36] The average price per pack before the enactment of the MSA was $2.175 (Orzechowski and Walker 2001, 136). At that time the total state and federal excise tax amount averaged $0.63 per pack so that the MSA payments raised the tax equivalent penalty to about a dollar a pack. The

[34] Sloan, Trogdon, and Mathews (2005) used daily stock market return data to estimate the effect on stock prices and the cost of equity capital. Unfavorable information reduced tobacco company returns.
[35] Trogdon and Sloan (2006) estimate that post-MSA cigarette taxes in 2002 were $0.10 higher.
[36] Viscusi (1992) reviews dozens of cigarette demand studies, and Hersch (2000) provides recent demand elasticity estimates.

MSA per pack cost raised cigarette prices by 18.4%, implying a 7-13% decrease in sales based on available demand elasticity estimates.

This range of effects is consistent with the overall estimated effect of the MSA, which includes the effect on prices and regulatory restrictions. Sloan and Trogdon (2004) found that the MSA reduced smoking rates by 13% for the age 18-20 group and by 5% for older age groups.

The structure of cigarette taxes has also affected the mix of cigarette sales. U.S. cigarette taxes are on a per pack basis rather than being proportional to the product price. The higher cigarette taxes and MSA tax equivalents consequently have narrowed the relative price gap between the premium cigarettes and lower end cigarettes, which has been to the advantage of producers of premium cigarettes.[37] To the extent that cigarettes taxes have a health-related objective, the per pack tax approach is appropriate as there is no evidence indicating that the health risks of premium cigarettes are greater. Indeed, the opposite may be the case, as many generic cigarettes have higher tar and nicotine ratings.

Higher cigarette taxes and the discrepancy of taxes across jurisdictions also create potential problems of border effects. Consumers and possibly resellers of cigarettes may travel to purchase cigarettes if the price gap is sufficiently large. A noteworthy instance of such a discrepancy is that created by the combined New York State and New York City tax of $4.25 per pack. In addition to creating a price gap with respect to neighboring states, there is a price gap compared to cigarettes sold on Indian reservations, which by law are independent sovereign nations not subject to these taxes. Because of the increased attractiveness of such cigarettes to smokers in New York City, the City of New York sought an injunction in 2009 to prevent the

[37] "Tobacco Lights Up on Premium Blend," *Wall Street Journal*, July 27, 2009, p. C10.

sale of cigarettes by the Unkechauge Indian Nation.[38] Just as state legislators express surprise when cigarette tax revenues are less than those predicted by projections assuming completely inelastic demand, there is similar surprise and shock when consumers seek to make purchases that evade the tax after creating a situation of substantial price disparities.

The Family Smoking Prevention and Tobacco Control Act

In many respects, the enactment of the 2009 legislation the Family Smoking Prevention and Tobacco Control Act marked the culmination of the tax and regulatory effort that began with the attempt to settle the state lawsuits against the industry. Various drafts of the Proposed Resolution, which Congress considered in 1997 and 1998, would have provided legal protections for the industry against major stakes lawsuits such as class actions and claims involving punitive damages. While this 1997 proposal included tax components, it also included detailed regulatory provision. Among these provisions was a grant of authority to the Food and Drug Administration (FDA) to regulate cigarettes. The proposal also sought to bolster the on-product warnings requirements for cigarettes and to impose advertising restrictions, including bans on descriptors such as "low tar" and "light" unless the cigarette could be shown to be safer for health. While the MSA included some advertising restrictions and a tax equivalent fee, these other components of the Proposed Resolution were not part of the MSA. An agreement with the states could not, for example, grant FDA authority to regulate cigarettes.

The combination of the MSA and the Family Smoking Prevention and Tobacco Control Act achieved the anti-smoking objectives of the Proposed Resolution. The 2009 law introduced a major increase in the degree of regulation of the cigarette industry. With the support of user fees that are expected to raise the price of cigarettes by about $0.06 per pack, the Food and Drug

[38] See *City of New York v. Golden Feather et al.*: U.S. District Court for the Eastern District of New York.

Administration will be regulating the labeling and content of cigarettes. Companies are not permitted to use artificial flavors such as cloves, though menthol is still permitted. Companies must submit the cigarette ingredients and nicotine information to the FDA for approval. The Act also imposes new labeling requirements so that the current series of four rotating warnings will be replaced by nine rotating warnings that must comprise 50% of the front and rear panels of the pack. The act also bans the use of descriptors such as "light" and "mild."

From the standpoint of efficient market operation, the FDA should foster a diversity of market choices with varying level risks, including lower risk cigarettes, coupled with information that enables consumers to have accurate assessments of the product risks. Whether the FDA regulatory regime will encourage or discourage the introduction of lower risk cigarettes is unclear.

One component of the Act that is likely to face legal challenges is the series of restrictions on advertising. The increased limitations on advertising may violate the First Amendment protections afforded to commercial speech. A prominent rationale given in the Act for the restrictions on advertising was the FTC figure of $13 billion in cigarette advertising and marketing in 2005. However, as shown above, most of these costs took the form of promotional discounts and price allowances. Advertising restrictions may impede new entrants and the introduction of new products.

8. Conclusion

The state lawsuits against the cigarette industry introduced a wide range of novel legal and policy issues. If the states had prevailed, it would have been the first time that states were able to be reimbursed for financial externalities attributable to wrongful conduct that influenced

consumption decisions. Although no cases were tried to verdict, the MSA represented the largest civil case damages payment in U.S. history. However, the settlement also took an unprecedented form, as it did not involve a lump sum payment or a structured settlement. Rather, it took the form of a cigarette excise tax and regulatory restrictions, all of which were negotiated privately by representatives of industry and state attorneys general.

The MSA served as a negotiated form of tax equivalents and regulation that emerged from an out-of-court settlement that completely bypassed all traditional governmental inputs. Taxes are not the province of attorney general discretion but require the approval of state legislatures or the U.S. Congress and must also be signed into law. The enactment of new regulations likewise involves a detailed governmental and public review process. For major regulations such as this, there must be a regulatory impact analysis, an opportunity for public comment, and internal administration review to ensure that the regulation is consistent with legislative requirements and societal interests. All of these checks on taxes and regulations were bypassed by the MSA. As a policy approach, negotiated tax and regulatory policies such as those resulting from the MSA are asymmetric, as they can only increase the tax and regulatory penalties but cannot decrease them.

The stakes involved have proven to be enormous, and the structure of the MSA payments has established a commonality of financial interests between the tobacco industry and the states. Bypassing the usual legislative process, or in the case of regulations the usual rulemaking process, is not simply a breach of good government principles of civics books. Bargains in which the key parties are the attorneys general and the cigarette industry may not be reflective of the kinds of taxes and regulations that are in society's best interests. Chief among the criticisms to date is that the MSA might have anti-competitive effects by imposing per pack financial

penalties on new entrants that were not party to the litigation and by imposing limits on advertising and marketing, which would impede entry and the introduction of new products. Thus far, however, there is no firm evidence of significant adverse anti-competitive effects.

The other major critique of the MSA has been with respect to the allocation of the funds, as much less has gone to health care and anti-tobacco efforts than was anticipated. As with tax revenues generally, states have treated these funds as fungible, so there has not been the substantial increase in the allocation of funds to health and tobacco programs that many expected to result from the MSA. Whether such a targeting of funds should have been the appropriate policy objective is a different matter that involves comparison of the efficacy of such expenditures with other uses of the resources. Even though the states reaped the funds windfall because of the tobacco litigation, the allocation that best advances the interests of the citizenry may not be closely tied to anti-tobacco initiatives.

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Table 1

Ratio of the State Settlement Payment Share to the State Medical Care Cost Share for States Participating in the Settlement[a]

State	Percentage Share of Medical Cost	Percentage Share of Settlement	Settlement Share Divided by Medical Cost Share
Alabama	1.520	1.650	1.080
Alaska	0.280	0.350	1.263
Arizona	0.530	1.500	2.850
Arkansas	1.020	0.840	0.828
California	8.551	12.997	1.520
Colorado	1.229	1.396	1.136
Connecticut	1.948	1.890	0.970
Delaware	0.513	0.403	0.784
Georgia	3.154	2.499	0.792
Hawaii	0.212	0.613	2.886
Idaho	0.229	0.370	1.615
Illinois	5.609	4.739	0.845
Indiana	3.587	2.077	0.579
Iowa	0.983	0.886	0.901
Kansas	0.830	0.849	1.023
Kentucky	2.806	1.793	0.639
Louisiana	2.424	2.296	0.947
Maine	0.724	0.783	1.082
Maryland	2.048	2.302	1.124
Massachusetts	3.170	4.113	1.297
Michigan	3.326	4.431	1.332
Missouri	2.722	2.316	0.851
Montana	0.244	0.432	1.774
Nebraska	0.569	0.606	1.065
Nevada	0.521	0.621	1.191
New Hampshire	0.894	0.678	0.759
New Jersey	4.262	3.937	0.924
New Mexico	0.351	0.607	1.729
New York	15.170	12.995	0.857
North Carolina	3.491	2.375	0.680

North Dakota	0.211	0.373	1.764
Ohio	6.148	5.129	0.834
Oklahoma	1.199	1.055	0.880
Oregon	1.003	1.169	1.165
Pennsylvania	5.298	5.853	1.105
Rhode Island	0.736	0.732	0.995
South Carolina	1.422	1.198	0.842
South Dakota	0.256	0.355	1.389
Tennessee	2.874	2.485	0.865
Utah	0.220	0.453	2.058
Vermont	0.321	0.419	1.306
Virginia	2.766	2.082	0.753
Washington	1.498	2.091	1.396
West Virginia	0.978	0.903	0.923
Wisconsin	1.983	2.110	1.064
Wyoming	0.178	0.253	1.420

[a] Viscusi (2002a). Medical cost externality figures assume a 3% discount rate and cost levels for 1995.

Table 2

Regression Estimates for Settlement Share
and Relative Gain in Settlement

	Share of Settlement	**Relative Gain in Settlement[a]**
Constant	-0.572	-0.259
	(0.297)	(0.151)
Share of medical costs	0.934**	----
	(0.048)	----
Cigarette tax rate, 1998	1.472*	1.075**
	(0.619)	(0.320)
Republican governor	0.357	0.119
	(0.266)	(0.135)
Adjusted R^2	0.90	0.18

[a] Relative gain in settlement = (settlement share – share of medical costs) / (share of medical costs).

* Significant at 0.05 level, ** significant at 0.01 level, two-tailed test.

Table 3

Cigarette Tax Revenue and MSA Revenue in Relation to State Budgets in 2003

State	Total State Revenues (in $ billions)	MSA Revenue (in $ millions)	MSA Percent Share of State Revenue	Cigarette Tax Revenue (in $ millions)	Cigarette Tax Percent Share of Total State Revenue
Alabama	19.10	109.22	0.57	61.16	0.32
Alaska	6.92	23.07	0.33	40.24	0.58
Arizona	17.93	99.61	0.56	216.94	1.21
Arkansas	11.81	55.96	0.47	86.74	0.73
California	195.55	862.59	0.44	1040.62	0.53
Colorado	13.81	92.64	0.67	56.33	0.41
Connecticut	18.24	125.47	0.69	251.98	1.38
Delaware	5.04	26.73	0.53	35.22	0.70
Florida	55.21	546.50	0.99	426.55	0.77
Georgia	29.87	165.87	0.56	83.61	0.28
Hawaii	6.81	40.67	0.60	70.59	1.04
Idaho	5.49	24.55	0.45	25.06	0.46
Illinois	44.42	314.54	0.71	653.70	1.47
Indiana	24.55	137.85	0.56	343.66	1.40
Iowa	12.97	58.77	0.45	89.89	0.69
Kansas	10.40	56.34	0.54	119.41	1.15
Kentucky	18.38	119.02	0.65	21.44	0.12
Louisiana	19.44	152.42	0.78	117.93	0.61
Maine	6.80	51.99	0.76	95.97	1.41
Maryland	21.80	152.76	0.70	266.06	1.22
Massachusetts	30.37	272.96	0.90	438.74	1.44
Michigan	50.08	294.11	0.59	828.68	1.65
Minnesota	25.60	152.91	0.60	171.13	0.67
Mississippi	13.39	149.61	1.12	46.90	0.35
Missouri	22.02	153.72	0.70	105.04	0.48
Montana	4.61	28.71	0.62	16.74	0.36
Nebraska	7.29	40.21	0.55	60.86	0.83
Nevada	8.35	41.22	0.49	63.95	0.77
New Hampshire	5.21	45.00	0.86	95.76	1.84
New Jersey	46.08	261.33	0.57	612.09	1.33
New Mexico	9.85	40.30	0.41	20.56	0.21
New York	118.27	862.46	0.73	1015.81	0.86
North Carolina	30.04	157.62	0.52	40.31	0.13
North Dakota	3.36	24.74	0.74	18.35	0.55
Ohio	49.90	340.44	0.68	548.77	1.10
Oklahoma	14.92	70.02	0.47	58.91	0.39
Oregon	19.25	77.56	0.40	224.18	1.16

Pennsylvania	49.46	388.37	0.79	887.86	1.80
Rhode Island	5.86	48.58	0.83	94.00	1.60
South Carolina	19.67	79.50	0.40	25.84	0.13
South Dakota	3.00	23.58	0.79	21.67	0.72
Tennessee	20.56	164.96	0.80	107.04	0.52
Texas	82.62	449.99	0.54	490.72	0.59
Utah	11.53	30.07	0.26	57.53	0.50
Vermont	3.64	27.79	0.76	44.39	1.22
Virginia	28.19	138.18	0.49	17.16	0.06
Washington	29.66	138.76	0.47	337.78	1.14
West Virginia	9.77	59.91	0.61	44.99	0.46
Wisconsin	25.17	140.03	0.56	298.47	1.19
Wyoming	3.40	16.78	0.49	6.85	0.20

Sources: Total revenue figures were obtained from the U.S. Census Bureau website. (http://www.census.gov/govs/www/state03.html). The MSA revenues by state for 2003 were obtained from McKinley et al. (2003). The cigarette tax revenues were obtained from Orzechowski and Walker (2008, Table 8: Gross State Cigarette Taxes, 22).

Table 4

Total Amount of Securitized Proceeds Received by States, Fiscal Years 2000-2005

State	**Total Securitized Proceeds ($ millions)**
Alabama	153.8
Alaska	203.0
Arkansas	58.3
California	2,485.0
Iowa	643.1
Louisiana	1,069.5
New Jersey	2,751.8
New York	4,200.0
Oregon	657.6
Rhode Island	545.9
South Carolina	785.9
South Dakota	278.0
Virginia	390.0
Washington	517.9
Wisconsin	1,275.0
Total	**16,014.7**

Source: U.S. Government Accountability Office (2006), GAO-06-502, Table 3.

Table 5

Amount and Percentage of States' Allocations of Master Settlement Agreement Payments and Securitized Proceeds by Category, Fiscal Years 2000-2005

Category	**Dollars (millions)**	**Percent**
Health	$16,807	30.0
Budget shortfalls	12,806	22.9
Unallocated	6,639	11.9
General purposes	3,955	7.1
Infrastructure	3,350	6.0
Education	3,078	5.5
Debt service on securitized funds	3,005	5.4
Tobacco control	1,943	3.5
Economic development for tobacco regions	1,490	2.7
Social services	961	1.7
Reserves/rainy day funds	810	1.4
Tax reductions	616	1.1
Payments to tobacco growers	521	0.9
Total	**$55,981**	**100.1**

Source: U.S. Government Accountability Office (2007), GAO-07-534T.

Table 6

Cigarette Advertising and Marketing, 1998 and 2005[a]

Expenditure Category	Expenditures (thousands of dollars)	
	1998	**2005**
Promotional allowances and price discounts	3,449,404	10,623,755
Retail value added	1,863,606	732,536
Coupons	747,890	870,137
Newspapers	35,279	1,589
Magazines	337,038	44,777
Outdoor	353,123	9,821
Transit	48,116	0
Point-of-sale	348,352	182,193
Sampling distribution	17,297	17,211
Specialty item distribution	426,347	230,534
Public entertainment	297,786	214,227
Direct mail	69,220	51,844
Endorsements	0	0
Internet	150	2,675
Total	**7,993,606**	**12,981,299**

[a] Expenditure categories included in the total but not reported in the table are sponsorships, endorsements, and telephone. All data converted to 2005$ using the CPI.

Source: U.S. Federal Trade Commission (2007).

Table 7

Cigarette Advertising and Marketing Regression[a]

Expenditure Category	Time Trend	Post-MSA
Promotional allowances and price discounts	163,125** (50,743)	4,765,772** (1,085,489)
Retail value added	13,604 (27,432)	1,875,498** (586,820)
Coupons	13,909** (4,826)	438,279** (103,242)
Newspapers	-31,435** (3,224)	223,472** (68,958)
Magazines	-16,509** (3,434)	-65,246 (73,452)
Outdoor	-2,404 (2,435)	-386,441** (52,094)
Transit	-490 (434)	-49,212** (9,275)
Point-of-sale	12,286** (2,594)	-226,607** (55,497)
Sampling distribution	-7,305** (1,732)	12,091 (37,049)
Specialty item distribution	30,778** (5,134)	-579,662** (109,829)
Public entertainment	7,496** (1,598)	25,477 (34,182)
Direct mail	3,126 (2,333)	1,691 (49,899)
Internet	15.4 (12.3)	1,284** (264)
Total	**186,199** (30,141)**	**6,036,261** (644,773)**

[a] A constant is included in the regressions but is not reported. Expenditure categories included in the total but not reported in the table are sponsorship, endorsements, and telephone. All data converted to 2005$ using the CPI.

**Statistically significant at 0.01 level, two tailed test.

Source: U.S. Federal Trade Commission (2007).

Table 8

Year-End Market Shares and HHI

	1997	1998	1999	2000	2001	2002	2003	2004	2005
Philip Morris	0.487	0.494	0.496	0.505	0.510	0.490	0.504	0.475	0.487
RJ Reynolds	0.242	0.240	0.230	0.230	0.223	0.231	0.215	0.288	0.282
Brown & Williamson	0.160	0.150	0.134	0.117	0.109	0.112	0.105	.	.
Lorillard	0.087	0.091	0.104	0.096	0.093	0.091	0.093	0.088	0.092
Commonwealth Brands	.	.	0.011	0.018	0.022	0.030	0.031	0.029	0.035
Liggett	0.013	0.013	0.012	0.015	0.022	0.024	0.026	0.023	0.022
Others	0.010	0.012	0.023	0.019	0.021	0.023	0.025	0.097	0.082
HHI Index	3291.71	3327.30	3284.82	3317.40	3317.68	3162.91	3221.77	3270.92	3335.90

The data on year-end market shares are obtained from the Maxwell Consumer Reports issued in March 1999, March 2000, March 2001, February 2002, March 2003, February 2004, and February 2006. The year-end market shares are reported in each Maxwell Consumer Report under the table entitled “Company Volume and Market Share.”

Table 9

Largest Cigarette Punitive Damages Verdicts

Case Name	Award ($ millions)			Current Status
	Compensatory Damages	Punitive Damages	Total	
Boeken v. Philip Morris Inc. (2001)	5.54	3,000.0	3,005.54	Punitive damages reduced to $50 million on appeal.[a]
Bullock v. Philip Morris Inc. (2002)	0.65	28,000.0	28,000.65	New trial ordered on the issue of punitive damages.[b]
Engle v. R.J. Reynolds Tobacco Co. (2000)	12.7	145,000.0	145,012.7	Reversed; the class was decertified and individuals claims are to be filed.
Price v. Philip Morris Inc. (2003)	7,100.0	3,100.0	10,200.0	Reversed by Illinois Supreme Court.
Schwarz v. Philip Morris Inc. (2002)	0.17	150.0	150.17	Punitive damages vacated and remanded for a new trial; compensatory damages upheld.

[a] Source: Boeken v. Philip Morris Inc., 127 Cal.App.4th 1640 (2005).
[b] Source: Bullock v. Philip Morris USA, Inc., 159 Cal. App. 4th 655 (2008).

Table 10

State Cigarette Tax Changes, 1998-2008

State	State Cigarette Tax, 1998 ($ per pack)	State Cigarette Tax, 2008 ($ per pack)	State Tax Increase, 1998-2008 ($ per pack)	Percentage Tax Increase, 1998-2008
Alabama	0.165	0.425	0.260	157.6
Alaska	1.000	2.000	1.000	100.0
Arizona	0.580	2.000	1.420	244.8
Arkansas	0.315	0.590	0.275	87.3
California	0.370	0.870	0.500	135.1
Colorado	0.200	0.840	0.640	320.0
Connecticut	0.500	2.000	1.500	300.0
Delaware	0.240	1.150	0.910	379.2
District of Columbia	0.650	1.000	0.350	53.8
Florida	0.339	0.339	0	0
Georgia	0.120	0.370	0.250	208.3
Hawaii	0.800	1.800	1.000	125.0
Idaho	0.280	0.570	0.290	103.6
Illinois	0.580	0.980	0.400	69.0
Indiana	0.155	0.995	0.840	541.9
Iowa	0.360	1.360	1.000	277.8
Kansas	0.240	0.790	0.550	229.2
Kentucky	0.030	0.300	0.270	900.0
Louisiana	0.200	0.360	0.160	80.0
Maine	0.740	2.000	1.260	170.3
Maryland	0.360	2.000	1.640	455.6
Massachusetts	0.760	1.510	0.750	98.7
Michigan	0.750	2.000	1.250	166.7
Minnesota	0.480	1.493	1.013	211.0
Mississippi	0.180	0.180	0	0
Missouri	0.170	0.170	0	0
Montana	0.180	1.700	1.520	844.4
Nebraska	0.340	0.640	0.300	88.2
Nevada	0.350	0.800	0.450	128.6
New Hampshire	0.370	1.080	0.710	191.9
New Jersey	0.800	2.575	1.775	221.9
New Mexico	0.210	0.910	0.700	333.3
New York	0.560	2.750	2.190	391.1
North Carolina	0.050	0.350	0.300	600.0
North Dakota	0.440	0.440	0	0
Ohio	0.240	1.250	1.010	420.8
Oklahoma	0.230	1.030	0.800	347.8
Oregon	0.680	1.180	0.500	73.5

Pennsylvania	0.310	1.350	1.040	335.5
Rhode Island	0.710	2.460	1.750	246.5
South Carolina	0.070	0.070	0	0
South Dakota	0.330	1.530	1.200	363.6
Tennessee	0.130	0.620	0.490	376.9
Texas	0.410	1.410	1.000	243.9
Utah	0.515	0.695	0.180	35.0
Vermont	0.440	1.790	1.350	306.8
Virginia	0.025	0.300	0.275	1100.0
Washington	0.825	2.025	1.200	145.5
West Virginia	0.170	0.550	0.380	223.5
Wisconsin	0.590	1.770	1.180	200.0
Wyoming	0.120	0.600	0.480	400.0

Source: Orzechowski and Walker (2008, 275-326).