# Bottom-Up Federalism: The Diffusion of Antismoking Policies from U.S. Cities to States

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*Studies of policy diffusion often focus on the horizontal spread of enactments from one state to another, paying little or no attention to the effects of local laws on state-level adoptions. For example, scholars have not tested whether local policy adoptions make state action more likely (through a snowball effect) or less likely (through a pressure valve effect). This study conducts the first comprehensive analysis of vertical policy diffusion from city governments to state governments, while simultaneously examining the influence of state-to-state and national-to-state diffusion. Focusing on three different types of antismoking laws, we find evidence that policies do bubble up from city governments to state governments. State politics are crucial to this relationship, however, as local-to-state diffusion is contingent on the level of legislative professionalism and the strength of health advocates in the state.*

Policy ideas enter the political process in a variety of ways. Citizens, advocates, and intellectuals may advance solutions when public problems arise. Politicians, bureaucrats, and entrepreneurs may link problems with solutions in order to formulate new policies (Kingdon 1984). National policymakers may observe what other countries are doing and emulate their actions (Gilardi 2005). Within federal systems, there are additional sources of policy ideas, as local and regional experiences may inform national and subnational policymakers. Indeed, varied policy adoptions and experiments are among the reasons cited for devolution of policy control to subnational governments. And yet the question arises: Do policies diffuse *vertically*, from one level of government up to another? For example, do local laws influence statewide policy adoptions, in a process we call *bottom-up federalism?*

Political scientists have long studied horizontal, state-to-state diffusion processes using various statistical techniques (Berry and Berry 1990; Gray 1973; Walker 1969) and have found evidence of policies spreading from neighbor to neighbor or across similar states (Case, Hines, and Rosen 1993) in many different areas of public policy (e.g., Mooney and Lee 1995, among numerous others). Political entrepreneurs and advocacy organizations have been shown to facilitate policy adoptions (Balla 2001; Mintrom 1997a; Skocpol et al. 1993), as have various institutional structures of government (Boehmke 2005). Policies tend to evolve and be reinvented as they spread (Glick and Hays 1991). And successes are more likely to be emulated than are failures (Volden 2006).

Yet surprisingly, despite this accumulation of knowledge about state-to-state diffusion, almost nothing is known about the bottom-up diffusion of policies from local governments to states. Because studies of the interaction between state and local policies so far have been limited to a handful of case studies (e.g., Mintrom 1997b), we currently have no systematic understanding of whether,

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when, and how local actions might influence state politics and policy adoptions. Even basic issues, such as whether the passage of local laws increases or decreases the likelihood of state-level legislation, remain unexamined.[1] On the one hand, evidence of the political viability and potential success of local policies may make adoption more attractive to state-level policymakers, thereby increasing the odds of state-level adoption. On the other hand, local laws may decrease the demand for state policies by relieving the pressure on state legislators. Whether focused on innovations in education, welfare, or a host of other policy issues, uncovering the politics of local-to-state diffusion is a crucial step in understanding the workings of federal systems.

In this article we investigate the influence of city-level policies on state-level adoptions. We argue that because local laws in most policy areas can simultaneously increase and decrease pressure on the state to adopt a law, evidence of local-to-state policy diffusion will be difficult to uncover. Rather than being nonexistent, however, such diffusion is robust; but it is contingent on political conditions. Hence, we identify the political conditions that determine whether local laws will increase or decrease the likelihood of state-level adoptions. In particular, we hypothesize (and find) that professional legislatures are better positioned to learn from local policy experiments and also that strong interest groups may utilize local examples to build their case for statewide change. Where these factors are present, local regulations are more likely to snowball into state laws. Absent such motivated politicians and interest groups, however, policy movements are more likely to halt after local adoptions.

Our arguments about bottom-up diffusion are general, but we test them in a specific policy context, one that is particularly appropriate for such tests. We examine antismoking laws passed between 1975 and 2000, exploring these laws across all 50 states and all cities with more than 50,000 residents. This policy area provides an excellent forum for testing local-to-state diffusion hypotheses since all states and many cities have been active in this area and, just as importantly, comparable data on these laws is available at both levels of government.

Our primary goal is to assess the influence of local laws on state laws. At the same time, we embed this analysis in a framework that also tests for both state-to-state and national-to-state diffusion. In other words, while our primary concern is with one specific type of vertical diffusion—from cities to states—we also test for vertical diffusion from the national government to the states as well as horizontal diffusion from one state to another. We thus conduct the first large-N quantitative study that simultaneously examines bottom-up, horizontal, and top-down policy diffusion.

In the following section, we discuss the political motivations that underpin policy diffusion, in order to formulate testable hypotheses. We next describe the antismoking policy context, with an emphasis on previous work within public health and how this policy area can be used to test arguments about diffusion. We then turn to event history analyses of our hypotheses. We conclude with the implications of our work and ideas for future research.

## Theory and Hypotheses

Previous studies of policy diffusion have noted that policymakers are motivated by such considerations as reelection or reappointment, the adoption of good public policy, and the attainment of political influence. Based on these motivations, policymakers may pay attention to the actions of other governments either due to direct effects, such as economic and budgetary spillovers, or because they produce indirect effects, such as the potential for learning from one another's policy experiments.[2] These considerations have served as the cornerstones for scholarship focused on policy learning (Brandeis 1932), race-to-the-bottom issues (Bailey and Rom 2004; Peterson and Rom 1990), and state-to-state diffusion more generally.

The study of local-to-state policy diffusion is theoretically quite similar, at least with respect to politicians' motivations. In terms of economic spillovers, adoption of a policy in one locality may lead affected citizens in that community or nearby cities to seek state government action to combat negative externalities of the newly adopted policy. With respect to policy-oriented learning, state-level policymakers may view localities to be laboratories of democracy in a similar way to how state and national officials view the policies in various states. State politicians look to localities for policy ideas that they can advance at the state level and for which they might claim credit. Local adoptions may signal political viability, and

[1] There have been a few studies of diffusion among localities (e.g., Crain 1966; Godwin and Schroedel 2000; Knoke 1982) and of policies bubbling up from the states to the federal government (Boeckelman 1992; Mossberger 1999). Further evidence of vertical diffusion has focused on the downward pressures from the federal government to states, such as through the effects of intergovernmental grant conditions and other actions (e.g., Allen, Pettus, and Haider-Markel 2004; Walker 1973).

[2] Disentangling these effects is a challenge addressed by Boehmke and Witmer (2004).

their stability over time may signal effectiveness. In a form of yardstick competition, citizens and interest groups may demand that local and state politicians adopt laws giving them the same benefits found in surrounding cities and towns. Thus, for the same reasons underlying state-to-state policy diffusion, scholars may expect to find a positive local-to-state diffusion effect. We call such diffusion a "snowball effect," where each additional law at the local level contributes to an increased chance that the state will adopt such a law.

*Snowball Effect Hypothesis*: Adoption of local laws increases the likelihood of statewide adoption.

Strikingly, however, similar actions at the local level may result in the opposite effect at the state level. Communities benefiting from policy externalities at the local level may resist statewide adoption. Moreover, the policy problem to be addressed may become less acute if it is already addressed within the communities that most demanded policy change. State policymakers who are responsive to public demands and pressures from interest groups and policy advocates thus might feel *less* pressure following local adoptions. Indeed, voters and groups with the greatest demand for action are precisely those who are most likely to facilitate local adoptions. Once they have achieved victory at the local level, in the communities in which they live and work, their incentives to pursue further action at the state level decline and they turn their attention to other matters. Where this occurs, a "pressure valve effect" dominates, with passage at the local level relieving the pressure on state politicians to adopt a new law.

*Pressure Valve Effect Hypothesis*: Adoption of local laws decreases the likelihood of statewide adoption.

Despite similar motivations of policymakers, local-to-state diffusion therefore may differ significantly from the more commonly studied state-to-state diffusion. The adoption of policies in other states does not, and cannot, serve as a pressure valve, with passage in one state relieving pressure on another state. Rather, whether based on learning, competition, or economic spillover, state-to-state diffusion exhibits a snowball effect. Scholars explore conditions under which neighbor or similar-state adoptions increase the likelihood of diffusion, without having to consider an opposing effect. Local laws, however, can have either effect. Therefore, evidence of local-to-state diffusion may be difficult to find, with these two effects canceling one another out.

When might we expect to see a snowball effect rather than a pressure valve effect, or vice versa? Are there specific conditions that might lead to one type of effect rather than the other? We focus here on two considerations that are particularly relevant to state politics: legislative professionalism (e.g., Fiorina 1994; King 2000; Squire 1992) and interest group pressures (e.g., Gray and Lowery 1996; Thomas and Hrebenar 1999).[3]

First, we argue that more professional state legislatures are more likely to exhibit a snowball effect, while less professional legislatures are more likely to exhibit a pressure valve effect. There are a number of reasons for this prediction. For example, scholars have established that more professional legislatures exhibit greater legislator-constituent contact (Squire 1993), promote legislative efficiency (Squire 1998), overcome informational barriers to produce more technical policies (Ka and Teske 2002), and have stronger progressive ambition resulting in greater public opinion–policy congruence (Maestas 2000, 2003). As mentioned above, local-to-state policy diffusion could occur based on spillover effects or on policy-oriented learning. Professionalism promotes policy diffusion in both of these realms. For example, in adopting a local restriction on smoking in restaurants and bars, owners may worry about losing patrons to surrounding communities. Such a fear could be assuaged through state-level restrictions that would level the playing field for all localities within the state. To the extent that professional legislators are more responsive to such local concerns, we would expect a snowball effect of increased pressure for statewide action upon local restrictions.

Similar predictions arise due to policy learning. Features associated with more professional legislatures, such as higher legislator salaries, larger staffs, and longer session lengths, facilitate the processing of information. Policies that are politically attractive and substantively effective at the local level are more likely to catch the attention of state-level policymakers when legislators see policymaking as their full-time job, when they have capable staffs looking for policy solutions, and when they have the time to deal with issues that could in some sense be left

[3]There may be many other reasons why one of these two types of pressures may predominate. For example, where localities have only limited jurisdiction over a policy area, local action may be seen as only a partial victory, thus increasing the likelihood of a snowball effect. Additionally, a snowball effect would be more likely for policies with extensive negative economic or environmental spillovers from one locality to the next, since these policies are likely to generate pressure for further action at the state level. Party strength and partisan competition may also matter. Evidence of *successful* local policies and those adopted very recently also would likely promote a snowball effect more than would failing policies or those from the distant past. While these are of interest, they are beyond the scope of the present article.

to the local level were legislators more time constrained. Finally, legislators with progressive ambition—who are more likely to be found in more professional legislatures (Maestas 2000, 2003)—will be looking toward their future constituents rather than just their current districts. They are thus more likely to be aware of policies found elsewhere in the state and will look to adopt them statewide, or to take ideas from their own districts and try to build a broader reputation with a geographically wider adoption.

To see how different levels of professionalism apply to snowball and pressure valve effects, consider two hypothetical states, one with a low level of professionalism, the other with a high level of professionalism. In the legislature with a low level of professionalism, we expect to find a pressure valve effect. Once policies are adopted at the local level, state legislators with limited time and information will feel that the issues have been resolved already and that they need not dedicate their remaining resources to such policy areas. They will have neither the staffs nor sufficient constituent contacts to facilitate the policy learning important for effective diffusion. In the more professional state, however, all of the stars will be aligned for local-to-state diffusion. Policy learning is more likely, due to the information flows facilitated by active staffs and full-time, ambitious legislators. Local policies, if popular, will be used as models for state policies. If local policies are unpopular due to economic spillovers, state legislators in professional states will be more likely to have the technical expertise needed to see how the spillover concerns can be overcome with statewide action. Coupled with ambition, these professional legislators will thus build upon local policies in a snowball effect.

> *Local Diffusion and Legislative Professionalism Hypothesis*: The effect of local laws on state-level adoptions will be contingent on the level of legislative professionalism. A snowball effect will occur in states with more professional legislatures, while a pressure valve effect will dominate less professional legislatures.

In addition to the dependence of local-to-state diffusion on legislative professionalism, we argue that such bottom-up diffusion also depends on the role of interest groups that act as advocates. Scholars studying state-to-state diffusion have already made a strong case for the role of such policy entrepreneurs in the diffusion process (Balla 2001; Mintrom 1997a; Skocpol et al. 1993). A similar logic is relevant for bottom-up federalism, especially as it relates to diffusion via policy-oriented learning. Local adoptions can serve as policy experiments upon which support for statewide action can be built and momentum can be generated. Where advocates for a particular policy are strong at the state level, they are more likely to bring about a policy change and may be even more successful if they can point to local adoptions. We therefore expect not only that policy advocates will be more likely to secure passage of legislation to their liking generally, independent of local actions, but also that they can turn the snowball effect into a legislative avalanche. Absent such activism at the state level, local adoptions are less likely to diffuse upward. Instead, local activists who pushed for local laws will be satisfied by their accomplishments, relieving pressure for state-level action.

> *Local Diffusion and Policy Advocates Hypothesis*: The effect of local laws on state-level adoptions will be contingent on the strength of policy advocates at the state level. A snowball effect will occur in states with strong advocates for policy change at the state level, while a pressure valve effect will dominate in the absence of such groups.

These first four hypotheses have outlined our primary arguments about local-to-state diffusion. Other types of diffusion—in particular, state-to-state and national-to-state diffusion—also can occur at the same time and are here considered as secondary hypotheses. State-to-state diffusion may be based on policy learning and emulation or based on concerns over economic spillovers. As discussed above, unlike local-to-state diffusion, there is no pressure-valve-like effect to offset these pro-diffusion effects. Thus, we expect that a state is more likely to adopt a policy if other states have already done so.

> *State-level Diffusion Hypothesis*: Adoption of laws in neighboring states increases the likelihood that a state will adopt a similar policy.

Finally, diffusion can be top-down, transmitted from the national government to the states. Even in areas where the states and localities play a primary role, the national government often weighs in. Often, for example, the U.S. federal government relies on mandates or intergovernmental grant incentives that influence state and local policy choices, such as when it coerced states to adopt drinking age and speed limit restrictions by tying highway funding to the enactment of such laws. When the federal government takes such actions (and does not specifically preempt state actions), then we expect the likelihood of state adoptions to increase. On the other hand, national involvement may be similar to local action in bringing about a pressure valve effect. If the national government acts capably to resolve a policy crisis, or if it passes laws

that reduce the incentive for states to act, then state action is less likely. In effect, then, the influence of a national law depends on the law's incentives, one of which is characterized in the following hypothesis.

> *National-level Diffusion Hypothesis*: States will respond positively to grant conditions encouraging state policy adoptions.

## The Politics of Antismoking Diffusion

While the above hypotheses are general, and likely to hold in numerous policy areas, in this article we focus on the spread of three types of antismoking policies between 1975 and 2000: government building restrictions, restaurant restrictions, and out-of-package sales restrictions. Over this time period, 40 states adopted laws restricting or banning smoking in government buildings, while 32 enacted laws that placed similar limitations on smoking in restaurants.[4] In addition to these sorts of "clean indoor air" laws, during the same period states also passed "youth access" laws designed to make it more difficult for young people to obtain cigarettes. Thirty-one states, for example, passed laws restricting sales of individual cigarettes or those outside the original manufactured full packages, since out-of-package sales make it easier for youths to obtain cigarettes.

We similarly see a wide range of activity at the local level. Local governments adopt restrictions similar to those that states adopt—youth access provisions designed to make it more difficult for young people to obtain cigarettes, for example, or clean indoor air laws that regulate smoking in restaurants, bars, and government workplaces. According to one leading authority, more than 1,600 local governments have passed laws in the area of clean indoor air policy alone (Schroeder 2004). And they have done so across all existing categories of antismoking restrictions. Consequently, antismoking policies present an excellent opportunity for examining the influence of local laws on state adoptions. Of the 663 cities and towns with populations exceeding 50,000 in the year 2000, about half had adopted some form of smoking control regulations in the previous quarter century.[5] Here we analyze conditions under which these local policies make state action either more or less likely.

Studies within the public health literature concerning tobacco control legislation occasionally note the possibility of policy diffusion, but mainly highlight a number of other causal influences, which we incorporate in the form of control variables. Such work provides insights about the passage of laws in a number of states, including Vermont (Flynn et al. 1997), California (Macdonald and Glantz 1997), and sets of six or seven different states (Jacobson and Wasserman 1997; Jacobson, Wasserman, and Raube 1993). Importantly, these scholars and others identify factors that affect state-level adoptions of antismoking laws (see also Chriqui 2000). Voting on antismoking legislation, for example, is influenced by political ideology (Cohen et al. 2000) and is associated with tobacco industry lobbying and campaign contributions (Givel and Glantz 2001; Glantz and Begay 1994; Monardi and Glantz 1998). In addition, the likelihood of passage for these laws is higher when the health community takes a strong stand, a finding that is suggested at the local level (Samuels and Glantz 1991) and that has at least some support at the state level (Jacobson, Wasserman, and Raube 1993).

The few public health studies that entertain the possibility of local-to-state diffusion tend to point to a snowball effect, without considering the pressure valve effect or potential contingencies. For example, Jacobson, Wasserman, and Raube conjecture that "the growing proportion of the population already covered by local smoking ordinances suggests an environment where additional restrictions are unlikely to be seen as arbitrary or cumbersome" (1993, 817). Indeed, they note a decline in resistance within states that have seen successful local policies. For example, policymakers in New York were reassured because "the experience in those areas covered by local laws was positive. The restaurant industry did not collapse, plants did not close, smokers did not get carted off to jail" (794). To explore whether this snowball effect occurred generally, whether it was offset by a pressure valve effect, and whether state politics influenced the pattern of local-to-state diffusion, we turn now to our empirical analysis.

## Data Analysis

Part of the reason for the paucity of vertical diffusion studies is the difficulty in gathering comparable data on policies at the state and local levels across a significant time period. In the area of antismoking policy, we combine data from multiple sources, starting with the National

[4]These numbers come from the National Cancer Institute's State Cancer Legislative Database (SCLD), which we describe in more detail below.

[5]This information is based on the American Nonsmokers' Rights Foundation Local Tobacco Control Ordinance Database©, which we describe in more detail below.

Cancer Institute, which has compiled a database of all state-level antismoking laws. This database, the State Cancer Legislative Database (SCLD), was recently corrected and updated by the MayaTech Corporation, which provided it to us. For various types of laws, the SCLD data present a range of information, including whether a state has passed a law in the area, when the legislature passed the law, and information about the content of the law. For example, for laws that restrict smoking in restaurants, the database contains information about whether smoking is banned outright in all restaurants or just in restaurants that meet certain requirements (e.g., size), whether the law requires a nonsmoking section, and so on. This database includes the three types of antismoking laws that we examine, thereby providing the variety necessary to uncover patterns of diffusion.[6] Government building restrictions include not only narrowly tailored laws, but also broad laws limiting smoking in all workplaces (which therefore encompass government buildings). For restaurants, we include any restrictions, ranging from those limiting the ability to smoke in certain kinds of restaurants or places within that restaurant to total bans on smoking. For out-of-package sales restrictions, we include restrictions on the sales of individual cigarettes or reduced-size packs, as well as those restricting sales of packages other than those of the original manufacturer (which therefore may lack required warning labels).[7]

To construct dependent variables in each of these three areas—restrictions on smoking in government buildings, on smoking in restaurants, and on out-of-package sales—we code each variable as having a value of 0 for the years in which the state has not yet adopted the policy and 1 in the year of adoption. In subsequent years, the state is dropped from the dataset. This approach allows us to conduct a standard event-history analysis, estimating the hazard rate for a policy adoption among those states "at risk" for such an adoption. Because few states passed antismoking laws prior to the mid-1970s, we examine the period from 1975 to 2000; if a state passed such a law before 1975, we do not include it in the analysis.[8] As described below, we analyze these three policies separately as well as pooled together in a single regression. Definitions of these and all other variables, along with summary statistics and data sources, are given in the appendix.

The most important independent variables are those capturing local laws. In almost every policy area, local data are far more difficult to obtain in a systematic fashion than are state data, which is likely the primary reason that no systematic, cross-state study of local-to-state diffusion has ever been conducted. In the area of cigarette smoking, we utilize the Local Tobacco Control Ordinance Database compiled by the American Nonsmokers' Rights Foundation (ANR). This database indicates which cities within each state have adopted antismoking measures and when they were adopted.[9] Using the dataset that we created from the ANR data, we generated a ***Proportion of State Population with Local Restriction*** variable for each of our three policy choices.[10] We calculated the proportion of the state's population that was covered, at the start of each year, for each type of antismoking law, by summing the populations of those cities covered by laws and dividing by the state's overall population.[11]

Initially, we use the local proportion variable to test both the Snowball Effect Hypothesis and the Pressure Valve Effect Hypothesis; we then use it to test the interactive effects of legislative professionalism and of policy advocacy on local-to-state diffusion. If a snowball effect predominates, we would expect this variable to have a positive coefficient. If, on the other hand, local laws take the pressure off of the state government, then we expect the coefficient to be negative. And if these effects are in

[6]Some state laws also preempted actions by localities. However, these occurred in few enough states that we were unable to discern separate causal factors behind such adoptions. We therefore set aside preemption considerations for future work. The data analysis results below are robust to the inclusion or exclusion of states with previously adopted preemptive policies.

[7]Our strategy in choosing these three areas is to strike a balance in terms of generality. At one extreme, we could look to see whether a state has passed any sort of restrictions on smoking; at the other, we could break down all laws by the specific sorts of details they contain. The problem with the former approach, of course, is that it is too aggregated and blunt. Conversely, the problem with the latter is that there is a striking amount of variation among laws (e.g., we uncovered well over 200 variants of policy change). Our three policy areas thus serve as an intermediate grouping allowing for both variance and comparability across states and localities.

[8]No state passed an out-of-package law prior to 1981. Thus, for this policy area we report results based on the years 1981–2000. Extending the analysis back to 1975 has little substantive effect on the results.

[9]Because this dataset may have missed the actions of many small communities, we use it to analyze only cities identified in the 2000 census as having populations of 50,000 or more.

[10]As an alternative, we looked at whether local adoptions in the state's largest city or the capital city made state-level adoption more likely. These measures generally were not significant and had no effect on our other variables.

[11]There are some small differences in how ANR coded local data and how the National Cancer Institute coded state data in SCLD that are worth mentioning. For government buildings at the state level, the local match was quite close, covering local restrictions on public workplaces. For restaurants, the match was exact. For out-of-package sales restrictions, there was no direct match with local-level data, so we relied on the more general category of youth access restrictions at the local level.

balance and neither predominates (or if neither effect exists), we may find null results.[12]

Beyond local-to-state diffusion, we also wish to assess and control for the possibility of state-to-state and national-to-state diffusion. To assess the former, we created a ***Proportion of Neighbors with Restrictions*** variable for each of our three policies in each state and each year, based on the same SCLD database used for our dependent variables. This independent variable, which measures the fraction of neighbor states that have adopted such a policy already, is used to test the State-level Diffusion Hypothesis. If states are influenced by the actions of their neighbors, we expect to see a positive coefficient for this variable.[13]

We also constructed a variable to test our National-level Diffusion Hypothesis. Scholars focusing on national-to-state diffusion typically have isolated the effect of intergovernmental grant conditions. We follow their lead here. In the area of tobacco control, the most significant national mandate came about through the Synar Amendment. Passed by Congress in 1992, the Synar Amendment required states to pass laws to effectively prohibit the sale of cigarettes to individuals under 18 years of age. States where certain conditions are not met—where illegal sales of cigarettes to minors remain high, for example—risk losing federal funding from Substance Abuse Prevention and Treatment block grants. Consequently, the passage of the Synar Amendment gave the states a strong financial incentive to pass laws, such as out-of-package sales restrictions, that aim to reduce youth access to tobacco. We thus created a ***Synar Amendment Dummy***, which takes a value of 0 prior to passage and 1 starting in 1993. Admittedly, this variable is a rather blunt instrument. It does, however, capture the notion of federal government involvement, at least in the area of youth access laws. Because this law clearly was intended to spur state activity on youth access, rather than clean indoor air policies, we expect a positive coefficient for out-of-package sales restrictions and no significant effect on government building or restaurant restrictions.

## Internal Influences and Policy Determinants

Beyond diffusion considerations, state policymakers are likely to be influenced by other factors internal to the state, factors that we need to control for.[14] Building on the earlier tobacco control studies that we discussed, as well as earlier state-to-state diffusion analyses, we identify several categories of factors that might be influential. First, and most obviously, *organized interests* are likely to play a role (Gray and Lowery 1996). When health organization lobbyists are strong and plentiful, we would expect state policymakers to feel pressure to pass antismoking laws. Conversely, states in which the tobacco lobby is strong are more likely to defeat such measures. In order to capture the effect of organized interests on the adoption of state-level laws, we include two measures of the strength of health organization lobbyists in each state, along with two equivalent measures for the tobacco lobby. The first measure, for both pro- and antitobacco groups, is a ratio of the number of health (or tobacco) lobbyists in the state to the total number of registered lobbyists. Thus, ***Health Organization Lobbyists*** measures the number of registered lobbyists for health organizations as a proportion of all registered lobbyists in the state; and ***Tobacco Industry Lobbyists***, as collected by Goldstein and Bearman (1996), does the same for the tobacco industry.

This first pair of variables captures the overall presence of health and tobacco lobbies in each state, relative to other lobbies. A second pair captures the perceived power, rather than just the presence, of these lobbies. As part of a comprehensive study of interest group politics in the states, Hrebenar and Thomas surveyed and interviewed public officials and political observers in each state (see, e.g., Thomas and Hrebenar 1999). Based on these surveys, the authors compiled, for each state, a list of the most effective interest groups. If tobacco interests were listed as one of the ten most effective lobbies within a state, then ***Tobacco Influence*** was assigned a value of 2; if tobacco interests were one of the top 20 groups, then this variable was assigned a value of 1; and if tobacco groups were not mentioned, the variable was set equal to 0.[15] A similar variable, ***Health Organizations Influence***, captures the power of pro-health (and presumably antitobacco) lobbies.[16] If organized interests are effective in generating or stopping antismoking legislation, we would expect

[12] We examined, in several ways, the possibility that the effects of local laws on state adoptions might be nonlinear, finding no consistent evidence of nonlinearities.

[13] We also examined whether diffusion occurs between ideologically similar states, regardless of their relative locations, but found no evidence of this sort of diffusion.

[14] Any outside factors that influence both local and state adoptions must be included to avoid omitted variable biases. This is a common and serious concern in diffusion studies (Berry 1994).

[15] There may be some concerns that tobacco interests are perceived to be powerful in this survey because they had previously effectively defeated legislation restricting smoking. Given this endogeneity concern, we reran the analyses reported below without this variable and found similar results for our diffusion variables.

[16] Included in this category are organizations ranging from hospital and health systems associations to assorted health and medical groups.

positive coefficients on the health organization variables and negative coefficients for the tobacco lobby.

Second, and independent of the effect from the above lobbyists, *citizen and producer pressures* may influence state legislative actions. To begin with, although previous work has produced mixed findings for the role of public attitudes (e.g., Jacobson, Wasserman, and Raube 1993), it is possible that public sentiment does influence the actions of state legislators. More specifically, in states where a greater number of adults smoke, we might expect the legislature to be less inclined to pass an antismoking law. Furthermore, if a state is a major producer of tobacco, we might expect this to dampen the legislature's enthusiasm for any antitobacco laws. We use three measures to capture the interests of producers and citizens. First, ***Percent Smokers*** is the percentage of adults in each state who smoke, according to the Centers for Disease Control and Prevention. Second, we created a dummy variable, ***Tobacco-Producing State***, which takes on a value of 1 in all states where tobacco is produced, and 0 otherwise. Third, ***Production*** is a measure of the state's total tobacco production, in millions of tons. For each of these variables, we expect a negative coefficient, indicating greater opposition to antismoking restrictions.

Third, we also need to consider *government preferences*. All else equal, a more liberal government, one that prefers a higher level of government activism, will be more likely to enact governmental restrictions on smoking. To test for this effect, we use ***Government Ideology***, which is an overall measure for each state that has higher values for states likely to lean toward government activism. For this variable, created by Berry et al. (1998) and updated on the ICPSR website, we would expect to find a positive coefficient. Similarly, a government that is unified under the control of Democrats should be more likely to adopt antismoking laws, while a government that is unified under control of Republicans should be expected to do the reverse. ***Unified Democrats*** and ***Unified Republicans*** take on the value of 1 when Democrats and Republicans, respectively, control the legislature and governorship. We anticipate a positive coefficient for Democrats and a negative one for Republicans.

We also expect that governments that spend a higher proportion of their budget on health will attempt to stem the flow of tobacco-related costs by adopting more restrictions on smoking. To capture the overall importance of health spending in the state, we calculated the ratio of state government spending on health to overall state spending as ***Proportion Spent on Health***. We expect a positive coefficient on this variable. Finally, states with more professional legislatures may be more likely to adopt laws generally. We use Squire's (1992) updated ***Legislative Professionalism*** measure, which should have a positive coefficient.[17]

## Results

To analyze our data we use event history analysis (EHA), which Berry and Berry (1990) pioneered as a way to capture both diffusion and internal state determinants of policy adoption. Because our main hypotheses and independent variables are consistent across all three policies we are analyzing, it is appropriate to pool the data into a single repeated-events duration model (Box-Steffensmeier and Zorn 2002). Given that any of the three policy adoptions can occur at any time and in any order, a slight modification of the approach of Wei, Lin, and Weissfeld (1989) is well suited for our analysis. In our setting, this approach yields one observation per state per year per policy, for a total of $50 \times 26 \times 3 = 3{,}900$ observations. Excluding observations not in the risk-set for adoption (such as those after the given policy has already been adopted, or prior to 1981 for out-of-package sales restrictions) leaves 2,256 observations suitable for our analysis. Because our dependent variable is dichotomous—it takes on a value of 0 until the state adopts a policy and 1 in the year of adoption—we use logit analysis.[18] To account for potential problems of nonindependence of observations and of heteroskedasticity, we rely on the cluster procedure in

[17] We also tested different operationalizations for most of the independent variables. For example, to capture the effect of lobbying, we collected data on the strength of other lobbies (e.g., gambling, alcohol, general business) and also the amount of money spent by the tobacco industry on lobbying in the state. We also substituted spending on Medicaid for our measure of spending on health. For citizen and producer interests, we coded variables such as the percentage of the state population under the age of 18, the percentage of the population with a high school education, and the existence of a statewide initiative process. For government preferences, we collected other measures of state ideology, such as the percentage of vote for the Democratic presidential candidate in the previous election, Elazar's state political culture measure, and, in light of concerns raised by Brace et al. (2005) about measures of ideology, the Erikson, Wright, and McIver (1994) measures of state government partisanship and ideology. And for legislative professionalism, we alternatively used state legislative salary and legislative staff variables. Substituting these control variables for the ones that we report generally had little effect on our diffusion measures. Beyond these findings, there was no evidence that states receiving greater revenues from tobacco taxes were any more or less likely to adopt the restrictions studied here.

[18] Buckley and Westerland (2004) point out that the use of other functional forms can affect the results of EHA tests. To see whether our results were consistent across functional forms, we reran our tests using probit and complementary log-log and found no difference in our main results across these functions. Similar results also follow from a Cox proportional hazard model.

Stata 8.[19] We cluster observations by state-year, assuming the errors are potentially dependent within state-years, and rely on Huber/White robust standard errors.[20]

In Table 1 we present the results of these pooled models. Model 1 shows the baseline results. As is evident, we find no independent effect of local laws, and thus, at least initially, no support for either the Snowball Effect Hypothesis or the Pressure Valve Effect Hypothesis. We had no a priori expectation about whether the snowball effect or the pressure valve effect was more likely to dominate, and indeed, recognized that both effects could coexist, making it difficult for the data, and our tests, to reveal one or the other. The negative coefficient in Model 1 hints that the pressure valve effect may be slightly stronger than the snowball effect, all else equal. In contrast, we find strong, consistent support for the State-level Diffusion Hypothesis. The coefficient on the Proportion of Neighbors with Restrictions variable is significant and positive. The likelihood of a state adopting an antismoking policy increases as neighboring states pass such policies. For example, for a state with four neighbors, each additional neighbor with statewide antismoking restrictions increases the odds of adoption of a similar law in the home state by 59% in any given year. Perhaps the fear of the economic spillover of lost tobacco and restaurant sales revenues makes states hesitant to act until neighbors do. Or perhaps this is evidence of information flow and policy learning across states.

We also find support for the National-level Diffusion Hypothesis. In this pooled setting, the Synar Amendment Dummy in constructed to take a value of 0 for government building and restaurant restrictions; and for out-of-package sales restrictions it is set at 0 prior to implementation of the Synar Amendment and one afterwards. The sign on the Synar Amendment variable in Model 1 is positive and significant, indicating that its passage at the national level increased the probability that states would adopt out-of-package laws. Specifically, relative to before the national action, after passage of the Synar Amendment, the odds of state adoption of out-of-package sales restrictions tripled.

Several state internal determinants also significantly affect the likelihood of adopting antismoking laws. First, with respect to organized interests, all four of the coefficients for health and tobacco organizations have the anticipated signs in Model 1, although only Health Organizations Influence is statistically distinct from zero. Citizen and producer pressures also seemed to play their expected role. There are negative coefficients on all three variables, with Tobacco-Producing State attaining statistical significance. Concerning government preferences, liberal states were more likely to adopt antismoking restrictions. Political parties did not appear to be influential in the baseline model. Legislative professionalism, on its own, did not affect the likelihood of passage, but states spending more of their budgets on health were more likely to adopt tobacco control legislation. In all cases, where significant, these findings comported well with our expectations.

## The Intervening Roles of Legislative Professionalism and Policy Advocates

Model 1 presents a test that looks for evidence of a snowball or pressure valve effect and as such does not adequately test our theory, which predicts that these effects are conditional. In Models 2 and 3 of Table 1 we include interactive effects that allow us to test the Local Diffusion and Legislative Professionalism Hypothesis and the Local Diffusion and Policy Advocates Hypothesis. In Model 2 we include an interaction between the proportion of the state population covered by local laws and the state's level of professionalism.[21] If legislative professionalism is a crucial step in local-to-state diffusion, as expected, we would anticipate a negative coefficient on the Proportion of State Population with Local Restriction variable and a positive coefficient on the interaction term. Moreover, the *size* of the interaction coefficient should be large enough to indicate a snowball effect for the most professional legislatures. Put simply, for low levels of professionalism we expect that more local laws will decrease the likelihood of

[19] We also explored whether previous adoptions of the other two antismoking policies made the current policy adoption more or less likely. In some specifications there was a negative relationship. Including or excluding this control variable did not affect other substantive results.

[20] Beck, Katz, and Tucker (1998) suggest that potential temporal dependence for our type of data structure can be accounted for with year dummies. Since this would not allow the inclusion of our Synar Amendment Dummy variable, we instead included variables measuring time and time-squared. Neither was significant at conventional levels, and since their inclusion did not affect our results, we omit them from our regressions. Using natural cubic splines as an alternative also showed no temporal dependence. In addition, excluding observations with outlying values for independent variables of interest did not substantively alter the findings below. Specifically, the results are robust to exclusion of states with particularly high or low professionalism values, of states that had preempted local antismoking restrictions, and of states in which localities adopted antismoking measures through ballot initiatives or through board of health regulations.

[21] As noted above, other interactions (such as between local adoptions and state government ideology, between local adoptions and unified government, or between professionalism and percent smokers) may also help explain adoption and diffusion processes. Our intention, however, is not to exhaustively explore all possible relationships, but instead to test our theoretically motivated hypotheses.

**TABLE 1 Policy Diffusion with Local, State, and National Pressures**

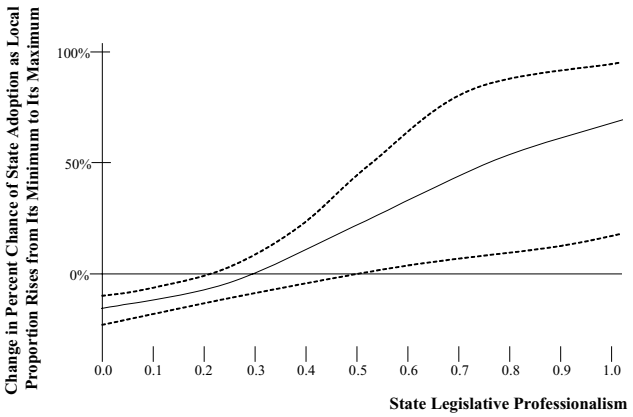
| | Model 1 Baseline | Model 2 Professionalism | Model 3 Policy Advocates |
|---|---|---|---|
| *Local-to-State Diffusion* | | | |
| Proportion of State Population | −0.68 | −4.54*** | −3.53* |
| with Local Restriction | (0.96) | (1.74) | (2.60) |
| Local Proportion × | – | 14.03*** | – |
| Legislative Professionalism | | (5.27) | |
| Local Proportion × | – | – | 2.83* |
| Health Orgs. Influence | | | (2.15) |
| *State-to-State Diffusion* | | | |
| Proportion of Neighbors with | 1.86*** | 1.82*** | 1.91** |
| Restrictions | (0.46) | (0.46) | (0.45) |
| *National-to-State Pressures* | | | |
| Synar Amendment Dummy | 1.08*** | 1.07*** | 1.02*** |
| | (0.29) | (0.30) | (0.30) |
| *Organized Interests* | | | |
| Health Organization Lobbyists | 1.62 | 3.00 | 1.73 |
| | (3.22) | (3.33) | (3.21) |
| Health Orgs. Influence | 0.56*** | 0.55*** | 0.44*** |
| | (0.19) | (0.19) | (0.18) |
| Tobacco Lobbyists | −16.8 | −21.1* | −16.0 |
| | (13.2) | (13.6) | (13.2) |
| Tobacco Influence | −0.10 | −0.21 | −0.18 |
| | (0.42) | (0.44) | (0.42) |
| *Citizen and Producer Pressures* | | | |
| Percent Smokers | −0.02 | −0.003 | −0.02 |
| | (0.05) | (0.05) | (0.05) |
| Tobacco-Producing State | −1.00*** | −1.02*** | −1.08*** |
| | (0.34) | (0.34) | (0.34) |
| Production (millions of tons) | −3.26 | −3.42 | −2.53 |
| | (3.33) | (3.22) | (3.35) |
| *Government Preferences/Control* | | | |
| Government Ideology | 0.02*** | 0.02*** | 0.02** |
| | (0.01) | (0.01) | (0.01) |
| Unified Democrats | −0.01 | −0.04 | 0.02 |
| | (0.35) | (0.35) | (0.35) |
| Unified Republicans | −0.56 | −0.50 | −0.61 |
| | (0.56) | (0.56) | (0.57) |
| Proportion Spent on Health | 19.0* | 20.5* | 19.7* |
| | (13.7) | (13.7) | (13.9) |
| Legislative Professionalism | −0.45 | −1.90 | −0.52 |
| | (1.38) | (1.66) | (1.41) |
| Constant | −4.72*** | −4.95*** | −4.58*** |
| | (1.55) | (1.60) | (1.56) |
| Wald $\chi^2$ | 65.64*** | 73.00*** | 71.39*** |
| N | 2256 | 2256 | 2256 |

Robust standard errors in parentheses, clustered by state-year. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$ (one-tailed tests).

a state adoption, but for high levels of professionalism we expect an increase.

The results shown in Model 2 strongly support the Local Diffusion and Legislative Professionalism Hypothesis. The significantly negative coefficient on the local proportions variable indicates that, for a state with a legislative professionalism score of zero, each percent of the state's public covered by local laws diminishes the odds

**FIGURE 1 Marginal Effect of Local Laws on State-Level Adoptions as Professionalism Changes**




of statewide antismoking policy adoption by about 4%. The positive and significant coefficient on the interactive term, however, indicates that this pressure valve effect is offset by the snowball effect in the more professional states.

Figure 1 provides a graphic demonstration of these two effects, centered within 90% confidence intervals, following the technique of Golder (2006). The solid line indicates the average change in the probability of a state policy adoption upon changing the proportion of local policy coverage from its minimum (zero) to its maximum (about two-thirds), given the specified level of professionalism, while holding all other variables at their means. For states with a professionalism index above 0.32, there is a positive response to more local-level adoptions. Given the standard errors associated with these coefficients, the figure shows with 90% confidence that states with a professionalism score below 0.20 are dominated by pressure valve considerations while those above 0.52 are dominated by snowball effect considerations. Substantively, this means that the pressure valve effect outweighs the snowball considerations for just over half of the states, pressure valve and snowball effect considerations nearly balance out for about a third of the states, and the snowball effect predominates in the remaining states.[22] Moreover, the sizes of these effects can be substantial. Consider, for instance, Michigan with its professionalism score of about 0.5. Its probability of adopting a statewide antismoking measure in any given year is about 22% higher when the maximal proportion of its population is covered by local laws than when the minimal proportion is covered.

Model 3 shows similar, although somewhat less strong, support for the Local Diffusion and Policy Advocates Hypothesis. Here we include an interaction between the local proportions variable and health organizations influence.[23] For states without a health organization included among its top 20 most influential state-level advocacy groups, the pressure valve effect outweighs the snowball effect. The two effects are in near balance in the states where these health groups are among the top 20 (but not top 10) advocacy organizations in the state. And where they are among the top 10 most influential groups, the snowball effect is dominant. The size of these effects is fairly substantial. As 1% more of the public is covered by local restrictions, the odds of statewide adoptions decrease by over 3% in the states with weak health advocacy organizations and increase by just over 2% in the states with the strongest health advocacy organizations.

In both of these models, the effects of the state and national diffusion variables remain strong. As before, health and tobacco organizations help explain state antismoking adoptions, as do the state's tobacco production, government ideology, and health care spending.

## Robustness Considerations and Variations by Policy Area

We have already noted some ways in which our results are robust to alternative specifications, which we continue to explore here. Put generally, these results are robust to numerous alternative measures of the independent variables, to alternative assumptions about the hazard rates of adoption, and to exclusion of many forms of potential outlier observations. As further robustness checks, and to examine whether the hypotheses are equally well supported across the policy areas we are examining, we turn now to separate models for each of our three policies—government buildings, restaurants, and out-of-package sales restrictions.[24] The results are shown for interactions with professionalism in Table 2.

To begin with, as an initial robustness check, we reran our analysis of legislative professionalism using real

[22] Another way to look at this figure is to see that there is a band of values for which we cannot say with a high degree of confidence that a pressure valve or a snowball effect is occurring. This is unsurprising, and indeed, is consistent with our argument, which holds that both effects can be present simultaneously. It is only as we approach one end or the other of the professionalism scale that one effect begins to predominate over the other.

[23] Due to multicollinearity concerns, we do not incorporate interactions for both professionalism and health organizations in the same model.

[24] To account for potential temporal dependence, observations are clustered by state.

**TABLE 2 The Effect of Legislative Professionalism (Salary) on Local-to-State Diffusion**

| | Model 4 Pooled | Model 5 Government Buildings | Model 6 Restaurants | Model 7 Out-of-Pack Sales |
|---|---|---|---|---|
| ***Local-to-State Diffusion*** | | | | |
| **Proportion of State Population with Local Restriction** | −5.05*** (1.78) | −6.18* (3.83) | −5.24** (2.75) | −3.34 (5.07) |
| **Local Proportion × Real Legislative Salary** | 0.13*** (0.05) | 0.25*** (0.11) | 0.15*** (0.06) | 0.02 (0.11) |
| ***State-to-State Diffusion*** | | | | |
| **Proportion of Neighbors with Restrictions** | 1.89*** (0.45) | 1.10* (0.67) | 1.68** (0.83) | 2.30** (1.04) |
| ***National-to-State Pressures*** | | | | |
| **Synar Amendment Dummy** | 1.05*** (0.30) | −0.79 (0.73) | −0.26 (0.67) | 2.37*** (0.58) |
| ***Organized Interests*** | | | | |
| **Health Organization Lobbyists** | 1.69 (3.27) | −0.07 (3.44) | 11.0*** (4.39) | −1.50 (6.77) |
| **Health Orgs. Influence** | 0.48*** (0.19) | 0.31 (0.29) | 0.50** (0.29) | 1.04*** (0.37) |
| **Tobacco Lobbyists** | −17.1 (13.8) | −18.0 (19.4) | −37.9 (25.8) | −44.3* (32.4) |
| **Tobacco Influence** | −0.45 (0.47) | −0.98** (0.59) | −0.53 (0.92) | −0.02 (0.56) |
| ***Citizen and Producer Pressures*** | | | | |
| **Percent Smokers** | −0.01 (0.05) | 0.02 (0.07) | −0.01 (0.09) | −0.14** (0.08) |
| **Tobacco-Producing State** | −0.98*** (0.36) | −0.66* (0.50) | −1.25** (0.66) | −1.95*** (0.66) |
| **Production (millions of tons)** | −2.55 (3.17) | −1.80 (2.55) | −13.65 (13.32) | 2.48 (5.38) |
| ***Government Preferences/Control*** | | | | |
| **Government Ideology** | 0.02*** (0.01) | 0.03** (0.01) | 0.04*** (0.01) | 0.01 (0.01) |
| **Unified Democrats** | −0.001 (0.35) | −0.23 (0.54) | −0.20 (0.66) | −0.47 (0.60) |
| **Unified Republicans** | −0.53 (0.56) | 0.32 (0.90) | 0.32 (0.89) | −2.13** (0.95) |
| **Proportion Spent on Health** | 17.0* (13.0) | 15.4 (20.5) | 33.3* (25.6) | 41.4*** (16.9) |
| **Real Legislative Salary** | −0.005 (0.011) | −0.01 (0.01) | −0.02 (0.02) | −0.005 (0.017) |
| **Constant** | −4.70*** (1.52) | −4.92*** (2.03) | −6.22** (2.95) | −2.69* (1.90) |
| **Wald $\chi^2(16)$** | 77.40*** | 88.80*** | 49.95*** | 36.83*** |
| **N** | 2256 | 678 | 807 | 771 |

Robust standard errors in parentheses, clustered. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$ (one-tailed tests).

**FIGURE 2 Marginal Effect of Local Laws on State-Level Adoptions as Salary Changes**

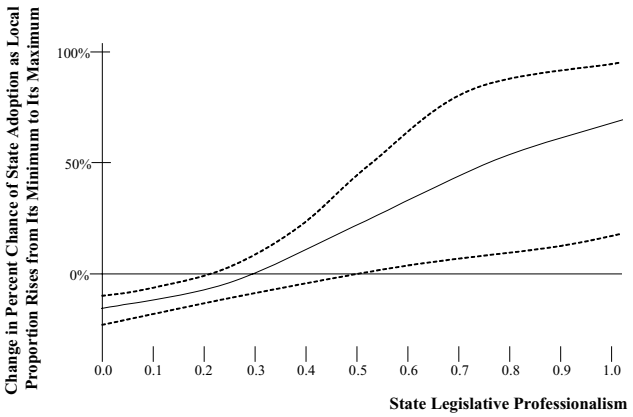
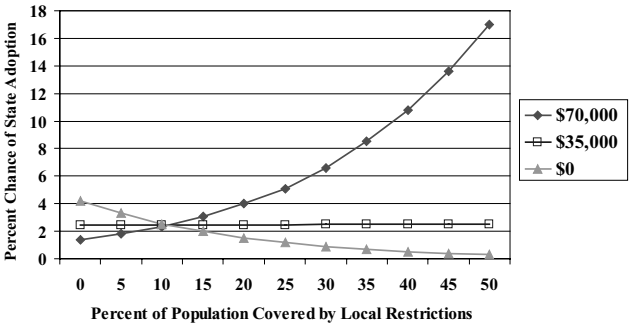



**FIGURE 3 Probability of State Adoption of Restaurant Restrictions, by Local Proportion and State Legislative Salary**




legislative salary in place of Squire's professionalism index (Fiorina 1994; Huber and Shipan 2002; Huber, Shipan, and Pfahler 2001).[25] Model 4 in Table 2 replicates the pooled legislative professionalism results from Table 1 with this alternative measure. As before, strong support for the interactive effect is found; indeed, the results in Model 4 are just as strong as those found in Model 2. In addition, Figure 2 illustrates the same conditional effects shown in Figure 1, now based on different levels of real legislator salaries.[26] Thus, regardless of whether we use an index of professionalism or a single-variable measure, we find strong support for the modifying effects of legislative professionalism.

The rest of the models in Table 2 show the regressions separately for each policy area. In these separate regressions, the Synar Amendment Dummy variable takes a value of 0 for the early years and 1 for 1993 and beyond. The consistent results across policy areas lend confidence to the above approach of pooling the data. Yet some differences across policies are evident and worth discussing in detail. Across all three policy areas, the coefficients on the local-to-state diffusion variables take on the expected signs, and they are statistically significant for both government buildings and restaurants.[27] The negative coefficient on the noninteracted local proportion variable indicates support for the Pressure Valve Effect Hypothesis among nonprofessional legislatures. In particular, for legislatures with no legislative salary (true in 10 to 14 states depending on the year), each additional percent of the state's population covered by local government building restrictions lowers the odds of statewide adoption by about 6%. For restaurants, that decline in the odds ratio is about 5%. However, among professional legislatures, there is strong support for the Snowball Effect Hypothesis. For example, among legislatures with members receiving $50,000 per year (more than most, but about half of the salary in California), each additional percent of the population covered by local government building restrictions actually *increases* the odds of statewide adoption, by over 6%.[28]

Figure 3 demonstrates these competing effects graphically for restaurants. We present three curves, corresponding to states with low, medium, and high levels of professionalism, as determined by their inflation-adjusted legislative salaries. Holding all the other variables in Model 6 at their means, Figure 3 shows the probability of statewide adoption of restaurant restrictions in any

[25] We measure salary using real legislative salaries, inflation adjusted to the year 2000. Results for a logged version of salary are substantively similar. Using legislative staff as yet another alternative measure of professionalism produced results very similar to those obtained using legislative salary.

[26] The pressure valve effect dominates for states with salaries below $22,000, which constitutes about 60% of our sample. The snowball effect is clear for states with salaries above $55,000, a group that constitutes about 10% of our sample and that is growing over time.

[27] It is not entirely clear why the legislative professionalism hypothesis is not supported for out-of-package sales restrictions. One possibility is that all legislatures were more aware of youth access restrictions, regardless of professionalism or of local adoptions, because of federal pressure under the Synar Amendment. Perhaps, however, this finding is just a function of the nature of the indicator of legislative professionalism that is used. The main and interactive effects on out-of-package sales restrictions were both highly significant when legislative staff was used instead of salary, but not when the professionalism index was used.

[28] The similar change for restaurant restrictions is a 2.3% increase in the odds ratio.

given year based on the extent of local government restrictions. Among those states with no state legislative salaries, the pressure valve effect dominates, with the percent chance of statewide adoption declining when more cities pass laws. Where no cities have restaurant restrictions, the state legislature will adopt a restriction in a given year 4% of the time. This declines to near zero when half of the population is already covered by local restaurant restrictions, leaving little pressure for statewide action. Among moderately professional legislatures, those earning $35,000 per year, the snowball and pressure valve effects seem to balance out, leaving a 2.5% annual chance of statewide adoption regardless of local restrictions. For the most professional legislatures, however, the snowball effect dominates. As the proportion of the public covered by local restrictions rises from 0 to 50%, the likelihood of state action increases from less than 2% in any given year to more than 16%.

Similar relationships hold for government building restrictions, with a pressure valve effect giving way to a stronger snowball effect for legislatures with salaries in excess of $25,000 per year. Similar significant results hold in these two areas using the Squire index instead of salary, thus strongly supporting the Local Diffusion and Legislative Professionalism Hypothesis. State-to-state diffusion is significant across all three policy areas, although it is strongest for out-of-package sales restrictions. As expected, the Synar Amendment does not affect the clean indoor air types of antismoking policies, but has a major effect on youth access restrictions. Coefficient sizes and significance on the control variables do vary somewhat across the three policy areas, although their signs are consistent with theoretical expectations.

In Table 3, the effect of policy advocates is broken down across the three different antismoking policies. As in Model 3 above, we interact the proportion of the state population covered by local restrictions with health organizations influence.[29] As in the pooled model, the local proportion variable has a positive coefficient and the interaction is negative across all three models. However, these coefficients are statistically significant only for out-of-package sales restrictions. In that model, we find solid support for the Pressure Valve Effect Hypothesis where health advocates are not a strong force in the state (i.e., not one of the 20 most important groups). Specifically, in such states, when an additional 10% of the population is covered by local out-of-package sales restrictions, the odds of a statewide adoption decline by 56%. At the other extreme, where health organizations are among the top 10 most influential groups before the state legislature, a 10% increase in local coverage is associated with a *rise* in the odds ratio of statewide adoption by about 16%.

There may be several reasons for the lack of support for the policy advocates hypothesis in the areas of government building and restaurant restrictions. One potential explanation for the null results for restaurants is that the pressure of health organizations may be drowned out by the economic interests of restaurateurs, the controversial claims of restaurant staffs and nonsmokers, and the power of the tobacco industry. For government buildings, it is again possible that health organizations' arguments were overpowered by those of the tobacco industry. For out-of-package sales restrictions, unlike clean indoor air debates, the shift to a focus on children, rather than on individual rights, delegitimized opposition to youth access restrictions (Jacobson, Wasserman, and Anderson 1997). In states with strong health advocates within the legislature, then, we find such entrepreneurs building on local successes, generating a snowball effect. In the absence of such advocacy, however, the pressure valve effect outweighs the snowball effect, with mobilized parents and antismoking groups returning home with their local victories and no major groups at the state level pushing for action.[30] Alternatively, the results may be strongest for out-of-package sales restrictions merely because the health organizations influence variable is based on a 1994 snapshot, about the time that the bulk of youth access restrictions were being adopted; hence, the interactions are less noisy for that policy area than for others.

Our findings on the effects of health organizations complement and expand upon recent scholarship on the role of policy entrepreneurs and advocates in the diffusion process (Balla 2001; Mintrom 1997a; Skocpol et al. 1993). Although these scholars each find a greater likelihood of state adoption of their respective policies when such groups are present, they do not explore interactions, through which evidence might emerge that these groups facilitate diffusion. The baseline results in Table 1 indicate the importance of health organizations in antismoking adoptions generally. But the interactive results go a step further. Absent these groups, local policies hinder state action, at least in the area of out-of-package sales restrictions. But in the presence of effective health lobbying organizations, state governments respond positively to local

[29] Interactions with the tobacco industry's influence instead showed no systematic effects. This is unsurprising as it is not clear theoretically whether the tobacco industry would redouble its efforts upon local adoptions or would redirect its resources to more favorable states.

[30] Separate analyses of local adoptions find that strong health advocates at the state level actually lower the likelihood of local adoptions, thus alleviating any concerns that the interactive effect found here is a result of effective advocacy at both the local and state level simultaneously.

**TABLE 3 The Effect of Policy Advocacy on Local-to-State Diffusion**

| | Model 8 Government Buildings | Model 9 Restaurants | Model 10 Out-of-Pack Sales |
|---|---|---|---|
| ***Local-to-State Diffusion*** | | | |
| **Proportion of State Population with Local Restriction** | −1.68 | −3.26 | −8.17** |
| | (4.30) | (6.86) | (4.22) |
| **Local Proportion × Health Orgs. Influence** | 3.24 | 2.97 | 4.83** |
| | (3.29) | (6.57) | (2.77) |
| ***State-to-State Diffusion*** | | | |
| **Proportion of Neighbors with Restrictions** | 1.12* | 1.92** | 2.47*** |
| | (0.69) | (0.87) | (1.01) |
| ***National-to-State Pressures*** | | | |
| **Synar Amendment Dummy** | −1.08 | −0.56 | 2.33*** |
| | (0.79) | (0.71) | (0.54) |
| ***Organized Interests*** | | | |
| **Health Organization Lobbyists** | 0.30 | 10.3** | −2.75 |
| | (2.86) | (3.59) | (6.06) |
| **Health Orgs. Influence** | 0.37 | 0.46* | 0.77** |
| | (0.31) | (0.30) | (0.39) |
| **Tobacco Lobbyists** | −24.6* | −26.3 | −40.2 |
| | (18.7) | (26.7) | (31.9) |
| **Tobacco Influence** | −0.45 | 0.03 | −0.61 |
| | (0.44) | (0.64) | (0.70) |
| ***Citizen and Producer Pressures*** | | | |
| **Percent Smokers** | 0.005 | −0.02 | −0.15** |
| | (0.071) | (0.09) | (0.08) |
| **Tobacco-Producing State** | −0.79* | −1.28** | −2.22*** |
| | (0.48) | (0.65) | (0.66) |
| **Production (millions of tons)** | −2.28 | −14.8 | 7.21 |
| | (2.54) | (15.4) | (5.82) |
| ***Government Preferences/Control*** | | | |
| **Government Ideology** | 0.03*** | 0.03*** | 0.002 |
| | (0.01) | (0.01) | (0.015) |
| **Unified Democrats** | −0.11 | −0.04 | −0.50 |
| | (0.56) | (0.68) | (0.61) |
| **Unified Republicans** | 0.31 | 0.09 | −2.37*** |
| | (0.95) | (0.96) | (0.95) |
| **Proportion Spent on Health** | 23.8 | 39.0* | 40.9*** |
| | (22.4) | (27.9) | (16.2) |
| **Legislative Professionalism** | −1.74 | −1.58 | 1.11 |
| | (1.69) | (1.84) | (2.59) |
| **Constant** | −4.96*** | −6.15** | −1.97 |
| | (1.98) | (3.01) | (1.92) |
| **Wald $\chi^2(16)$** | 83.03*** | 51.73*** | 56.58*** |
| **N** | 678 | 807 | 771 |

Robust standard errors in parentheses, clustered by state. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (one-tailed tests).

youth access restrictions.[31] These findings provide strong evidence that health organizations serve as a conduit for the diffusion of youth access restrictions, lending support to the Local Diffusion and Policy Advocates Hypothesis.

## Discussion and Conclusion

Scholars have long known that state policy adoptions often are influenced both by factors internal to the state and by the diffusion of policies across states. We find that the adoption of antismoking policies is no exception, with understandable state-to-state and national-to-state patterns of diffusion. However, previous studies have neglected the role that local laws can play in influencing state adoptions and have not identified the political conditions under which policy diffusion occurs. We present evidence that local-to-state diffusion does exist, but that it depends crucially on the political environment. Ignoring the role of legislative professionalism and of interest groups produces evidence of neither a snowball nor a pressure valve effect; instead, these effects counterbalance each other and produce null results for the influence of local laws.

However, when state legislatures are more professional, and thus have higher capabilities to address local economic spillovers, to learn from local actions, and to proactively pursue a similar statewide course, a snowball effect becomes more prominent. Absent such professionalism, legislatures give way to a pressure valve effect, where local laws solve the problems at hand without the need for further action. We find a similar interactive effect between local laws and the strength of pro-health lobbies in the area of youth access. Where they have enough political clout relative to other actors, strong health organizations help overcome the pressure valve effect to restore the positive snowball effect of local adoptions. In the absence of such groups, local laws serve as a substitute for legislation at the state level.

Our analysis also points to two clear paths for future research. First, by identifying the intervening nature of political variables in the diffusion process, we open the door to future research on the conditional nature of policy diffusion. State-to-state diffusion also may depend on factors such as legislative professionalism and interest group advocacy. Interacting such variables with neighborhood effects should become commonplace in state-to-state diffusion analyses. Likewise, other intervening relationships may be crucial. For example, one fruitful line of research might examine whether policy adoptions elsewhere (among localities or other states) are perceived to be successful by state policymakers. If they see evidence of local restaurant restrictions negatively influencing dining receipts, for instance, lawmakers would be less likely to adopt statewide restrictions than if they observed no such adverse effects.

Second, the vertical diffusion of local-to-state policy adoptions is suggestive of additional diffusion relationships that are ripe for further study. State-to-local and local-to-local patterns have been understudied, as have state-to-national diffusions. State-to-national diffusion is difficult to examine, as there is only one government being analyzed in terms of its adoptions. Drawing on our current findings, we expect that areas of greater upward diffusion to national policy would be those in which active national interest groups build on their local and state successes. Studies of diffusion among localities have been limited by data availability; thus numerous questions remain. Does diffusion exist among cities? Do local diffusion patterns stop at state borders? How do state actions influence local adoptions? This may be a particularly important direction for antismoking policies, as the strength of the tobacco industry appears to be greater at higher levels of government. Furthermore, tobacco's strength at the state level can result in preemption, wherein a state law precludes stronger action, or sometimes any action, at the local level, thus dramatically altering the effect of one level of government on another.

Beyond the scholarly evidence amassed here regarding the complicated policy diffusion processes in American federalism, this study has produced some noteworthy policy-relevant findings. Antismoking activists have often concentrated their efforts at the local level, where they find the least resistance from the tobacco industry. Our work suggests that these local successes are likely to promote statewide action only in states with professional legislatures and powerful health organizations. Seemingly, a local adoption strategy is a highly productive approach in states with professional legislatures. Such legislators will pick up on local measures and promote these policy ideas as their own. Outside of such states, however, local adoptions discourage statewide action. Here, health advocates would be well advised not to limit their efforts to the local level. As demonstrated in the area of out-of-package sales restrictions, strong health advocacy at the state level can build upon local successes to promote statewide policy change. Practically, this suggests that antismoking groups that use a local-only approach should abandon this strategy and dedicate additional resources at the state level, especially in the area of youth access to tobacco and especially in states with less professional legislatures.

[31] A similar relationship holds for the interaction between these organizations and state-to-state diffusion, here excluded for space considerations.

# Appendix:
## Variable Descriptions, Summary Statistics, Sources

| Variable | Description | Mean | St. Dev. |
|---|---|---|---|
| ***State Adoption of Government Buildings Restrictions***[a] | Dummy = 1 if state adopts first government buildings restriction in this year | 0.057 | 0.231 |
| ***State Adoption of Restaurant Restrictions***[a] | Dummy = 1 if state adopts first restaurant restriction in this year | 0.038 | 0.192 |
| ***State Adoption of Youth Access (Out-of-Package) Restrictions***[a] | Dummy = 1 if state adopts first out-of-package sales restriction in this year | 0.037 | 0.190 |
| ***Proportion of Population with Local Government Buildings Restrictions***[b] | Proportion of state population living in localities with restrictions on smoking in public workplaces at the start of this year | 0.071 | 0.133 |
| ***Proportion of Population with Local Restaurant Restrictions***[b] | Proportion of state population living in localities with restaurant restrictions at start of year | 0.072 | 0.136 |
| ***Proportion of Population with Local Youth Acc. Restrictions***[b] | Proportion of state population living in localities with youth access restrictions at start of year | 0.046 | 0.094 |
| ***Proportion of Neighbors with Gov. Buildings Restrictions***[a] | Proportion of geographic neighbors with government buildings restrictions at start of year | 0.428 | 0.358 |
| ***Proportion of Neighbors with Restaurant Restrictions***[a] | Proportion of geographic neighbors with restaurant restrictions at start of year | 0.327 | 0.331 |
| ***Proportion of Neighbors with Out-of-Pac*ka*ge Restrictions***[a] | Proportion of geographic neighbors with out-of-package sales restrictions at start of year | 0.161 | 0.246 |
| ***Synar Amendment Dummy***[c] | Dummy = 1 after Synar Amendment took effect | 0.308 | 0.462 |
| ***Health Organization Lobbyists***[d] | Proportion of lobbyists in the state working for health organizations, based on 1994 snapshot | 0.084 | 0.057 |
| ***Health Orgs. Influence***[e] | Dummy = 2 if health organizations among top 10 lobbying groups in state, = 1 if among top 20, = 0 otherwise, based on 1994 snapshot | 0.900 | 0.807 |
| ***Tobacco Lobbyists***[d] | Proportion of lobbyists in the state working for tobacco industry, based on 1994 snapshot | 0.016 | 0.009 |
| ***Tobacco Influence***[e] | Dummy = 2 if tobacco industry among top 10 lobbying groups in state, = 1 if among top 20, = 0 otherwise, based on 1994 snapshot | 0.140 | 0.448 |
| ***Percent Smokers***[f] | Percent of adults who smoke in the state | 24.9 | 3.33 |
| ***Tobacco-Producing State***[g] | Dummy = 1 if tobacco produced in state | 0.327 | 0.469 |
| ***Production (millions of tons)***[g] | State tobacco production in millions of tons | 0.020 | 0.075 |
| ***Government Ideology***[h] | Ideology score for state government | 50.2 | 22.9 |
| ***Unified Democrats***[i] | Dummy = 1 for Democrats controlling state legislature and governor | 0.339 | 0.474 |
| ***Unified Republicans***[i] | Dummy = 1 for Republicans controlling state legislature and governor | 0.119 | 0.323 |
| ***Proportion Spent on Health***[i] | Proportion of state expenditures spent on health | 0.033 | 0.012 |
| ***Legislative Professionalism***[j] | Squire's (1992) updated professionalism index | 0.204 | 0.125 |
| ***Real Legislative Salary***[i] | Annual salary paid to members of the lower house, in thousands of year 2000 dollars | 20.9 | 19.0 |

*Data sources:* [a]Constructed by authors based on National Cancer Institute, State Cancer Legislative Database Program, Bethesda, MD: SCLD.
[b]Constructed based on American Nonsmokers' Rights Foundation Local Tobacco Control Ordinance Database©.
[c]Constructed by authors.
[d]Constructed by authors based on Goldstein and Bearman 1996.
[e]Provided to authors by Clive Thomas; based on Thomas and Hrebenar 1999.
[f]Centers for Disease Control and Prevention website (www2.cdc.gov/nccdphp/osh/state/report_index.asp).
[g]U.S. Department of Agriculture website (www.nass.usda.gov:81/ipedb/).
[h]Updated Berry, Ringquist, Fording, and Hansen (1998) data available on ICPSR website.
[i]Constructed by authors based on *Book of the States*, various years.
[j]Provided to authors by Peverill Squire; based on Squire 1992.

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