

# Interest Group Density and Policy Change in the States

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Prepared for the Southern Political Science Association Conference  
January 7-9, 2016

What role do lobbyists play in shaping the policymaking process? Popular accounts portray lobbyists holding a great amount of sway over lawmakers, convincing them to pass policies giving particularistic benefits to special interests. However, research has shown that lobbyists are very often unsuccessful when asking lawmakers to change policy; they are more often successful when mobilizing to defend the status quo (Baumgartner et al. 2009). The accumulated knowledge surrounding the activities and political influence of lobbyists has originated primarily from one interest community (Washington D.C.) and from in-depth studies of single groups or issue areas (Baumgartner and Leech 1998; Hojnacki et al. 2012). Focusing on one political environment does not allow researchers to examine how system-level variables affect lobbying outcomes across issue areas. Previous research has shown that variables such as group density and diversity affect a range of outcomes, such as the formation of new groups (Nownes 2004), the number of bill introductions and enactments (Gray and Lowery 1995), and policy reform (Gray, Lowery, and Benz 2013). Researchers can gain more generalizable insights into the nature of influence and issue advocacy by leveraging the variation in interest communities across the 50 states (Lowery and Gray 2009).

In what follows, we address the question of how interest group density affects the policymaking process. We contend that as interest communities grow in size, policy change is less likely to occur. When more interest groups lobby in a given issue area, lawmakers receive more competing signals about the consequences of policy change. Greater competition among interests induces both informational and electoral uncertainty among lawmakers. Facing an environment of uncertainty, lawmakers are less willing to be active on a given issue. As a result, bills stall in early stages of the legislative process and policy change is less likely to occur.

As an empirical test of our argument, we study the advancement of 250 randomly sampled bills from 45 state legislatures. We pair bill topics with 2007 state lobbying registration data collected from the National Institute on Money in State Politics (see Lowery, Gray, and Cluverius 2013) in order to compare the effects of density across states and guilds. Following Lewis (2013) and Grossmann and Pyle (2013), we measure the effects of group density on two dependent variables: progress through the legislature and ultimate bill passage. We find that

bills likely to be lobbied upon by larger interest guilds are ultimately less likely to be signed into law.

Our study confirms that interest groups exert the most influence over policy in preserving the status quo. Our research design allows us to generalize these previous findings across political environments and issue areas. It also illuminates the role that entire interest group populations, rather than individual lobbyists or groups, play in the policymaking process. Our findings have implications for the ability of lawmaking institutions to adapt policy to fit the changing needs of citizens.

## Lobbying and Policy Influence

How does lobbying influence the policies that elected officials put into effect? Answering the question is essential to understanding American politics due to its implications for democratic governance. Theorists since Madison have been concerned about how issue advocacy by small but intense political factions guide policy decisions in American government.

Those worried about bias in policy outcomes due to interest group activity have some basis for concern. Interest organizations, on the whole, tend to reflect the preferences and pursue the policy goals of the economically advantaged. While pluralists predicted that interest organizations would emerge to reflect salient public interests (Truman 1951), early critics of pluralism noted a distinct wealth bias in interest representation, due to the material resources required to maintain organizations (Olson 1965; Schattschneider 1960; Schlozman and Tierney 1986). As a result, the issue priorities of Washington lobbyists do not reflect the issue priorities of average citizens (Kimball et al. 2012). Even groups representing issue publics find more success when lobbying on behalf of constituencies that already have high levels of social capital (Grossmann 2012). Well-resourced groups also have an advantage when lobbying in the federal government and the states compared to groups representing citizens' concerns; citizen groups fare better in local arenas (Miller 2008).

However, many researchers are skeptical of the claim that bias in the economic composition of interest organizations leads to bias in the policy outcomes (see Lowery and Gray 2004a). It

is unusual for interest groups to get what they want when lobbying the government for policy change (Baumgartner et al. 2009). Despite the overrepresentation of business interests among organized groups, elected officials are much more responsive to public opinion than to business interests (Gray et al. 2004; Smith 2000). When business interests encounter opposition from groups representing the public interest in policy battles, business is infrequently successful (Hojnacki et al. 2015). In a review of the literature on parties, interest groups, and social movements, Burstein and Linton (2002) find that less than half of academic studies up to the time of publication observed a profound influence of interest groups on the policymaking process.

Perhaps the most comprehensive work to date studying the policy success of interest groups is Baumgartner and colleagues' *Lobbying and Policy Change* (2009). Examining lobbying activity on 98 issues between 1999 and 2002 in Washington, the authors find that defenders of the status quo usually win policy battles. There are multiple explanations for their finding. The status quo often reflects the preferences of well-organized interests. New information provided to policymakers by advocates for change is usually insufficient to change minds. Opponents of the status quo also face the uphill battle of getting anyone to pay attention to their proposals. Their work suggests that interest groups are not powerful in convincing lawmakers to change policy, but they are powerful in preventing change from happening.

Burstein (2014) builds on Baumgartner and colleagues' work by examining the competing influences of public opinion and interest groups in the policy change process. Taking a random sample of Congressional policy proposals, he observes that public opinion matters to the outcome in few issue debates, and that interest groups almost never influence the outcome of policy debates. The lack of influence he observes is due to an absence of any lobbying activity on most issues, a finding that echoes the 'policy bandwagons' observed earlier by Baumgartner and Leech (2001).

Overall, research shows that interest group populations do not represent broad public interests and exert influence over the policymaking process only in limited circumstances. Much of what political scientists have learned about issue advocacy, lobbying and policy outcomes comes from research conducted in Washington, D.C. (though see Gray, Lowery, and Benz 2013;

Gray et al. 2004; Lewis 2013). It is unclear whether findings from this literature travel to other political environments. It is also unclear how system-level variables, such as interest group density and diversity (Gray and Lowery 1996), affect policy outcomes. We take a step toward understanding the effect of interest systems on policy outcomes by examining the influence of group density on policy change in state legislatures. In the next section, we lay out our theoretical argument on how group density influences policy change.

## **Competition, Information, and Uncertainty**

Our central claim in this paper is that as group density in a given issue area grows, policy change on the issue is less likely to occur. We take a neopluralist perspective in our understanding of group formation and maintenance (see Lowery and Gray 2004b). Interest group populations follow an ecological pattern of development. They require energy (concern surrounding an issue and uncertainty as to its resolution), stability (the absence of political turmoil), and area (the potential number of constituents whose interests are represented by the organization) (Gray and Lowery 1996). Populations are also density dependent; groups must draw upon the limited material resources available to them within their political and economic environment to maintain themselves (Nownes 2004; Nownes and Lipinski 2005). As interest communities grow in size, competition arises from resource constraints that require organizations to adapt and fill ever narrower issue niches (Bosso 2005; Browne 1990). As a result, the array of organizational interests, goals, and tactics grows in tandem with the population of groups in the political environment (Hojnacki and Kimball 1999; Lowery and Gray 2004b).

Increased intergroup competition leads to greater informational uncertainty among elected lawmakers. Legislators are often political experts, but not often policy experts. While staff and legislative research services are employed to supply policy-relevant information to lawmakers, they do not always have the resources or expertise to supply all necessary information. Thus, lawmakers turn to lobbyists for information about policy proposals. In turn, lobbyists selectively supply information to lawmakers in a way that helps advance group goals (Austen-Smith 1993; Hall and Deardorff 2006). However as interest groups grow in number, legislators find

themselves receiving more selective information from a wide range of lobbyists. Increased information availability, particularly when coming from sources with competing organizational goals and perspectives, is likely to produce inconsistent information about the possible implications of policy change. The result is increased uncertainty about how a proposed policy will affect key constituent groups.

The creation of good public policy does not exclusively motivate legislative decisionmaking, however (Fenno 1973; Mayhew 1974). Legislators may concern themselves more with the political or electoral implications of a policy than with its economic or social ramifications. Larger interest populations also have the potential to induce greater electoral uncertainty among lawmakers. Interest groups frequently engage in outside lobbying of citizens (Kollman 1998) and in electioneering activities as part of their larger portfolio of lobbying techniques (see, for example, Nownes and Freeman 1998). Larger group populations translate to a greater potential for electoral threat if legislators advocate or vote for a bill that runs counter to certain groups' interests. More heterogeneous viewpoints will exist within a larger population of groups, meaning that there is more likely to be a group willing to campaign against opponent legislators. Additionally, more resources will be available to these groups to mount an electoral attack. Risk-averse legislators will decline to propose or champion a policy change likely to draw a serious electoral threat.

Thus, the consequence of larger interest group populations surrounding an issue is greater informational and electoral uncertainty, which in turn leads to inaction by lawmakers. If policy change will lead to uncertain outcomes or will prompt activity with the potential to threaten their reelection chances, lawmakers are likely to avoid addressing the issue at all. Our argument falls in line with expectations from research on interest group coalitions. Lawmakers are most likely to become activists or champions of policy change when there is a clear consensus among affected organizations on what changes should occur (Mahoney and Baumgartner 2015). Lawmakers also take their cues from the overall distribution of groups on the sides of an issue, rather than the actions of any one group (Heaney and Lorenz 2013). As the population of groups grows larger, it is less likely consensus will be reached among all constituent groups or that a clear signal of agreement could be sent from a coalition to interested lawmakers.

Overall, we expect that as interest group density grows, policy change is less likely to occur. From the above discussion, we derive three hypotheses about the influence of interest group density on the policymaking process. Our first hypothesis concerns how far a bill advances through the legislature.

*H1: As interest group density increases, bills introducing policy change will die earlier in the stages of the legislative process.*

However, scholars have observed that interest groups exert influence at different stages of the legislative process. Lobbying is more likely influential in earlier stages of the process, such as agenda setting and committee hearings, than in final floor votes (Austen-Smith 1993; Hall and Wayman 1990; Hojnacki and Kimball 1998). It could be the case that the effect of density is manifested primarily in the committee stage, rather than in final floor votes. However, Gray and Lowery (1995) find that interest community size affects both the number of bills introduced and the total number of bills enacted by the legislature. Thus, we develop separate hypotheses for two key stages.

*H2: As interest group density increases, bills introducing policy change are less likely to be reported from committee.*

*H3: As interest group density increases, bills introducing policy change are less likely to pass into law.*

## **Data and Methods**

We tested our hypotheses by observing policy change and bill progress in state legislatures. Our unit of analysis is the bill. Following a number of recent studies that rely on random samples of bills or issues as a source of data (Baumgartner et al. 2009; Burstein 2014; Dusso 2010; Lewis 2013), we randomly sampled 250 bills from a population of all bills introduced in the regular sessions of state legislatures in 2005. Bill texts and histories were gathered from the public

webpages of 43 state legislatures.<sup>1</sup> Following Burstein (2014), we only sought bills that proposed substantive policy changes. We excluded all bills from the sample that made technical changes to existing legislation (i.e. correcting or updating section numbering, clarifying language) or that appropriated funds.<sup>2</sup> We also excluded resolutions, which are usually symbolic measures and not substantive policy changes, and bills considered during special sessions. We drew a sample of legislation tackling a very wide range of topics. Our bills addressed nationally salient issues, such as a bill prohibiting gay and lesbian West Virginians from adopting children, to unbelievably arcane issues, such as a bill exempting the administrative office of one ranch in Alabama from state and local taxes.

In order to test our hypotheses, we formulated three dependent variables. The first is *Bill Progress*, a count of the number of stages of the legislative process through which the bill advanced. The variable is ordinal and coded 0 if the bill died in committee, 1 if the bill died in a floor vote in the originating chamber, 2 if the bill died in the opposite chamber, 3 if the bill was vetoed by the governor, and 4 if the bill ultimately became law. The second dependent variable is *Passed Committee*, an indicator variable coded 1 if the bill was advanced to a floor vote from committee and 0 otherwise. Of our 250 bills, 164 did not advance beyond the committee stage. The third dependent variable is *Became Law*, an indicator variable coded 1 if the bill ultimately passed the legislature and was signed into law by the governor and 0 otherwise. Fifty-five bills in our sample ultimately became law. Descriptive statistics for these and all subsequent variables are presented in Table A1 in the Appendix.

Our principal independent variable is *Issue Area Density*. Interest groups are likely to find issue niches and lobby on a relatively small range of related topics. Thus, the variable is a count of the registered lobbying groups active in the issue area (or guild) relevant to the bill in the state where it was sponsored. Data from 2007 were previously collected from the National Institute on Money in State Politics. Groups were categorized in one of 11 broad issue areas defined by

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<sup>1</sup>Nebraska, Maine, Massachusetts, and Oregon did not have bill texts available for 2005. Kansas did not have bill histories available for 2005. Legislatures in Delaware and Texas made data available, but considered so few bills that, by chance, no bills from either state were selected for inclusion in our sample.

<sup>2</sup>We estimate that a very small percentage (< 10%) of all introduced bills fit these categories. Appropriations bills were randomly drawn and discarded in fewer than 20 instances. Technical bills were even more infrequently drawn, and came only from more professionalized legislatures like Illinois and New York.

the Institute. Lowery, Gray, and Cluverius (2013) provides more extensive descriptions of the data collection and categorization process.

For the present paper, we matched each of our 250 bills to one of the 11 issue areas or categorized it to an “unknown” issue area. Two coders were provided a one-sentence summary of each bill and asked to assign it to the interest guild most likely to lobby on it. For example, a Wisconsin bill requiring all hospitals in the state to maintain data on infections contracted within the hospital was assigned to the ‘Health’ guild. A Connecticut bill authorizing local governments to charge convenience fees when parking tickets were paid by credit card was assigned to the ‘Government Organization’ guild. Initial intercoder reliability was 0.64. The two coders discussed discrepancies in person and agreed upon a final categorization for each bill.

Table 1 provides a count of bill topics by interest guild. The bills are distributed across all types of interest guilds. The most frequently occurring bill types in the sample were government, health care, and business. The least frequently occurring bill types were those addressing issues of finance, ideological issues, and communications. Those bills categorized as ‘unknown’ were particularistic bills for which it was unclear that any broader community of organizations would have interest in lobbying on the bill: for example, the Alabama ranch tax exemption bill mentioned above.<sup>3</sup>

The average group density across states for our sampled bills by issue area is listed in the rightmost column of Table 1. Densities vary widely across issues, with the most registered groups lobbying retail and business issues and the fewest groups lobbying on communications issues. Given this variation, and because we are more interested in comparing densities within issue areas across states, rather than across issue areas within states, we include fixed effects for issue areas in our statistical models below.

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<sup>3</sup>Gray and Lowery’s data provide counts of “unknown” interest groups from their lobbying registration data, the density of which sometimes reaches into the hundreds. However, for the purposes of this analysis, the density of unknown groups is assigned a value of 0.

Table 1: Bills by Issue Area

Issue Area	Number of Bills	Percent Bills	Average Density
Government Organizations	65	26.0%	98.18
Health	43	17.2%	183.44
Retail & Business	29	11.6%	310.59
Nonprofit	22	8.8%	58.09
Energy & Natural Resources	22	8.8%	84.68
Manufacturing & Production	17	6.8%	154.41
Transportation	17	6.8%	22.82
Education	17	6.8%	221.35
Finance, Insurance, & Real Estate	8	3.2%	175.88
Ideology & Single-Issue Groups	6	2.4%	19.5
Unknown	3	1.2%	0
Communications	1	0.4%	8.0

### *Political Context Controls*

We included control variables that capture variation across state political contexts that could aid or hinder bill progress.<sup>4</sup> First, we control for the demands made on legislators' time and attention that could distract them from considering any one bill. We use *Bill Volume*, which is the natural log of the total number of bills introduced in the legislature in the 2005 session. We choose bill volume as a measure of attention over the legislative professionalization index developed by Squire (1992) because it more directly measures the scope of the issue environment in which legislators work. The professionalization index includes component variables like salary and the number of legislative staff, variables for which we have no theoretical expectation about the direction of their effect on attention. We expect that greater bill volume results in a lower chance of progress or enactment for any single bill.

Second, we control for the influence that the local lobbying community wields in each state legislature. We include *Interest Group Strength*, an ordinal scale developed by Hrebendar and

<sup>4</sup>We tested several control variables we thought would affect bill advancement, but statistical tests produced insignificant results and did not influence coefficient estimates for other variables. We excluded these to preserve the parsimony of the model. These variables include Party Competition in Government, measured by a folded Ranney index; Distance to Chamber Median, the absolute distance between the bill sponsor's ideal point and the chamber median ideal point as adapted from ideal points created by Shor and McCarty (2011); State Density, the number of all registered lobbying groups in a given state (also excluded for potential issues of multicollinearity with Issue Area Density); and a dummy variable controlling for bills originating in New York, which comprise a large part of our sample due to the New York Assembly's very large volume of bill introductions. Results from the models including these variables will be made available upon request.

Thomas (1987) that ranges from 0 (interest groups subordinate partners in policymaking) to 4 (interest groups dominant partners in policymaking). It is worth noting here that interest group strength and density are conceptually distinct. Strength refers to lobbyists' influence in shaping policy relative to other political actors in the state, while density refers simply to the count of organizations. More groups does not necessarily translate to greater influence (Lowery and Gray 2004a). In fact, the correlation between strength and total density by our measures is  $r = -0.13$ . We have competing expectations for the effect of interest group strength. Stronger interest group influence in lawmaking could depress bill advancement and enactment as groups have more leverage in stopping bills that threaten their interests. However, stronger influence could also result in more successful bill enactments because interest groups are more directly involved in the lawmaking process and will not offer resistance to policies that they help draft or support. We take data on interest group strength in the 2005-06 term from Nownes, Thomas, and Hrebenaar (2008).

Finally, we control for party control of state governments. Bills will be more likely to pass when the same party controls both chambers of the legislature and the governor's office. We use *Unified Government*, a dummy variable for which values of one indicate unified party control.

### ***Legislative Process Controls***

We also control for a number of institutional variables demonstrated in the legislative politics literature as important in determining the fate of bills. First, we control for *Cosponsors*, a count of the number of cosponsors a bill has. More cosponsors should predict greater bill success, since it signals to non-sponsor legislators that the bill has a greater base of support (Browne 1985). Second, we control for committee sponsorship of bills. While most bills are sponsored by individual legislators, some are sponsored by entire committees. Committee sponsorship likely signals greater bill support to non-members of the committees, making passage more likely. Our variable *Committee Sponsor* is a dummy variable with values of one indicating a bill was sponsored by a committee.

Our third and fourth variables stem from cartel theories of party control in legislatures (Cox and McCubbins 2005), in which party leaders use institutional powers to secure party-preferred

outcomes. *Majority Party Sponsor* is a dummy variable with values of one indicating that the bill sponsor was a member of the majority party in his or her chamber. We do not expect bills sponsored by members of the minority to advance as far as bills sponsored by majority members. Fourth, we control for the gatekeeping abilities of committees. In most states, committees can veto bills without a vote by exercising nonhearing rights (a majority-appointed committee denying a bill a hearing) or nonreporting rights (a majority-appointed committee refusing to report a bill to the floor). Our variable *Gatekeeping* is a dummy variable with values of one indicating that committees have either nonhearing or nonreporting rights. Data are gathered from Anzia and Jackman (2013).

We deliberately chose not to include a measure of public opinion in our models. Following (Burstein 2014), we wanted to select a random sample of state bills to observe the influence of interest group populations in routine policymaking situations, with the expectation of observing some salient and some non-salient policies. To our surprise, random sampling yielded very few bills addressing salient issues. Like Burstein (2014), we considered an issue salient if a poll measured public opinion on it. We compared the topics of our bills to the 39 policy issues for which Lax and Phillips (2012) obtained state-level public opinion estimates. By our count, 14 of the 250 bills (5.6%) in our model could be considered as addressing salient issues. We consider this a high estimate for salient issues; we counted a bill as salient even if it had only a tangential relationship to an issue for which a poll was available. For the vast majority of the bills we examined, public opinion estimates were simply not available. We suspect that public opinion simply does not exist on almost all of our bills due to the technical or mundane subjects that they address: where serial numbers should be placed on boats, which agency has control of issuing cosmetology licenses, and which airports that state officials traveling on state business are allowed to depart from. As a robustness check, we ran all subsequent models both controlling for the 14 salient issues with a dummy variable and dropping them from the analysis. This resulted in no changes to our findings.

Table 2: Cox Duration Analysis of Bill Progress

	Model 1	Model 2
Issue Area Density	0.002*** (0.001)	0.000 (0.000)
Bill Volume	-0.099 (0.093)	0.49 0.048
Interest Group Strength	-0.201*** (0.096)	-0.013 (0.031)
Unified Government	0.029 (0.192)	0.101 (0.068)
Cosponsors	-0.016*** (0.005)	-0.001 0.001
Committee Sponsor	-0.659*** (0.323)	-0.100 (0.170)
Majority Party Sponsor	0.042 (0.164)	0.050 (0.065)
Gatekeeping	0.433 (0.391)	0.058 (0.144)
Issue Area Density X Passed Committee	–	0.001*** (0.001)
Interest Group Strength X Passed Committee	–	-0.650*** (0.313)
Cosponsors X Passed Committee	–	0.009 (0.005)
Issue area fixed effects	Yes	Yes
N	250	250
Number of failures	195	195
Log pseudolikelihood	-947.535	-801.8936
$\chi^2$ (Wald)	514.67***	143.23***
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

## Results

We begin our analysis by testing our first hypothesis, that greater interest group density in an issue area will result in the earlier death of a bill. To estimate coefficients for our first dependent variable *Bill Progress*, we use a Cox duration model. Coefficient estimates represent changes in the risk of a bill dying before passage into law. Positive coefficients represent greater risks of bill death; negative coefficients represent lower risk. We report robust clustered standard errors in parentheses below the coefficient estimates. In the first model in Table 2, we present preliminary results of the duration model. However, calculating Harrell’s rho for each covariate reveals that three of the variables (*Issue Area Density*, *Interest Group Dominance*, and *Cosponsors*) violate the proportional hazards assumption of the model that the risk posed by the variables is constant across stages of the legislative process. To correct for this violation, we follow advice from Box-Steffensmeier and Jones (2004) to interact the offending variables with a covariate of time. We interact each with the *Passed Committee* variable. A global test indicates that this action eliminated proportional hazards assumption violations.

Model 2 in Table 2 presents our results. The model shows that greater density of lobbying groups within the issue area relevant to the bill translates to a higher risk that a bill dies before passage, as indicated by the positive coefficient on the *Issue Area Density X Passed Committee* interaction term. Thus, we find support for Hypothesis 1. Turning to the controls, no other variables except *Interest Group Strength* exerts a statistically significant effect on risk of bill death. In that case, interest group strength lowers the risk of bill death. This finding suggests to us that more influential lobbying communities actually speed up the policy change process, as powerful groups guide lawmakers in writing and advancing their legislation.

### *Committee Passage and Bill Enactment*

While the duration model above gives a broad picture of how group density affects how far bills advance through the legislative process, it does not distinguish the importance of our variables at different stages of the process. In particular, we expect that some of our variables may be more influential in helping bills overcome some hurdles than others, an expectation supported

by the violation of the proportional hazards assumption in the duration model above. Thus, we estimate the effects of issue area density and our controls on bill passage through committee and bill passage into law. Because our two corresponding variables (*Passed Committee* and *Became Law*) are binary, we estimate models using logistic regression.

We present results from these analyses in Table 3. Coefficient estimates are reported along with robust clustered standard errors. First, we examine the effect of density on a bill passing committee in Model 1. As expected, the coefficient estimate for Issue Area Density is negative and statistically significant at the .05 level of confidence. This finding indicates that as density increases, the likelihood of a bill passing committee decreases. Thus, we find support for Hypothesis 2. Among the control variables, only *Cosponsors* achieves statistical significance. The result indicates that as the number of bill cosponsors increases, the likelihood of a bill passing committee also increases, in line with expectations.

Next we examine the effect of density on a bill becoming law in Model 3. The negative coefficient estimate for the density variable indicates that an increase in the number of lobbying groups decreases the likelihood of a bill ultimately becoming law. However, several control variables affected the process. As in the previous model, the likelihood of bill enactment also increased as the number of cosponsors increased. Bills were more likely to be enacted when committees were the primary sponsors of the bill. Finally, as in the duration model, the strength of interest groups has a positive, statistically significant effect, with more influential lobbying communities allowing for a greater number of bill enactments.

As a robustness check, we tested the interactions between density and the control variables. We find that interest group strength moderates the relationship between density and bill enactment. Model 4 indicates a positive, statistically significant coefficient for the interaction term *Issue Area Density X Interest Group Dominance*. To help us interpret these results, we calculated the predicted probability of bill enactment across the range of values for density in each category of interest group strength. We present a graph of these predicted probabilities in Figure 1. The graph shows that the probability of enactment is virtually unchanged across the values of group density in those states where interest groups are dominant in lawmaking. However, the probability of enactment decreases as density increases in those states where interest

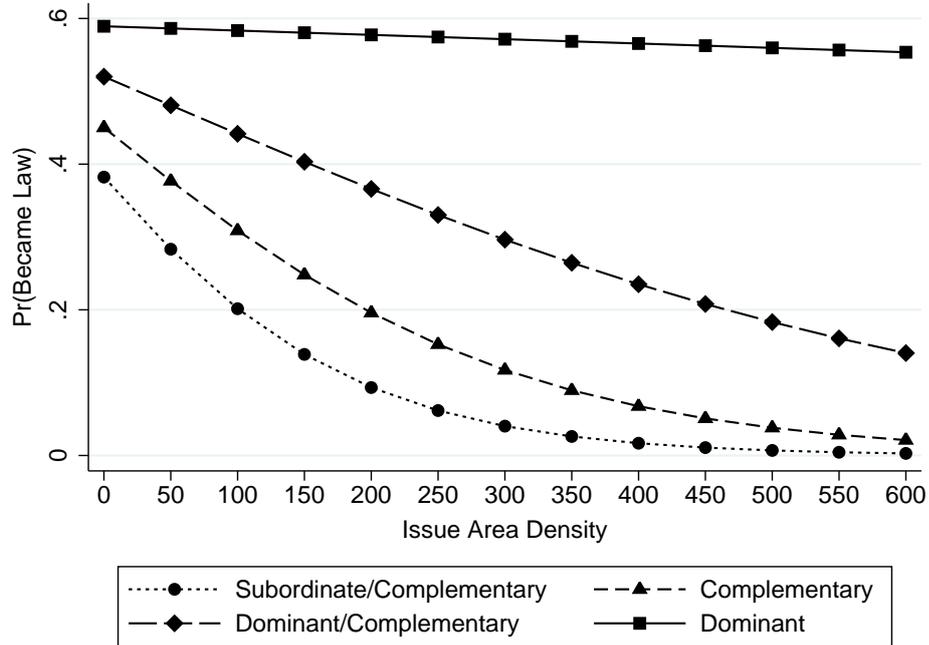
Table 3: Logistic Regression of Bill Passage

	<i>Dependent variable:</i>			
	Passed Committee		Became Law	
	Model 1	Model 2	Model 3	Model 4
Issue Area Density	-0.003*** (0.001)	-0.005 (0.003)	-0.004*** (0.002)	-0.012*** (0.004)
Bill Volume	0.231 (0.181)	0.247 (0.182)	-0.093 (0.292)	-0.024 (0.299)
Interest Group Strength	0.263 (0.196)	0.157 (0.265)	0.621*** (0.263)	0.280 (0.293)
Issue Area Density X Interest Group Strength		0.001 (0.001)		0.003*** (0.001)
Unified Government	-0.031 (0.461)	-0.074 (0.484)	-0.326 (0.524)	-0.448 (0.564)
Cosponsors	0.043*** (0.015)	0.044*** (0.015)	0.028*** (0.013)	0.030*** (0.013)
Committee Sponsor	1.003 (0.568)	0.989 (0.565)	1.195*** (0.598)	1.154*** (1.154)
Majority Party Sponsor	-0.099 (0.398)	-0.078 (0.401)	-0.0376 (0.418)	-0.336 (0.410)
Gatekeeping	-0.892 (0.745)	-0.918 (0.741)	-0.735 (0.894)	-0.805 (0.883)
Issue area fixed effects	Yes	Yes	Yes	Yes
Constant	-1.040 (1.666)	-0.756 (1.739)	-1.336 (2.793)	-0.543 (2.710)
Observations	250	250	250	250
BIC	385.892	391.135	318.407	322.112

*Note:*

\*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

Figure 1: Predicted Probability of Bill Enactment by Interest Group Strength



groups play a more complementary role to lawmakers in writing policy.

Thus, we find partial support for Hypothesis 3. Greater interest group density leads to a smaller likelihood that a given bill will ultimately pass the legislature. However, this effect is primarily seen in states where interest groups are less powerful.

## Discussion

Our analysis of the data confirms our expectations that the increased density of interest groups lobbying on a given issue decreases the likelihood that bill advancement and policy change will occur through legislatures. While the negative effects are direct in the committee stage, the effects of density on ultimate bill passage are conditional upon the influence of interest groups in the lawmaking process relative to other political actors. When interest groups are dominant in a state, the density of interest groups within an issue area has no consequence for bill progress; density matters most when interest groups play a less influential role in policymaking. This unexpected finding nonetheless conforms with our expectations about the role of uncertainty in lawmaking. If interest groups are powerful, legislators regularly rely upon interest groups

for information and direction, and consequently are more certain about the implications of proposed policy changes. If, however, interest groups play a complementary or subordinate role in lawmaking, legislators do not frequently turn to groups for information and policy ideas. Thus, uncertainty surrounding outcomes will be greater as group density grows.

The findings we present build upon research demonstrating that interest groups are quite effective at preserving the status quo (Baumgartner et al. 2009). Our study contributes to the literature on interest group influence in policy outcomes by observing that characteristics of broader group systems play a role in determining policy outcomes, complementing literature examining the actions and spending habits of individual groups (Grossmann and Pyle 2013; Lewis 2013). Our study also makes a contribution by expanding the scope of the study and eliminating three threats to the generalizability of previous research: political environment, issue characteristics, and issue salience. Our research design leverages variation in group densities within issue areas across the fifty states, rather than restricting our scope to one lobbying context. Our finding is also not specific to any one issue area, since we draw policy proposals from 11 different issue areas. Finally, our random sample includes very few issues that could be considered salient to the mass public. Because highly salient issues are relatively rarely considered in legislatures, we can observe what interest group influence looks like in routine circumstances.

A limitation of our study that will require attention in future research is that we are unable to observe the exact mechanism by which larger group populations reduce the chance of successful policy change. It could be that the increased lobbying activity that comes with a larger number of groups leads to information overload and increased uncertainty among lawmakers. This mechanism would complement Lewis' (2013) finding that more groups directly lobbying on a particular bill is associated with a lower chance of bill passage. However, it could also be that a larger number of groups leads to greater "negative power" of the lobbying community over policy outcomes (Bachrach and Baratz 1962; Lowery 2013). A research design bringing lobbying disclosure data to bear in multiple legislative contexts could be a good step towards distinguishing between these two mechanisms. Our study is also constrained by time. Observations of policy change over multiple years, as in studies by Baumgartner et al. (2009)

and Burstein (2014), could give a more complete picture of the long-term influence that group populations wield.

What is clear from our study is that policy change is less likely as more groups enter the fray. Lobbyists are not often successful in extracting preferred policy changes from legislatures. However, groups can influence policy successfully through bids to preserve the status quo. Our findings thus have potentially worrisome implications for policymakers. Given that interest group populations (particularly economic groups) continue to grow over time (Lowery, Gray, and Cluverius 2015; Lowery, Gray, and Fellowes 2005), larger populations could lead to paralysis in policymaking as the status quo becomes more unpalatable for lawmakers to change. The continued proliferation of organizations, which provide much-needed information to policymakers, may serve only to obfuscate policy solutions. A result could be elected officials being unable or unwilling to adapt policy to fit contemporary needs.

# Appendix

Table A1: Summary Statistics

<b>Variable Name</b>	<b>Description</b>	<b>Mean</b>	<b>Std. Dev.</b>
Became Law	1 = Passed, 0 = Died	0.22	0.42
Passed Committee	1 = Passed, 0 = Died	0.34	0.48
Issue Area Density	Count of lobbying groups in issue area in state	138.90	133.86
Interest Group Strength	Thomas' and Hrebenar's classification	2.464	0.766
Bill Volume	Count of bills introduced in legislature	4920.77	4914.33
Unified Government	1 = unified party control, 0 = split control	0.31	0.46
Cosponsors	Count of bill cosponsors	5.30	10.33
Committee Sponsor	1 = committee sponsored bill, 0 = else	0.06	0.23
Majority Party Sponsor	1 = bill sponsor in majority, 0 = else	0.62	0.49
Gatekeeping	1 = committee gatekeeping power, 0 = else	0.90	0.30

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