Public Opinion and Interest Group Influence:
An Analysis of Policy Variation in the American States

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Abstract

Most empirical research on the determinants of state public policy focuses on governmental and socioeconomic explanations. Meanwhile, most theories of the policy making process tend to also include “non-governmental political forces,” like public opinion and organized interests, within their frameworks. This paper examines whether this inclusion is empirically justified. Do public opinion and organized interests affect policy outcomes? I address this question through analysis of three specific policy areas: Environmental Policy, Health Policy and Education Policy. I also examine the differences in the effects of these non-governmental political forces across the three policy areas and how public opinion and organized interest may interact to influence policy. I find evidence that supports the inclusion of these non-governmental political determinants within the policy making process, but also show that their influence varies across policy areas.
Introduction

Among the most clichéd notions in our field is that political science is the study of who gets what, when they get it, and how they get it. Put in a less blunt manner, many political scientists study how governments and societies produce public policy. Why do some governments tax more than others? Why do some provide certain benefits and not others? In the American setting, proposed answers to these questions have tended to focus on two types of determinants: socioeconomic factors and institutional political factors. Much of the work focuses on political determinants explored the partisan makeup of the government and institutional characteristics (e.g. Key 1949; Huntington 1950; Barrilleaux, Holbrook and Langer 2002). At the same time, socioeconomic explanations competed with the political determinant school of thought (e.g. Dawson and Robinson 1963; Dye 1966; Hayes and Stonecash 1981).

More external political forces, like public opinion and organized interest groups, have also been considered as possible determinants of public policy, but these factors have generally only been discussed in theoretical frameworks (e.g. Kingdon 1984; Sabatier and Jenkins-Smith 1993; Baumgartner and Jones 1993), often with little empirical support. Only a few recent studies have included empirical tests of the influences of external political forces on public policy (e.g. Erickson, Wright and McIver 1993; Jacoby and Schneider 2001; Shipan and Volden 2004). This relative lack of focus on political forces external to government institutions is quite remarkable given the American Founding Fathers’ preoccupation with their influences. Madison sternly warned a fledgling United States of both the “tyranny of the majority” and the “mischief
of factions” (Madison 1789). In these more eloquent terms, the Founders clearly saw public opinion and organized interests as serious players in the policy process.

Many policy frameworks also include public opinion and organized interests as key components in the policy process. In the Multiple Streams framework (Kingdon 1984) public opinion rears its head in the “politics stream” as the national mood. Interest groups also inhabit this particular stream waging pressure campaigns and shaping the governmental agenda. In addition to the “politics stream” organized interests can also be a part of the “policy stream’, generating new policies and reforms of old policies. Baumgartner and Jones’ Punctuated Equilibrium framework (1993) sees organized interests as part of separate policy subsystems, while a change in public opinion can jolt the policy from the subsystem level to the macro-political level and affect change there. In the Advocacy Coalition Framework (Sabatier and Jenkins-Smith 1993) organized interests play a crucial role within policy subsystems while public opinion affects change through external avenues. Organized interests and public opinion can also play roles in other frameworks like Institutional Rational Choice and Policy Diffusion (Berry and Berry 1992). Despite all of the policy frameworks that include public opinion and organized interests as integral parts of the policy process, few empirical works include these determinants in their analysis.

The goal of this work is to empirically test the influences of public opinion and organized interests on specific areas of public policy. I contend that as representative democracies, state governments should produce policy outputs that reflect the needs and concerns of two types of clients: the public and organized interests. While internal governmental conditions, like party control and competition, and external socioeconomic
conditions should also shape public policy, it is important not to overlook the external non-governmental forces. It is these external political conditions that governmental official allege to represent in their policy-making duties. If politicians and bureaucrats can account for public opinion and organized interests in pursuing policy objectives, then political scientists should also account for the effects of external political forces in explaining public policy outcomes. In examining specific policy areas, as opposed to more general measures of policy liberalism or policy priorities, I am able to get a handle on how the effects of public opinion and organized interests compare across issue areas. The policy making process is certainly not consistent across issue areas. Depending on the policy area, differing numbers and types of legislative committees and executive departments may play important roles. Similarly, the public may play a larger in some areas than in others. Interest groups certainly can play various roles, acting as a public or clientele representative, as a broker of political information, or as a policy expert. Policy makers may rely more heavily on these non-governmental forces in some policy areas and less in others.

This “comparative issues approach” also allows an examination of the interactive effects of organized interests and public opinion in different policy areas. Organized interests that rely on public support for their own existence should also be reliant on public opinion to further their own goals. Conversely, public opinion should bear greater weight on policy-making when the public mood is effectively communicated through interest group activities. In these instances, as referenced earlier, interest groups serve a representative capacity, coupling communications of the public mood with their own policy goals.
Background

This study uses the American states as the laboratory to test my hypotheses on non-governmental political conditions. Policy researchers often cite the American states as ideal venues to test more general theories and hypotheses of political phenomena (Jewell 1982; Brace and Jewett 1995; Mooney 2001). State-level analysis provides numerous advantages including variability in policy, culture or opinion and partisanship among other strengths. However, the field of state politics can alternatively be described as “undertilled”, leaving many topics with scant literature to build on.

Until recently public opinion in the states was one of these thinly researched subfields. Many viewed state-level policy as too arcane for an inattentive public and therefore policy congruence was not to be expected at that level (Treadway 1985). Another, more practical obstacle hindered research on state public opinion: the problem of measurement. National public opinion research relies on survey data with national, representative samples. Unfortunately, any simple disaggregation of a national sample into the fifty states will not create comparably useful state-level data. Demographic-based proxies have been used, but their effects are difficult to untangle from the separate effects of socioeconomic conditions (Weber and Shaffer 1972; Seidman 1975). In the past fifteen years, however, new measures of state public opinion based on pooled, disaggregated national surveys have revealed a significant link between state policy liberalism and public opinion (Erikson, McIver and Wright 1993; Hill and Hinton-Anderson 1995; Lascher, Hagen and Rochlin 1996). Other studies, aiming to get more specific attitudes on distinct policy areas by employing similar strategies of pooling
national surveys, also found public opinion-policy congruence (Norrander 2001; Brace, Sims-Butler, Arceneaux and Johnson 2002).

The literature on the impact of organized interests on public policy at the state level is also a somewhat undeveloped area of study. National-level studies have found little direct impact of interest groups on policy outputs and legislative decision-making (e.g. Wright 1985; Grenzke 1989; Hall and Wayman 1990). However, both theoretical and empirical studies focusing on agendas and alternatives suggest a more indirect relationship between organized interests and public policy (Kingdon 1984; Baumgartner and Jones 1993; Austen-Smith and Wright 1994).

The state-level studies, meanwhile, have been able to uncover strong indications of interest group influence on public policy. By taking a broader look at entire state interest group systems or advocacy communities, rather than solely focusing on individual groups, this line of research suggests a significant link between organized interests and public policy (e.g. Nice 1984; Williams and Matheny 1984; Brace 1988). State policy diffusion studies have provided buttressing evidence of interest group influence on policy outcomes, showing that organized interests can affect the likelihood of a state adopting a new policy (Shipan and Volden 2004). Even work on state bureaucratic decision-making has found evidence of interest group influence (Schneider and Jacoby 1996).

Both the state public opinion and interest group literature, and to some extent the national interest group literature, support the assertion that non-governmental political forces influence policy outcomes. However, only one study that I am aware includes both determinants in their analysis of state policy (Jacoby and Schneider 2001). In their
examination of state policy priorities, Jacoby and Schneider find significant impacts of general interest group system variables on policy priorities as well as significant public opinion effects. These findings, in particular, provide a general base from which to delve into the effects of non-governmental political conditions across specific policy areas.

**Data & Hypotheses**

As described above, many previous studies have focused on general policy measures like policy liberalism (Erikson, Wright and McIver 1993) or more the more recent addition of policy priorities (Jacoby and Schneider 2001). This study, on the other hand, examines more narrow issue areas. By focusing on the more specific policy areas, I should be able to untangle some of the cross pressures that are present in overall measures of party systems, demographics and interest group systems. I model three policy areas as functions of Non-Governmental Political Conditions, Governmental Political Conditions, and External State Conditions.

Specifically, I examine environmental policy, health policy and education policy. These areas are a good fit for this analysis for several reasons. Environmental, health and education policies encompass three of the major areas of focus for state governments. They are also useful for this study because they can be relatively easily fit on both a liberal-conservative scale and a party scale. In general, conservatives and Republicans should prefer free market solutions and less government intervention. Liberals and Democrats, on the other hand, should tend to pursue more government-centered action or regulation to address problems in these areas. The differences between the two major parties on environmental policies can be illustrated with evaluations published by organized interests like the Minnesota League of Conservation Voters. In the most recent
Minnesota State Senate session, Democrats (DFL), on average, voted for pro-environment legislation 68 percent of the time while Republicans logged pro-environment votes only 33 percent of the time (MN LCV 2004). The House mirrored this pattern with the DFL averaging 76 percent and the Republicans averaging 24 percent. Finally, these three policy areas display the kind of wide-ranging variation that we are looking to explain. While all of the American states certainly address environmental, health and education issues, their approaches to them is quite varied.

The decision to test the influence of public opinion and organized interests on state environmental, health and education policies may have been a relatively straightforward one, but the selection of appropriate dependent variables to measure these policies is a more daunting task. Most environmental data focuses on detailed environmental conditions, like emissions of carbon monoxide, rather than more general policy or programmatic efforts. The more scientific, objective data is useful in program evaluation, but does not allow a clear view of a state’s policy efforts. For example, Northeastern states have some of the highest levels of air pollution in the country, but they also tend to have some of the most stringent air pollution regulations to address these air quality problems. Another problem in measuring environmental policy is that it spans multitude of more specific areas, from air pollution to water pollution to hazardous waste. In focusing on any one specific environmental policy or condition there is a risk of overlooking a state’s efforts (or lack thereof) in other relevant areas. To overcome these problems I employ a measure of state environmental policy developed by Renew America and utilized by Goetz, Ready and Stone (1996) in their analysis of economic growth in the American States. The measure is an index that covers 17 policy areas and
has been calculated for the years 1990 and 1998 (Williams 1999;). The index includes evaluations of air pollution reduction programs, surface water and groundwater protection, and hazardous waste management. Evaluations of the 17 environmental policy areas were summed to produce a comprehensive overview of each state’s environmental policy. The resulting index produces a distribution of scores that makes intuitive sense, ranging from a low of 46 (Wyoming in 1990) to a high of 134 (California in 1998) with higher scores indicating more pro-environmental policies.

Measuring state health policies poses similar obstacles to the ones encountered with the environmental policies. Unfortunately, a comparable, overall measure of health policy was not available. Instead I rely on more indirect and less comprehensive measure that focuses on one important aspect of health policy: Access to Healthcare. The concept of a state’s policy toward access to healthcare is operationalized as the percentage of the state’s adult population (18 to 64) that report having some sort of healthcare coverage. Compiled by the Centers for Disease Control and Prevention for their annual *State Health Profiles* (2003), the “access to healthcare” measure can be used as an indicator of both the expansiveness of a state’s Medicaid program and a state’s regulation of employer-provided insurance programs. By capturing both the public and private healthcare coverage, this variable allows for an adequate appraisal of a state’s efforts to ensure universal healthcare coverage in a way that reflects the varied approaches to this complex policy area. This indicator ranges from a low of 75.5 percent (Texas in 1998) to a high of 93.7 percent (North Dakota in 1990) for the two years included in this study.

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1 Healthcare spending per capita was also employed as a measure state health policy in another model and produced similar results to the access to healthcare variable.
2 Data used in this analysis were drawn from the U.S. Statistical Abstracts.
Again, overall measures of a state’s overall education policy were unavailable, so I employed a less comprehensive indicator of state spending on education. To assess a state’s efforts in education policy, I employ a common policy measure of spending. The dependent variable in this analysis of education policy is a state’s education expenditures per average daily attendance (ADA) drawn from the National Center for Education Statistics’ Common Core of Data. This variable includes expenditures for public elementary and secondary education, grades pre-kindergarten through grade 12, including un-graded students. Expenditures for equipment, non-public education, school construction, debt financing and community services are not included. While spending is certainly just one aspect of a state’s policies, it does provide a good indication of the state’s role in public education. For the years included in this analysis, Education Spending per ADA ranges from $2,960 (Utah in 1990) to $10,748 (New Jersey in 1998).

The independent variables selected for this study reflect the three types of determinants of state policy identified earlier: Non-Governmental Political Conditions, Governmental Political Conditions, and External State Conditions. Non-Governmental Political Conditions include indicators of public opinion and organized interests. The measurement of state public opinion has been the topic of many recent studies (Erikson, Wright and McIver 1993; Norrander 2001; Brace, Sims-Butler, Arceneaux and Johnson 2002). Most of these studies have explored new ways to disaggregate or combine the most common of public opinion measurement instruments: the survey. This approach has its advantages in that it seeks to directly measure people’s attitudes across a multitude of policy areas. Yet this type of measure is not without some shortcomings. They tend to have highly variable numbers of respondents across the fifty states. Similarly, this
approach cannot ensure a random representative sample for each state. Some survey
approaches face the obstacle of time boundaries. For example, aggregated measures from
the U.S Senate National Election Study only represent a four-year period from 1988 to
1992 while Erickson, Wright and McIver’s measures span twelve years from 1976 to
1988. Neither dataset is very useful in examining state policy in specific years in the past
decade. Due to the constraints and drawbacks of representative random samples and
variability, this study employs an alternative to these survey-based approaches. Berry,
Ringquist, Fording and Hanson (1998) developed a measure of “citizen ideology” that is
based on the roll call scores of each state’s congressional delegation, the outcomes of
congressional elections, the partisan division of the state legislature and the party of the
governor. This approach, while admittedly indirect, produces reliable public opinion
measures of liberalism each state for every year from 1963 to 2002. I expect states with
higher citizen ideology scores, or more liberal public moods, to have more liberal
policies.

Along with public opinion, organized interests also play a role as a
nongovernmental political determinant of public policy. As with state public opinion, the
measurement of organized interests presents some problems. The cloaked nature of
interest group system makes judging the strengths of single organizations and advocacy
communities difficult. The result is that currently there are no comprehensive, objective
indicators of group strength and influence in the American states. Until one is developed,
the best measure of interest groups divided by issue area is a simple count of organized
interests\(^3\). The logic in utilizing this measure is straightforward. The more groups there

\(^3\) Some studies have used interest group counts as function of economic growth, complexity, or simple
population. However, in examining specific policy areas, I do not believe it is appropriate to follow this
are that are organized around a particular policy area, the more influence that advocacy community should have on public policy outputs. Through increased numbers, these advocacy communities should be able to communicate their messages to policymakers with increased frequency, urgency, and salience. This logic should prove even more powerful for public interest groups that tend to rely on public support and can legitimately define themselves as a representative group.

This analysis uses Gray and Lowery’s (1996) interest group counts. They categorized the groups into 25 issue areas, from agricultural groups to women’s groups. Conveniently, there are also counts for environmental groups, health groups and welfare groups. For all three groups, I expect higher counts to be positively related to their relevant policy outputs. More environmental groups should lead to more pro-environmental policies. Higher numbers of health groups should coincide with more state support of public health and broader access to healthcare. Similarly, more education groups should lead to increased spending on education.

I will also test the assertion that public interest groups can serve a representative function by including an interaction between public opinion and organized interests. This variable should be significant and positive for the environmental model because of the reliance by environmental groups on public membership. I do not expect to find an interaction effect in the models of health and education policy because of the differing makeup of health and education groups that would make them less dependent on membership and public representation. Environmental groups purport to represent the type of methodology because of the diversity of interests represented in the study. While some issue areas lend themselves to an economic base, other may be more population based. Still others may be based on something else entirely. For a more detailed discussion, see Gray and Lowery’s discussions of interest group ecology.
broader public, while health and education groups tend to have more narrow
constituencies like hospitals, doctors, teachers and school districts.

While the group counts should be able to account for the strength of a particular
advocacy community relative to similar communities in other states, not all states allow
for equal access to the government apparatus. To address the differences that result from
the variation in lobbying and campaign rules in the states, I incorporate the ordinal
measure of interest groups system impact developed by Hrebenar and Thomas (1990,
1999, 2004). The measure ranges from zero, denoting a subordinate system, to four,
denoting a dominant system. Since this measure is a system wide measure that
encompasses all organized groups within a state system, I have no a priori expectation of
its effect on the policy outputs under consideration.

The next group of policy determinants, governmental political conditions,
includes party control of the state legislature and governorship, as well as party
competition within the state. Party control of the legislature is coded from 0 to 2, with 0
indicating Republican control of both houses, 1 indicating split control of the legislature
and 2 indicating complete Democratic control of the legislature\(^4\). Given the policy areas
included in this study, I expect a positive relationship with the dependent variables.
Democratic governments should produce more pro-environmental policies, should be
more active in providing broader access to healthcare and should to spend more on
education. Party of the governor is a simple binary variable with 1 indicating a
Democratic governor. I would expect similar results to the party control of the
legislature: a positive relationship.
The final governmental political condition included in the models is party competition within the state. Much attention has been lavished on the effects of party competition on public policy and how to correctly measure it (e.g. Key 1949; Ranney 1976; Holbrook and Van Dunk 1993; Barrilleaux, Holbrook, Langer 2002). Each of these studies has shown that party competition has a significant impact on public policy. I include party competition by employing a Folded Ranney index (Bibby and Holbrook 1996, 1999, 2004). Since I have already included variables that account for party control of the government, I only need an indicator of competitiveness and not of party control. I expect party competition to have a positive effect on public policy. The more competitive the state is the more liberal the policy outputs should be.

The last group of policy determinants is external state conditions. Depending on the issue area, demographic indicators, economic conditions and geographic conditions would fall here. For the environmental model I include an indicator of a state’s wealth, and its population density. State wealth is measured by per capita income levels gathered from the U.S. Census Bureau. Wealthier states should have more resources to spend on environmental programs. In addition, a wealthier populace may be more likely to assent to increased governmental focus on the environment and a higher tax burden because their high income exceeds the thresholds to satisfy more basic needs. I expect higher income levels to have a positive relationship with environmental policy.

Population density should also affect environmental policy. Higher population density creates pressure on the environment and pollution problems. As the population density increases, environmental problems should also increase, as should public concern.

\[4\] Unless noted otherwise all data on governmental political conditions and external state conditions were gather from the U.S. Census Bureau’s United States Statistical Abstracts.
about environmental issues. From this logic, I expect a positive relationship between population density and environmental policies.

The health policy model also includes the income per capita variable as well as an indicator of poverty and state size. I expect a similar positive relationship between income and health policy as the one described for the environmental policy model. The poverty indicator serves as measure of burden placed on the government to provide healthcare. A state’s population that falls below poverty lines serves as an adequate indicator of this burden. I use the U.S. Census Bureau data on the percentage of the population whose household income is below the federal poverty line. I expect a negative relationship between the poverty rate and a state’s access to healthcare. A state’s population is also included. I expect a negative relationship with access to healthcare as larger states will have more people to try to cover and subsequently should have lower rates of coverage.

For the education model, I include income per capita, poverty rate and the percentage of local education funding as external state conditions. As with the previous two models I expect wealthier states to have more active state governments and thus spend more per capita on education. Poverty rates, however, should have an opposite relationship with education compared to health policy. As the percentage of people below the poverty line increases, so does the burden on the public education system and thus states’ responsibility to cover increased numbers of students. Unlike access to healthcare, the burden of education spending for the impoverished population is generally manifested in increased state spending compared to local expenditures because of the small revenue base of localities with larger impoverished populations.

http://www.census.gov/statab/www/
Along these same lines, a variable to account for local revenue streams is included. The percentage of locally raised education revenue is a good indicator of how the states typically fund their education systems. Some states maintain a high level of control over their schools systems and thus provide the bulk of the necessary funding. Other states, however, have stronger local control and are funded more through local revenue streams. For example, in both 1990 and 1998 Hawaii only drew 2.3 percent of its education revenue from local sources while New Hampshire counted only local funding for 89.4 percent of its education revenue in 1990 and 87.1 percent in 1998. I expect higher proportions of local revenue to be negatively related to state education spending.

**Analysis**

In order to test both the impacts of non-governmental political conditions on specific policy areas and compare those impacts across the policies, I employ a Seemingly Unrelated Regression model (SUR). This methodology assumes that the error terms across the three models are correlated. More intuitively, I assume that by modeling all three policies as functions of the same three types of determinants, non-governmental political conditions, governmental political conditions and external state conditions, the potential variables not included in the models will be similar and correlated. An examination of the residual correlations and Breusch-Pagan test of independence confirms this assumption. By employing a SUR model, I am able to conduct simple F-tests to compare the effects of the independent variables across the three policies. To test the conditional effects of organized interests and public opinion I estimated a second SUR model that includes an interaction term between public opinion and interest groups.
The results from the SUR analysis are shown in Table 1. Beginning with model 1, the table shows strong support for the hypothesis that non-governmental political conditions are significant determinants of specific state policies. Public opinion has a positive and significant relationship with all three policies, as expected. As state public opinion becomes more liberal, a state’s policies become more pro-environmental and promote expanded access to healthcare. A more liberal public also tends to increase state education spending. A standard deviation increase of 13.9 points in a state’s public opinion, on average, increases their environmental policy score by just over five points, their access to healthcare by 1.3 percent and their education spending per pupil by $376.87.

Organized interests show significant effects in two of the three policy areas. The effect of environmental groups on policy meets expectations with a highly significant and positive coefficient. An increase in the size of a state’s environmental advocacy community, on average, will correspond with a pro-environmental shift in state policy. An increase of fifteen environmental groups (the standard deviation), on average, increases a state’s environmental policy score by 9.78 points. Health interest groups, however, do not show a significant impact on health policy in this analysis. This leads to two possible conclusions: either health groups, indeed, have no influence on state policy or this measure of health groups is not adequately capturing their effects. After a closer look at the types of groups coded as health groups, the latter conclusion seems more apt. Health groups comprise a large and diverse collection of interests. They vary from public interest groups to hospitals to doctors groups. In Michigan the health group count included some membership groups like Citizens For Better Care, but it is mostly
composed of institution-based groups like the Butterworth Hospital and associational
groups like the Association of Professional Psychologists. Given the diversity of
interests included in this count, it can be expected that many of these interests have
divergent policy goals. By including groups with conflicting or opposing goals into a
single count, it is not surprising that any negative or positive effect on policy would be
mitigated in this analysis.

Education groups, meanwhile, show a significant but negative effect on state
education spending. The direction of this relationship is contrary to expectations, but
nonetheless shows a significant impact of organized interests. The previous discussion of
policy goals is also applicable in this case. However, instead of divergent goals, the
education groups may have unanticipated policy aims. As described earlier, the spending
variable excludes expenditures for equipment, non-public education, school construction,
debt financing, and community services as well as funding for higher education. These
excluded expenditures may well be policy goals of many of the groups in the count.

With only issue area categorizations, rather than policy goal-based counts within each
issue area (especially in areas with diverse interests), the presence of these unintuitive
results make more sense.

The last non-governmental political condition, interest group system type, is also
significant in two of the three policy areas. As a state’s interest group system becomes
more dominant, for example moving from a complementary system to a
dominant/complementary system, the state’s environmental policy score decreases, on
average, by 6.8 points and access to healthcare decreases by 1.45 percent. This negative
relationship is reflective of the makeup of a state’s entire interest group system. In
surveys of state policy makers, business interests tend to be the most influential organizations (Thomas and Hrebenar 1999, 2004; Morehouse and Jewell 2003) in all types of interest group systems, but in the most dominant systems environmental and health groups tend to exert less influence than in the weaker interest group systems. Business groups, exactly the kind of groups that would be against pro-environmental policies and mandated health benefits, therefore should be expected to wield even more influence relative to environmental and health groups – especially as when they are interacting in a system that provides maximum access and influence.

Interestingly, the governmental political conditions only have a minor impact on policy in this analysis. Party competition has a significant effect on environmental policy. Party control of the legislature, meanwhile, has a significant negative effect on education spending suggesting that Democratic legislatures tend to be more tight-fisted with educational spending than Republican legislatures. Governmental political conditions seem to only have a slight impact on policy once non-governmental political conditions and external state conditions are taken into account.

In all three policy areas, external state conditions have significant policy impacts. Almost all of the external state condition variables display significant effects in the hypothesized direction. Even the local education revenue variable has a marginally significant negative impact on state education spending. Only the income per capita coefficient in the health model is contrary to expectations.

In all, Table 1 provides solid support for the hypothesis that non-governmental political conditions are significant determinants of public policy, but the results shown do not provide statistical evidence to answer the question of whether the impacts of these
determinants differ across policy areas. To address this question, I conducted F-tests of the equality of the coefficients. However, since the three dependent variables are measure on different scales, testing the equality of coefficients shown in Table 1 would be meaningless. Instead, I ran another SUR model, but this time used standardized versions of the dependent variables. The results of this standardized model were exactly the same as the first model except the coefficients were now on comparable scales.

The results of the F-tests of equality for the non-governmental political conditions are shown in Table 2. Citizen ideology seems to have a consistent impact on state policy across issue areas. The interest group counts and interest group system variables, on the other hand, show significant differences across the issue areas. Substantively, the number of interest groups has positive effects on environmental policy, negative effects on education spending, and negligible effects on access to healthcare. These findings suggest that interest groups may play varying roles in the policymaking process across policy areas. As discussed earlier however, the assertion that the differences may be due to measurement problems cannot be discarded. Table 2 also confirms the differences in the effects of the Group Impact variable on state policy. The negative relationship between the type of interest group system a state has and its health and environmental policy is consistent. However, this relationship differs in the area of education spending, where the group system has no significant effect.

In the last SUR analysis, I tested the interactive effects of public opinion and interest groups. Model 2 in Table 1 shows these results. As hypothesized, the interaction between environmental groups and public opinion has a significant relationship with a

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5 Since the standardized model was produces an exact replication of the first model, but with comparable coefficients, I did report the full results here. Table 2 reports the result of the coefficient equality tests
state’s environmental policies while the interaction terms in the other two models do not display a significant change in effect. In addition to its significance, specifying the environmental model with the interaction boosts the explanatory power of the model from an $R^2$ of 0.60 to 0.64, while the health and education models show no increased explanatory power when the interaction term is included. Again, given the more public base from which most environmental groups operate compared to the more associational/private base from which the health and education groups operate, this result is understandable. While Table 1 is helpful in showing whether the interaction term is significantly different from its component parts, the interaction coefficient in itself is not readily interpretable. The marginal effects of the environmental interaction term can be seen more clearly in Figure 1. As the number of interest groups increases from 3 (West Virginia) to 81 (Florida) the change in the effect of a single unit shift in public opinion moves from essentially zero to a strong impact with a coefficient of 2.862. This interactive effect can be taken as evidence of the representational function of environmental groups.

**Conclusion**

The results of this analysis of state policy provide substantial empirical evidence that non-governmental political conditions are important determinants of public policy. Often it is the external pressures of public opinion and organized interests that hold sway in policy-making decisions, and not the more widely recognized formal apparatuses of government. However, the power of interest groups and public opinion relative to party control of the legislature and governships does not necessarily undermine the authority based on the standardized model.
and power of our government officials and institutions. Rather, this study can be taken as
evidence that American state governments themselves are responsive to both the general
public and to organized publics. Similar to Erickson, Wright and McIver’s (1993)
conceptualization of public opinion indirectly affecting policy through party elites and
state legislatures, I expect the impacts of non-governmental political conditions to filter
through the parties and government institutions. In all, state governments seem to be
functioning just as representative democracies should, with policy outputs closely
reflecting the external political and state conditions.

From this perspective, party platforms and electoral fortunes may actually serve
as extensions of the external determinants, linking conditions, needs and wants with
policies and programs. Still, this link between non-governmental political forces and
policy outcomes is hazy at best. The results shown in this paper serve to underscore the
significance of political forces external to formal government institutions as determinants
of policy and do not explore the specific mechanisms that create this observed
relationship. However, by understanding the significance of organized interests and
public opinion in the policy-making process we should be better equipped to construct
and evaluate theories and frameworks of the policy process.

This research also demonstrates that the impacts of non-governmental political
conditions on policy can change across issue areas. Organized interests are not
monolithic influences on public policy. Different groups across issues areas will have
contrasting and differing effects on policy as they seek to push it towards their own
specific goals. Even within a particular issue area, groups can have varying goals and
impacts across specific programs and policies. While interest group influence may
flourish in some settings, in others it is meager or nonexistent. At the same time, public opinion seems to have a consistent effect across policy areas. State governments seem to be operating in a representative manner, with policy largely reflective of the will of its citizenry.

The differences in the impacts of organized interests on specific policy areas provides still more impetus for further examination of the link between policy and non-governmental political forces. If interest groups are indeed more successful in some policy areas than in others, the next logical question is: Why? To address this we need to further examination of both the structures and activities of organized interests across policy areas as well as the particular links that allow groups to affect policy outcomes.

Finally, this study also provided empirical support for the varying public representative functions of organized groups. The environmental groups showed a clear interactive effect along with public opinion. On the other hand, healthcare and education groups did not show the same representative interaction effect. As suggested earlier, the public-based nature of most environmental groups should enable these groups to serve a representational role in the policy process. Health and education groups, meanwhile, may be serving a very different representational function that is reflective of their less public-based constituency. Instead representing the public in the policy process, groups in these policy areas represent the interest of those who are most affect by policies in those areas. While environmental issues have been traditionally framed as having high impacts on the general public, current state education policy and health policy may be more particularized in the groups that have a stake in the process. Of course, this research has only begun to scratch the surface of the differing effects of organized
interests across issue areas and group types, but like the previous findings from this analysis it also provides an impetus for further study in this area. The discipline’s ability (or relative inability) to measure individual group and group system influences in a detailed way has left this area of inquiry relatively untouched. By exploring the nature of interest group influence and its interactive effect with public opinion we should be better equipped to understand the variation in public policies across states, issue areas and time.
References


### Table 1. The Determinants of Three State Policies, 1990 & 1998

<table>
<thead>
<tr>
<th>Non-Governmental Political Conditions</th>
<th>Environmental Policy (1)</th>
<th>Environmental Policy (2)</th>
<th>Access to Healthcare (1)</th>
<th>Access to Healthcare (2)</th>
<th>Education Spending (1)</th>
<th>Education Spending (2)</th>
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<td>(2.75)**</td>
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<td>Percent Local Education Revenue</td>
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<td>Chi$^2$</td>
<td>16.823**</td>
<td>15.382**</td>
<td>16.823**</td>
<td>15.382**</td>
<td>16.823**</td>
<td>15.382**</td>
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</table>

Note: Nebraska was not included in this analysis due to the nonpartisan nature of the legislature.

Absolute value of t statistics in parentheses.

One-tailed significance tests were used when expectations warranted, two-tailed tests were used otherwise.

* significant at 5%; ** significant at 1%
Table 2. Testing the Equality of Coefficients Across Policy Areas

<table>
<thead>
<tr>
<th></th>
<th>Citizen Ideology</th>
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<th>Group System</th>
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<tr>
<td>Access to Healthcare</td>
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<td>30.98**</td>
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<tr>
<td>Education Spending</td>
<td>0.05</td>
<td>0.49</td>
<td>45.41**</td>
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</table>

Entries are F statistics; * indicates significant differences at 5%; ** indicates significant differences at 1%;
Figure 1.

Marginal Effect of Citizen Ideology on Environmental Policy

Marginal Effect of Citizen Ideology

Interest Groups

Marginal Effect of Citizen Ideology on Environmental Policy

- Marginal Effect of Citizen Ideology
- 95% Confidence Interval