

Patterns of Constituency-Legislator Policy Congruence in the States

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Abstract

This is a first report from our project on representation in American legislatures. The purpose of the project is to determine the extent of policy representation in the state and national legislatures of the U.S., the processes by which policy representation occurs, and the factors that enhance and retard legislators' responsiveness to constituency preferences. The project uses the familiar constituency-legislator congruence model to assess representation. In this report, we examine patterns of representation in 49 legislative chambers. This analysis draws on the roll call and electoral data we are collecting for the universe of legislative chambers at the state and national level. Our preliminary findings are that there is a great deal of variation in how faithful legislators are to district opinion. We use presidential vote in the legislative districts as a measure of constituency preferences, noting a remarkable variation across the legislatures in the diversity of constituency preferences. We explore the varying role of party in the constituency-legislator linkage. Party is almost universally important in accounting for the dominant patterns of legislative conflict. However, constituency preferences are completely channeled through the parties in some places while in others there is a substantial direct opinion-legislator link. We conclude with a preliminary exploration of the correlates of these different patterns and some selected case studies of representation.

Introduction

Representation is a fundamentally important aspect of democratic politics. From past research we know there is strong evidence for the impact of statewide opinion on state policy (Erikson, Wright and McIver, 1993) and at the national level there is also evidence for individual constituency/legislator agreement in both the U.S. Senate and House of Representatives (Wright, 1989a; 1989b; Wright and Berkman, 1986; Erikson and Wright, 1980; 1997; 2000). The motivation for looking at representation in the states grows out of the findings of *Statehouse Democracy*. There we documented a strong relationship between aggregate state opinion (liberal-conservative self-identifications) and policy liberalism. That relationship survived controls for the socioeconomic variables that were seen in the previous literature as the principal determinants of state policy. Our conclusions to the book, however, reveal an uncertainty about the process by which this is accomplished. "*These means of control are uncertain* in any particular application [state], but accumulate to create a striking correlation between mean ideological preferences of state electorates and the mean ideological tendency of state policy" (Erikson, Wright and McIver, 1993: 247, emphasis added).

To eliminate our uncertainty about how the mechanisms of representation work, we need to be able to test theories about the conditions that enhance or retard constituent/legislator policy agreement. However, there has not been a lot of theory on factors that govern the representative relationship largely because almost all of the work on representation in the U.S. has been done on Congress. With just one institution, usually the House, there is no variance in institutional features, district size or other characteristics to gauge the effects of different conditioning factors on levels of representation. However, researchers have examined some constituency differences for their effects on representatives. Some scholars have picked up on Key's (1949) thesis that competition changes candidates' and parties' behavior vis-à-vis their constituents (Miller, 1964; Fiorina, 1974), and still others have taken advantage of variations in state populations to examine the effects of this on U.S. senators' representation and policy making behavior (Hibbing and Alford, 1990; Oppenheimer, 1996). This work identifying the conditional factors in a theory of representation has been promising in each instance, but the lack of variation in the institutional and electoral features that are inherent in examining only Congress removes from consideration all sorts of factors that may well affect representation. To develop and test a more complete theory of representation we need to assess how the constituency-legislator linkage is affected across institutions and how the link varies along important theoretical dimensions. The states provide the kind of variation we need to answer these central questions.

There is a healthy literature on roll call voting in the state legislatures from the 1950s and 1960s, and much of it focused on the levels and causes of party voting (MacRae, 1952; Derge, 1958; Keefe, 1954; Jewell, 1955; Leblanc, 1969; Flinn, 1964; Dye, 1961; Becker, et al., 1962; Sorauf, 1963; Patterson, 1961; 1962; Pesonen, 1963). A number of these are explicitly comparative. The concern for constituency in these studies was largely confined to available demographic data, with the major focus on the strength of parties in the state legislatures. Unfortunately, this very promising line of research seems to have all but died out in the 1970s as the attention of legislative scholars moved increasingly to Congress.

There are a few examples of subsequent research on constituency/representative linkages in the states which get beyond the use of census data to measure public preferences (McCrone and Kuklinski,

1979; Kuklinski, 1978; Erikson, Luttbeg and Holloway, 1975; Snyder, 1996 among others). These are solid studies but because they each focused on one legislature, we do not gain any comparative leverage. The classic *Legislative System* (Wahlke, Eulau, Ferguson and Buchanan, 1962) did systematic comparative analysis of representation in four states, but with a focus on self-identified representational roles (trustee-politico-delegate) rather than actual constituency/legislator agreement. Later research cast considerable doubt on the utility of representational roles for sorting out representatives' behavior (Hedlund and Friesema, 1972; Friesema and Hedlund, 1974; Erikson, Luttbeg and Holloway, 1975; but see Kuklinski and Elling, 1977; McCrone and Kuklinski, 1979).

An important exception to the focus on single states is the work of Uslaner and Weber (1977; 1979; 1983). That work addressed some of the same questions about representation that motivates this project. In their work, because there were no comparative data on state opinion, the authors relied on “simulations” of public preferences and related these to perceptions and positions of the state legislators in their survey. While this is intuitively a sensible approach, subsequent work has demonstrated that simulating opinion from demographics does not provide valid measures of opinion (Seidman, 1975; Kuklinski, 1977; Erikson, McIver and Wright, 1987). Other recent scholarship has examined constituencies in terms of various demographic characteristics (Haynes, 1990; Stonecash, 1999) while others have begun to address the question of conditional party government (Aldrich and Battista, 2002), which implicitly has electoral roots and hence bears on the question of representation. While helpful, such efforts come up short of what we need which is an empirical focus on the relationship between legislative behavior and constituency preferences.

At this point, the representation process beyond studies of Congress is a black box; we have an idea of what goes in, in terms of public demands, and what comes out as public policy. While we also have a few isolated studies of individual states, we do not have any detailed information on the essential democratic process by which the institutions of American government translate statewide and national opinion into public policy. That is the larger goal for this project.

Toward a Theory of Comparative Representation

It is tempting to assume that, since we find a nice correspondence between state opinion and state policy at the aggregate (state) level, we understand the democratic processes that give rise to this robust agreement. However, this aggregate level agreement is consistent with some quite contradictory models of citizen-representative linkage. Only one of these involves legislators being purposively and directly responsive to the voters in their districts, as democratic theory would prescribe.

The models are familiar in the literature on representation and parties. The graphics here are intended to illustrate recurring themes on constituency-legislator relationships. For purposes of illustration, I will use only two hypothetical states and will specify simple ideal models—knowing full well the real world is made up of some imperfect combination of aspects of each.

Figure 1.A illustrates our current state of knowledge about the relationship between state opinion and policy in the states. It shows information only about mean state ideology and mean state policy liberalism. We know that more liberal states also have more liberal policies. In the figure, this is shown as a perfect relationship for two states. In the state data we found that the correlation between state ideology and state policy liberalism was .82 for all states, and after correcting for measurement error in state opinion, we estimate that the underlying relationship to be .9 (Erikson, Wright and McIver, 1993: 80-82).

What we do not know is what kind of representational mechanism at the district level brings about this correspondence between aggregate opinion and policy. In fact, theoretically, the state opinion-policy relationship shown in Figure 1.A could result from a variety of different representational processes. One is a simple delegate model of faithful representation (Figure 1.B). The lines in the model are intended to represent the relationship (regression slopes) between district opinion and the liberalism-conservatism of legislators' roll call voting. For convenience, I have drawn it so that all the districts of State A happen to be more conservative than those of State B. (In reality, of course, there is a great deal of overlap in district ideology among the states.) The important part of the model is that in both states there

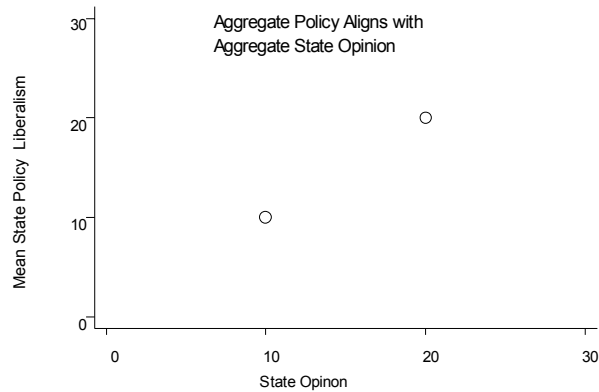


Fig. 1.A: State Level Model

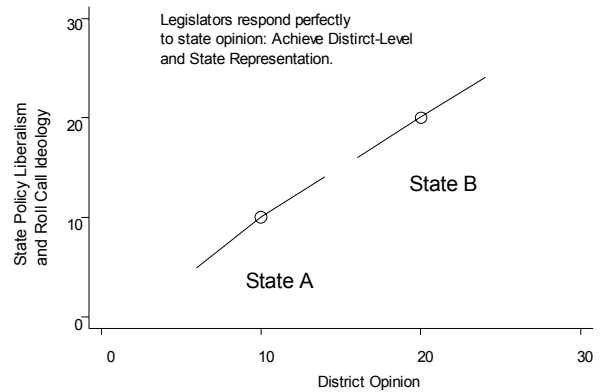


Fig. 1.B: Pure Delegate Model

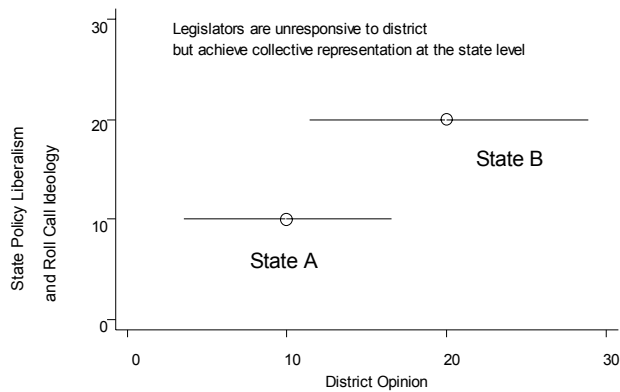


Fig. 1.C: Pure Collective/Trustee Model

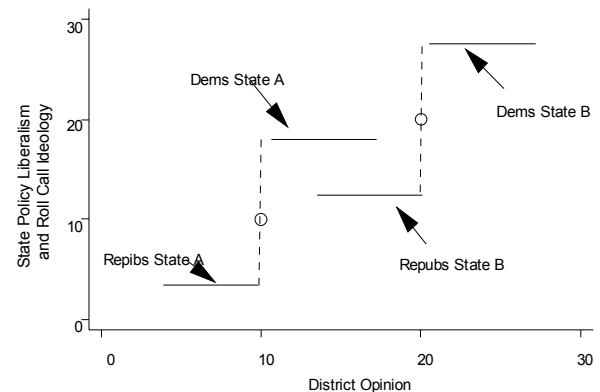


Fig 1.D: Pure Party Government Model

Figure 1: Idealized Models of Representation for Two States

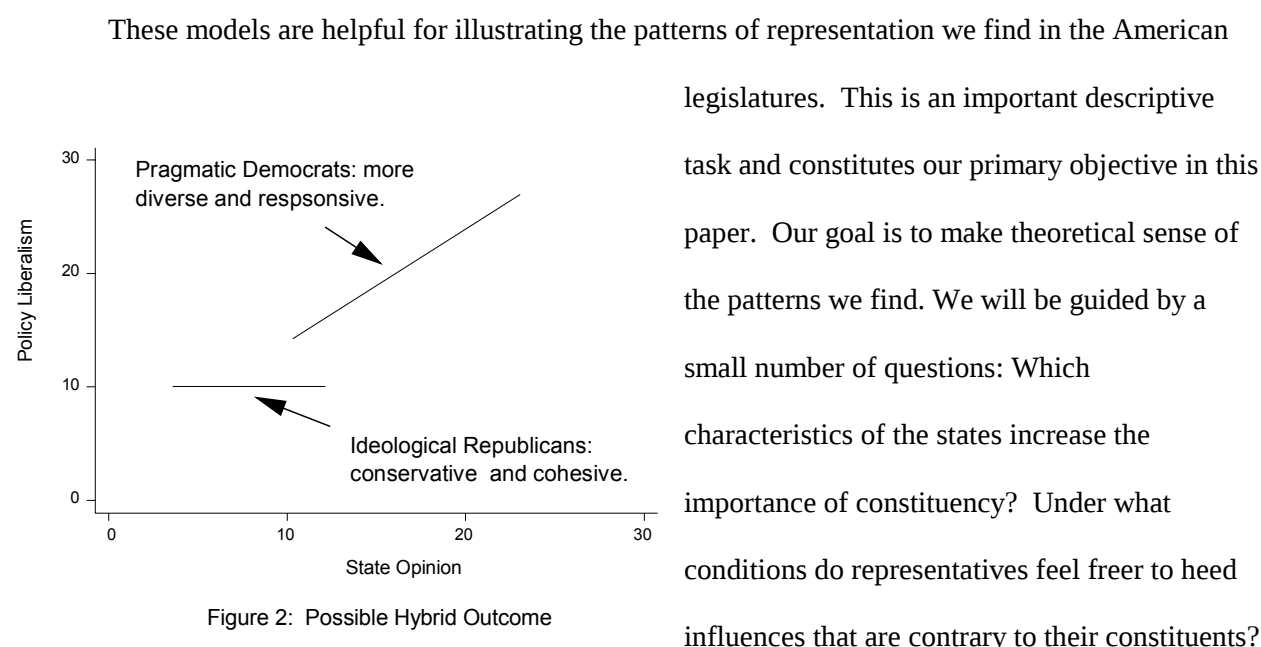
is a strong congruence between district opinion and members' voting (notice the representative ideology/district ideology line has a steep slope). We also can see that at the level of the legislature, this dynamic can replicate the aggregate relationship we see in Figure 1.A (net policy outcomes match the mean constituency ideologies of the two states). Notice also that no distinction is necessary for party affiliation in this idealized version of the model since any role party affiliation of the member plays in a pure delegate view of representation is coincidental. If all elected officials are Downsian vote-maximizing delegates and nothing else matters, the preferences of constituents are what prevail. This model is implicit in much of the research on representation, including our thinking in *Statehouse Democracy*.

The second idealized model posits a legislature of trustees. In this simplification, I assume that the legislators take their cues from what may be a variety of sources but that no special weight is given to constituency opinion. These sources might include the legislators' perceptions of what is good for the state (areal representation), their own values, the governor and the bureaucracy, or the recommendation of standing committees. Figure 1.C shows an example of a pure trustee model. Members individually do not reflect constituency preferences--notice the flat lines representing no relationship between district opinion and legislators' voting. We have drawn it so that in the aggregate the legislators still manage to produce policy consistent with mean state opinion, but there is certainly nothing in the trustee model that would require this. It might be that the elites who serve in the legislature simply manage, in the aggregate, to reflect the underlying values of their states, very much in the spirit of a "belief sharing" model. In such a model, congruence is more of a happy coincidence than a consequence of constituency demands and electoral pressures.

Finally, in figure 1.D there is a "pure party government" model. Within the legislatures the individual parties are cohesive (all Democrats are equally liberal and all Republicans are equally conservative) and there is considerable party polarization (the Republicans are markedly more conservative than the Democrats in both states). In both states, however, out of the clash between the parties comes policy that is in tune with the overall preferences of the states. This idealization is consistent with most treatments of the Responsible Parties Model.

None of these models provides an accurate picture of what we find for the full set of legislatures examined, but we do find important elements of each. In fact, they provide a way of thinking about the processes of representation, how the politics in different places and under different kinds of conditions yield variations in these models and what such politics means for representation. Consider, for example a state in which the Democratic legislators are politically pragmatic, relatively undisciplined and vote maximizing, and in which the Republicans are all "movement conservatives" whose primary motivation is enacting conservative policies. We might find the Democrats looking like delegates and the Republicans like ideologically motivated trustees. Such a legislature is illustrated in Figure 2. Notice

here that the Democrats are pictured as winning seats from a broader array of districts and there is now some overlap in ideological range in which both Democrats and Republicans win seats. In addition, the mean legislative policy is within the range of preferences of the Democratic delegation, an outcome that could be achieved if they held a majority and could maintain party cohesion against the proposals of the Republicans, which, we assume here, would be close to their ideological preferences. Thus, in this illustration, we have a mix of responsive Democrats and ideological and unresponsive Republicans.



What features of the states increase the intensity of partisanship in the state legislatures and what influences how close the parties are to one another? How does the role of party in the legislatures shape the process of constituency representation?

Data Collection

Much of the motivation for this project comes from two simple propositions that virtually no one, in the state politics community or not, disagrees with. First, the states are understudied. They are of increasing importance in their own right as sources of policy that affects citizens and their number and comparability offers scholars just tremendous advantage for testing empirical political theory. Second, we do not have adequate data on state political institutions and processes. For all except a few kinds of data such as state spending and a variety of institutional features which are covered in the Book of the States,

one interested in comparative study of the states has to gather his or her own data. And, of course, the fact that the states are largely independent means this is often not one data collection, but fifty different data expeditions that have to be organized. In most cases, probably, this is just not possible, so either important research opportunities are passed by, or they are pursued on a much more restricted comparative basis of one state over time or as a comparison of a handful of states. In short, the lack of data is a major break, not only on the subfield of state politics, but also on our ability to test many of the hypotheses generated from the study of the national institutions and processes.

This project is intended to offer a partial remedy to this situation for the study of representation. For this, given our discussion above, we obviously need information on legislative behavior and on constituencies. On the legislative side, our principal effort is the collection of a set of roll calls for a two-year period (1999-2000) for the 101 chambers that we are calling “America’s legislatures.” This includes all of the states’ lower and upper houses, two for each of the states except for unicameral Nebraska, for 99, plus the 2 houses of the national legislature for our Dalmatian-like 101. On the constituency side, our major effort is to produce presidential vote for all of the districts of our legislatures. There are 7,424 state legislators for whose roll calls we are obtaining, plus 535 members of Congress for a universe of legislators and districts of 7,959.¹

This has not, to our knowledge, been done before and for good reason. First, the data are hard to collect. They are not in one repository, but nearly a hundred. Even within states, chambers will have their own policies about keeping their own records. The roll call information is in varying formats, but none that we have found are in a nice spreadsheet or other format that can be easily transported into a statistical program for analysis. Once collected, they have to be converted. The second reason we have already alluded to: for 101 chambers and nearly 8,000 legislators, there is a lot of data to collect and manage, somewhere between 3.5 and four million competitive roll calls for our 101 chambers.

¹ Technically this is not accurate since a number of states have at some of their members elected from multi-member districts. Thus, the collection of district data is less, but not a great deal less.

This is only possible with advances in technology and the help of the National Science Foundation. On the technology side the wide world web and the propensity of governments to post public information is coupled with advances in our ability to process large bodies of text and to extract from those the data we need. Traditionally roll call information was collected by coding legislative journals and then entering the data in a usable format. We can now instruct computers to do exactly the same operations that we used to instruct research assistants to do: “Locate the journal, find the roll calls, and a list of members, and give them a code of 1 if they are recorded as voting aye or yea and 2 if they are recorded as voting nay and some other codes for excused, present but not voting or whatever other responses the chamber’s rules provide for, and when you are done, put in the form of my favorite statistical program.”

There are glitches, lots of them, in this process, but it is proving doable. The legislative records, whether journals or some other format, have to be in electronic format. To get there we have been collecting the roll calls in any format we can get them. Increasingly they are available via the web. In some cases we get hard copies of the legislative journals, in others we have had to arrange for them to be copied. Then whatever format we have—PDF documents, HTML pages, text, or scanned journals—is converted to straight ascii text. These are the raw data for our programs for making machine-readable roll call data sets. We are also attempting to extract bill summaries from these same records.²

On the voter side, we would obviously like to have survey data, even something as thin as the CBS-*New York Times* polls that we exploited in *Statehouse Democracy*. Unfortunately, survey data are not available, and they likely never will be, for a significant number of legislative districts. Our approach is, therefore, to use presidential vote as a revealed preference. Our work with CBS/NYT data provided convincing evidence that (1) partisanship and ideological identifications are converging, and (2) that presidential vote choice for large groups, like states, are very highly correlated with ideological self-

² The process is far from complete once we have a list of names and votes. We then need to obtain the district, party and other information about the members. For the vast majority this is readily available, but almost every chamber has one or a few people suddenly appear to be casting votes, often with no introduction in the legislative records that we can find. Some combination of the legislature’s web site, Project Vote Smart and Lexis-Nexis provide the needed information.

identifications. Put simply, we feel entirely comfortable arguing that districts within a state that voted heavily for Al Gore in 2000 are more liberal than the districts that favored George Bush. As our project progresses, we will provide evidence to substantiate that assumption, but our work with survey information from the states and presidential vote give every indication that we are not far off target in using presidential vote as an indicator for relative ideological policy preferences.

Presidential vote for the legislative districts is not available from the ICPSR, nor anywhere else that we know of. Presidential vote for congressional district is made available. Election Data Services amasses precinct data for congressional districts and sells it to CQ for the Almanac of American Politics. Only the Secretary of State in California and one organization in Virginia collect the necessary precinct electoral data and aggregate it up to the state legislative district level. It is our incredible good fortune that just as the ideas for this project were being formulated for a grant proposal that we became aware of the NSF's grant to David Lublin and Stephen Voss for their "Federal Elections Project" in which they have collected precinct level data for the 2000 national election for all jurisdictions in the country. We have piggy backed on their effort, using their precinct returns for most states, and then getting necessary information to match precincts with legislative districts from the clerks of the legislatures and secretaries of states.³

Data: Constituencies and Roll Calls

The data collection for our project is not complete yet. The analysis for this preliminary overview of patterns of representation uses the 49 legislative chambers for which we have reasonably complete constituency and roll call data. These are listed in Table 1. They are not

³ We have been amazed at the obstacles of just obtaining lists of the precincts that make up each state's legislative districts. In some cases, records are kept at the local level with state-level officials denying any knowledge of precinct/district associations. In others, the information is withheld for political purposes. In still others, the will is there to help, but what we get is not what we need. Eventually, we will have the information we need to calculate presidential vote for virtually all of the legislative districts.

Table 1: Chambers included in this study		
	Lower	Upper
US	*	*
AK	*	*
AZ	*	
CA	*	*
CO	*	*
DE	*	
FL	*	
GA	*	*
IN	*	*
IA	*	*
KS		*
MI	*	*
NE		*
NV	*	*
NJ	*	*
NM	*	
ND	*	*
OK	*	
OR	*	*
RI	*	*
SC	*	*
SD	*	*
TX	*	*
UT	*	*
VT	*	*
WA	*	*
WI	*	*
WY	*	*

meant to be a sample of anything, random or otherwise, other than these are the chambers of overlap on the two collection efforts of constituency electoral data on the one hand and the roll call collection on the other. The data set, however, is not obviously biased in any way with large and small legislatures and states represented, as well as chambers from every region in the country. Hence, while there is no certainty, we anticipate that the overall patterns we find here will closely resemble those we eventually will be able to report based on the full data collection. Due to various yet-to-be-resolved problems we do not have precinct data on a few of the districts. There are 3,274 districts in these 49 chambers and we have roll call data on 3,629 legislators who served. This includes two or more observations for districts where vacancies occurred and there were replacements and a few seats that were vacant for virtually the whole period. We have district level vote for President in the 2000 election for all but 112 of these legislators.

Analysis: Constituencies and Representation

We had initially envisioned an analysis not unlike the sorts of analysis done in the electoral chapters of *Statehouse Democracy* where state partisanship and ideology function as independent characteristics in explanations of policy. Substitute roll call voting and one has a familiar representation model from congressional studies in which voting is a function of partisanship and district ideology. To measure district partisanship we adopted the common practice of taking the average (actually factor scores) of several statewide races. For example, at the state level, state partisanship and ideology were clearly distinct factors, correlating at only .08, rising to a modest .48 with the southern states excluded. However, what we have found for the states where we have enough information to calculate separate partisanship scores is that presidential vote and partisanship are close to the same thing. We have district partisanship data

for sixteen chambers and the correlations between those partisan factor scores and vote for Gore in 2000 ranges from .98 for both Texas houses to .87 for the Vermont house.⁴ These are not, apparently, separate factors as partisanship and ideology seem to merge as one single constituency preference across the districts of the legislatures.

The measures of constituency preference are important for individual legislators, or at least we are tentatively assuming this is the case. But constituency preferences are also important for the character of life in the legislatures themselves, at least to the extent that our first assumption is true. We have shown in the aggregate that legislative policy tracks very nicely with aggregate state opinion (Erikson, Wright and McIver, 1993). However, within the states we expect that representation and coalition formation processes vary with the distribution of preferences across districts. The diversity of opinion among districts of a given chamber will be a function of the natural diversity within the jurisdiction of the chamber and how the district lines are drawn.⁵ Where there is little diversity of opinion, we would expect that the messages legislators hear from their constituents are quite similar. Given that we expect that all legislators have some leeway in position taking, what Key (1961) called “opinion dikes,” or Stimson (1991)

⁴ The relationship between presidential vote and district partisanship is very high for most of the chambers:

AZ	House	0.958
CO	Senate	0.963
CO	House	0.965
DE	House	0.971
GA	House	0.979
GA	Senate	0.980
ND	House	0.882
ND	Senate	0.881
TX	Senate	0.986
TX	House	0.983
UT	House	0.971
UT	Senate	0.973
VT	House	0.873
VT	Senate	0.973
WA	House	0.981
WA	Senate	0.981

⁵ For this analysis we are taking district as measured by vote for Gore as a given. In a future analysis, we intend to chart the relationship between what may be thought of as the “naturally occurring” patterns of opinion as these occur in our precinct data, and “politically constructed opinion” that results from the districting process.

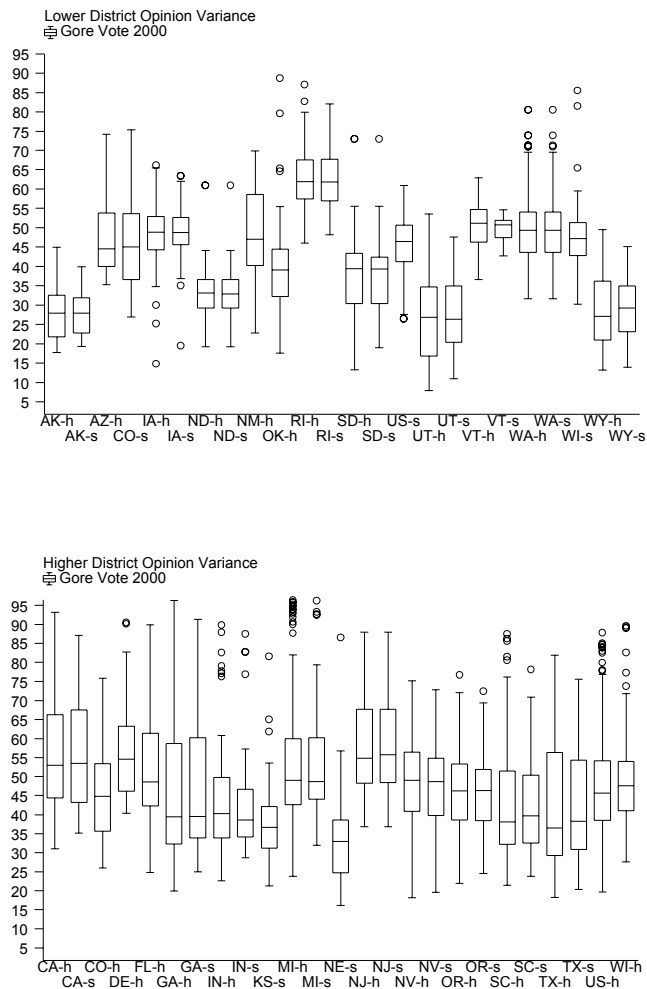
calls the “zone of acquiescence,” we do not anticipate a perfect fit between constituency opinion and member behavior, even when members function primarily as instructed delegates. Thus, we expect observed policy voting to be a function of both constituency opinion and member discretion within the districts’ opinion dikes. If the distribution of district opinion is narrow, then it may well be that there is a great deal of overlap in the areas of policy discretion that different members have. If this is the case, there is little reason to expect a strong correlation between members’ behaviors in the legislature and constituency opinion because the constituencies are all in sufficient agreement. Members operating within the areas of discretion they realistically have can take positions that are seemingly random with respect to constituency opinion. In contrast, consider a legislature whose districts are characterized by a large diversity of opinion some very liberal and others very conservative. Here members, even operating within their areas of discretion, will still, on average, take positions that are markedly distinct from one another, and these differences will reflect diversity in district opinion. The point is simply that in the operational life of a legislature, district opinion is likely to play a larger role when members represent a large diversity of districts. Where they are alike, the congruence approach we have adopted, will suggest that opinion is less important.

First let us look at the differences in opinion diversity across our 49 chambers, and then we will briefly discuss the consequences of this for our understanding of representation. We display this in Figure 3, which is shown as two series of box and whiskers plots. The upper set of 24 chambers are those with the smaller standard deviations of district Gore vote, while the bottom set are those with the larger standard deviations. The lines in the boxes are the median district opinion and the tops and bottoms of the boxes are the interquartile ranges. The lines that extend from the boxes include all cases within 1.5 times the distance of the interquartile range.

The cases beyond those are individual legislators who are the real outliers of their chambers.

Notice that most of the outliers are high Gore districts and only in Iowa are their outliers that are what we believe are very conservative districts giving overwhelming support to Bush in 2000.

Our expectation is that policy agreement, as least to the extent the constituency bears on policy making will be easier in the legislatures with less variance in constituency opinion.



**Figure 3: Diversity of District Opinion
Across 49 Chambers**

It is interesting to note here the relative differences in opinion of the U.S. House and Senate. The Senate with its larger “districts”--the states--put it among the chambers with the smallest

diversity of constituency opinion as measured by Gore vote.⁶ The U.S. House in contrast, and as expected, shows a greater diversity of mean district opinion, but this diversity is considerably less than that of a number of states. Compare the House box, for example to the distribution of both chambers in Texas, Georgia or California.

The most important point, we believe, is to be sensitive to the differences in distributions of mean district opinion that underlie our legislatures. Differences in the distributions of mean opinion bear directly on our measure and interpretation of representation using a congruence approach (Achen, 1977; 1978), but certainly no less so than the obstacles of comparing indices constructed from roll calls in legislatures.⁷ For present purposes, we only note that we do expect the extent of variation in mean constituency opinions should be reflected more in the structure of legislative conflict. We will explore this below after discussing our development of measures of legislative policy voting.

Roll Calls and NOMINATE.⁸

Our full data collection includes all roll calls cast in the 1999-2000 sessions of the 99 state legislative chambers as well as for Congress. We examine all competitive roll calls where “competitive” is defined as roll calls in which the minority vote was at least five percent of votes cast on that roll call. For subset of chambers included here this yields 21,304 roll calls and

⁶ This leaves aside completely, for the time being, the diversity of opinion within districts. This simple model assumes that paying attention to constituency opinion will be satisfied by voting in accordance with the relative position of the median district voter, regardless of the within district distribution of opinion.

⁷ We believe that measures of congruence, correlations, regression or logit/probit coefficients are all appropriate and convey useful information. The trick is to be sure that these are not inappropriately interpreted to tell us one thing when they actually may be telling us another. The fact that a comparative analysis of representation necessarily means interpreting processes across arenas in which the policy behaviors, dimensions and metrics are not the same has a significant impact on the kinds of statements about representation we can make. We believe, nevertheless, that congruence measures are useful. There is not room here for the development of the full argument, but we readily acknowledge that the value of our project for the comparative analysis of representation depends on appropriate interpretation and comparability of different measures of congruence.

⁸ This section borrows heavily from our recent look at parties and roll call voting: Gerald C. Wright and Tracy Osborn, “Party and Roll Call Voting in the American Legislature” Midwest Political Science Association convention paper, 2002.

includes almost 1,800,000 individual roll call decisions. The number of competitive roll calls varies from 63 for the Delaware house to over 2000 for the California Assembly. The mean is 410 and the median 316. To this point, we have made no effort to classify roll calls on the basis of content or whether they are substantive or procedural votes. We are collecting brief bill summaries for future coding so that it will be possible to examine subsets of bills to address more refined substantive or theoretical questions. As a first step, however, our goal is to chart a general map of the terrain, noting how patterns of roll call conflict in the states compare to the U.S. House of Representatives and Senate.

Our first concern is with the general shape of roll call coalitions across the legislatures, which begins with an examination of the basic dimensionality of conflict. For this we put the sets of roll calls through Poole and Rosenthal's w-NOMINATE program. We allowed for up to three dimensions, but find that for the most part, like Congress, the states have one and in a few cases two important dimensions. Table 2 shows significant findings for establishing dimensionality.

Table 2 NOMINATE Information for 49 U.S. Legislative Chambers

Chamber	Correctly Predicted		apre1	apre2
AK-h	.878	.891	.579	.623
AK-s	.879	.893	.526	.584
AZ-h	.829	.844	.292	.354
CA-h	.938	.944	.759	.783
CA-s	.950	.959	.822	.855
CO-h	.88	.89	.557	.592
CO-s	.894	.904	.62	.658

<i>DE-h</i>	.859	.894	.331	.498
FL-h	.922	.929	.715	.74
GA-h	.855	.868	.475	.52
GA-s	.907	.916	.692	.721
IA-h	.917	.928	.734	.769
IA-s	.902	.915	.707	.747
IN-h	.905	.91	.685	.701
IN-s	.871	.884	.488	.542
KS-s	.89	.912	.47	.576
MI-h	.93	.937	.807	.826
MI-s	.932	.938	.72	.743
ND-h	.853	.863	.39	.431
ND-s	.855	.876	.432	.513
<i>NE</i>	.753	.785	.189	.294
NJ-h	.938	.945	.671	.708
NJ-s	.883	.899	.566	.626
NM-h	.894	.904	.606	.645
NV-h	.881	.885	.341	.364
NV-s	.869	.889	.364	.458
OK-h	.876	.884	.432	.466
OR-h	.883	.891	.549	.581
OR-s	.874	.887	.492	.547
<i>RI-h</i>	.857	.884	.179	.335
<i>RI-s</i>	.853	.891	.351	.519
SC-h	.851	.874	.577	.642
SC-s	.854	.903	.548	.701
SD-h	.817	.835	.326	.392
SD-s	.839	.864	.367	.466
TX-h	.869	.88	.604	.639
TX-s	.859	.874	.238	.317
US-h	.88	.89	.621	.651
US-s	.897	.906	.687	.712
UT-h	.843	.856	.334	.391
UT-s	.848	.868	.445	.52
VT-h	.861	.874	.617	.651
VT-s	.871	.894	.561	.641
WA-h	.898	.906	.465	.507
WA-s	.9	.91	.636	.675
WI-h	.915	.922	.751	.773
WI-s	.945	.955	.853	.881
WY-h	.819	.831	.308	.354
WY-s	.802	.82	.257	.326

Italics suggest a larger, more prominent second dimension in the NOMINATE analysis.

The second and third columns show the percentage of votes correctly classified by the first dimension and by the first and second dimensions combined. The next two columns show the

APRE measures for the first two dimensions. These proportional reduction in error measures are in some ways more useful than the percentage classified correctly, since with lots of lopsided roll call votes, naive voting for the majority will yield misleadingly large values for the percent classified correctly. The APRE measures show the percentage improvement over the naive guesses.

Most of the states appear to be dominated by one clear dimension; however, in a few there is a clear second dimension. Five chambers appear to have what may be a meaningful second dimension if we adopt the criteria of having the second dimension add at least 2.5% to the correct classifications and the increment in the APRE of at least 10%.⁹ These chambers are listed in italics. At the other extreme, a few chambers appear even more solidly one-dimensional than the U.S. House and Senate. The highest of these are the Wisconsin and California senates, each with about 95 percent correct classifications on the basis of the first dimension and APREs with one dimension of over 80 percent. In these, and quite a few other chambers, the overall patterns of roll call voting are very highly structured along one clear dimension. The overall pattern of importance for the first and second dimension can be gleaned from Figure 4, which shows the increment in APRE achieved by the second dimension over the first on the vertical axis and the APRE for the first dimension along the horizontal axis.¹⁰ Higher values for the APRE 2 improvement indicate a greater contribution by a second dimension. Of course, values further to the right indicate more successful dominance of the conflict space by single dimension.

⁹Such criteria are entirely arbitrary. Poole and Rosenthal (1997) talk about the U.S. Congress having one and a half dimensions, with the current period particularly dominated by one dimension. These criteria leave the U.S. Congress as one dimensional, but still isolate a number of chambers in which the competition space is clearly more complex.

¹⁰The chambers are designated in the figure by three letters, for state and chamber. Thus, “CA-s” is the California Senate. The letter “h” is used generically for the lower houses.

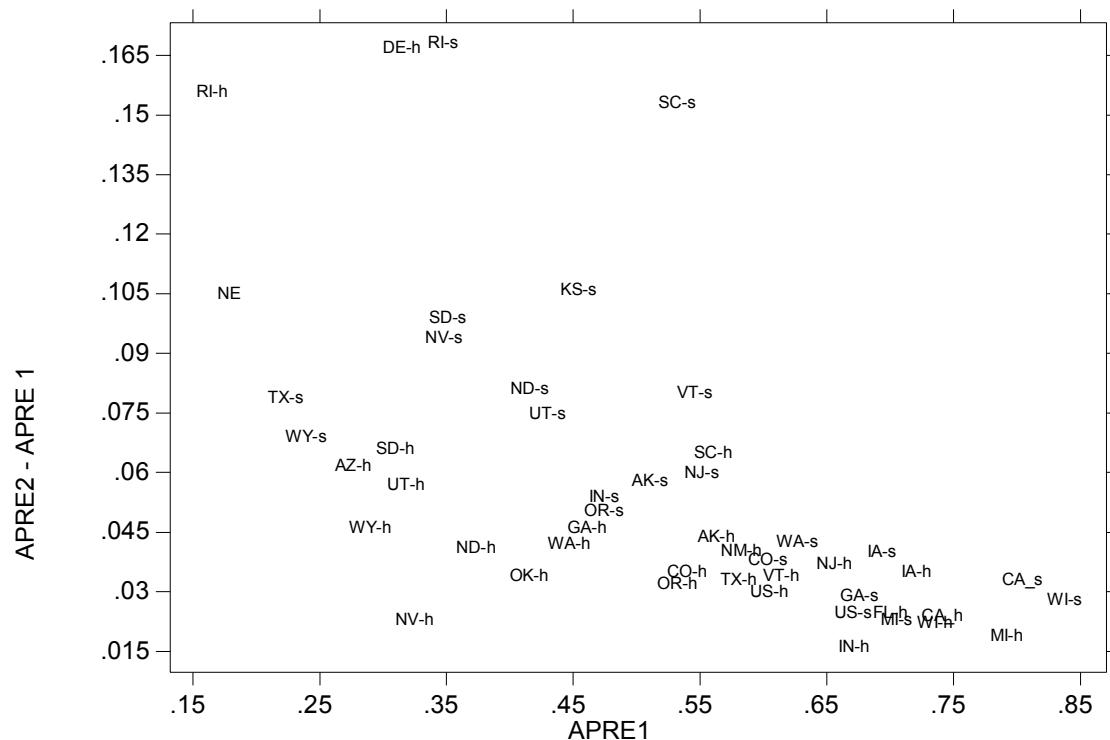


Figure 4. Plot of APRE and APRE Increment for 49 Legislative Chambers

Similarly, values toward the lower left portion of the graph indicate that neither of the first two dimensions are accounting for roll calls; other factors are needed to make sense of at least a substantial portion of the roll call activity in these states. Interestingly, the chambers with the least structured voting here is Nebraska with its nonpartisan legislature. It has the lowest percentage classified correctly by the first two dimensions and the lowest combined APRE. Close behind Nebraska's unicameral is the Rhode Island House which is virtually a one-party legislature. These outliers suggest that parties, particularly competitive parties, are important in defining a simpler structure for legislative conflict. This is the argument we developed earlier based on a comparison of the Kansas Senate and the non-partisan Nebraska unicameral (Wright and Schaffner, forthcoming 2002).

In this preliminary analysis, we are only going to look at the chief party/ideological dimension of legislative conflict. In almost all instances this is the first NOMINATE dimension. The exceptions are the two Rhode Island chambers and the Nebraska Unicameral where we find that party affiliation actually correlates more strongly with the second NOMINATE dimension.¹¹

Representation and the Electorate

We approach this first look at representation from a particular perspective. We know that the states achieve reasonably good levels of what some call “collective” representation. Liberal states achieve liberal policies and more conservative states achieve more conservative policies. Our concern is with the electoral-legislative connection and how this occurs, and in particular, what is the role of citizen preferences in bringing about broad levels of state opinion-policy congruence. Earlier we attempted to illustrate alternative mechanisms by which such collective representation can occur. The simplest is the pure delegate model, which we might also call a simple public opinion model. In this model, legislators just do what their constituents want, presumably to get reelected, but perhaps because they happen to agree or they feel that following constituency preferences is the right thing to do. If simple mean district opinion determines how legislators position themselves in their legislatures, then we should find high levels of agreement between voting for Gore and the first NOMINATE dimension, which we are provisionally calling roll call liberalism.¹² The results of the 49 simple regressions of roll call voting on district opinion are shown in table 3.

Table 3 Relationship between Public Opinion and Main Dimension of Roll Call Voting.

State	Chamber	R-sq	Slope	State	Chamber	R-sq	Slope
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¹¹ Illinois is another state--although it is not included in this analysis because its precinct data are not available yet--where there is a strong non-party first dimension. We will be undertaking additional analysis in each of the multi-dimensional chambers to determine what, if any, are the constituency bases for these cleavages.

¹² We reflected the first dimension where necessary so that it correlates positively with members' party affiliation, scored 0,1 for Republicans and Democrats.

NJ	House	0.741	0.045	WA	Senate	0.409	0.043
TX	House	0.709	0.030	DE	House	0.393	0.031
SC	House	0.690	0.029	GA	House	0.391	0.016
TX	Senate	0.649	0.042	SC	Senate	0.389	0.033
MI	House	0.625	0.034	NE*	Senate	0.370	0.023
CA	House	0.616	0.035	UT	Senate	0.360	0.045
NM	House	0.594	0.049	NV	House	0.341	0.031
AK	Senate	0.560	0.084	WY	House	0.339	0.036
CA	Senate	0.549	0.035	IA	Senate	0.337	0.054
FL	House	0.544	0.029	WI	Senate	0.332	0.041
OR	House	0.534	0.040	KS	Senate	0.330	0.032
US	House	0.523	0.032	WY	Senate	0.308	0.039
CO	Senate	0.512	0.046	IA	House	0.306	0.052
NV	Senate	0.505	0.045	OR	Senate	0.301	0.035
WA	House	0.501	0.038	RI*	Senate	0.294	0.026
WI	House	0.499	0.042	OK	House	0.291	0.031
NJ	Senate	0.498	0.048	AK	House	0.282	0.058
CO	House	0.490	0.038	SD	House	0.230	0.030
UT	House	0.485	0.037	VT	House	0.228	0.047
IN	House	0.469	0.033	SD	Senate	0.199	0.036
IN	Senate	0.468	0.034	US	Senate	0.181	0.037
AZ	House	0.455	0.036	ND	Senate	0.163	0.038
VT	Senate	0.434	0.132	RI*	House	0.149	0.021
GA	Senate	0.433	0.025	ND	House	0.131	0.027
MI	Senate	0.429	0.034				

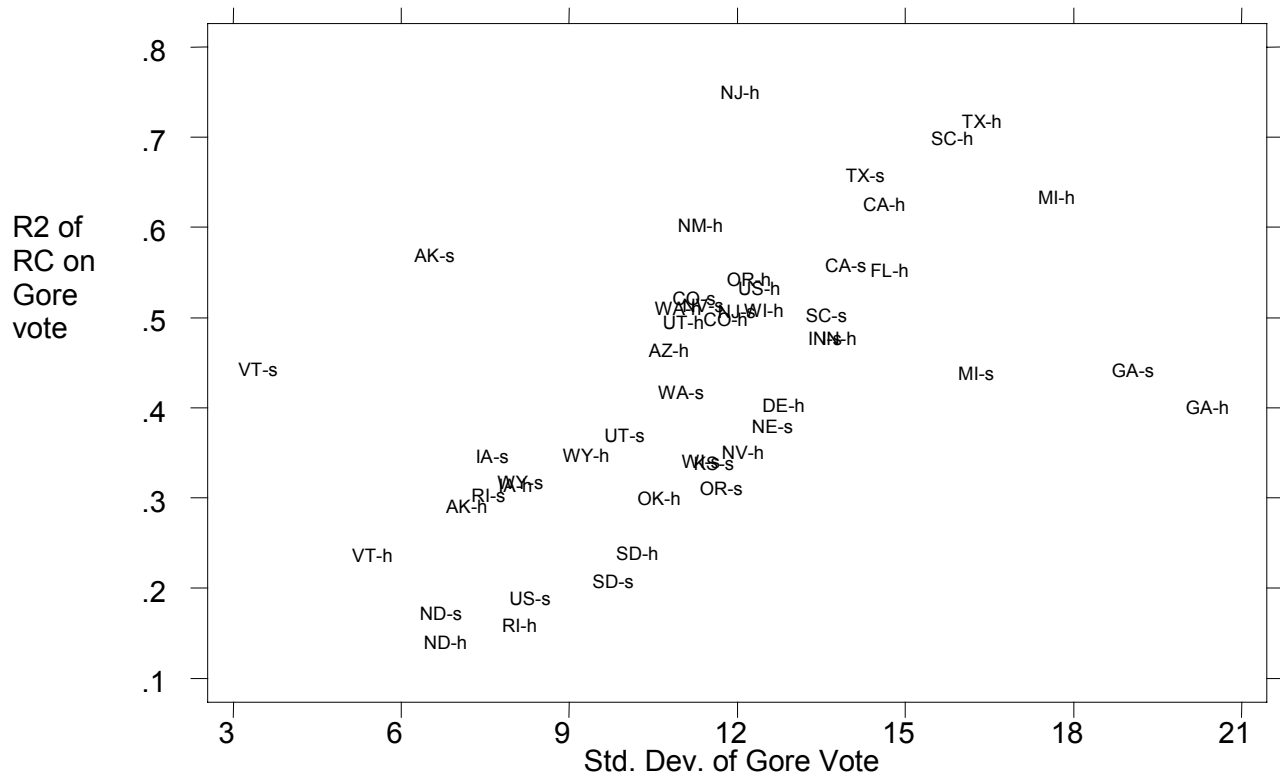
*Regression of second dimension on public opinion.

The first question we need to face here is what indicator to use to measure the quality or strength of public opinion in comparing the legislatures. In previous work we have used regression coefficients to minimize the problems of differences in variance on the right hand side variables in interpreting the results. However, this does not work so well here. Our dependent variable, the NOMINATE scores, are based on the collected roll calls and are not comparable across legislatures because the raw ingredients, the roll calls, are largely disjointed sets. The exception here is when two houses of a jurisdiction vote on the same bill, but we are not able to pull these out at this point, and that would not aid in comparability across jurisdictions at all. The slopes represent the effects of a percentage difference in the Gore vote on the metric of the NOMINATE scores which are, in a sense, standardized for the sets of roll calls they include.

Given that, at this point at least, the metrics of the roll call NOMINATE scores are not directly comparable, it is not clear what using slopes to measure the impact of public opinion in the legislature actually tells us. Our approach, therefore, is to present the regression coefficients, but to rely more on the R^2 values as indicators of how much public opinion is able to explain the dominant dimensions of conflict in the chambers. Therefore, we have sorted the 49 chambers in terms of the simple explanatory power of the Gore vote. The results are rather striking in the amount of variation across chambers in how much legislative conflict seems to reflect mean constituency opinion. District opinion accounts for over two thirds of the variance in the lower houses of New Jersey, Texas and South Carolina but less than a fifth of the variation in the both of the chambers in North Dakota as well as the Rhode Island house and the South Dakota and United States senates.

One thing that suggests itself here, in looking over the individual chambers, is that those toward the bottom, where constituency opinion has less explanatory power, are also relatively homogeneous states. If so, then as we mentioned above, lower levels of diversity of district opinions should be reflected in opinion doing less to structure the contours of legislative conflict. We can see in Figure 5 that there is something to this argument. In this figure, we array the explanatory power of opinion against the district standard deviations in the Gore vote. As the districts within a legislature are further apart ideologically, we see that district opinion has greater explanatory power.

Figure 5. Public Opinion Effects by Opinion Diversity

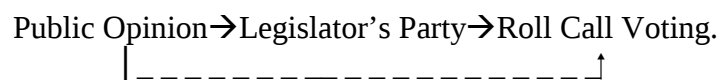


There is a clear positive pattern in which public opinion accounts for more variance in roll call voting, but the pattern is too loose to conclude that the only difference is how heterogeneous the legislative districts are. Notice, for example, that the chamber with the highest R^2 for public opinion, the New Jersey house is only about average in terms of the diversity of mean district opinion, while the chambers in Georgia have the most heterogeneous sets of districts, yet the opinion effects there are only about average.

We fully expect that quite a few things contribute to the impact of opinion on legislative positions, and we will be looking at these in future papers. However, in what remains of this paper we want to look briefly at the other models we discussed at the outset. The trustee model would predict little relationship between district opinion and legislator's voting. The low R^2 s of some of the chambers would be consistent with the expectations of a pure trustee model, and

they are also consistent with a partial party model. As we shall see, the evidence suggests that variations on the party model are most useful in making sense of the patterns of representation in our legislatures.

Party, we fully expect, plays a central role in the process of representation. We expect this to occur in a two-leg process in which the first leg is the relationship between the electorate and party. The information costs of legislators' behavior is high so many citizens rationally use party as a short cut in making the electoral choices. Of course, party may tell voters more about candidates in some places than in others. We know that the ideologies of the parties elites, including those of state legislators, vary across the states (Erikson, Wright and McIver, 1993, Chap 5), so we can expect that party will be of varying importance and use to voters. The second leg of the party model is the relationship between legislators' party affiliations and their roll call voting. For the full party model of representation to operate, both legs need to be operating: voters need to select candidates based on party labels, and the party affiliation needs to be a principal factor in roll call voting. Graphically, we think of the party model as



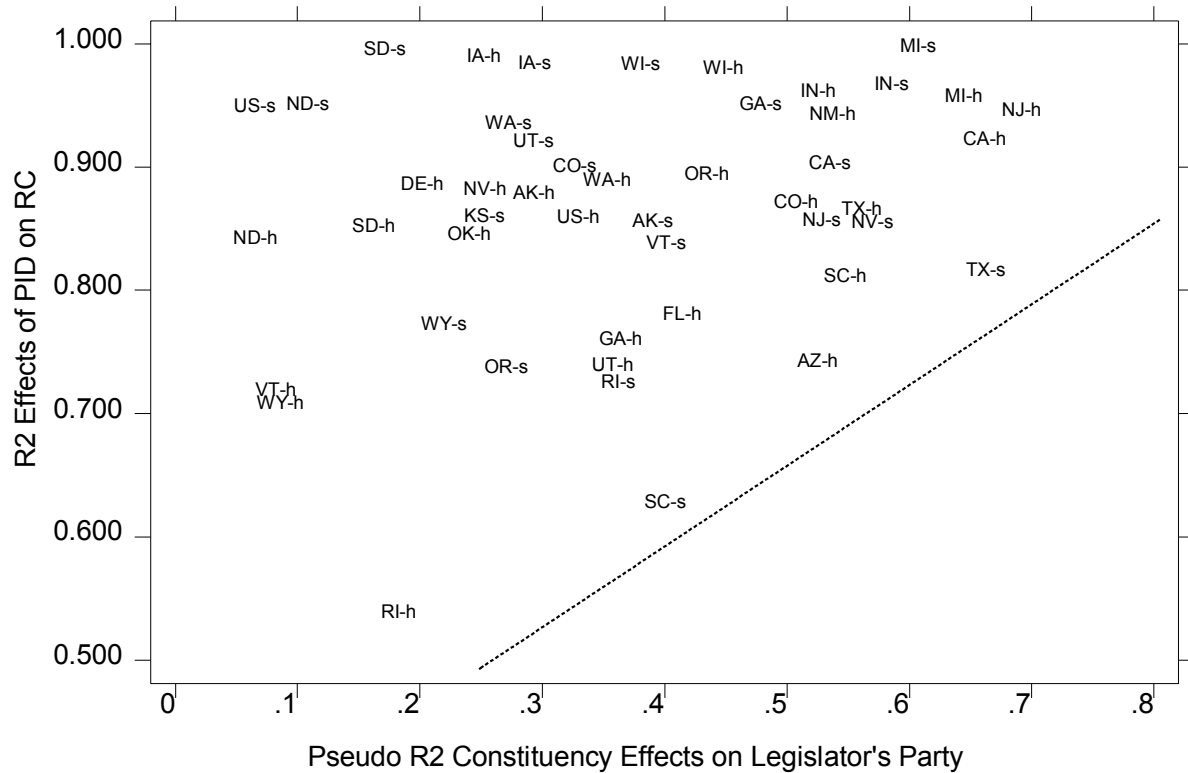
To the extent that party is the intervening factor connecting citizens and legislators, we would expect opinion to exert its influence through the selection of members who would then act cohesively in making policy. Of course, it is possible that neither leg of this model operates in some legislatures. Where the voters do not use party, perhaps district oriented legislators feel no need to form strong legislative parties. Alternatively it may be that in some places one leg of the model is strong and the other weak. If the first leg is strong and the second weak it would indicate that, voters use party in electing members, thus aligning district opinion and members'

partisanship, but the parties do not act as cohesive teams within the legislature. Conversely, voters may vote based on all sorts of factors like incumbency, visibility and images generated in campaigns so that Democrats and Republicans are elected from across the ideological spectrum, but nevertheless, those elected form strong party coalitions so that party is a strong predictor of roll call voting. We find examples of each below.

A summary of the relationships between the effects of constituency and the effects of member's party can be seen in Figure 6. Constituency effects on member partisanship (leg 1) are plotted on the horizontal axis and the effects of members' party on roll call voting (leg 2) are plotted on the vertical axis. Thus chambers where both effects are strong, where the party model operates most clearly, are those in the upper right quadrant. Both houses of the Michigan legislature are here as are the New Jersey and California houses. In these chambers, and those close by, constituency opinion largely operates through party. As we move to the left and down the effects of constituency on members' partisanship and of members' partisanship on roll call voting decline. Notice that both constituency and member partisanship effects are quite low for the Rhode Island house. (We have not plotted Nebraska here; its values are far to the left and below any of those plotted).

There is an interesting pattern to the overall effects in Figure 6. It appears that the impact of party on roll call voting is conditional: where constituency effects are weaker we see great variation in the impact of party. Compare the high degree of partisanship among the chambers in the top left of the graph--the senates of the U.S., North and South Dakota-- where roll call voting is highly partisan to the much weaker party impact on roll call voting in the Wyoming and Vermont houses. In contrast, when constituency reliably translates into member partisanship,

Figure 6. Two Links of the Policy Model
Party-->Roll Call effects by Constituency-->Party Effects



party also is a larger factor in roll call voting (the chambers in the right portion of the graph).

Interestingly, there are no cases where constituency has a big impact on partisanship of the legislators, but where party counts for little in the legislature. The Texas Senate, which we examine below, is the closest case. It is interesting that the triangle marking the lower right portion of the graph is empty suggesting that when party counts in elections, it also counts in the legislature.

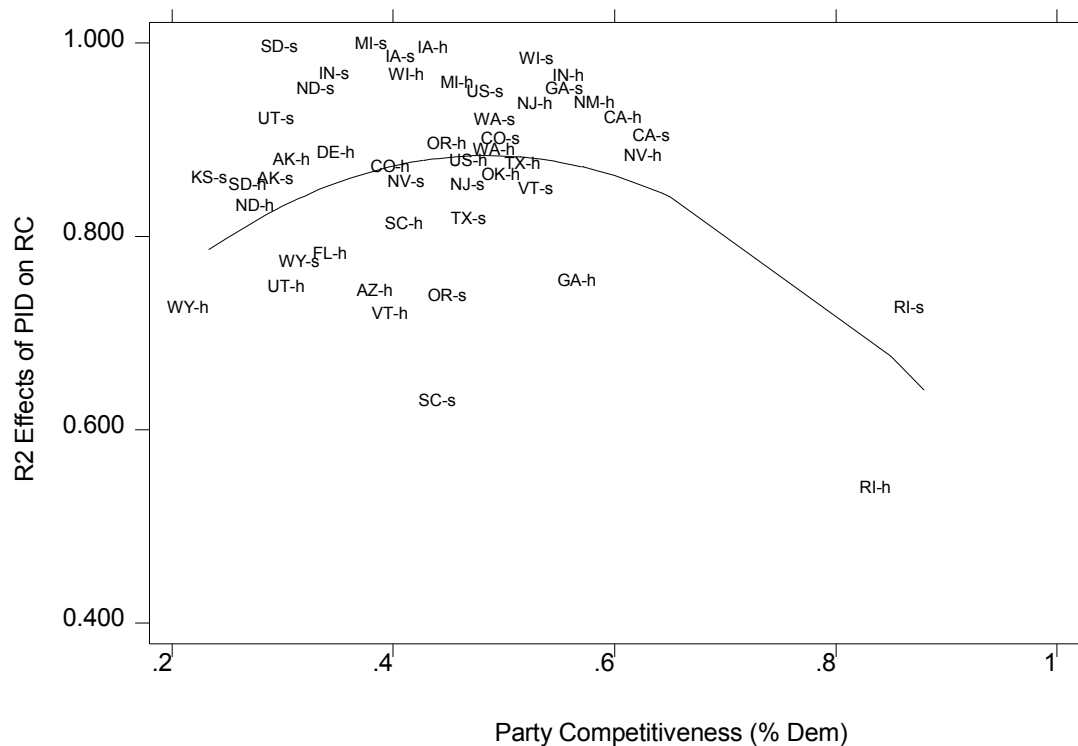
Party competition is likely to be an important factor that influences the strength and cohesiveness of parties in the legislatures. Based on our recent work, as well as that of others, we expect party competition to influence most aspects of representation and the policy process. When the parties are competitive in the legislature, both parties can, with appropriate moves, win on issues, and thus, it makes sense to organize coalitions tightly around party. However, when

one party has no chance of winning, members may well peel themselves off with vote trades and other bargains to get what they can since their votes have only minimal value with party line voting because the outcomes are already known. Thus, we expect that party in the legislature will be more important when the balance between the parties approaches 50-50. To assess this idea we look at the relationship between the size of the effects of party on roll call voting and the competitiveness of the parties in the chamber. We do this by regressing our measure of party effects within the chambers on party competitiveness (measured as the joint effects of percent Democratic and percent Democratic²). The equation and the plot of the relationship and estimated regression line are shown in Figure 7.¹³

In the regression, the quadratic term for legislative competitiveness has the expected sign and is significant. The resulting curvilinear effect of competitiveness on the relationship between party affiliations and roll call voting are evident. The estimated impact of party on roll call voting is highest near the point of maximum competition. Of course, other factors affect how much party matters in the legislatures. Interestingly, the powers of the leadership seem not to be one of these, at least not in the data we have collected so far (Wright and Osborn, 2002). We anticipate that the nature of politics within the legislatures will be largely a function of the electoral and partisan forces in their environments. We have a quite a ways to go before

¹³ The regression excludes Nebraska: Party effect = $.52 + 1.5 * C - 1.55 C^2 + e$. Both coefficients are significant with an $R^2 = .23$. The relationship is essentially the same with Nebraska included with, because it is an outlier, an increase in the R^2 to .49.

Figure 7. Party Effects on Roll Call by Competitiveness



we gain much certainty about the configuration of these forces and how they affect representation. Nevertheless, we are heartened to find that some broad and easily intelligible patterns of representation are emerging, even in this very early exploration of the data.

Selected Case Studies of Representation

Up to this point, we have focused on a cross state analysis and comparison of the varying types of representation in America's legislatures. These broad strokes comparing relationships across chambers necessarily leave out interesting, and perhaps telling, idiosyncratic aspects of the opinion-party-roll call relationships. In this concluding section, we continue to look at patterns of representation but now in the version of brief case studies of specific chambers. Our goal is simply to provide another perspective on representation, looking within institutions rather

than simply across them. We will look at five individual chambers from the perspective of our discussion of the idealized models of representation.

The South Carolina House of Representatives, with 124 members and a 54% Republican majority, presents a good example of what we would expect a simple delegate model to look like (Figure 8, top). In the idealized model, legislators are differentiated by who they represent, not their parties. Of course, we suspect that party is a key component in the South Carolina House, as elsewhere, and we do see that Democrats are more liberal than Republicans. There is, however, only a modest “party effect” visible over the alignments of roll call voting and district opinion. The dominant pattern is one in which, as public opinion becomes more liberal, members’ policy preferences become more liberal in an almost linear manner. Liberalism among the Democrats does reach a ceiling effect so that the heaviest Gore districts, which not surprisingly, are majority black districts, do not keep getting more and more liberal. Nevertheless, the shape of the relationship and the strong correlation between opinion and roll call voting ($r=.83$) provides a good illustration of how we expect a public opinion model of representation to look.

The North Dakota Senate, which has 49 members with a Republican majority of 31 members, has a strong party in government that is not supported by differences in electoral behavior in the districts. Within the parties, there is almost no relationship between constituency preferences and roll call voting. As Figure 9 (bottom) shows, the Democrats hold seats from among the most conservative to the most liberal districts within North Dakota. The Republicans make inroads beyond the most moderate of districts so that overall district opinion is only very weakly related to roll call voting ($r=.40$). What we find significant here is that the Democrats from the most conservative districts show the same policy liberalism as those from the more

liberal districts. The same holds for the Republicans. Between the parties, there is a clear ideological difference with no overlap between any Democratic and Republican policy liberalism scores. We hope to explore in detail what it is about the context of politics in places like North Dakota that produces party polarization that does not seem to be rooted in district electoral choice.

The New Jersey Assembly, which has 80 members and a Republican majority of 44 members, presents an interesting example of the strong party model. Figure 9 (top) shows two distinct groups: the Democrats in the upper right hand quadrant and the Republicans in the lower left hand quadrant. As we would expect in a strong party model, the parties have a strong base in district opinion: liberal districts elect Democrats and conservative districts elect Republicans. In turn within the chamber, the members form two distinct groups based on party. We can define the moderate districts, in terms of state politics, as those close to the mean of district opinion (58% Gore). There we find the dividing line between Republican and Democratic victories, with only a small overlap where both parties win (save for one outlier Democrat who appears to be hold what is clearly a Republic seat).

The multi-member structure of the New Jersey Assembly may provide part of the explanation for these clear results. New Jersey elects 80 members from 40 districts with each district electing two members. Thirty-nine out of the 40 districts are represented by two members from the same party. The only exception, the 4th district, lies close to the mean state opinion (59.1% for Gore). A final indicator of a strong party model is the very clear separation and relative cohesiveness of the parties. The liberalism of roll call voting stays pretty constant within the parties. Policy change in the New Jersey Assembly comes from electing members of

the other party, and these changes, we expect to be concentrated in a few districts where the parties are competitive.

The Texas Senate with 31 members and the slightest of a Republican majority (16 to 15) represents an interesting case in which the electorate does a fairly good job of electing members based on their preferences but the parties do not present themselves as cohesive units within the chamber (Figure 9, middle). Republicans senators cluster around the expected lower left hand corner of the graph; however, there are interesting outliers within the delegation. The most obvious is Senator Lindsay from the 7th district. He represents the most conservative district but has the most liberal policy score of the Republicans (even higher than one Democrat). While the Republicans show signs of the expected cohesion, the Democrats show a distinct lack of cohesion. More liberal districts elect Democrats but this does not translate into an expected pattern of member behavior. Earlier we talked about the diversity of opinion among districts. In some states like Texas there is a clear socioeconomic diversity underlying this, which may result in a lack of party cohesion. The two most liberal districts by our measure of public opinion are majority black districts represented by African-American senators in Houston and Dallas. A second group of Democrats comes from majority Hispanic districts that favored Gore slightly less than the majority black districts but still at a greater measure than the rest of the state. Democrats represent these districts but they vary in their policy liberalism. Two of the most moderate Democrats represent the rural western portion of the state from Brownsville along the Mexican border to El Paso with only a small portion of San Antonio included. The other three members from majority Hispanic districts all represent urban districts. Two of those include the urban areas of San Antonio and El Paso, and the third includes a majority Hispanic district within Houston. The Texas Senatorial Democrats lack cohesion. Given the diversity of districts

they must win in order to have a majority, it is not surprising that the delegation shows considerable ideological heterogeneity. What we see among Texas Senate Democrats is an instance of strong party in the electorate but a weaker party unity in roll call voting.

Finally, we present the Rhode Island House of Representatives as a case of what happens with almost no party competition. In Rhode Island, Democrats dominate as they hold close to 90% of the seats out of the 100-member chamber. Figure 9 (bottom) hints at the lack of structure that is the Rhode Island House of Representatives. There is only a weak relationship between this dimension of roll call voting and public opinion ($r=.43$). We should point out that we are not even looking at the main dimension of conflict in Rhode Island. That is made up of a clear split among the majority Democrats and it is unrelated to state opinion ($r=.09$). We have yet to determine the policy content of that dimension, but the partisan split, such as it is, comes on the second NOMINATE dimension shown in the figure. We find a similar, even more severe, lack of structure in the nonpartisan Nebraska Unicameral (Wright and Schaffner, 2002 forthcoming; Wright and Osborn, 2002). This is only another angle from which to address the importance of competitive parties for representation (see also Figure 7). Without a strong incentive for party cohesion the importance of party falls apart in Rhode Island.

Overall, we have used five different chambers from five states to show a variety of patterns of the legislator/constituency linkage. These brief case studies only scratch the surface on the detail and nuances we expect to uncover as this project progresses. Hopefully, as we move deeper into our analyses we can uncover the actors that lead to the differing models of representation we discuss here.

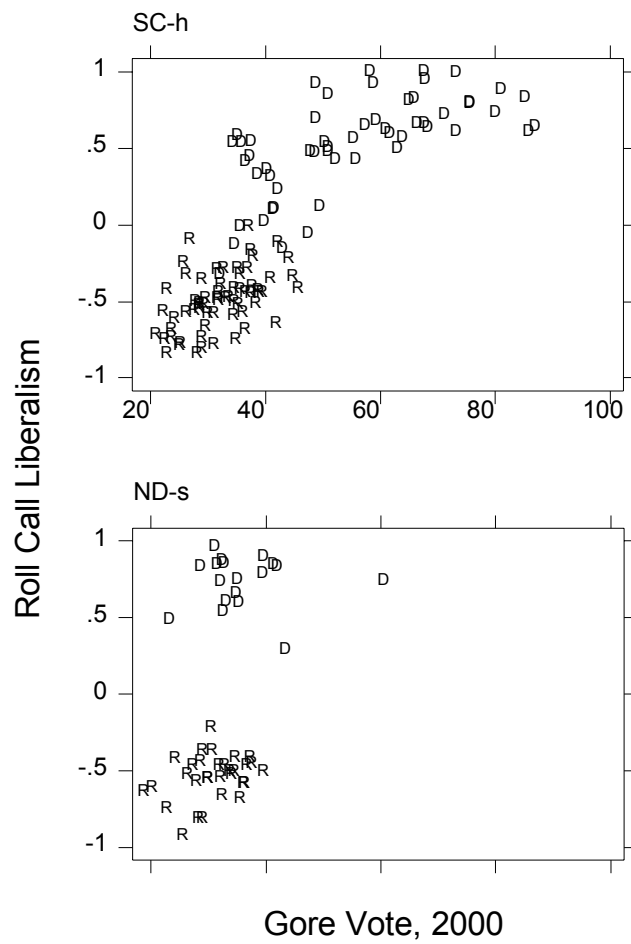


Figure 8. Roll Call Votes and Opinion: Examples I

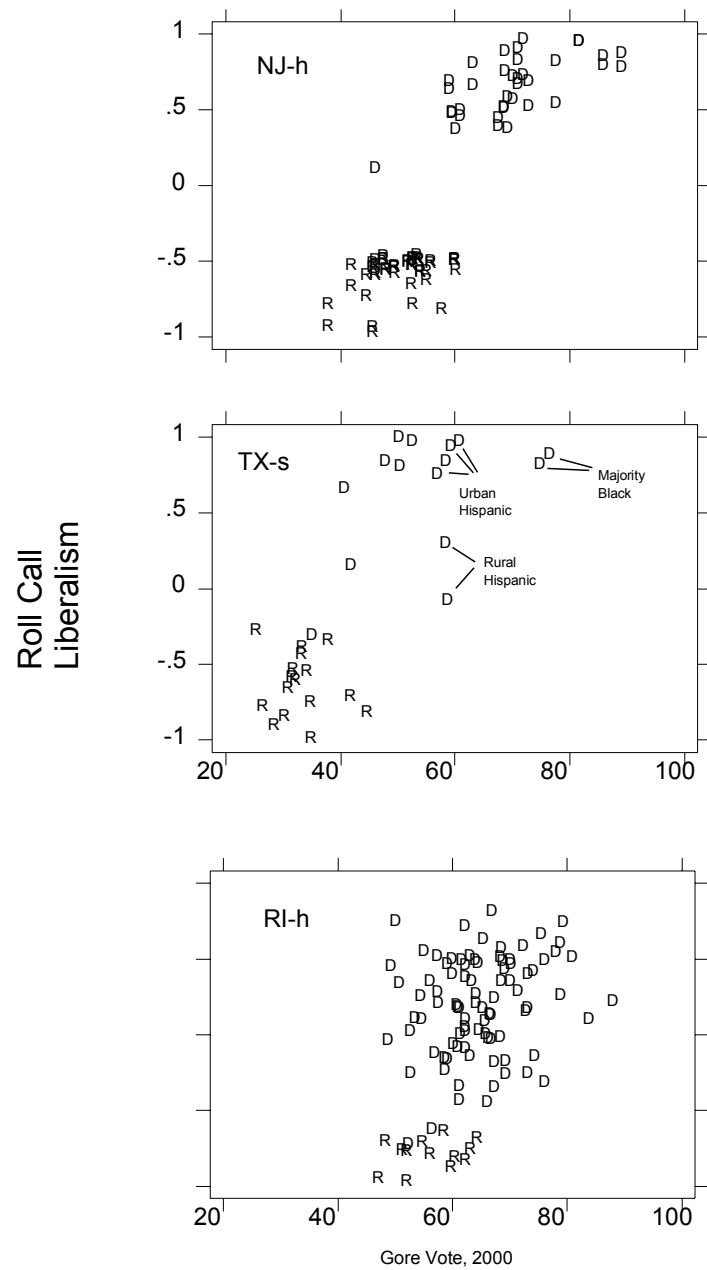


Figure 9. Roll Call Votes by Opinion: Examples 2

Conclusions

This paper represents a first foray into our collection of data on representation in the American legislatures. It uses less than half of the data that we expect to employ in our analyses in the near future, and we are in the beginning stages of identifying and examining the variety and correlates of constituency-legislator congruence in these bodies. Hence, we do not have many substantive conclusions. We have a few tentative hypotheses at best.

Our primary conclusion is a general optimism for the study of representation. The states do offer a tremendous laboratory for studying important political processes. Our first look suggests that (1) public opinion matters for what our legislators do, but this varies a lot from place to place, and (2) that party plays a central, but also varying, role in the representation process. Together with what we have learned about the correlates of party in the legislatures (Wright and Osborn, 2002), we expect that it will be possible to identify the ways party works, and why. Competition appears to be central, as is the character of state party systems, which have effects that are independent of the institutional arrangements of the individual legislative chambers. While our data are not perfect by any means, we are hopeful that they will provide a foundation adding to our understanding of constituency-legislative relationships, and hence, the processes that underlie the aggregate levels of policy congruence that we find in American politics.

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