

Copyright

by

Adam Shalmone Myers

2011

**The Report Committee for Adam Shalmone Myers  
Certifies that this is the approved version of the report:**

**Constituency Cleavages and Partisan Outcomes in the American State  
Legislatures**

**APPROVED BY  
SUPERVISING COMMITTEE:**

**Supervisor:**

---

Bryan D. Jones

---

Peter Trubowitz

**Constituency Cleavages and Partisan Outcomes in the American State  
Legislatures**

**by**

**Adam Shalmone Myers, B.A.**

**Report**

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degree of

**Master of Arts**

**The University of Texas at Austin**

**May 2011**

## **Acknowledgements**

I wish to thank my supervisor Bryan Jones and second reader Peter Trubowitz for their guidance on this project, as well as Stephen Jessee for his advice on the methodology I have employed. I am deeply grateful to Gerald Wright for making the state legislative roll-call data used for this paper available on his website. Finally, I thank CQ Press for granting me permission to use the district-level demographic data found in Lilley, DeFranco, and Bernstein's *The Almanac of State Legislatures: Changing Patterns, 1990-1997*.

Submitted February 12, 2011

## **Abstract**

Constituency Cleavages and Partisan Outcomes in the American State Legislatures

Adam Shalmone Myers, M.A.

The University of Texas at Austin, 2011

Supervisor: Bryan D. Jones

I focus on three district-level demographic variables indicative of contemporary social cleavages, and construct measures of their influences on partisan representation in American state legislatures during the 1999-2000 years. Using these measures, I examine a series of questions concerning the relationship between social cleavages and state legislative outcomes. I find that district racial composition is the most important constituency-based factor influencing partisan representation and voting in legislatures, but that other constituency variables are also important under various circumstances. I also present OLS regression analyses demonstrating the independent effect of the overall representation of social cleavages on levels of legislative polarization.

## Table of Contents

List of Tables .....	vii
List of Figures .....	viii
Text .....	1
Appendix.....	31
References.....	32

## **List of Tables**

Table 1:	Descriptive Data on PRE Statistics Based on a Single Demographic Predictor .....	13
Table 2:	Constituency-Based Cleavages and Party Likeness Scores, 1999-2000 .....	21
Table 3:	Determinants of Party Likeness Scores in American State Legislative Chambers, 1999-2000 .....	26
Table 4:	Determinants of Polarization Factor Scores in American State Legislative Chambers, 1999-2000 .....	27

## List of Figures

Figure 1: Probabilities of Districts in State Lower Legislative Chambers Being Represented by a Republican.....	17
---	----



## **Introduction**

How do differences in the constituency bases of political parties affect partisan conflict within legislatures? This basic question has motivated the research agendas of scholars of American politics since the inception of the political science discipline. In recent decades, however, the bulk of studies in this realm have been similar in two key respects: first, they have generally focused upon only one legislative institution (i.e. the U.S. Congress); second, they have generally sought to make inferences by examining differences across time rather than across space. The central thrust of these studies, therefore, has been that temporal changes in partisan voting in the U.S. House can be linked to changes in the coalitional configurations of the political parties at the congressional district level.

In this article, I extend inquiry about the connection between social cleavages, political parties, and legislative outcomes into territory that once proved fertile for such studies, but that has not been so for some time – the state legislatures. The comparative framework that I use is cross-sectional rather than longitudinal. Instead of considering how changes in the constituency bases of the political parties across time affect the substance of congressional politics, I examine how variations in the distinctiveness of party constituencies across the American states result in divergent patterns of state legislative politics. In doing so, I seek to deepen and extend the insights of classic studies on this topic in two important ways. First, I examine a more recent time period (the late 1990s) and focus on the social cleavages that have come to define American politics in the late 20<sup>th</sup> and early 21<sup>st</sup> centuries. Second, whereas early studies of social conflicts and state legislative outcomes never focused on more than 26 of the 99 state legislative

chambers, I utilize larger data sources and newer statistical techniques so as to include nearly all of the country's state legislative bodies.

More specifically, I focus on three constituency-based demographic variables at the state legislative district level – median household income, the percentage of adult residents who have acquired a college education, and the percentage of residents who are non-Hispanic white – and construct measures of the extent to which these variables (both in and of themselves and when considered concomitantly) influence partisan representation in America's state legislative chambers. I use these statistics in combination with state legislative roll-call voting data to answer three interrelated questions about the link between constituency cleavages and partisan outcomes in contemporary state legislatures.

First, which cleavages are most important in accounting for partisan representation in state legislatures? Race, educational attainment, and district income are all well-known as markers of political cleavage in the United States, but the aggregate-level relationship between these variables and state legislative representation has not been thoroughly examined. Using the aforementioned data, I show that state legislative chambers differ considerably in the influence that each of the aforementioned district-level variables has on partisan representation within them. I also show that district racial composition is the most important demographic variable of the three in accounting for partisan representation in the majority of state legislative chambers.

Second, how relevant are the three district-level demographic variables (race, educational attainment, and income) in explaining variations in partisan voting within

state legislatures? While certain district-level social characteristics may do a good job of predicting partisan representation, the degree to which these characteristics are reflected in the partisan affiliations of legislators may or may not have an effect on actual legislative outcomes. Using roll-call voting data, I demonstrate that the extent to which racial cleavages are reflected in partisan representation within state legislative chambers is the only district-based indicator that can be directly associated with higher levels of partisan roll-call voting.

Finally, to what extent do differences in the overall representation of social cleavages bear upon levels of partisan polarization in state legislatures compared to other important factors? Recent scholarship has suggested that state legislatures vary widely in the extent to which their parties have polarized (Aldrich and Battista 2002; Shor, Berry, and McCarty 2010). Several studies have suggested some possible factors influencing these variations, but few have attempted to measure their influence. In this study, I present regression analyses demonstrating the importance of the representation of social cleavages in explaining state legislative partisan polarization, with other factors held constant.

This study makes a series of important contributions to the study of American legislatures and American politics more generally. First, through examining the influences that specific social cleavages have on partisan representation and voting in contemporary state legislatures, this study sheds important light on the social foundations of elite-level politics in the modern United States. Additionally, through demonstrating that constituency-based cleavages have a similar effect on partisan outcomes in

contemporary state legislatures as they do in the U.S. Congress, this study marks an important step forward in comparative legislative research. Lastly, through pointing to a variety of sociological, organizational, and regional factors influencing polarization in state legislatures, this study improves our understanding of the sources of party conflict in legislative bodies.

### **Previous Literature on Constituency Cleavages and Legislative Outcomes**

In the 1950s and 1960s, the connection between social cleavages and state legislative outcomes was a topic of concern for many political scientists. Using a variety of theoretical approaches and an array of statistical techniques available at the time, scholars delved deeply into explorations of the ways in which variations in the social foundations of state political parties resulted in divergent patterns of legislative politics (Key 1949, 1956; MacRae 1952; Derge 1958; Dye 1961; LeBlanc 1969). The studies produced by these scholars were in many cases at the forefront of the legislative studies subfield during these decades. In addition, these studies provided an important inspiration for students of the U.S. Congress, who became interested in the role that changes in the social configurations of the political parties had on partisan outcomes in the U.S. Congress across time. These scholars, in turn, produced a fascinatingly rich and historically-informed literature about the linkages between social conflicts within the electorate and partisan conflict within the U.S. Congress (Brady and Althoff 1974; Brady, Cooper, and Hurley, 1979; Bensel 1984; Brady 1988; Sanders 1999; Bensel 2000;

Stonecash, Brewer, and Mariani 2003; Jenkins, Schickler, and Carson 2004; Polsby 2004; Mellow and Trubowitz 2005; Oppenheimer 2006; Theriault 2008).

But while the relationship between social cleavages and legislative outcomes has served as an important wellspring of research topics within the field of congressional studies as of late, the same cannot be said for the field of state legislative studies. Since the 1960s, studies examining the link between social conflicts and partisan outcomes in state legislatures have been relatively rare. By and large, state politics scholars have focused much more extensively on the roles played by institutional, organizational, or member-related factors in influencing legislative outcomes than they have on social cleavages.<sup>1</sup>

There are a number of important reasons for why it is high time to re-engage in a thorough examination of the relationship between social cleavages and state legislative outcomes. The first is that, since the 1960s, the United States has transformed demographically, economically, and politically in numerous ways. The social conflicts

---

<sup>1</sup> To be sure, state politics scholars have made some very substantial efforts to assess the impact of partisan cleavage structures within the American states on variations in state policy outcomes (Brown 1995; Garand 1985; Jennings 1979; Hill and Leighley 1992). As Stonecash (1999) points out, however, almost all of these studies utilize individual-level survey data to draw inferences on partisan cleavage structures, thereby rendering them somewhat inappropriate for examining constituency-based cleavages at the legislative district level. In particular, individual-level survey data cannot account for the distinct spatial patterns in the distribution of social groups within a given state that influence the makeup of state legislative districts. Stonecash's own study constitutes the furthest that political scientists have gone thus far in examining differences in constituency-based cleavages across state legislative districts. However, his study is primarily focused upon district income as a marker of partisan cleavage and does not examine the connection between constituency-based cleavages and roll-call voting patterns.

that have come to define American politics (and state politics in turn) in the 1990s and 2000s are considerably different than the ones that defined state politics in the 1950s and 1960s. However, the extent to which these social conflicts have come to be represented within the partisan structures of state legislatures is not well-known. Nor is it known whether variations in the representation of these conflicts affect levels of partisanship in contemporary state legislative roll-call voting. While congressional scholars have marshaled an impressive amount of evidence demonstrating that the demographic and geographic sorting of the American electorate since the 1970s is one of the major culprits behind the polarization of the congressional parties (Theriault 2008; Oppenheimer 2006; Stonecash, Brewer, and Mariani 2003), whether this basic process has also transpired for political parties at the state legislative level is undetermined.

Additionally, increased data availability has made it possible to greatly expand the number of state legislative chambers incorporated into comparative studies of the social foundations of legislative politics. New data reduction techniques and the rise of the internet have made possible the widespread distribution of demographic data for each of the country's state legislative districts. Moreover, thanks to the excellent work of several political scientists, data on state legislator roll-call voting and ideology are far more plentiful and accessible than they were before. Together, these two trends allow for the broadly comparative study that is presented here.

### **Demographic Variables as Representations of Social Cleavage**

As mentioned previously, this study focuses on the partisan effects of three demographic variables at the state legislative district level -- median household income,

the percentage of adult residents who have acquired a college education, and the percentage of residents who are non-Hispanic white. The reason that these three demographic variables were chosen (apart from the availability of the data) is that each of these variables roughly corresponds to an important social cleavage in contemporary American society. Median household income is meant to gauge the representation of purely economic cleavages, particularly those that are likely to influence voting on bills concerning redistribution of resources from wealthy to poor constituents. Recent political science studies have argued that income inequality continues to play an important role in party politics at the national level (Bartels 2008; McCarty, Poole, and Rosenthal 2006), and state politics scholars since V.O. Key have pointed to the dominant influence of economic cleavages on state-level partisan conflict (Wright and Rigby 2008; Stonecash 1999; Brown 1995; Garand 1985; Jennings 1979; Key 1956, 1949). It is expected that, in states in which economic cleavages play an important role in state legislative party conflict, Republicans will tend to represent districts with significantly higher incomes than Democrats.

The percentage of district residents with a college education is meant to gauge the representation of conflicts over moral/cultural issues, which have come to play an important role in American party politics over the last several decades. As numerous studies have shown, education levels bear directly upon the views of ordinary citizens on these sorts of issues, with college-educated citizens tending to express more socially progressive views and non-college educated citizens tending to express more socially conservative views (Ladd and Bowman 1997; Kenny 1993). Views on these issues, in

turn, have recently exerted a greater influence on vote choice and party identification, particularly among upper-income Americans (Abramowitz and Teixeira 2008; Brewer and Stonecash 2008). Thus, the expectation here is that, in states in which cultural/moral cleavages play an important role in state legislative conflict, Democrats will tend to represent districts with higher education levels than Republicans (with district income and racial composition held constant).

Finally, the percent of district residents who are non-Hispanic whites is obviously meant to gauge the representation of racial cleavages (particularly cleavages between white communities and communities of color), which are well-known to have played a crucial role in the course of American party politics over the past half-century (Carmines and Stimson 1989; Huckfeldt and Kohfeldt 1989). The general expectation for this variable is that, in states in which racial cleavages play an important role in state legislative party conflict, Republicans will tend to represent districts with a higher percentage of white non-Hispanics than Democrats.

## **Data Sources**

The analyses conducted in this study incorporate 96 of the country's 99 state legislative chambers.<sup>2</sup> Examining the relationship between constituency-based cleavages

---

<sup>2</sup> Three legislative chambers were excluded from the analysis. Nebraska's unicameral legislature was excluded because it is a non-partisan legislature, and thus irrelevant to the subject this article addresses. The Hawaii Senate was excluded because, during 1999-2000, only 2 of the 25 members of this body were Republicans. It is unlikely that the patterns discussed in this paper would be apparent in an environment of such low party competition. Finally, the North Carolina House of Representatives was excluded from the analysis because of limits in data availability and attendant difficulties in accounting for changes in partisan representation of North Carolina House districts during the 1999-2000 period.



and legislative roll-call voting across these chambers requires comprehensive datasets on roll-call voting within them, as well as up-to-date demographic data on a total of 6,572 state legislative districts. Fortunately, both of these types of data are available for state legislatures at the turn of the twentieth century (1999-2000). State legislative roll-call voting data come from Gerald Wright's Representation in America's Legislatures project. Wright's data include roll-call voting outcomes for all votes in which more than 3% of legislators dissented for every legislative body in the United States during the 1999-2000 years. Demographic data on state legislative districts comes from Lilley, DeFranco, and Bernstein's *The Almanac of State Legislatures: Changing Patterns, 1990-1997* (CQ Press, 1998), which presents U.S. Census population data by state legislative district (updated for the late 1990s using detailed population projections).

## **Measuring the Representation of Social Cleavages in State Legislative Chambers**

As has hopefully been made clear by now, the overall goal of this article is twofold: 1) to examine how social cleavages influence partisan representation in contemporary American legislatures; 2) to examine how the partisan representation of these cleavages impacts party conflict inside legislatures. Thus, the core concept linking the various parts of this article is the representation of social cleavages inside legislatures. This is admittedly a somewhat nebulous concept, and the study's success hinges upon finding a good way to operationalize it.

In order to accurately capture the extent to which legislative parties represent social cleavages, this article relies upon a statistic known as Proportionate Reduction in Error (PRE) which measures the predictive efficiency of logit regression models -- in this

case, models in which a set of district-level constituency variables representative of social cleavages predict legislator party affiliation within a state legislative chamber.

Specifically, PRE measures the improvement in the constituency model's ability to predict whether the legislator representing a given district is a Democrat or Republican over a baseline majority-party model (that is, one in which every legislator would be predicted to be a member of the chamber's majority party).<sup>3</sup> Using a baseline majority-party model, every legislative district with a minority-party legislator would constitute an observation yielding an error in prediction. Thus, in order to calculate how much a model based upon district-level constituency variables improves the prediction of legislator party affiliation over the baseline majority-party model, the following equation is utilized.<sup>4</sup>

$$\text{PRE} = \frac{(\# \text{ of minority party members} - \text{Constituency Model Classification Errors})}{\# \text{ of minority party members}}$$

---

<sup>3</sup> This basic technique has been used in a similar fashion by Jenkins, Schickler, and Carson (2004) in their exploration of changes in the constituency bases of the congressional parties during the late 19<sup>th</sup>/early 20<sup>th</sup> centuries. More thorough discussions of this technique can be found in Poole and Rosenthal (1997), Menard (1995), and Costner (1965).

<sup>4</sup> For example, suppose we want to know the PRE score for a model predicting legislator party affiliation based on the percentage of residents in a legislative district who are non-Hispanic white. First, we run the logit model with legislator party affiliation as the dependent variable and district racial composition as the independent variable. Then, we calculate predicted probabilities of a legislator being a Republican for each of the observations (e.g. the legislative districts) in the sample. Probabilities of greater than .5 are predictions that the legislator is a Republican, while probabilities of less than .5 are predictions that the legislator is a Democrat. Observations in which the model predicts a Republican legislator who is in fact a Democrat or in which the model predicts a Democratic legislator who is in fact a Republican therefore constitute errors in prediction. Using the numbers of errors and the number of minority party members, we can then easily calculate the PRE for the model.

The advantages of the PRE statistic are numerous. First, it provides a simple and straightforward measure of the amount of variation in the dependent variable (in this case, the party affiliation of a legislator from a given district) explained by one or more demographic variables indicative of social cleavages. Thus, in addition to being an indicator of model determination, the PRE statistic has a tremendous amount of substantive importance within the context of this study. Moreover, because the ability of district-level demographic variables to predict whether a district's legislator is a Democrat or Republican is of paramount interest, a prediction-based measure of goodness-of-fit such as PRE is far superior to the wide variety of goodness-of-fit measures utilizing continuous predicted values, which are more analogous to the  $R^2$  statistics that are commonplace in OLS regression outputs (Menard 2000). Nevertheless, to shed further light on the relationship between social cleavages and partisan representation inside legislatures, PRE statistics are supplemented with tables presenting predicted probability values at various points in this article.<sup>5</sup>

---

<sup>5</sup> Besides using statistics that tap into the percentage of variation in legislator party affiliation explained by a set of demographic variables, another possibility for capturing the representation of social cleavages is to use the actual coefficients resulting from the logit regressions as indicators of the importance of social cleavages to partisan representation in legislatures. These coefficients, however, do not appear to represent a meaningful and comparable measure of the importance of social cleavages across states. For example, a logit regression in which all three demographic variables (racial composition, median income, and educational attainment) are concomitantly used to predict legislator party affiliation in the Maine House of Representatives yields a larger coefficient for the racial composition variable than it does for the same variable in the California State Assembly. Because racial cleavages obviously play a much greater role in the politics of the highly diverse state of California than they do in the overwhelmingly white state of Maine, this finding appears to be spurious. It is a result of the fact that the handful of state house districts in Maine with fairly large percentages of racial minorities almost uniformly elect Democrats, thereby causing the racial composition coefficient to

## Question 1: Social Cleavages and Partisan Representation in State Legislatures

The question at hand here can be succinctly stated as follows: if we wish to predict whether a legislative district in a given state is represented by a Democrat or a Republican, which of the three district-level constituency variable will do the best job of making that prediction for us?

One way to answer this question is to examine which constituency-level variable explains *the most variation* in partisan representation within each of the state legislative chambers. In order to conduct this examination, I calculated three PRE values for all state legislative chambers in the analysis, each corresponding to separate logit models predicting the partisan affiliations of legislators based on a single district-level demographic variable (either racial composition, median income, or educational attainment).<sup>6</sup> Table 1 (below) summarizes the PRE values associated with the three

---

be so large. Thus, the representation of social cleavages is better operationalized by considering how much a demographic variable can explain partisan representation within a legislative chamber than by considering how much a one-unit increase in the demographic variable affects the probability of a legislator being a Democrat or Republican.

<sup>6</sup> Districts represented by legislators not affiliated with either of the two main political parties were excluded from these analyses. The observations within each logit analysis were weighted to take into account changes in the partisan representation of a legislative district within the 1999-2000 period. For districts exhibiting a change in partisan representation within this period (whether due to special elections, or regular elections for those states in which state legislative elections take place in odd-numbered years), two separate observations (one for a Democratic representative, one for a Republican representative) weighted half the amount of other observations were included. It is important to emphasize that the PRE scores that were tabulated are not based on conditional probabilities with other factors held constant. Nevertheless, they provide a basic measure of the extent to which a single district-level demographic variable can explain party affiliation in a given legislative chamber.

demographic predictors for each of the 96 chambers examined. As can be seen in the second column of the table, the mean PRE score for the logit regressions in which district racial composition served as the predictor is much higher than the mean PRE score for the logit regressions based upon the other two variables, indicating that racial composition has a much greater overall impact on partisan representation than do either median income or educational attainment

**Table 1: Descriptive Data on PRE Statistics Based on a Single Demographic Predictor**

<b>Predictor</b>	<b>Mean</b>	<b>St Dev</b>	<b>Minimum</b>	<b>Maximum</b>	<b>% Chambers For Which PRE Was Largest</b>
Race	.277	.243	0	.867	53.1% (51 / 96)
Median Income	.183	.183	0	.667	16.7% (16 / 96)
College Education	.171	.187	0	.667	7.3% (7 / 96)

The last column in Table 1 presents the percentage of legislative chambers in the sample for which each of the three demographic predictors yielded the largest PRE score.

<sup>7</sup> As this column shows, racial composition is the most influential district-level demographic variable determining partisan representation in state legislatures in the great majority of legislative chambers. Indeed, in a considerable number of chambers, it is the only district-level demographic statistic that registered a PRE score above 0. District

---

<sup>7</sup> In an additional 11.5% (11 out of 96) of chambers, two or more of the demographic predictors were tied with the largest PRE score. And, in the remaining 11.5% of chambers, none of the three demographic predictors yielded a PRE score above 0 (i.e. none of three demographic variables affects legislative representation)

median income also proved to be the most important variable in a considerable number of legislative chambers, including six legislative chambers in southern states. Given the strong presence of a historic racial cleavage and the large percentages of African American residents in southern states, one might expect district racial composition to be particularly influential for southern state legislatures. It is likely that racial cleavages proved not to be most important in these six chambers because Republican state legislators within them often represent districts with sizable (though not majority) African-American populations.

Educational attainment is the most influential demographic variable in only 7 of the 96 state legislative chambers considered. The comparative unimportance of educational attainment may be the result of several factors. First, it is quite likely that the importance of educational attainment to legislative district partisanship is strongly mediated by economic factors such as median district income, as well as by the racial composition of a district.<sup>8</sup> Consequently, the effect of the educational attainment variable on the partisan representation of state legislative districts will probably emerge most clearly when the other demographic variables of this study are held constant. Because the PRE statistics presented here are based bivariate rather than multivariate analyses, these statistics are not the best indicators of the importance of education levels to partisan representation in state legislatures. Nevertheless, it is worthwhile to point out that a number of the legislative chambers in which educational attainment is the most

---

<sup>8</sup> Districts with high percentages of minorities will generally also be districts exhibiting low levels of educational attainment, which will tend to muddy the effect of educational attainment on partisan representation that is hypothesized in this paper.

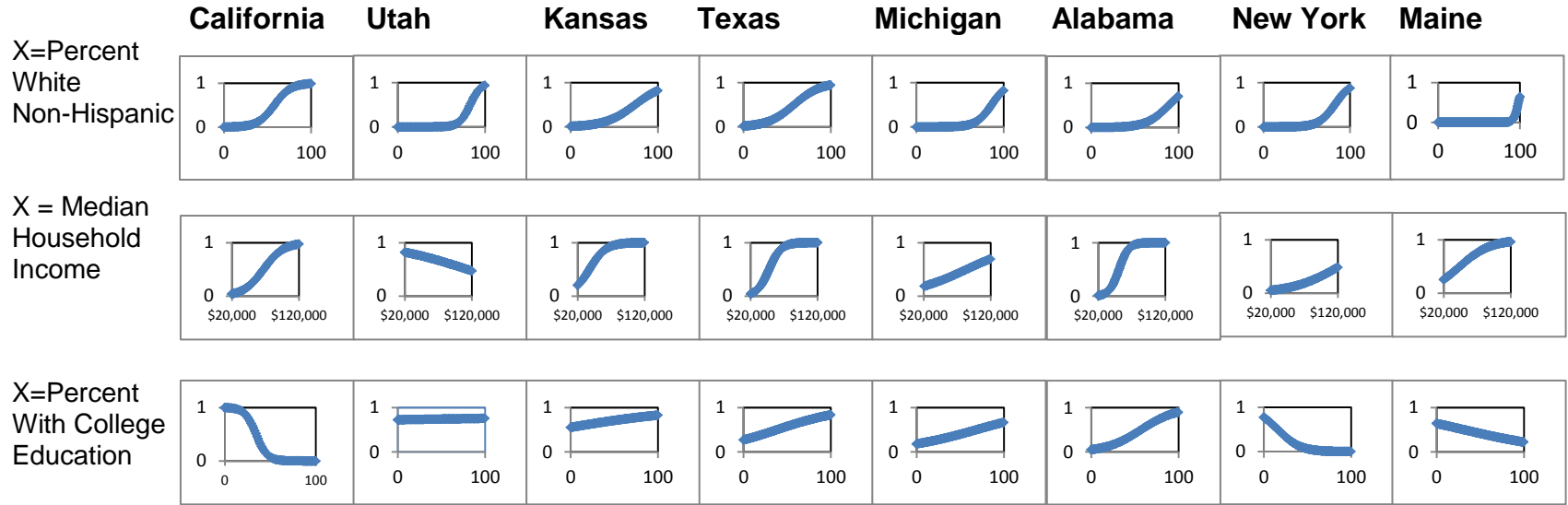
influential variable (e.g. the Oregon House and Vermont Senate) are in states that: 1) have small populations of racial and ethnic minorities, and 2) were important centers of legislative conflict over moral/cultural issues during the late 1990s and early 2000s. In the early 2000s, for example, the Vermont legislature gained national attention when Vermont became the first state to pass a law ratifying same-sex partnerships, while the Oregon legislature gained prominence during the same period over repeated conflicts concerning abortion and doctor-assisted suicide related bills (Clucas, Henkels, and Steel 2005). These anecdotal pieces of evidence lend support to the expectation that states in which district-level educational attainment has a strong influence on the legislator party affiliations will be sites of conflict over moral/cultural issues.

Its merits notwithstanding, the PRE-based analysis discussed above only goes so far in helping us to understand the importance of each of the three constituency-based variables for explaining partisan representation in state legislatures. In particular, the analysis has two major shortcomings: 1) as has already been mentioned, it does not measure the conditional importance of each of the three demographic variables (that is, when the other variables are held constant); 2) it does not adequately tap into variations in the nature and magnitude of the effects of each of the variables. In an effort to consider these additional dimensions to the question at hand, I ran a new series of logit regressions for each of the legislative chambers in my analysis. In these regressions, *all three* of the district-level demographic variables examined in this study (median household income, educational attainment, and racial composition) were included together as independent variables. I then calculated predicted probabilities that a legislative district in a given

chamber is represented by a Republican as the values of one constituency-level variable increase while the others are held at their means. In Figure 1 (below), I present predicted probabilities charts generated from these analyses for the lower legislative chambers of eight



**Figure 1: Probabilities of Districts in State Lower Legislative Chambers Being Represented by a Republican**  
 (Additional Demographic Variables Held At Their Means)



states.<sup>9</sup> Each of these states belongs to a separate U.S. Census-designated geographical division, thereby allowing me to consider regional differences in the effects of constituency-level variables on partisan representation.

As can be seen in the charts, the logit curves for the racial composition variables (the first row of tables) are always steep and always move in the expected direction (that is, higher percentages of non-Hispanic whites result in higher probabilities of a district being represented by a Republican). There is a decided contrast in the shapes of these curves, particularly when one contrasts minority-rich states like California with predominantly white states like Maine. Nevertheless, it seems evident that the effect of racial composition on partisan representation in state legislatures is fairly strong and consistent across states. It is fair to say, therefore, that racial cleavages are well-represented by legislative parties throughout the country.

The conditional effect of median household income on legislative representation, on the other hand, is more variant across states. Most of the states displayed, including California, Kansas, Texas, Alabama, and Maine, display steep curves in the expected direction. However, in two other states the curve is rather flat (i.e. the effect is muted) and in one state (Utah) the curve moves in the opposite direction from the one hypothesized. Thus, with respect to the most basic indicator of economic cleavages – district income – the legislative parties are well-stratified in most but not at all states.

Finally, the conditional effect of educational attainment is even more variant than that of median household income. Indeed, the hypothesized effect of educational

---

<sup>9</sup> The y-axis plots the probability of Republican representation. The x-axis plots change in the given demographic variable.

attainment on partisan representation appears to be clearly present only in the legislatures of the coastal, “cosmopolitan” states (e.g. New York and California). In most of the other state legislative chambers presented, the conditional effect of educational attainment on partisan representation is quite muted. In the Deep South state of Alabama, the educational attainment curve is steep and moves in the opposite direction from the one hypothesized.

It is important to re-emphasize that the data upon which these predicted probabilities are based are from the late 1990s. Since this time period, the influence of each of these demographic variables (particularly educational attainment) on partisan representation in state legislatures has probably increased. It is quite likely, therefore, that if these same tables were created for the late 2000s, the logit curves for the educational attainment variable would in a number of cases change to the hypothesized direction and would also be considerably steeper. Nevertheless, when taken together, these three sets of predicted probabilities tables present strong evidence that, in contemporary American politics, district racial composition is the strongest and most consistent predictor of partisan representation in state legislatures. The effects of median household income and district educational attainment are strong in some states and less strong in others.

## **Question 2: The Association of Individual Social Cleavages with Partisan Roll-Call Voting within Legislatures**

Here, I attempt to determine whether and how much the three district-level demographic variables considered in this paper can be linked to patterns of partisan polarization in roll-call voting within legislatures. In order to accomplish this analysis, I

continue to use the PRE scores calculated for section 1 as metrics of the degree to which partisan representation in state legislative chambers can be explained by a given demographic variable. Levels of partisan voting in state legislatures are measured via calculating the average Index of Likeness for every roll-call vote in a legislative body during the 1999-2000 period. The Index of Likeness is simply the absolute value of the percentage of Democrats who vote for a given bill subtracted by the percentage of Republicans who vote for it (Anderson, Watts, and Wilcox 1966).<sup>10</sup> It gives a basic sense of the partisanship underlying the debate about a given bill's passage. When such statistics are averaged together, a basic measure of the importance of partisanship to roll-call voting within a legislative body is obtained.

Table 2 (below) presents breakdowns of party likeness scores for legislative chambers in which a given demographic variable influences partisan representation (PRE>0) versus those in which the variable does not influence partisan representation (PRE=0). The final column presents t-statistics for a difference of means test conducted between the two groups of legislative chambers. As can be seen, of the three district-level demographic variables considered, the only one whose influence on partisan representation can be directly linked to higher levels of partisan polarization is the racial composition variable. Median household income and percent of residents with a college

---

<sup>10</sup> For comparability purposes, and because a non-vote can mean a number of different things within the roll-call datasets (i.e., intended abstention, voting "present", not being a member of the legislative body at the time the vote was cast, etc.), the denominator for these percentages is the total number of Democrats/Republicans who voted "yes" or "no" on a bill.

education do not, in and of themselves, result in patterns of partisan representation which can then be associated with patterns of partisan polarization.

**Table 2: Constituency-Based Cleavages and Party Likeness Scores, 1999-2000**

	Legislative Chambers In Which PRE=0		Legislative Chambers in Which PRE>0		t-score
	n	Mean Party Likeness Score	n	Mean Party Likeness Score	
Median Household Income	25	0.4011	71	0.4432	0.99
% with College Education	34	0.4125	62	0.4299	0.61
% non-Hispanic White	18	0.3471	78	0.4414	2.80**

\*\*=p<.05

### **Question 3: The Effect of the Overall Representation of Social Cleavages on Legislative Polarization**

In this section, OLS regression is used to model the determinants of state legislative polarization during the 1999-2000 years. The explanatory concept in focus is the overall representation of social cleavages in state legislative chambers. Historically-oriented studies of party conflict in the U.S. Congress have repeatedly shown that levels of congressional polarization are directly related to the extent to which partisan representation in the U.S. Congress reflects the underlying social conflicts of an era

(Brady and Althoff 1974; Brady, Cooper, and Hurley 1979; Stonecash, Brewer, and Mariani 2003; Jenkins, Schickler, and Carson 2004; Mellow and Trubowitz 2005; Theriault 2008). Thus, during periods in which the congressional parties are well-sorted according to the sociological or demographic groups they represent, the congressional parties tend to be highly polarized; conversely, during periods in which the congressional parties are not sociologically or demographically well-sorted, they tend to not be as highly polarized. The analysis presented here attempts to determine if the same basic relationship that congressional scholars have confirmed via longitudinal analyses can be found in a cross-sectional analysis of contemporary state legislatures.

As in section 1 and 2, partisan representation of social cleavages is measured via PRE statistics, but in this case a new series of PRE statistics are calculated based upon logit analyses in which *all three* of the district-level demographic variables examined in this study (median household income, educational attainment, and racial composition) were included together as independent variables. The resultant PRE statistics thus measure the overall fit of a model in which these three variables are concomitantly used to predict the party affiliations of state legislators.<sup>11</sup>

---

<sup>11</sup> In addition to the three legislative chambers not included in the analyses for Sections 1 and 2, the Nevada Senate is also not included in the analyses of section 3 because the maximum likelihood estimation could not converge upon a solution for it, probably because it is a very small body with a number of multimember districts (i.e. there was not enough variation in the independent variables). Additionally, in a very small number of cases, the PRE statistics resulting from the logit analyses were slightly negative, meaning that the constituency model actually performed a bit worse than chance in predicting legislator party affiliation. Because this negativity appears not to have any substantive significance, the results for these cases were set to zero.

In addition to the aforementioned PRE scores, the regression analyses include several other independent variables widely believed to influence legislative polarization. The first of these is the degree of competition for control of the legislative chamber. As Aldrich and Battista (2003) point out, high levels of competition between the legislative parties tends to induce stronger partisan effects in roll-call voting. In order to account for the possible effect of party competition levels on partisan voting, I include a measure of the spread of party competition within a legislative chamber. The measure is as follows:

$$\text{PARTISANSPREAD} = \frac{\text{ABS}(\text{DEMOCRATS} - \text{REPUBLICANS})}{\text{TOTAL NUMBER OF SEATS}}$$

Additionally, there is ample reason to believe that levels of partisan voting in state legislatures vary substantially across regions. In Southern states, for example, the historical absence of two-party competition inside legislatures might mean that the legislative parties have not sorted themselves ideologically, even if levels of partisan competition within some of them have approached those of Northern states. To account for this possibility, I include a dummy variable for Southern state legislatures in my regression models.<sup>12</sup>

Finally, an examination of the descriptive statistics in the dataset yielded an intriguing discovery. Legislative politics in the New England states seem to operate under different rules than do legislative politics elsewhere. In comparison to other states, the New England states are demographically quite homogeneous and thus the importance of social cleavages within them appears to be lower than in other states. Additionally, most

---

<sup>12</sup> States coded as Southern are all of the states of the Confederacy as well as Kentucky and Oklahoma.

of the legislative chambers within the New England states during 1999-2000 were dominated by one party or the other (generally the Democratic Party). Despite these factors, however, legislative chambers in the New England states exhibited very high levels of partisan voting. Because legislative outcomes in the New England states seem not to comport very well with the model presented in this article, I include a dummy variable for the New England states in my regression models.<sup>13</sup>

The concept to be explained – state legislative polarization – is measured in several ways, and thus several different OLS regression outputs are presented. The party likeness scores presented in section 2 arguably constitute the most simple and straightforward indicators of party polarization, and an OLS regression model in which they constitute the dependent variable is included.<sup>14</sup> However, as legislative politics scholars have often pointed out, party likeness scores only tap into one component of partisan polarization – the degree of interparty conflict. An additional important component is the degree of intraparty homogeneity (Brady, Cooper, and Hurley 1979). Finally, some have also contended that party likeness scores may not be the strongest indicators of interparty conflict *ceteris paribus*, and that the best indicators of interparty conflict are roll-call votes in which a very large majority of one party is arrayed against a very large majority of another. In order to confront these potential criticisms, I adopt an

---

<sup>13</sup> The New England states are Connecticut, Rhode Island, Massachusetts, Vermont, New Hampshire, and Maine.

<sup>14</sup> Though their values are technically bracketed at between 0 and 1, average party likeness scores for state legislative chambers in this dataset range between .2029 and .7166. Thus, for all intents and purposes, they constitute a continuous dependent variable and OLS regression is appropriate.



approach similar to that used by Jenkins, Schickler, and Carson (2004). I conduct principle components analysis of three distinct measures of party polarization for each of the 95 legislative chambers examined. The three distinct measures are:

1) party likeness scores, as presented in section 2.

2) The average adjusted Rice cohesion scores for the two parties in a state legislative chamber. Rice indices of cohesion are the most widely used measures of intraparty homogeneity in political science. They are calculated by the following formula:

$$\text{rice} = \frac{\text{ABS}(\text{YES}-\text{NO})}{\text{YES}+\text{NO}}$$
, where yes is the number of affirmative votes cast and no is the

number of opposing votes cast among members of the same party. I have adjusted these scores based on a technique developed by Desposato (2005) to correct for potential small party bias.

3) 90% party difference scores, which measure the number of times that 90% of one party caucus votes against 90% of the other.

The principal components analysis yielded a single prominent factor, with an eigenvalue of greater than 2. I use the scores associated with this factor as the dependent variable indicating party polarization in a second OLS regression analysis.<sup>15</sup>

Table 3 (below) presents results for an OLS regression predicting party likeness scores in 96 state legislative chambers during 1999-2000. Clustered standard errors were used to correct for the correlations between the residuals of observations pertaining to lower and upper houses within the same state.

---

<sup>15</sup> Descriptive statistics for the continuous variables included in the regression analyses of this section are found in the appendix.

**Table 3: Determinants of Party Likeness Scores in American State  
Legislative Chambers, 1999-2000**  
(Standard Errors Adjusted for State-Based Clustering)

PRE (Income + Education + Race)	.162 (.061)**
Partisan Spread	-.181 (.083)**
South	-.077 (.031)**
New England	.106 (.049)**
n	95
R <sup>2</sup>	.28

\*\*=p<.05

As can be seen, each of the independent variables in the model yields a statistically significant effect in the expected direction. Most notably, PRE scores yield a strong and statistically significant effect, with larger scores resulting in larger polarization. The partisan spread within a legislative chamber also has the predicted effect – the larger the spread, the lower the level of partisan voting. Finally, the two “exceptional” regions – the American South and New England – produce effects in the expected direction, with Southern states significantly less polarized and New England states significantly more polarized. At the same time, the low R<sup>2</sup> value indicates that there is plenty left to be explained in the dependent variable.

Table 4 (below) presents results for an OLS regression predicting the factor scores that were yielded from the principal components analysis examining various measures of legislative polarization (once again, with clustered standard errors employed). The basic results here do not differ too much from those in Table 1, although the New England

dummy variable is no longer large or statistically significant. PRE scores continue to produce a strong and statistically significant effect.

**Table 4: Determinants of Polarization Factor Scores in State Legislative Chambers, 1999-2000**  
(Standard Errors Adjusted for State-Based Clustering)

PRE (Income + Education + Race)	1.02 (.480)**
Partisan Spread	-1.39 (.654)**
South	-.768 (.221)**
New England	-.238 (.399)
n	95
R <sup>2</sup>	.26

\*\*=p<.05

## Discussion and Conclusion

This article is an effort to comparatively examine the influence that social cleavages have on contemporary state legislative politics, both in terms of representation as well as roll-call voting patterns. It focuses on three district-level demographic variables that are linked to important cleavages in American society – median household income, the percentage of residents who are college educated, and the percentage of residents who are non-Hispanic white – and attempts to answer several questions regarding the ways in which the distributions of these variables across state legislative districts impacts party politics inside legislatures.

The findings of this paper show that, when district-level data on median income, educational attainment, and racial composition are considered in and of themselves, the

most important demographic variable influencing both partisan representation and partisan voting in state legislatures is racial composition. It is abundantly clear that those states in which racial cleavages are strongly determinative of partisan representation are also the states with the most polarized legislatures. In this context, it is both interesting and important to note that the data for this paper come from 1999-2000, when partisan representation in southern state legislatures was far less well-sorted according to racial composition than it is today. Over the past ten years (particularly as a result of the 2010 midterm elections), the number of southern, majority-white state legislative districts represented by Democrats has declined precipitously. Thus, southern state legislatures increasingly resemble non-southern state legislatures, both in terms of party competition levels as well as in the extent to which demographic variables like district racial composition predict legislator party affiliation. A reasonable hypothesis might therefore be that the importance of southern exceptionalism to patterns of party politics in state legislatures is gradually dying away, and that as this happens, southern state legislatures are becoming increasingly polarized (especially given the large non-white populations of southern states).

Additionally, the findings presented in this paper suggest that district-level variations in educational attainment and median family income also play an important role in determining party politics in state legislatures, particularly in states with low percentages of racial and ethnic minorities. Moreover, as scholars have pointed out, the importance of educational attainment to voting behavior has grown significantly in recent years (Brewer and Stonecash 2008). It is therefore likely that the extent to which district-

level variations in educational attainment are related to partisan representation in state legislatures has grown as well. While this paper did not attempt to test the purported link between district-level variations in educational attainment and conflict over moral/cultural issues, it did present anecdotal evidence suggesting that the link is real. An intriguing venue for future research is to more rigorously examine whether and how state legislative conflict over issues like abortion, same-sex marriage, doctor-assisted suicide, and others (all too common during the 2000s) can be linked to variations in educational attainment levels across state legislative districts.

Finally, this paper provides strong evidence that the degree to which partisan representation in state legislative chambers reflects district-level demographic factors (which in turn reflects underlying social cleavages) has a significant effect on roll-call polarization, even with other factors taken into account. Given the increased demographic and geographic sorting of the American population (Bishop 2008; Abramowitz and Saunders 2005), this finding has important consequences for state legislative politics as well as for American politics writ large. If the fit between Americans' demographic characteristics and their party affiliations or voting preferences becomes tighter, the constituency bases of state legislative parties will become more distinctive, and thus state legislative parties can be expected to become even more polarized. This article only represents the beginning of efforts to examine the link between constituency bases and partisan outcomes in contemporary state legislatures, however. More demographic variables, more years and legislative sessions, and more measures of partisan voting in

state legislatures need to be employed so as to gain a more comprehensive and accurate understanding of the relationship at hand.

---

**Appendix: Descriptive Statistics for Continuous Variables Included in OLS  
Regressions Modeling Legislative Polarization**

	<b>Mean</b>	<b>St Dev</b>	<b>Minimum</b>	<b>Maximum</b>
PRE (Income + Education +Race)	.384	.247	0	1
Partisan Spread	.257	.185	0	.771
Party Likeness Scores	.425	.134	.203	.717
Average Adjusted Rice Cohesion Scores	.770	.056	.617	.944
90% Party Difference Scores	.113	.124	0	.578
Polarization Factor Scores	.007	1.00	-1.52	3.03

## References

- Abramowitz, Alan and Kyle Saunders 2005. "Why Can't We All Just Get Along? The Reality of a Polarized America." *The Forum* 3(2) [online journal].
- Abramowitz, Alan and Ruy Teixeira. 2008. "The Decline of the White Working Class and the Rise of a Mass Upper Middle Class." In Ruy Teixeira, ed. *Red, Blue, and Purple America: The Future of Election Demographics*. Washington, DC: Brookings Institution Press.
- Aldrich, John H. and James S. Coleman Battista. 2002. "Conditional Party Government in the States." *American Journal of Political Science* 46(1): 164-172.
- Anderson, Lee F., Meredith W. Watts, Jr., and Allen R. Wilcox. 1966. *Legislative Roll-Call Analysis*. Evanston, IL: Northwestern University Press.
- Bartels, Larry M. 2008. *Unequal Democracy: The Political Economy of the New Gilded Age*. Princeton, NJ: Princeton University Press.
- Bensel, Richard Franklin. 1984. *Sectionalism and American Political Development*. New York: Cambridge.
- Bensel, Richard Franklin 2000. *The Political Economy of American Industrialization, 1877-1900*. New York: Cambridge University Press.
- Bishop, Bill 2008. *The Big Sort: Why the Clustering of Like-Minded America is Tearing Us Apart*. New York: Houghton Mifflin.
- Brady, David W. 1988. *Critical Elections and Congressional Policy Making*. Stanford, CA: Stanford University Press.



- Brady, David W. and Phillip Althoff. 1974. "Party Voting in the U.S. House of Representatives, 1890-1910: Elements of a Responsible Party System." *Journal of Politics* 36: 753-775.
- Brady, David W., Joseph Cooper, and Patricia A. Hurley. 1979. "The Decline of Party in the U.S. House of Representatives, 1887-1968." *Legislative Studies Quarterly* 4: 381-409.
- Brewer, Mark and Jeffrey Stonecash. 2008. *Dynamics of the American Political Parties*. New York: Cambridge.
- Brown, Robert D. 1995. "Party Cleavages and Welfare Effort in the American States." *American Political Science Review* 89: 23-33.
- Carmines, Edward G. and James A. Stimson. 1989. *Issue Evolution: Race and the Transformation of American Politics*. Princeton, NJ: Princeton University Press.
- Clucas, Richard A., Mark Henkels, and Brent Steel. 2005. *Oregon Politics and Government: Progressive Versus Conservative Populists*. Lincoln, NE: University of Nebraska Press.
- Costner, Herbert L. 1965. "Criteria for Measures of Association." *American Sociological Review* 30: 341-353.
- Derge, David R. "Metropolitan and Outstate Alignments in Illinois and Missouri Legislative Delegations." *American Political Science Review* 52: 1051-1065.
- Dye, Thomas R. 1961. "A Comparison of Constituency Influences in the Upper and Lower Chambers of a State Legislature." *Western Political Quarterly* 74: 473-480.

- Garand, James. 1985. "Partisan Change and Shifting Expenditure Priorities in the American States, 1945-1978." *American Politics Quarterly* 13: 355-391.
- Hill, Kim Quaile and Jan E. Leighley. 1992. "The Policy Consequences of Class Bias in State Electorates." *American Journal of Political Science* 36(2): 351-365.
- Huckfeldt, Robert and Carol W. Kohfeld. 1989. *Race and the Decline of Class in American Politics*. Urbana, IL: University of Illinois Press.
- Jenkins, Jeffery A., Eric Schickler, and Jamie L. Carson. 2004. "Constituency Cleavages and Congressional Parties: Measuring Homogeneity and Polarization, 1857 - 1913." *Social Science History* 28(4): 537-573.
- Jennings, Edward T. 1979. "Competition, Constituencies, and Welfare Policies in American States." *American Political Science Review* 73: 414-429.
- Key, V.O., Jr. 1949. *Southern Politics in State and Nation*. New York: Alfred A. Knopf.
- Key, V.O., Jr. 1949. *Southern Politics in State and Nation*. New York: Alfred A. Knopf.
- Kenny, Christopher. 1993. "Social Influence and Opinion on Abortion." *Social Science Quarterly* 74(3): 560-574.
- Ladd, Everett Carl and Karlyn Bowman. 1999. "Public Opinion About Abortion." Washington, DC: AEI Press.
- Lilley, William III, Laurence J. DeFranco, and Mark F. Bernstein. 1998. *The Almanac of State Legislatures: Changing Patterns, 1990-1997*. Washington, DC: CQ Press.
- MacRae, Duncan Jr. 1952. "The Relation Between Roll Call Votes and Constituencies in the Massachusetts House of Representatives." *American Political Science Review* 46: 1046-1055.

- McCarty, Nolan, Keith T. Poole, and Howard Rosenthal. 2006. *Polarized America: The Dance of Ideology and Unequal Riches*. Cambridge, MA: MIT Press.
- Mellow, Nicole and Peter Trubowitz. 2005. "Red Versus Blue: American Electoral Geography and Congressional Bipartisanship, 1898-2002." *Political Geography* 24(6): 659-677.
- Menard, Scott W. 1995. *Applied Logistic Regression Analysis*. Thousand Oaks, CA: Sage.
- Oppenheimer, Bruce I. 2005. "Deep Red and Blue Congressional Districts: The Causes And Consequences of Declining Party Competitiveness." In Lawrence C. Dodd and Bruce I. Oppenheimer, eds. *Congress Reconsidered, 8<sup>th</sup> Edition*. Washington, DC: CQ Press.
- Polsby, Nelson W. 2004. *How Congress Evolves: Social Bases of Institutional Change*. New York: Oxford University Press.
- Poole, Keith T. and Howard Rosenthal. 1997. *Congress: A Political-Economic History of Roll Call Voting*. New York: Oxford University Press.
- Sanders, M. Elizabeth. 1999. *Roots of Reform: Farmers, Workers, and the American State*. Chicago, IL: University of Chicago Press.
- Shor, Boris, Christopher Berry, and Nolan McCarty. 2010. "A Bridge to Somewhere: Mapping State and Congressional Ideology on a Cross-Institutional Common Space." *Legislative Studies Quarterly* XXXV (3): 417-448.
- Stonecash, Jeffrey M. 1999. "Political Cleavage in U.S. State Legislative Houses." *Legislative Studies Quarterly* 24(2): 281-302.

- Stonecash, Jeffrey M., Mark D. Brewer and Mack D. Mariani. 2003. *Diverging Parties: Social Change, Realignment, and Party Polarization*. Boulder, CO: Westview Press.
- Therriault, Sean M. 2008. *Party Polarization in Congress*. New York: Cambridge University
- Wright, Gerald. 2004. "Representation in America's Legislatures." Dataset. Indiana University. National Science Foundation Grant.
- Wright, Gerald C. and Elizabeth Rigby. 2008. "State Parties, Polarization, and Representation of the Poor." Paper presented at the annual meeting of the American Political Science Association, Chicago, IL.