Abstract

Why do some lawmakers vote more on the partisan extremes than others? Representatives of more ideologically heterogeneous districts have stronger electoral incentives to respond to a partisan base than the (generally more moderate) median voter in the district. However, voters are sorted into party coalitions along social group lines as well as ideological lines. I focus on the case of race. Analogous to ideologically heterogeneous districts, racially diverse districts should have relatively more extreme lawmakers while racially homogeneous districts should have relatively more moderate lawmakers. I provide evidence using roll-call votes from members of the U.S. House, the U.S. Senate, and the 49 partisan state legislatures. I find that for individual lawmakers, Democrats representing more homogeneously white districts consistently hold more moderate records, while the findings are mixed for Republicans. At the aggregate level, state legislatures collectively representing more homogeneously white populations are less polarized along party lines than state legislatures representing more diverse populations. The findings have implications for our understanding of constituency representation and party polarization.

Keywords: Race, representation, party, Congress, state legislatures
Why do some legislators offer their constituencies more partisan representation than others? Legislators have institutional incentives to toe the party line while in office (e.g. Cox & McCubbins 2005). However, acting strictly in line with one’s party poses its own set of electoral risks to individual legislators, since voters tend to punish legislators acting too far on the ideological extremes (e.g. Canes-Wrone, Brady, & Cogan 2002). Legislators often (though not always) have to strike a balance between providing dyadic representation to generally more moderate districts and supporting their relatively more extreme parties (Masket & Noel 2012). The heterogeneity of political views within the constituency helps to shape this balancing act. Legislators must respond to the needs of multiple, sometimes competing constituencies within their geographic constituency (Fenno 1978). Representatives of heterogeneous districts cannot hope to represent the views of all constituents. As a consequence, they are less constrained by the median voter and tend instead to vote on the partisan extremes (Ensley 2012; Levendusky & Pope 2010; McCarty et al. 2018) or bow to pressure from party leaders (Harden & Carsey 2012). In contrast, when populations are more homogeneous, legislators must adhere more closely to the positions of the median voter (Bailey & Brady 1998; Fiorina 1974; Gerber & Lewis 2004).

While prior work has focused more on how ideological heterogeneity in the district influences legislative behavior, this paper makes the case that the racial heterogeneity of districts also acts as an influencing factor. Specifically, legislators who represent more racially homogeneous districts (in particular, homogeneously white districts) have more incentive to moderate than legislators who represent racially diverse districts. The two parties’ coalitions have sorted along racial lines, such that race is increasingly predictive of vote choice (Hajnal & Lee 2011; Mason 2018). As a consequence, legislators representing racially diverse districts have electoral incentives to offer more partisan representation to their constituents. When voters are committed to one party or another on the basis of group ties, legislators have greater latitude to act as a more extreme partisan in office with less risk of those

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For the sake of simplicity, I use the terms “race” or “racial” throughout the essay to refer to both racial and ethnic heterogeneity.
voters defecting to the other party’s candidate at the next election. However, to a greater extent than other groups, whites remain split between the two parties’ coalitions. Because the parties must compete for electoral support from whites, legislators representing more homogeneously white districts should have greater incentives to moderate their behavior.

I provide evidence using data summarizing individual lawmakers’ roll-call votes from the 112th and 113th House and Senate, and from the 49 partisan state legislatures in 2009-10. The balance of evidence presented suggests that representatives of whiter districts boast more moderate voting records. Democrats representing whiter districts are consistently found to be more moderate, all else equal. However the relationship between district racial composition and roll-call voting is mixed for Republicans. I also conduct a test of the theoretical argument at the aggregate level, surveying two-party polarization in state legislatures between 2010 and 2014. I find that states with whiter populations tend to have legislatures that are less polarized along party lines. Strong evidence shows that more moderate Democratic caucuses in whiter states are in part responsible for these less polarized environments, but weaker evidence suggests that Republican caucuses in whiter states may also be more moderate.

The results contribute to our understanding of the relationship between partisanship, polarization, and race. It is well-established that issues of race have helped to divide and polarize the two parties over the last half century (Carmines & Stimson 1989; Miller & Schofield 2003). This study extends this understanding by connecting the racial composition of constituencies to individual legislators’ incentives to engage in partisan behavior. This study also contributes evidence to the literature on district heterogeneity that other types of social heterogeneity, beyond ideology alone, encourage partisan behavior among legislators. The results have implications for party polarization in American legislatures in the short term.
Partisanship and District Representation

Parties strongly influence legislative behavior (Aldrich 1995; Cox & McCubbins 2005; Lee 2009; Rohde 1991; Wright & Schaffner 2002) though see Krehbiel 1993. Inside legislatures, party leaders set agendas intended to benefit (or protect) individual legislators electorally while maintaining a party brand (Cox & McCubbins 2005; Lee 2016). Leaders whip their caucuses on votes, rewarding loyalty and punishing disloyalty through the distribution of benefits like committee assignments and campaign fund transfers. Beyond institutional arrangements, lawmakers tend to have personal beliefs that align with their party’s agenda (Thomsen 2017), while partisan activists and donors pressure lawmakers to take more extreme positions on partisan issues (Layman et al. 2010; Masket 2009).

However, acting as a steadfast partisan in office carries potential drawbacks at election time. By some accounts, parties consist of coalitions of policy demanders whose views are more extreme than average citizens (Bawn et al. 2012). As a result, partisan lawmakers’ voting records are often more extreme than the average of views of the districts they represent (Masket & Noel 2012). Legislators risk being booted from office (Canes-Wrone, Brady, & Cogan 2002; Carson et al. 2010) or drawing challengers (Birkhead 2015; Hogan 2008) for voting too often on the partisan extremes.

The extent to which partisanship carries electoral risks for an individual lawmaker depends on the characteristics of the district she represents. In line with the median voter theorem (Downs 1957), more extreme records can win support where average voters fall clearly in support of that party’s agenda. No one would dispute that a liberal Democrat would fit well representing a district where the median voter is quite liberal, or that a conservative Republican would fit well with a conservative district. However, it is quite common that the median voter in a district is more moderate than the lawmaker representing the district (Masket & Noel 2012). In these cases, partisan representation would be more likely to conflict with average constituency preferences on any given issue.

Aside from average opinion in a district, the distribution of opinion within districts acts
as a concurrent influence on legislator behavior. A simplified dyadic model of representation might assume that a constituency sends straightforward, uniform cues to legislators on how to act in order to best represent the district. When district cues are clear, lawmakers vote with their constituents regardless of other pressures placed upon them (Kingdon 1977). In reality, all districts are collections of individuals holding a range of opinions on political issues, though some districts are more divided in opinion on the issues than others. More politically homogeneous districts can send clear signals to representatives on how to vote with the district (Kuklinski & Elling 1977). As a result, public opinion more tightly constrains the behavior of these lawmakers and they position themselves closer to the preferences of the median voter.

In contrast, politically heterogeneous districts send mixed signals to their representatives. Mixed signals place lawmakers in an electoral bind. Choosing one side or the other on a controversial issue can lose the lawmaker the electoral support of a wide swath of her constituency. Representatives of heterogeneous districts are perhaps more likely to succeed in a reelection bid by making decisions that excite and mobilize a committed base of supporters, even if by doing so they sacrifice some segment of the vote in their district (Ensley 2012). Legislators who try to find middle ground often garner lackluster support from their own party’s voters and encounter sustained opposition from voters in the other party. As a consequence, ideologically heterogeneous districts tend to elect legislators who are more likely to deviate from the median voter (Bailey & Brady 1998, Bishin, Dow, & Adams 2006, Fiorina 1974, Gerber & Lewis 2004, Harden & Carsey 2012) and hold more extreme voting records (Levendusky & Pope 2010, McCarty et al. 2018). At the aggregate level, legislatures in states with more heterogeneous populations tend to have more polarized parties than states with more homogeneous populations (Kirkland 2014).
Party Coalitions and Social Groups

A broader insight of district heterogeneity theories is that legislators have more leeway to vote with their own party if the district is more divided between supporters of both parties. Legislators will have little incentive to moderate and appeal to committed supporters of the other party. Most of the recent scholarship espousing this viewpoint has focused on ideological heterogeneity—the distribution of district opinion on a left-right ideological spectrum. However, ideology is only one of many cleavages that divide voters between the two parties.

We might also reasonably expect to see lawmakers vote more with their parties when other social cleavages that divide voters between party coalitions are present in the district. Parties function as coalitions of social groups that create potential popular majorities and make it possible for groups to gain representation from majorities within government institutions (Bawn et al. 2012; Karol 2009). Voters who identify with party-aligned social groups tend to vote in majorities, though not uniformly, for their party’s candidates.

Social group attachments shape voter behavior in addition to, but independently of, voter ideology as group identity and consciousness come to bear in vote choice (Berelson, Lazarsfeld, & McPhee 1954; Campbell et al. 1960; Conover 1988). Given the inability of many Americans to align their issue positions in an ideologically consistent manner (Converse 1964; Ellis & Stimson 2012) and their propensity to arrive at issue positions after forming partisan attachments (Carsey & Layman 2006; Lenz 2013), vote choice may be more a function of group identity or symbolic attachments than of ideology for many Americans (Achen & Bartels 2016; Green, Palmquist, & Schickler 2002). Additionally, Americans have increasingly socially sorted into parties, such that a person’s group identities are increasingly

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2Earlier studies explored whether demographic heterogeneity would result in greater electoral competition and more extreme representation, but found mixed results (Aistrup 2004; Bishin, Dow, & Adams 2006; Bond 1983; Koetzle 1998; Patterson & Caldeira 1984; Sullivan 1973). More recently, scholars have focused exclusively on ideological heterogeneity, with some claiming that demographics were only poor proxies for ideology, the true variable of interest (Gerber & Lewis 2004; Levendusky & Pope 2010). However, demographic heterogeneity was often measured with indices that poorly captured political divisions (Koetzle 1998), perhaps explaining the mixed findings without ruling out the importance of demographic cleavages.
predictive of that person’s party identification (Mason 2018). As a result, members of social groups may support one party over the other, even beyond issues directly relevant to their group.

The argument that social group heterogeneity influences representative behavior in a manner parallel to ideological heterogeneity assumes that lawmakers believe that they can gain the electoral support of some groups but not others, and make political decisions accordingly. Legislators tend to be aware of the social groups that comprise their constituencies (Bishin 2009; Fenno 1978) and use the presence of groups in their districts as heuristics to gauge constituency support when making decisions (Miler 2010). In fact, it is possible that legislators are better at recognizing the social groups in their districts than voter ideology or issue positions. Legislators and staff systematically view their constituencies as more conservative on the issues than they are in reality (Broockman & Skovron 2018; Hertel-Fernandez, Mildenberger, & Stokes 2019). While legislators and staff are also imperfect at recognizing the size and support of interest groups in their district (Miler 2010), they seem to be fairly accurate in assessing district demographics that can be obtained from publicly available data sources like the U.S. Census (Dynes & Butler 2019).

The same logic that applies to the representation of ideologically heterogeneous districts, then, should also apply to districts with a diverse array of social groups, so long as those social groups are sorted along party lines (Koetzle 1998). Legislators representing socially heterogeneous districts will be more likely to offer their districts partisan representation, since they can galvanize committed copartisans in their districts and moderating their records will be unlikely to draw members of outparty-aligned groups to support them. Legislators representing socially homogeneous districts will be more likely to be constrained by the median voter and moderate their records to appeal to a wider swath of voters.
The Case of Race and Partisanship

One could look for evidence of a relationship between social group heterogeneity in the district and more partisan behavior from its representative by examining a number of party-aligned social cleavages (see, for instance, Neiheisel & Djupe 2017 on religious diversity). I test expectations derived from this theory using the case of race, given the primacy of race in partisan divisions throughout U.S. history. Since the Civil Rights era, the parties have increasingly divided on issues of race (Carmines & Stimson 1989; Miller & Schofield 2003). As a result, the party’s coalitions of support in the electorate have split on racial and ethnic lines (Frymer 1999; Hajnal & Lee 2011; Zingher 2018). Republican candidates in recent cycles have won elections with support from an increasingly white base while Democratic candidates have come to rely more on support from racial and ethnic minorities (Zingher 2019).

Applying the theory to the case of race, representatives of racially diverse districts should offer more partisan representation while representatives of more racially homogeneous districts should moderate their behavior. However, two caveats should accompany the expectation in this case. First, in line with the idea that heterogeneity matters to representative behavior only when it aligns with divisions between party coalitions (Koetzle 1998), splits between white and nonwhite populations should produce more extreme representatives. This is because the Republican coalition is nearly uniformly white, while the Democratic coalition is much more racially diverse. Districts that are diverse because they are home to a variety of minority groups should not necessarily produce the same type of more extreme representative behavior, since these groups are not divided between the two parties.

Second, despite the partisan split falling between whites and nonwhites, homogeneously white districts should not necessarily produce uncompetitive electoral environments. Despite the racial homogeneity of Republican voters, white support still remains more evenly divided between the two parties than any other racial or ethnic group. According to data from Pew Research Center, Donald Trump won the white vote in the 2016 presidential election by a
21-point margin, the largest share a Republican presidential nominee has won since 1984. The margin was still smaller than Hispanics’ 36-point and blacks’ 80-point margin of support for Hillary Clinton. Moreover, whites comprised a majority of self-identified Democrats in 2008 and 2012 and gave Hillary Clinton the majority of her votes in the 2016 presidential election. Analysis from the Brookings Institution suggests that a greater proportion of whites voted for Democratic candidates in the 2018 midterms than voted for Clinton in 2016, an apparent short-term reversal of whites’ gradual migration toward the Republican Party. The point here is not to contest findings that white support generally has been shifting toward the Republican Party in the long term, but to establish that, in the short term, white votes are still contested by and important to both parties.

Given these caveats, the expectation I test below is that representatives of more homogeneously white districts should be more likely to moderate their legislative behavior. The expectation applies to both Republican and Democratic lawmakers. If the electoral support of nonwhite groups is indeed “captured” by the Democratic Party (see Frymer 1999), then Democratic legislators representing districts with greater nonwhite populations have less incentive to moderate their records, since nonwhite support will remain high regardless of their records. Holding voter ideology constant, whiter electorates should be more amenable to appeals from Republican challengers, forcing Democrats representing such districts to moderate their records to compete. Likewise, Republican legislators in racially diverse districts also should have less incentive to moderate, since even moderate nonwhite populations would be less likely to consider supporting a Republican candidate than moderate white populations.

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Evidence from Congress

As an initial test of the expectation that representatives of more homogeneously white districts offer their constituencies less partisan representation, I turn to the roll-call voting records of members of the 112th and 113th Congress. I choose these terms in order to conduct an analysis of changes across a redistricting cycle in a subsequent analysis, though they also serve well for the initial cross-sectional analysis. I use members’ DW-NOMINATE scores to capture partisan extremity. Scholars frequently use DW-NOMINATE scores as a measure of the ideological preferences of members (Poole & Rosenthal 1997), but the scores might better represent partisan divisions, particularly during times when the parties are polarized (Aldrich, Montgomery, & Sparks 2014; Lee 2009). As a consequence, members with more extreme DW-NOMINATE scores can be interpreted as exhibiting more partisan behavior in office. To measure the racial composition of members’ districts, I use five-year estimates from the American Community Survey (ACS). The principal independent variable used in subsequent analyses is the percentage of the district population self-identifying as non-Hispanic whites.

In Figure [1] I plot members’ DW-NOMINATE scores against the percent white in their districts by party for the 112th Congress. Evidence consistent with the theoretical expectations would show that members’ scores converge towards zero as percent white in the district increases. The figure shows that in the House, both Republicans and Democrats with whiter districts boast more moderate voting records. The association is substantively larger for Democrats ($\beta = 0.20$) and statistically significant ($p = 0.00$), while for Republicans the relationship is more modest ($\beta = -0.09$) and not significant at the conventional .05 level of confidence ($p = 0.12$). Turning to the Senate, the intraparty relationship between district whiteness and member extremity is substantively smaller ($\beta = -0.10$ for Republicans, $\beta = 0.10$ for Democrats) and the relationship is not statistically significant within either party.

Though the figure do not constitute strong evidence of the expected relationship in and of
Figure 1: Roll-Call Voting and District Racial Composition in the 112th Congress, by Party

House

\[ \text{First Dimension DW-NOMINATE} \]

Pct. White in District

Senate

\[ \text{First Dimension DW-NOMINATE} \]

Pct. White in District

Notes: Data from Voteview and the American Community Survey. White markers represent Democratic members. Black markers represent Republican members.
itself, it could be that the relationship is confounded by other factors like district ideology or region. To clarify the role of district racial composition, I estimate several multiple regression models. For the purpose of these models, I transform members’ DW-NOMINATE scores into a measure of Extremity by using the absolute value as the dependent variable. Higher values of this transformed variable (farther from 0 on the original scale) indicate more extreme records. Like above, the principal independent variable is \( \text{Pct. White} \), the percentage of the district population identifying as non-Hispanic whites.

I include several control variables in the model. First, in line with the median voter theorem, more liberal districts should elect more liberal members and more conservative districts should elect more conservative members. I include a control for \( \text{District Extremity} \), the absolute value of the district ideology measure developed by Tausanovitch & Warshaw (2013). Higher values indicate more ideologically extreme districts while lower values indicate more moderate districts.\(^7\) I also control for the Ideological Heterogeneity of districts, since more heterogeneous districts on this dimension may elect more extreme members. I use the standard deviation of the district opinion measure from Tausanovitch & Warshaw (2013).

Through a process of asymmetric polarization, Republican members have come to take more ideologically extreme positions than Democratic members in recent congresses (Grossmann & Hopkins 2016). I include an indicator for Republican members. Finally, I include an indicator for districts or states located in the South, given the greater extent of racial polarization along party lines in that region than in other regions of the country (Lublin 1997). The south is defined as the 11 states of the former Confederacy. Summary statistics for House data and Senate data are presented in Tables A1 and A2 of the appendix respectively.

I estimate separate models for all House members and all Senate members. If the expectation that more homogeneously white districts receive more moderate representation is correct, then the models should show a negative and significant coefficient estimate for the \( \text{Pct. White} \) variable across specifications. Because this expectation should apply to both

\(^7\) In using the absolute value, I am assuming that extremely liberal districts are not represented by extremely conservative members or vice versa.
Table 1: District Racial Composition and Member Extremity in the 112th-113th Congress

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<tr>
<td>Pct. White</td>
<td>-0.10*</td>
<td>-0.11*</td>
<td>-0.00</td>
<td>-0.24*</td>
<td>-0.14</td>
<td>-0.46*</td>
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<tr>
<td></td>
<td>(0.02)</td>
<td>(0.02)</td>
<td>(0.05)</td>
<td>(0.08)</td>
<td>(0.08)</td>
<td>(0.20)</td>
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<tr>
<td>District Extremity</td>
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<td>0.25*</td>
<td>0.36*</td>
<td>0.29*</td>
<td>0.28*</td>
<td>0.32</td>
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<td></td>
<td>(0.03)</td>
<td>(0.03)</td>
<td>(0.05)</td>
<td>(0.12)</td>
<td>(0.12)</td>
<td>(0.21)</td>
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<tr>
<td>Republican</td>
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<td></td>
<td></td>
<td>0.16*</td>
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<td></td>
<td>(0.01)</td>
<td></td>
<td></td>
<td>(0.02)</td>
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<tr>
<td>Ideological Heterogeneity</td>
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<td>-0.06</td>
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<td>-0.61</td>
</tr>
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<td></td>
<td>(0.05)</td>
<td>(0.06)</td>
<td>(0.10)</td>
<td>(0.21)</td>
<td>(0.21)</td>
<td>(0.43)</td>
</tr>
<tr>
<td>South</td>
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<td>-0.02</td>
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<td>-0.08*</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Constant</td>
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<td>-0.38*</td>
<td>0.64</td>
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<tr>
<td></td>
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<td>(0.15)</td>
<td>(0.33)</td>
<td>(0.32)</td>
<td>(0.66)</td>
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<tr>
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Note: Standard errors in parentheses. *p<0.05. Significance tests are two-tailed.

Results of OLS regression models for all six specifications, including fixed effects by term, are presented in Table 1. Beginning with all members of the House in the first column, the association between Pct. White and members’ Extremity is found to be negative and significant, in line with expectations. Substantively, the relationship is modest. The model projects that, controlling for other variables in the model, moving from a 50% white district to a 100% white district results in a member moderating their record by 0.05 on the extremity scale—roughly a third of a standard deviation. Among the control variables, representatives of more ideologically extreme districts, representatives of ideologically heterogeneous districts, Republican members, and Southern members are estimated to have more extreme voting records. Among House Democrats, representing a whiter district is associated with a more moderate record, as indicated by the results of the second column. However, contrary to expectations, the relationship is not found among House Republicans alone in the third
column. These results suggest that, at least in the House for these two terms, the observed relationship was driven primarily by Democrats moderating their records.

Turning to the Senate, a negative and significant relationship between \textit{Pct. White} and \textit{Extremity} is observed. The association is substantively larger for the Senate than for the House. The model projects that moving from a 50\% white district to a 100\% white district results in a member moderating their record by 0.12, which falls just short of a full standard deviation of the dependent variable. Among the controls in the fourth column, representatives of more extreme districts and Republican members hold more extreme voting records. However, ideological heterogeneity is not found to be significantly associated with extreme voting records, and southern Senators are found to have more moderate voting records, controlling for other variables in the model.

Breaking out the Senate results by party caucus, a negative relationship between \textit{Pct. White} and \textit{Extremity} is found. For the Democrats, the association is not significant at the conventional .05 level of confidence, but the p-value for the coefficient estimate is 0.073. For the Republicans alone in the sixth column, the relationship is both significant and substantively large. According to the model, 50-percentage point increase in whites as a share of the district population is associated with a nearly two-standard deviation decrease in member extremity. Unlike in the House, the evidence from the Senate suggests that members of both parties moderate their voting records in more homogeneous districts. All in all the results are mixed, but on balance suggest that representatives of whiter districts are modestly more moderate than their colleagues who represent more racially diverse districts.

\textit{Redistricting}

To get additional purchase on the question, I turn to a redistricting design to assess changes in representative behavior. After each decennial Census, changes in Congressional district boundaries result in changes to the composition of most House members’ districts (though many of these changes are small). While most of the focus of analyzing redistricting has
focused on partisan gerrymandering and polarization (e.g. McCarty, Poole, & Rosenthal 2009), demographic changes in the district might also produce changes in representative behavior. Hayes, Hibbing, & Sulkin (2010), for instance, find that small shifts in the demographic composition of constituents result in small shifts in the policy agendas of members. A hypothesis that representatives of whiter districts exhibit more moderate roll-call behavior could be tested by observing whether incumbents change their behavior as the racial composition of their districts change.

For this analysis, I rely again upon data from the 112th-113th House, which straddled the 2012 round of redistricting. Observations are restricted to 338 House members who served both terms. Rather than using members’ DW-NOMINATE scores, which are static over time, I rely upon modified, term-specific NOMINATE scores produced by Nokken & Poole (2004) for the outcome variable. I predict the change in the extremity of roll-call records as a function of the change in percent of the district that is white. More formally, I estimate the following regression model using the full set of controls used in Table 1:

$$ \Delta \text{Member Extremity} = \beta_0 + \beta_1 \cdot \Delta \text{Pct. White} + \text{Controls} + \epsilon $$

The predicted value of the change in member extremity is plotted in Figure 2, while full regression results are presented in Table A3 in the appendix. The figure plots the relationship for a non-Southern Democratic member holding all other controls at their means. Supporting evidence would come in the form of a negative relationship between a change in member extremity and change in percent white. Instead, what the figure shows is essentially a null relationship between the variables, controlling for other factors in the model. The slope of the line is positive (contrary to expectations), but the predicted value of member extremity is not statistically different from zero across the entire range of values of the independent variable.

This null result could be interpreted a couple different ways. First and foremost, it could
simply mean that the theoretical expectation is incorrect, since this test fails to provide supporting evidence. However, this test might also indicate that any relationship between district homogeneity and member moderation results through mechanisms other than incumbent responsiveness to changes in district composition. As Poole (2007) memorably wrote, “members of Congress die in their ideological boots.” Similarly, Hayes, Hibbing, & Sulkin (2010) found that roll-call voting patterns (especially on partisan issues) did not tend to change after redistricting, only member attention to issues did. It could be that we should not expect short-term changes in the district to result in otherwise stable partisan voting patterns among incumbents. A more likely mechanism to explore in future research would be through elections, under the hypothesis that more moderate candidates would be better able to win election in whiter districts.

Notes: Data from Voteview and the American Community Survey.
Evidence from State Legislatures

So far, the evidence that representatives of whiter districts are more moderate has been mixed. While the relationship seems to exist both for House and Senate members overall, the relationship seems clearer among Democrats than Republicans. Moreover, short-term changes in the racial composition of House districts through redistricting does not seem to affect members’ aggregate voting patterns.

Further evidence can be gathered by turning to the state level of government. States vary widely in the partisan consistency of legislators and in the polarization of the parties in government (Shor & McCarty 2011). Earlier work observing how legislators represent heterogeneous constituencies focuses almost exclusively on members of Congress (though see Kirkland 2014; McCarty et al. 2018). Studying other elected officials in the United States provides a greater number of observations, more variance in observations, and moves towards generalizing the findings outside the context of the U.S. Congress.

There are some important differences between Congress and state legislatures that are worth noting in a study of representative behavior. States handle different (though often overlapping) sets of issues with the federal government. Public knowledge and media scrutiny of state legislatures pale in comparison to Congress, raising questions about how accountable state legislators are to their constituents (Rogers 2017). Nonetheless, state legislators seem to follow similar patterns of responsiveness to district opinion as members of Congress (McCarty et al. 2018; Shor & McCarty 2011; Tausanovitch & Warshaw 2013).

To study the relationship between district racial composition and legislator extremity, I employ data on state legislators’ roll-call voting patterns from the 2009-10 term. Shor & McCarty (2011) provide estimates of state legislators’ ideal points in a left-right common space, using state legislator survey responses to bridge observations of legislators casting different sets of votes in each state. I match estimates of individual legislators to the percent of non-Hispanic whites in their districts, using five-year estimates from the American Community Survey.
Figure 3: Roll-Call Voting and District Racial Composition in State Legislatures by Party, 2009-10

Notes: Data from Shor & McCarty (2011) and the American Community Survey. White markers represent Democratic members. Black markers represent Republican members.

Figure 3 displays the bivariate relationship of legislator ideal points and percent white in the district by party. Evidence supporting the expected relationship would be displayed if legislator ideal points converged towards zero as their districts became whiter. This is, in fact, the relationship we observe in Figure 3. Moreover, the association is similar in terms of substantive size (Democrats, $\beta = 0.36$; Republicans, $\beta = -0.32$) and statistical significance (Democrats, $p = 0.00$; Republicans, $p = 0.00$).

I conduct a more rigorous test of the relationship using multiple regression. I transform legislator ideal points into their absolute values to create the variable Legislator Extremity, such that higher values indicate more extreme records. The principal independent variable Pct. White is again based on non-Hispanic whites from the American Community Survey. As in Table 1 for the Congressional analysis, I control for District Extremity using the absolute
value of district opinion estimates from Tausanovitch & Warshaw (2013). I also include dummy variables for Republican legislators and for legislators from states in the South.

Controlling for Ideological Heterogeneity in state legislative districts presents a challenge. As their measure McCarty et al. (2018) use the standard deviations of district estimates of opinion from Tausanovitch & Warshaw (2013). However, they note that these estimates correlate with the widely varying sample sizes from each state legislative district in the underlying national survey data. The authors conduct a supplementary analysis showing that an alternative estimation of ideological heterogeneity within state legislative districts while adjusting for sample size produces similar results as their original measure, which provides stronger justification for its use. Therefore, I follow McCarty et al. (2018) in using the standard deviations from Tausanovitch and Warshaw’s (2013) measure. However, because I am more interested in the racial composition of districts than their ideological heterogeneity, I estimate separate models including and excluding this control and present the results of both.

Finally, I estimate a third model including more controls specific to state legislatures. I include indicator variables for legislators who serve in the Upper Chamber of their state’s legislature and for legislators who represent Multimember Districts. I also control for the District Population, which varies widely across state legislative districts from a few thousand constituents to nearly a million constituents. To account for state legislators being nested in different state institutional contexts and political environments, I estimate the models using multilevel regression with random effects for states. I present the estimates with bootstrap standard errors clustered by state. Because I am interested in the partisan behavior of lawmakers, I exclude independents from the analysis, as well as the nonpartisan legislators from Nebraska. Summary statistics for all variables are presented in Table A4 in the appendix.

The results are presented in Table 2. As in previous analyses, if legislators representing more homogeneously white districts held more moderate voting records, we should expect to see a negative and statistically significant coefficient estimate for the Pct. White variable.
Table 2: District Racial Composition and State Legislator Extremity, 2009-10

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pct. White</td>
<td>-0.17*</td>
<td>-0.16*</td>
<td>-0.16*</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.07)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>District Extremity</td>
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<td>0.79*</td>
<td>0.79*</td>
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<tr>
<td></td>
<td>(0.10)</td>
<td>(0.10)</td>
<td>(0.10)</td>
</tr>
<tr>
<td>Republican</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.06)</td>
<td>(0.06)</td>
</tr>
<tr>
<td>South</td>
<td>-0.13*</td>
<td>-0.12*</td>
<td>-0.14*</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.06)</td>
<td>(0.06)</td>
</tr>
<tr>
<td>Ideological Heterogeneity</td>
<td>0.24</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.26)</td>
<td>(0.30)</td>
<td></td>
</tr>
<tr>
<td>Multimember</td>
<td>-0.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Chamber</td>
<td>-0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District</td>
<td></td>
<td>0.01</td>
<td></td>
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<tr>
<td>Population</td>
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<td>(0.02)</td>
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<td>State RE</td>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Constant</td>
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<td>0.75*</td>
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<td>(0.07)</td>
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<td>7147</td>
<td>7147</td>
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<tr>
<td>BIC</td>
<td>5285.60</td>
<td>5291.82</td>
<td>5311.96</td>
</tr>
</tbody>
</table>

Note: Bootstrap clustered standard errors in parentheses. *p<0.05. Significance tests are two-tailed.

Across all three specifications of the model, we see the expected result.

Beginning with the first column, the association between Pct. White and Legislator Extremity is statistically significant but, as in the Congressional analysis, substantively modest. The model projects that moving from a 50% white district to a 100% white district would be associated with a roughly 0.08 decrease in the extremity of a legislator’s ideal point, controlling for other factors in the model. For reference, the standard deviation of the dependent variable is 0.42. Turning to the controls, legislator extremity appears to be positively related to district extremity, but southern districts tend to elect more moderate representatives. The results suggest that Republican state legislators are no more extreme than Democrats on
average, controlling for other factors in the model. These results change minimally moving to models 2 and 3 of Table 2. None of the added controls—including Ideological Heterogeneity—are significantly related to the dependent variable. In fact, model fit seems to become poorer in the second and third specifications, as indicated by the increase in BIC values.

These initial results do not indicate how the relationship might vary (if at all) by party. In Table A5 of the appendix, I estimate the same set of models within each party. The results show consistently that Democrats with whiter districts moderate their voting records. However, the results show a slightly different picture for the other party. The coefficient estimates for Republicans are positive, though shy of statistical significance at the .05 level of confidence. These results suggest that the overall findings for state legislators are driven by Democrats moderating their records when representing whiter districts. If anything, Republican state legislators move toward the extremes representing whiter districts. The findings contrast with the Congressional findings above, which showed no relationship between district racial homogeneity and extremity for House Republicans and a negative relationship for Senate Republicans.

**Aggregate Analysis**

A final test of the theoretical argument moves from the micro-level of analysis to the macro-level. A district-level theory of individual legislators’ voting behavior has important implications in the aggregate: it implies that the two parties will polarize as districts grow more diverse on average (see [Kirkland 2014](#)). When more legislators must run for election in diverse districts, more legislators will support party positions on the issues before them in the legislature and on the campaign trail. Fewer legislators representing homogeneous districts will occupy more moderate spaces, supporting one party on some issues and the second party on others. Greater heterogeneity across districts should produce more consistently partisan legislators, which in turn produces more internally homogeneous, polarized parties within legislatures.
Figure 4: Party Polarization in State Legislative Chambers and State Racial Composition, 2014

![Graph showing party polarization and racial composition]

Notes: Data from Shor & McCarty (2011) and the American Community Survey.

To test the expectation that legislative parties are more polarized in states with less homogeneously white populations, I gather data for each chamber (except the nonpartisan Nebraska legislature) for the legislative terms ending in 2010, 2012, and 2014, yielding a total of 294 observations. The measure of polarization I use is Interparty Distance, a measure of the distance across a common space between the median legislators in each party. Data for the variable also come from Shor & McCarty (2011). For the independent variable, I use the percentage of the entire state’s population that identifies as non-Hispanic white from five-year estimates of the American Community Survey.

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8In states where legislative terms do not end in even-numbered years, I use data from the most recently concluded term. In the models below, 48 observations are dropped due to missing data on the dependent variable.

9An alternative measure would be the mean percent white of all districts forming a chamber, which would better account for possible racial segregation along district lines. However, this alternative measure and the simple percent white in the state population correlate at $r = 0.998$ for the year 2010, suggesting the simpler measure will yield virtually the same results.
As an initial illustration, Figure 4 plots the bivariate relationship between Interparty Distance and Pct. White in the state population for 2014 alone. Evidence supporting theoretical expectations would come in the form of a negative association between the two variables. In line with expectations, Figure 4 shows that the distance between party means decreases significantly as the state population grows more homogeneously white.

As further evidence, I fit several multiple regression models controlling for state-level factors that are also associated with greater polarization. First, I control for the Ideological Heterogeneity of state populations (Kirkland 2014). The estimates from (Tausanovitch & Warshaw 2013) used in prior analyses are static for districts between redistricting cycles. In order to use a time-dynamic measure of this control, I employ a measure capturing variance in estimates of state-level policy mood originally derived by Carsey & Harden (2010). I use 2010 data based on this technique calculated by Harden & Carsey (2012) and extend the measure using data from the 2012 and 2014 waves of CCES and matching values to the appropriate state-year.

I further control for two variables meant to capture political competition between the parties within states, which drive roll-call voting patterns, party positioning on the issues, and polarization (Hinchcliffe & Lee 2015). I control for state-level Party Competition in Government using a folded Ranney index (see Holbrook & La Raja 2010) and for state-level Electoral Competition between the parties using an updated measure originally introduced by Holbrook & Van Dunk (1993). Data for the competition variables come from Klarner (2013).

Finally, I include a set of controls for legislative institutions that structure roll-call voting patterns and, as a consequence, legislative polarization. I include variables for states that term limit their legislators and for the average population of constituencies for the chamber. I also include indicator variables for upper chambers and for chambers in which at least some members are elected from multimember districts. Summary statistics for all variables are

\[10\] Though the measures are related, Flavin & Shufeldt (2012) demonstrates that the two variables measure distinct aspects of political competition.
Table 3: Party Polarization in State Legislatures and State Racial Composition, 2010-2014

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Interparty Distance</th>
<th>Dem. Median</th>
<th>Rep. Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pct. White</td>
<td>-1.16*</td>
<td>0.77*</td>
<td>-0.44</td>
</tr>
<tr>
<td></td>
<td>(0.52)</td>
<td>(0.37)</td>
<td>(0.31)</td>
</tr>
<tr>
<td>Ideological</td>
<td>0.52*</td>
<td>-0.24</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>(0.19)</td>
<td>(0.13)</td>
<td>(0.17)</td>
</tr>
<tr>
<td>Heterogeneity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Party Competition</td>
<td>0.69</td>
<td>-0.55</td>
<td>0.12</td>
</tr>
<tr>
<td>in Govt.</td>
<td>(0.71)</td>
<td>(0.61)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Electoral Competition</td>
<td>0.02*</td>
<td>-0.01</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Upper Chamber</td>
<td>-0.03</td>
<td>0.05</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Term Limits</td>
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<td>0.09</td>
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</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.11)</td>
<td>(0.09)</td>
</tr>
<tr>
<td>Mean District Population</td>
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<tr>
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<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>South</td>
<td>-0.01</td>
<td>0.31*</td>
<td>0.30*</td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.12)</td>
<td>(0.11)</td>
</tr>
<tr>
<td>State REs</td>
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<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Term REs</td>
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<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Constant</td>
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<tr>
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<td>(0.67)</td>
<td>(0.51)</td>
<td>(0.46)</td>
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<tr>
<td>N</td>
<td>246</td>
<td>246</td>
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</tr>
<tr>
<td>BIC</td>
<td>-25.33</td>
<td>-194.50</td>
<td>-172.32</td>
</tr>
</tbody>
</table>

Note: Bootstrap clustered standard errors in parentheses. *p<0.05. Significance tests are two-tailed.

I estimate the association using a non-nested multilevel model with random effects for state and term and present bootstrap standard errors clustered by state. The results for the specification are presented in the first column of Table 3. The results indicate a negative and statistically significant association between Pct. White and Interparty Distance, controlling for other factors in the model. The association is substantively large; moving from a 50%
white state population to a 100% white state population yields a decrease in interparty distance of 0.58, which is slightly larger than a full standard deviation of the dependent variable. This result suggests that state legislatures collectively representing whiter populations are less polarized on average. Among the controls, both ideological heterogeneity and electoral competition are found to be positively and significantly related to a larger distance between party median legislators.

Interparty distance is a useful measure of polarization, but alone it cannot tell us whether both parties are moving toward one another in a common ideological space, or whether one party is moderating more than the other. Above, the results have consistently shown that Democrats moderate in whiter districts, but have been quite mixed on the question of whether Republicans are also moderating. Scaling these findings to the level of chamber caucuses, it could be the case that Democratic caucuses moderating accounts for most of the reduction in interparty found in the first model of Table 3, with Republican caucuses remaining as conservative or perhaps growing even more conservative in whiter states.

To answer this question, I specify two additional models in Table 3 to track the ideological range of each party across states of differing racial compositions. The two dependent variables I use are Democratic Median and Republican Median, which are simply the ideal points of the median member of each chamber caucus from Shor & McCarty (2011). Moderation in more homogeneously white states in these models would be indicated by a positive coefficient estimate for Democrats and a negative coefficient estimate for Republicans.

Beginning with Democrats in the second column of Table 3, a positive and significant coefficient estimate for Pct. White indicates that Democratic caucuses on average are more moderate in whiter states. Among the controls, only the variable South produces a significant coefficient estimate, indicating that Democratic caucuses in Southern state legislatures are more moderate than Democratic caucuses elsewhere. Turning to Republicans in the third column of Table 3, we see a negative coefficient estimate for the Pct. White variable, signed in the same direction. Full results are presented in Table A7 in the appendix.
However, the association is not significant at the conventional .05 level of confidence. (In this case, $p = 0.16$.) In line with previous models, the evidence is weak that Republicans are more moderate in whiter states. However, the results do not imply that Republican caucuses are more conservative in whiter states either. We can confidently say that the decrease in interparty distance is related in part to Democratic moderation, but we cannot rule out that more moderate Republican caucuses in whiter states contribute to a reduction in polarization as well.

**Discussion**

The findings above provide evidence that the racial composition of districts are related to how extreme or moderate lawmakers’ voting records are across lawmaking bodies. The findings are consistent for Democrats across all lawmaking bodies: representing whiter districts is associated with more moderate voting records, holding key variables like district ideology constant. The findings are inconsistent for Republicans. In the House, Republicans from whiter districts were found to be no more or less extreme; in the Senate, Republicans from whiter states were found to be more moderate; and in state legislatures, weak evidence suggested Republicans from whiter districts may be more extreme, though the association was not significant by conventional levels of confidence. At the aggregate level, Democratic and Republican caucuses were less polarized in state legislatures governing whiter states.

By focusing on legislator-constituency dyads, this study provides a new look at the connection between race and polarization in the U.S. The connection between race and partisan division in the U.S. is canonical (Carmines & Stimson 1989; Key 1949; Miller & Schofield 2003). However, this study is novel in identifying district-level electoral incentives as a potential mechanism tying racial cleavages to legislative polarization. By marshaling evidence from a number of contexts at both the individual and aggregate levels, this study provides consistent evidence of the relationship (particularly for Democratic lawmakers).

This study also contributes to the literature on district heterogeneity by providing new
evidence of a relationship between demographic heterogeneity and extreme representative behavior. Inconsistent findings and the use of questionable index measures of demographic heterogeneity in early studies led some researchers to conclude that ideological, not demographic, heterogeneity in the district alone was responsible for more extreme or partisan lawmaker behavior (e.g. Gerber & Lewis 2004; Levendusky & Pope 2010). By focusing on a single demographic cleavage expected to produce partisan divisions and employing a straightforward measure of that cleavage, this study provides evidence that demographic heterogeneity can play a role in lawmaker extremity.

None of the evidence above can be claimed to identify a causal link between district demographics and representative behavior. The findings are best interpreted as correlational, though suggestive of a potential causal link that could be identified through further analysis. While efforts have been made to control for potential confounding factors, the possibility of a spurious relationship cannot be eliminated. Minimally, reverse causation seems unlikely; it is doubtful whites sort into certain districts because those districts are represented by more moderate lawmakers. The redistricting analysis provides no evidence that short-term changes in district demographics produce changes in incumbent voting patterns, suggesting that the mechanism producing the observed relationship runs through elections.

It is worth highlighting that the findings are time-bound. All data analyzed above were recorded between 2009 and 2014. Electoral conditions and party coalitions have not shifted drastically in the intervening period. However, it is possible that long-term changes in the structure of party coalitions could lead to changes in the relationship between district-level racial composition and partisan behavior. In the short term, the findings would seem to imply that continued demographic change in the U.S. will lead to greater legislative polarization. However, given historical changes in party coalitions, it is difficult to predict with any certainty that the relationship observed here will continue to be observed in coming decades.
References


## Appendix

### Table A1: Descriptive Statistics for House Data

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Min.</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.913</td>
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<td>0.55</td>
<td>–</td>
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<tr>
<td>Ideological Heterogeneity</td>
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<td>0.86</td>
<td>1.57</td>
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</table>

### Table A2: Descriptive Statistics for Senate Data

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<th>Mean</th>
<th>St. Dev.</th>
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<td>0.03</td>
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<td>0.95</td>
</tr>
<tr>
<td>District Extremity</td>
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<td>0.10</td>
<td>0.01</td>
<td>0.39</td>
</tr>
<tr>
<td>Republican</td>
<td>0.46</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
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<td>0.06</td>
<td>1.21</td>
<td>1.53</td>
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<tr>
<td>South</td>
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Table A3: OLS Regression Results of Redistricting Analysis

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<td>0.04</td>
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<tr>
<td></td>
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<td>(0.05)</td>
</tr>
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<td>∆ District Opinion</td>
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<td></td>
<td>(0.03)</td>
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</tr>
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<td>Republican</td>
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<td></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>∆ Ideological Heterogeneity</td>
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<td></td>
<td>(0.01)</td>
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<tr>
<td>Constant</td>
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<td>-0.00</td>
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<td></td>
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<td>(0.01)</td>
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<tr>
<td>Adj. $R^2$</td>
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<td>0.02</td>
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</table>

Note: *p<0.05. Significance tests are two-tailed.

Table A4: Descriptive Statistics for State Legislator Data

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<th>Mean</th>
<th>St. Dev.</th>
<th>Min.</th>
<th>Max</th>
</tr>
</thead>
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<tr>
<td>Legislator Extremity</td>
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<td>0</td>
<td>2.72</td>
</tr>
<tr>
<td>Pct. White</td>
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<td>0.24</td>
<td>0.01</td>
<td>0.995</td>
</tr>
<tr>
<td>District Extremity</td>
<td>0.22</td>
<td>0.17</td>
<td>0.00</td>
<td>1.21</td>
</tr>
<tr>
<td>Republican</td>
<td>0.45</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>South</td>
<td>0.24</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ideological Heterogeneity</td>
<td>0.14</td>
<td>0.04</td>
<td>0.04</td>
<td>0.24</td>
</tr>
<tr>
<td>Multimember District</td>
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<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Upper Chamber</td>
<td>0.26</td>
<td>–</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>District Population (in 100,000s)</td>
<td>0.89</td>
<td>1.12</td>
<td>0.03</td>
<td>11.69</td>
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</table>
Table A5: District Racial Composition and State Legislator Extremity by Party

<table>
<thead>
<tr>
<th></th>
<th>Democrats</th>
<th>Democrats</th>
<th>Democrats</th>
<th>Republicans</th>
<th>Republicans</th>
<th>Republicans</th>
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<td>(2)</td>
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<td>(6)</td>
</tr>
<tr>
<td>Pct. White</td>
<td>-0.31*</td>
<td>-0.32*</td>
<td>-0.32*</td>
<td>0.15</td>
<td>0.15</td>
<td>0.14</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.06)</td>
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<td>(0.08)</td>
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<td>(0.08)</td>
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<td>0.99*</td>
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Note: Bootstrap clustered standard errors in parentheses. *p<0.05. Significance tests are two-tailed.
Table A6: Descriptive Statistics for Chamber Polarization Data

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<td>0.38</td>
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<td>Rep. Median</td>
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<td>0.08</td>
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<td>11.26</td>
<td>16.19</td>
<td>61.57</td>
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<td>Upper Chamber</td>
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<td>0</td>
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<td>Term Limits</td>
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<td>–</td>
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<td>Mean District Population (in 100,000s)</td>
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<td>1.42</td>
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Table A7: Party Polarization in State Legislatures and State Racial Composition, 2010-2014

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<td>Term Limits</td>
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Note: Model 1 presents the results of an OLS regression with classic standard errors in parentheses. Model 2 presents the results of a non-nested multilevel model with bootstrap standard errors clustered by state in parentheses. *p<0.05. Significance tests are two-tailed.