

Reducing Legislative Polarization: Top-Two and Open Primaries Are Associated with More Moderate Legislators

Christian R. Grose*

*Department of Political Science, University of Southern California,
Los Angeles, CA 90089, USA; cgrose@usc.edu*

ABSTRACT

Partisan polarization in Congress is at its highest levels in more than 100 years. Political reformers advocate for changes to electoral institutions in order to reduce legislative ideological extremity, yet political scientists have been surprisingly skeptical that changes to primary nomination systems affect legislator ideology. I theorize that electoral systems shape legislator ideology. The top-two primary — used in just under one-fifth of all U.S. House elections — incentivizes legislators to moderate. Empirically, I rely on exogenous changes in the introduction and withdrawal of the top-two primary due to ballot proposition or in response to court cases, and examine legislator ideological extremity from 2003 to 2018. The top-two primary has reduced ideological extremity among legislators, relative to those elected in closed primary systems. Legislators elected in open primaries also show some evidence of attenuated extremity. This ideological moderation in top-two and open primaries is found among both incumbents and newly elected legislators.

Keywords: Electoral institutions; open primaries; election administration; Congress; ideology

*I would like to thank Seth Hill, Jeff Jenkins, Jane Junn, Jonathan Katz, Jeff Lewis, Michael Olson, Andrew Sinclair, Chris Tausanovitch, and James Thurber for comments. I would like to thank Campbell Ramage-Grose for support and patience during the writing of this article.

American politics is more polarized than it has been in a century (Hare and Poole, 2014; Hetherington, 2009; Thurber and Yoshinaka, 2015). Democratic and Republican legislators continue to move further away from one another in each successive Congress (Mann and Ornstein, 2012). Underlying this party polarization is the empirical reality that many members of the U.S. House are ideologically extreme (Thomsen, 2014). Ideologically extreme House members are associated with increased legislative gridlock, the inability to reach agreement and negotiate, and fundamental breakdowns in the policy-making process. Simply put, ideological extremity among U.S. legislators has created problems of governance (Lee, 2015). One area of election reform that may hold promise for reducing ideological polarization is how primary elections are administered. Are primary election rules associated with legislator ideology? Does the top-two primary lead to legislators who are less ideologically extreme?

The top-two primary has been used in three U.S. states for congressional elections, and as of 2020, it elects just under 20 percent of the country's U.S. House members each year. This primary system allows all voters — regardless of party affiliations — to vote in both the first-round primary and the second-round general election. In addition, all candidates compete against all other candidates in the first-round primary. The second-round general election features the two candidates receiving the most votes in the first round, even if the candidates are of the same political party.

Proponents of this primary system argue that it leads to less ideologically extreme legislators. Advocates for reform claim that the top-two primary radically alters incentives for candidates and elected officials when contrasted to other systems such as closed primaries, which limit first-round participation to registered party voters and always result in different-party general election matchups (Munger, 2019). Supporters of the top-two also claim this system promises to break the increasing ideological polarization seen in Washington and many state legislatures. Advocates interested in access for independent voters have worked to expand the top-two and other open primaries to states, most notably Florida in 2020. Political party activists have fought these efforts, expending resources to oppose ballot initiatives supporting the top-two primary and to litigate it in the courts. The expenditure of resources by both major political parties suggests that the top-two primary system alters incentives for candidates and voters; and reduces the influence of party activists in the selection and nomination process. Further, Democratic and Republican campaign consultants publicly complain about the propensity for the top-two system to produce same-party general elections (Berman, 2018).

Yet, scholars have never examined the association between the top-two primary and congressional ideological extremity (though see Grose, 2014 for a study of state legislators). Perhaps even more curious, given theoretical and empirical evidence that electoral institutions affect legislator behavior, some scholars remain sanguine that formal primary institutions can reduce

ideological extremity in legislators (McGhee *et al.*, 2014; McCarty, 2019; though see Bullock and Clinton, 2011; Kanthak and Morton, 2001; Sinclair, 2013). This is quite surprising given the vigorous defense of the system by advocates for top-two and open primaries reform, and the vociferous opposition to the top-two primary system from party operatives. Rarely do practitioners fight hard in favor or against an electoral system that has little impact on elections and legislative representation.

I argue that the top-two primary creates incentives for legislators to be less extreme than those elected in closed primary systems. Since all voters can participate in the primary round, the potential primary coalition could include same-party, different-party, and independent voters. In addition, in lopsidedly one-party constituencies, there is a threat of a same-party general election (Sinclair *et al.*, 2018) featuring two Democrats running against one another or two Republicans running against one another. In same-party general elections, which are only possible in a top-two electoral system, a partisan cue cannot be used by voters (Sinclair, 2015). In the absence of candidate party label to use as a cue, other factors such as the ideological or spatial position of the legislator or candidate become critically important to voters.

I test this argument by examining all U.S. House members from 2003 to 2018. The top-two primary was exogenously introduced; or removed and subsequently reintroduced in 16 percent of U.S. House districts during this time period. I examine the association between running and winning in the top-two primary and legislator ideological extremity. I also examine the association between open primaries (that are not top-two systems) and legislator ideological extremity. I find that top-two primary congressional districts elect more ideologically moderate U.S. House members than districts using closed primary systems. Open primary systems are also associated with legislator ideological moderation, but not at the same magnitudes as legislators elected in the top-two system. New members and incumbent members of Congress are both less ideologically extreme in top-two and open primary systems when contrasted to closed primary systems, though the magnitude of the effect of the top-two primary is largest for newly elected legislators.

Research on the role of primaries in congressional representation surprisingly has often found null effects of electoral rules on legislator behavior. Scholars have instead argued that informal party mechanisms and institutional partisanship influence behavior in the legislature (Masket, 2011), and this explains the lack of impact of primary electoral institutions on legislator behavior. In contrast, I argue and find that electoral rules are associated with legislator roll-call voting. It is time for scholars of American politics to embrace the idea that electoral institutions — and not just informal party organizations — matter. Those interested in reducing legislator extremity in the U.S. House should consider adopting new primary systems that encourage legislator moderation.

Theory: Primary Election Rules Influence Legislator Roll-Call Voting

Ideological positions of legislators are influenced by several factors, namely their (1) personal preferences, (2) political party, and (3) constituency preferences (Poole and Rosenthal, 1997). The electoral system used to elect legislators affects the revealed ideology of legislators. The partisan and ideological makeup of the coalition of voters in a legislator's primary and re-election constituencies influence legislator decision-making (Fenno, 1978).

One electoral system that varies significantly across states and thus congressional districts is the primary (Sinclair, 2013). In the United States, legislators are elected through two rounds of voting by constituents. In the first round, called a primary election, voters choose the candidates that advance to the general election. The general election is the second round of voting that chooses the winner.

The Top-Two Open Primary: A Radically Different Way of Administering Primaries

Primary rules differ on two central dimensions: (1) whether all *candidates*, regardless of party, compete against one another in the first round of voting; or whether they only compete against candidates who share their party affiliations; and (2) the restrictions on the party affiliations of which *voters* can participate. There is only one primary system in the United States where all candidates compete against one another, regardless of party, and where all voters can choose any one of those candidates in the first round. In 2020, this primary system was used in three U.S. states — California, Louisiana, and Washington — for election to the U.S. Congress and is called the top-two primary. In the rest of the 50 U.S. states, primary elections for the U.S. Congress are open to all voters regardless of party affiliation (open primaries) but have candidates of the same party competing in the first round in order to face a candidate of a different party in the second-round general election; or are restricted to voters of one party (closed primaries) in the first round to advance and face a candidate of another party in the second-round general election; or there are other variants.

The administration of primary elections has significant representational consequences for legislators, candidates, and voters. On the voter side, primary systems structure choices differently. The top-two primary system is similar to the open primary system in terms of voter access. In both, Democrats, Republicans, and independents can vote in the first-round primary. In contrast, in closed primaries, only same-party voters can vote for candidates running in the party primary.

The top-two primary requires voters to consider all candidates on the same ballot; while open primaries allow voters to choose which party primary they would like to vote. Thus, in the top-two primary, it is theoretically possible

for a Democratic candidate to seek votes of Democrats, independents, and Republicans who are able to vote for any candidate in the primary. The possibility of independent and different-party voters voting in a primary could influence legislators to moderate if the median voter in the primary is more moderate than what would otherwise occur in a closed primary system (Gerber and Morton, 1998).

In closed primaries, in contrast, legislators will have incentives to reach out only to voters of the same party in the first round of voting and to voters of all party affiliations in only the second round of voting. In closed primary districts with very lopsided one-party voters, there is little competition in the general election. Thus, the primary is dominant in choosing the legislator. In the second-round general election, especially in the partisan polarized electoral environment in the contemporary United States (Hetherington, 2009), voters often choose the candidate of the party of which they identify. This partisan cue-taking in many general elections creates little opportunity for general election contests to allow for ideological positioning by candidates as voters rely on party.

Party Cues for Voters Differ in the Top-Two Primary Compared to Other Systems

The research on the top-two primary has focused mostly on the first-round primary election. However, to understand how the top-two system could induce legislator moderation, we have to think about the primary system as a sequential election. I assume that voters, when given a choice between a Democrat and a Republican, will often choose the candidate of the party with which they identify. In closed primary systems, this means that the first stage of the election has no party cue and so voters must choose based on some other criteria. Extreme voters may prefer an extreme candidate in this first round of voting in a closed primary system — and the party primary median is likely to be more extreme than the general electorate. Once the candidates advance to the second-round general elections, though, voters now rely on the party cue and notice the differential in the party labels of each candidate and choose the one to which they identify. Using party cues in the second round of voting (the general election) but relying upon other voter decision rules — such as ideological positions — in the first-round primary can lead to the election of extreme candidates since partisan cues inhibit general election moderation by legislative candidates.

In contrast, the top-two system sometimes does not allow for voters to rely on party cues in the second-round general election; but often does in the first round. Voters considering candidates in the first-round primary will likely vote for a candidate who shares their party. However, if there are more than two candidates running in a top-two primary, there are incentives for both

moderate and extreme candidates to strategically take positions that may yield a first or second-place finish. With many candidates running, there may not be equilibria in candidate ideological positioning in a top-two primary first-round election (Indridason, 2007). So there may be incentives for some candidates — including incumbent legislators — to moderate in the first round, but this is conditional on the number of primary candidates.

But in the second round — or the general election — in top-two systems, there are incentives to moderate. In partisan-competitive districts, the two candidates running are likely to be a Democrat versus a Republican. However, in lopsidedly Democratic or GOP districts, the two candidates in the general election are likely of the same party (Sinclair *et al.*, 2018). This threat of a two-candidate general with each candidate sharing a party label creates other evaluative criteria for voters to choose. In the absence of distinguishing party labels between two candidates, voters choose candidates who they perceive are ideologically closer to them. This means general election same-party candidates in the top-two system have incentives to moderate by taking positions in line with the general election median voter. In the closed system, because we theorize that voters use party cues, legislators and candidates do not need to moderate as the winner will most frequently simply be the candidate who shares the party affiliation with the majority of voters.

Even if every general election does not feature a same-party opponent, incumbent legislators strategically anticipate that such a same-party matchup could occur at some point in a future election. If faced with a same-party general election opponent at some point, the incumbent legislator will want to point to more moderate positions taken as a legislator. In short, the top-two creates incentives for legislator moderation because there is the possibility of voters having to use spatial criteria in evaluating candidates instead of partisan cues in the second round of voting. This contrasts with closed primary systems where more extremist voters may use spatial positions as an evaluative decision rule in the first-round primary but party cues would be used only in the general election.

Open Primaries and Closed Primaries

Open primaries that are not top-two systems may also create an incentive for candidates to moderate as there is the possibility that voters will cast ballots in a different-party primary, or that independents will vote in the party primary. Unlike the top-two system, though, voters must choose a partisan primary in which to vote in other open primary systems. This creates incentives for incumbent legislators to moderate — if they think there is a possibility of independent and same-party voters participating in a primary at some point in the future. However, the general election logic of moderating legislators in

the top-two primary does not apply to the open primary. The general election will always involve candidates of different parties competing, if they are not unopposed. This means that in lopsidedly one-party districts, even with open primaries, legislators may not need to appeal to independents and other-party voters as much as in the top-two general election.

Closed primaries present the opposite incentives for legislators. Incumbent legislators may only need to fear a primary challenge in the closed system where only same-party voters can participate. There is no incentive to appeal to independent or different-party voters in the first-round primary as these voters cannot participate. There may be some limited reason to appeal to these voters in the general election, but not in districts that are overwhelmingly one party where the first round is tantamount to election.

There are empirical implications of this theoretical argument: (1) The median primary voter will be more moderate in top-two and open primary districts relative to closed primary districts. (2) Incumbent legislators have incentives to moderate in the top-two primary in order to appeal to a wider electorate in the first round of voting, but also to appeal to a wider electorate in the second round of voting where they may face a same-party opponent. Further, legislators who know they may face a same-party general election opponent in the future can strategically anticipate this by taking more moderate positions in the legislature.

Methods and Analysis

The unit of analysis is the member of the U.S. House from 2003 to 2018. The time period 2003 to 2018 is studied as there is variation and change to how primary electoral institutions were administered in several states. Past research has only looked at earlier time periods. For instance, researchers studying the impact of primaries on representational decisions across the U.S. states mostly study the 1990s or early 2000s (Gerber and Morton, 1998; Kanthak and Morton, 2001; McGhee *et al.*, 2014); while those studying California have looked at periods before the 2012 adoption of the top-two primary (Alvarez and Sinclair, 2012; Bullock and Clinton, 2011) or only the period immediately after the top-two primary was implemented in 2012 (e.g., Alvarez and Sinclair, 2015; Grose, 2014). Yet, a number of meaningful changes to primary electoral institutions have occurred throughout the 2000s. The period 2003–2018 also allows an examination of congressional roll-call voting over two decades in which American legislative and executive politics have become extremely polarized (Bertelli and Grose, 2011; Carroll *et al.*, 2013; Christenson and Kriner, 2020; Hare and Poole, 2014; Howell *et al.*, 2020; Lo, 2013).¹ No scholar

¹We begin the period of analysis in 2003 because this allows for the inclusion of two redistricting cycles of districts/legislators.

has associated the election administration of new primary institutions and congressional roll-call voting during this time period.

Ordinary least squares (OLS) is estimated, including fixed effects for each state and two-year congressional session. This method and fixed effects modeling choices were previously used in the foundational work that showed no effect of primary type on legislator ideology (McGhee *et al.*, 2014), though this earlier work did not examine the effect of the top-two primary on legislator ideology. McGhee *et al.* (2014, p. 343) state that the “most rigorous way of accounting for state-level variation is with a fixed effects regression” with a “dummy variable included for each state and year.” By including these fixed effects, we are able to control for all other temporal and state-level confounders during this period. Empirical leverage comes from variation in the type of primary used within a state in contrast to other states’ primary systems.

During the 2003 to 2018 period, with the top-two primary, there were three state-level exogenous changes to the primary system that affected a large proportion of the U.S. House members and their districts. Two states passed the top-two primary via ballot proposition (California and Washington), and another was forced to suspend use of the top-two primary due to a court decision and replace it with a closed primary system for two electoral cycles before beginning the top-two primary system again (Louisiana).² In the data, there are 564 U.S. House members over the 2003–2018 period from these three states; out of a total of just over 3,500 U.S. House members. Thus, about 16 percent of the sample of U.S. House members comes from districts in which the primary changed from or to a top-two primary system to another primary system. U.S. House members and districts are treated with the new top-two primary change, and we can examine ideological extremity of these members in comparison to other members and districts. In addition to these 16 percent of districts with top-two primary changes, there are other districts with non-top-two open primaries that also saw changes during this time period.

Legislator ideology is the outcome variable of interest. The specific dependent variable measure in the first set of models is the absolute value of the Nokken–Poole DW-NOMINATE estimate for each U.S. House member. These are measures of ideology based on the revealed behavior of legislators. These revealed ideology measures are estimated based on scaling every roll call cast by each U.S. House member in that particular congressional session. The Nokken–Poole DW-NOMINATE estimates are used as these estimates

²Louisiana’s top-two system is slightly different than California’s and Washington’s top-two system. In Louisiana, if all candidates receive less than 50 percent of the vote each, then the top-two vote getters move on to the second-round general election. In Louisiana, if one candidate garners over 50 percent of the vote, the candidate is declared the winner without a second round of general election voting. In California and Washington, the top-two candidates advance to the general election no matter what. Nevertheless, I code these systems as all being a type of top-two primary.

dynamically vary for each member of the U.S. House and are estimated on the same scale over time and across all U.S. House members. Before taking the absolute value, estimates range from -1 to $+1$, and members of Congress with more liberal roll-call records are negative and closer to -1 and conservative legislators have positive values closer to $+1$. More moderate members are generally closer to 0 . The absolute value of the revealed ideology estimate is taken, so larger values indicate more ideologically extreme members, and smaller values indicate more moderate or less ideologically extreme members. The scale of this absolute value-dependent variable ranges from 0 to 1 .

We also examine a second set of models where we use a directional measure of legislator ideological extremity, where larger values measure extremity and smaller values measure moderation. In this alternative dependent variable measure, the Nokken–Poole DW-NOMINATE estimate for Republicans is used; and for Democrats the Nokken–Poole DW-NOMINATE estimate is multiplied by -1 .³ This is done because the absolute value measure, while easily interpretable, effectively folds the ideological scale to arbitrarily choose 0 as the most moderate position. It would be possible, for instance, to be a moderate Republican, and be left of 0 on the -1 to $+1$ scale; or to be a moderate Democrat and be to the right of 0 . This second dependent variable addresses this measurement concern, and it ranges from -0.091 to 1 .

To define and measure the primary type in each congressional district, I rely on the dataset provided by Sinclair (2013) for all state primary types and changes prior to 2014. For 2014 and 2016, I read and coded state election administration websites and consulted other sources. The theory posits that the (1) threat of a same-party general election challenger may induce ideological moderation in the top-two primary; and (2) the possibility of independent and different-party voters participating in the primary round in the top-two and in open primaries could lead to less ideological extremity from legislators. Thus, in total, I code four types of primary systems:

- (1) The top-two primary;
- (2) The open primary;
- (3) The semi-closed primary; and
- (4) The closed primary.

I define the *top-two primary* as the primary system where all candidates compete against one another in the first round and the two candidates (regardless of the candidates' party affiliations) advance to the general election. Given the incentives outlined in the theory for legislators to be less extreme, given that all voters can vote in both the first and second rounds of the election; and

³For independent Bernie Sanders, we also multiply his Nokken–Poole estimate by -1 .

the possibility of same-party general elections, we expect that legislators who run under the top-two primary system will have more ideological moderation than those in a closed primary system.

Open primary is defined as a primary where candidates of the same party compete against one another in the first round and the candidate who wins the most votes advances to the general election; and any voter can participate in the primary (independents, voters of the same party as the candidates, and voters of a different party than the candidates). Open primaries in this definition include systems where there is party registration but anyone can choose to participate in one party's primary; where there is no formal party registration and voters simply choose the party ballot in the primary; and systems where voters can change their party registration at the ballot box in order to vote in the "other" party primary.

I code the open primary independent variable more inclusively with all of these types of systems because these primary rules allow for those who do not share the party of the candidate to participate in the primary if they so choose. Independents and different-party voters may opt not to take part, but they have the opportunity to do so under these open primary systems. Other scholars have distinguished between these different types based on whether there is or is not party registration, but I follow Sinclair (2013) in suggesting that the ease of access for independents and different-party voters in a primary of the other party is the key consideration in defining open primaries. From the standpoint of the legislator, any primary electoral rule that makes it possible for independents and different-party members to vote in their primary with ease could influence the legislator's ideological position. Given the threat for independent and different-party voters to participate, legislators are incentivized to be more ideologically moderate in their House roll calls than in closed primary systems.

In the first statistical model, the *top-two primary* and *open primary* indicator variables are included; and the reference category is the other two primary types (semi-closed primary and closed primary). In a second statistical model, a dummy variable for *top-two primary* is included. However, in this second model, I also include a dummy variable indicating if the primary election system is either an open primary (as defined above) or a semi-closed primary. A semi-closed primary is defined as one where candidates of the same party only compete against one another in the first round and advance to the general election; and same-party voters and independents can participate in the primary. In semi-closed primaries, different-party voters are prohibited from participating even though independents are allowed. In this second statistical model, a dummy variable indicating *open/semi-closed primary* is coded 1 if the primary is open or semi-closed; and 0 otherwise.

The first model looks at only top-two and open primaries with separate variables, as the open primary may have the largest impact. On the other hand,

the effect of semi-closed primary systems may be similar to open primaries. The logic behind the measure coding 1 for open/semi-closed primary is that the threat or possibility of independents voting in a primary is sufficient to induce the legislator to be more moderate than a legislator in a closed primary system. The ability for different-party voters to vote in the primary may not be as important as the ability for independents to vote. In this second model, the reference category is closed primaries where only those registered with a party can vote in the primary.

Other Independent Variables

We also include other independent variables that are associated with legislator ideology. For the models with the absolute value of legislator ideology and the directional measure of legislator ideology, the *district presidential vote of incumbent's party* is included as an independent variable. Larger values of this variable suggest districts that are “deep blue” or “deep red” (Oppenheimer, 2005) and may produce legislators who are more ideologically extreme; and smaller values will lead to legislators with less extreme voting records. This variable is important as it measures district-level partisanship and matches it with the party of the legislator (Grose and Oppenheimer, 2007; McGhee *et al.*, 2014).

An independent variable for the *absolute value of constituency ideology* is included to measure the ideological leanings of a majority of each district’s voters. This measure is the absolute value of the multi-level regression with post-stratification (MRP) estimate of district ideology from Tausanovitch and Warshaw (2013).⁴ This variable is included to control for district-level ideology that is likely associated with legislator ideology. The absolute value is used as larger values indicate more extreme district ideologies, and smaller values indicate less extreme district ideologies.

Finally, as mentioned above, we include fixed effects for states and congressional sessions. These fixed effects are to control for unobserved influences that are at the level of state or time. Thus, any effects found on the top-two primary variable are specific to the primary and not state-level or time effects.⁵

⁴The most temporally proximate estimate from Tausanovitch and Warshaw’s data are used for each U.S. House member.

⁵In an alternative model, we also included a dummy variable for if the state uses a redistricting commission (1 = yes; 0 = no). Electoral safety may vary by redistricting plan (Carr Peterson, 2019; Carson *et al.*, 2007; Katz *et al.*, 2020) and thus perhaps the presence of a redistricting commission may affect legislator ideology. On the other hand, McCarty (2019) shows that redistricting is not associated with legislator ideology. Results were substantively similar to those presented in the text when this variable was included.

Results: The Top-Two Primary Is Associated with Less Extreme Legislators

The results of these two statistical models are displayed in Table 1. There is a clear and robust association between a district with a top-two primary and less ideologically extreme legislators. The top-two primary leads to legislators who are more moderate than legislators elected from closed primary systems. This is shown because the coefficient is negative. The open primary variable is also statistically associated with legislator ideology in Model 1 in Table 1; and the open/semi-closed primary variable is negatively associated with legislator ideology in Model 2. Legislators elected in open primaries are more moderate than those elected in closed primaries.

Other independent variables also influence legislator ideological extremity, as shown in Table 1. The district-level measures of partisanship (presidential candidate's vote in district matched to legislator party) and district ideology are statistically associated with legislator ideology. The more extreme the district ideology, the more extreme the legislator.

The magnitude of the effect sizes between top-two and open primary, relative to the reference category of the closed/semi-closed primary, in Table 1 are particularly interesting. Top-two primaries reduce legislator extremity by almost double the amount of the reduction of open primaries. Further, while the coefficient may appear small on first blush, it is important to remember that the full scale ranges only from 0 to 1, given the dependent variable is an absolute value where values near 0 are for those who are moderate and 1 indicates those who are the most extreme. In percentage point terms, in Model 1, this means the top-two primary is associated with legislators who are 7 percentage points more moderate than those legislators from closed

Table 1: Top-two and open primaries are associated with less extreme legislators.

	Model 1	Model 2
Top-two primary	-0.073 (0.012)**	-0.105 (0.020)**
Open primary	-0.047 (0.025)*	—
Open/semi-closed primary	—	-0.043 (0.020)*
Prez. vote of incumbent's party	0.005 (0.000)**	0.005 (0.000)**
Absolute value of constituency ideology	0.056 (0.018)**	0.056 (0.018)**
Constant	0.169 (0.035)**	0.164 (0.031)**
<i>N</i>	3,539	3,539

Note: ** $p < 0.01$; * $p < 0.05$. Both models include state and Congress/time dummy variables. Negative coefficients indicate legislator moderation; and positive coefficients show legislator ideological extremity. Coefficients are displayed with standard errors in parentheses.

systems. In Model 2, legislators elected in a top-two primary system are 10 percentage points more moderate than those in a closed primary system. This is a substantive difference that is meaningful, and it is the equivalent difference of being represented by Rep. Nita Lowey (D-NY) in a suburban New York City district in a closed primary system vis-à-vis being represented by the more moderate Rep. Julia Brownley (D-CA) in a suburban Los Angeles district in the top-two primary system. In 2018, Rep. Lowey's Nokken-Poole score was -0.38 and Rep. Brownley's score was -0.28 (where smaller negative values mean the legislator is more liberal).

The magnitude of the effect for the presence of an open primary, while not as large as the effect of the top-two primary, is still substantively important. Legislators elected in open primary systems are 4 percentage points less extreme than legislators elected in closed primary systems. The empirical evidence suggests that primary systems matter for legislative representation. Less extreme legislators emerge from top-two and open primary systems, while more extreme legislators emerge from closed primary systems.

In addition to the model with absolute value of legislator ideology as the dependent variable, I also estimated additional models with the alternative dependent variable measure described earlier. In Table 1, the dependent variable is the absolute value of the Nokken-Poole DW-NOMINATE estimate. This measure arbitrarily assumes that 0 is the most moderate point. However, a moderate Democrat may actually be to the right of 0 and a moderate Republican may be to the left of 0. For example, Rep. Bobby Bright (D-AL) had a Nokken-Poole estimate of 0.69 during the 111th Congress. Bright's ideological record, for a Democrat, is arguably more moderate than another Democrat at 0. To address this, I also estimated the statistical models using the dependent variable where the measure for Republican legislators is the Nokken-Poole DW-NOMINATE estimate, but the measure for Democratic legislators is -1 multiplied by the Nokken-Poole DW-NOMINATE estimate.

Table 2 displays these results with the alternative dependent variable measure. Legislators running in districts with the top-two primary are more moderate than legislators who represent districts where closed primaries or semi-closed primaries are used (Model 1, coefficient of -0.073). Top-two primaries are associated with an even larger magnitude of legislator moderation (coefficient of -0.106 on a scale ranging from -0.091 to 1) when the reference category is closed primaries (Model 2). Open primaries yield legislators who are less extreme than legislators elected in districts using closed or semi-closed primaries (Model 1); and, open/semi-closed primaries are also associated with legislators who are less extreme when the reference category is only closed primaries (Model 2). The magnitude of the effect sizes in Table 2 is very similar to those shown in Table 1.

Table 2: Top-two and open primaries are associated with less ideological extremity with the alternative dependent variable measure.

	Model 1	Model 2
Top-two primary	-0.073 (0.012)**	-0.106 (0.020)**
Open primary	-0.050 (0.026)*	—
Open/semi-closed primary	—	-0.043 (0.020)*
Prez. vote of incumbent's party	0.005 (0.000)**	0.005 (0.000)**
Absolute value of constituency ideology	0.053 (0.018)**	0.053 (0.019)**
Constant	0.168 (0.035)	0.161 (0.031)**
<i>N</i>	3,539	3,539

Note: ** $p < 0.01$; * $p < 0.05$. Both models include state and Congress/time dummy variables. Negative coefficients indicate legislator moderation; and positive coefficients show legislator ideological extremity. Coefficients are displayed with standard errors in parentheses.

Are Incumbents Adapting to New Primary Systems or Are New Members Less Extreme?

The empirical evidence suggests that members of Congress elected in top-two and open primary systems are more ideologically moderate in their floor roll-call voting records than those from closed primary systems. Is this ideological moderation due to adaptation from incumbent legislators, who adjust their voting upon the change in the primary system? Did, for instance, the same incumbent legislators change their own roll-call behavior when the top-two primary system was adopted? Or is much of this ideological moderation uncovered in Tables 1 and 2 driven by new legislators elected in a new system and replacing incumbents?

The adoption of a new electoral system should influence both incumbent legislators and new legislators. However, incumbent legislators — even those who may be open to ideological adaptation — are constrained by their previous roll-call records and ideological reputations (Poole and Rosenthal, 1997). Even if they change their roll-call records, the shift may be smaller than that observed between outgoing and new members. Yet, there is evidence in other contexts that incumbent elected officials adapt their policy positions in the face of institutional changes or other stimuli (Gailmard and Jenkins, 2009; Grose and Peterson, 2020; Jenkins, 2000; Kousser *et al.*, 2007). Incumbent legislators have the ability to explain away previously held roll-call positions (Fenno, 1978; Grose *et al.*, 2015; McGraw, 1991), allowing for such adaptation to occur. Given this, we should expect that incumbent legislators will adapt their ideological records to changes in primary systems.

On the other hand, one of the most important ways to observe changes in legislator voting is to remove an incumbent and replace him or her with a

new legislator. Inasmuch as new primary systems such as the top-two primary hastened retirements or caused the election of new legislators, we may find that districts with new members have the biggest differences in ideological voting across different types of primary systems. Members newly elected in a top-two or open primary system may be more likely to vote in ways expected in that system in contrast to new members in a closed system. A newly elected legislator in a top-two system or an open primary system does not have a previous track record in the legislature, and may have won his or her first election by appealing to a broad coalition of same-party, independent, and different-party voters. Same-party general elections in the top-two primary, in particular, are more common in open seat elections than when incumbents run, creating additional incentives for the winning legislator in the top-two system to appeal to voters across the ideological spectrum since there is no partisan cue for voters to use (Sinclair, 2015; Sinclair *et al.*, 2018).

Given these expectations, I analyze the same models presented earlier, but now separately analyze the models with only incumbents who are not newly elected; and only newly elected legislators. The incumbent-only models allow us to see if there was adaptation and conversion by continuing incumbent legislators under new systems of primary elections. I then also examine only newly elected members with the same models to see if the presence of a top-two or open primary system has an effect on legislator ideology. Again, there are state and time fixed effects in addition to other independent variables discussed earlier.

These results with the absolute value of legislator ideology are displayed in Table 3 (recall that higher values mean the legislator is more extreme and lower values are for less extreme legislators). Models 1 and 2 display incumbent members of Congress, and Models 3 and 4 are based only on newly elected legislators. As can be seen in Table 3, the top-two primary encourages moderation both from incumbent and newly elected legislators. Both new members who replaced incumbents and legislators who continue in service are more moderate in top-two systems. Similar results are demonstrated for open primaries, with both incumbent legislators and newly elected legislators having less extreme ideological records than those in closed primaries; and with open/semi-closed primaries in comparison to the reference category of closed primaries (Models 2 and 4).

Table 4 replicates the analysis using the alternative dependent variable that was previously analyzed in Table 2. As can be seen in Table 4, top-two and open primaries are associated with ideological moderation for both legislators who continue to serve as incumbents (Models 1 and 2) and those who are newly elected legislators (Models 3 and 4). The top-two and open primaries encourage incumbent adaptation relative to closed primaries. Similarly, though, newly elected members are more moderate in top-two and open primary systems than newly elected legislators in closed primary systems.

Table 3: New legislators and incumbents are more moderate in top-two and open primary systems.

	Model 1: Incumbents. Dep. var.: Absolute value, legislator ideology	Model 2: Incumbents. Dep. var.: Absolute value, legislator ideology	Model 3: New legislators. Dep. var.: Absolute value, legislator ideology	Model 4: New legislators. Dep. var.: Absolute value, legislator ideology
Top-two primary	-0.068 (0.013)**	-0.100 (0.021)**	-0.132 (0.046)**	-0.185 (0.043)**
Open primary	-0.052 (0.026)*	—	-0.142 (0.086)*	—
Open/semi-closed primary	—	-0.042 (0.020)*	—	-0.098 (0.060)*
Prez. vote of incumbent's party	0.005 (0.000)**	0.005 (0.000)**	0.008 (0.001)**	0.008 (0.001)**
Absolute value of constituency ideology	0.060 (0.019)**	0.061 (0.019)**	0.037 (0.059)	0.041 (0.059)
Constant	0.218 (0.038)**	0.208 (0.033)**	0.063 (0.103)	0.075 (0.094)
<i>N</i>	3,037	3,037	502	502

Note: ** $p < 0.01$; * $p < 0.05$. Both models include state and Congress/time dummy variables. Negative coefficients indicate legislator moderation; and positive coefficients show legislator ideological extremity. Coefficients are displayed with standard errors in parentheses.

Looking at both Tables 3 and 4, the magnitude of the effects for top-two primaries and open primaries on legislator ideology is much bigger for newly elected members (compared to closed primary systems with newly elected members) than in the models looking just at incumbents. Top-two primaries have a coefficient of -0.185 in Model 4 in Table 3 and -0.187 in Model 4 in Table 4, which is the effect of top-two primaries in contrast to closed primaries among newly elected members. This effect is massive, as it means that among new members of Congress, those elected in top-two primaries are more than 18 percentage points less extreme than closed primary legislators.

Interestingly, the coefficient size is still quite big when analyzing incumbents only. For instance, Model 1 in Table 3 has a coefficient of -0.068 for the top-two primary, and a similar result is also found in Model 1 in Table 4. This means that top-two primaries result in incumbent legislators more than 6 percentage points more moderate than incumbents in closed/semi-closed

Table 4: Alternative dependent variable: New legislators and incumbents are more moderate in top-two and open primary systems.

	Model 1: Incumbents. Alternative measure value, legislator extremity	Model 2: Incumbents. Dep. var.: Alternative measure value, legislator extremity	Model 3: New legislators. Alternative measure value, legislator extremity	Model 4: New legislators. Dep. var.: Alternative measure, legislator extremity
Top-two primary	-0.068 (0.013)**	-0.100 (0.021)**	-0.133 (0.046)**	-0.187 (0.042)**
Open primary	-0.052 (0.026)*	—	-0.145 (0.087)*	—
Open/semi-closed primary	—	-0.042 (0.020)*	—	-0.099 (0.059)*
Prez. vote of incumbent’s party	0.005 (0.000)**	0.005 (0.000)**	0.008 (0.001)**	0.008 (0.001)**
Absolute value of constituency ideology	0.059 (0.020)**	0.060 (0.020)**	0.023 (0.060)	0.027 (0.061)
Constant	0.217 (0.038)**	0.207 (0.034)**	0.054 (0.104)	0.062 (0.095)
<i>N</i>	3,037	3,037	502	502

Note: ** $p < 0.01$; * $p < 0.05$. Both models include state and Congress/time dummy variables. Negative coefficients indicate legislator moderation; and positive coefficients show legislator ideological extremity. Coefficients are displayed with standard errors in parentheses.

primaries. Similar results are shown in Model 2 in both tables where the top-two primary is contrasted to the reference category of closed primaries. The coefficient is -0.10 in both Tables 3 and 4 (Model 2). This suggests that incumbents are adapting, but the largest effect size of the top-two primary is seen with newly elected legislators. Similar results are shown in Tables 3 and 4 for open primaries, which are associated with more moderate legislators who are newly elected and who are also continuing as incumbents.

Conclusions and Implications

Top-two primaries have structural differences that are distinct from closed primary systems. Legislators elected in the top-two primary system are more

moderate than those elected in closed primary systems. In addition, there is evidence that legislators from open primary states or open/semi-closed primary states are more moderate. This research is the first to establish a link between these primary types and congressional ideology during this contemporary period, and it stands in sharp contrast to past research showing mixed or null effects of primary types on legislative representation.

These results have significant implications for scholarship. McGhee *et al.* (2014) examine primary types, but find no effect of primary type on legislator ideology. This result is surprising, given that electoral institutions should be expected to influence legislative representation and decision-making. Unlike this past work, primary institutions are found to be associated with legislator behavior. In other electoral institutions, legislators regularly respond strategically to different types of electoral systems or structures (e.g., Oppenheimer and Lee, 1999) so we should not be surprised that primary institutions also correlate with legislator behavior.

Top-two and open primary systems allow for all voters to vote in the primary and general election rounds. In the top-two system in particular, there is always a threat of a same-party general election. This possibility removes the cue for voters of party identification in making a general election choice. Because independents and different-party voters can participate in the primary in both top-two and open systems, this creates a moderating incentive for legislators from those systems. For the top-two primary, though, the threat of a same-party general leads legislators to moderate as they may face a same-party general election challenge in the future.

Electoral institutions matter, as scholars and policy practitioners know. Top-two primaries and open primaries are associated with reduced legislator extremity, and those in the policy community looking for ways to reduce ideological extremity among legislators may want to adopt the top-two or open primary systems on a wider scale in other states. Legislators elected in the open primary systems are different and less extreme than those elected in closed systems. One potential solution to the polarization in Congress is increased use of top-two or open primary systems.

References

- Alvarez, R. M. and B. Sinclair. 2012. "Electoral Institutions and Legislative Behavior: The Effects of Primary Processes". *Political Research Quarterly* 65: 544–57.
- Alvarez, R. M. and J. A. Sinclair. 2015. *Nonpartisan Primary Election Reform: Mitigating Mischief*. New York: Cambridge University Press.

- Berman, R. 2018. "This Is Not a Reform. It Is Terrible. Democratic and Republican Leaders Hate California's Jungle Primary". *The Atlantic*. 1 June.
- Bertelli, A. M. and C. R. Grose. 2011. "The Lengthened Shadow of Another Institution? Ideal Point Estimates for the Executive Branch and Congress". *American Journal of Political Science* 55: 767–81.
- Bullock, W. and J. D. Clinton. 2011. "More a Molehill Than a Mountain: The Effects of the Blanket Primary on Elected Officials' Behavior from California". *Journal of Politics* 73: 915–30.
- Carr Peterson, J. 2019. "The Mask of Neutrality: Judicial Partisan Calculation and Legislative Redistricting". *Law and Policy* 41: 336–59.
- Carroll, R., J. Lewis, J. Lo, K. Poole, and H. Rosenthal. 2013. "The Structure of Utility in Spatial Models of Voting". *American Journal of Political Science* 57: 1008–28.
- Carson, J. L., M. H. Crespín, C. J. Finocchiaro, and D. W. Rohde. 2007. "Redistricting and Party Polarization in the U.S. House of Representatives". *American Politics Research* 35: 878–904.
- Christenson, D. and D. Kriner. 2020. "Beyond the Base: Presidents Partisan Approval, and the Political Economy of Unilateral Action". *Journal of Political Institutions and Political Economy* 1: 137–58.
- Fenno, R. F. 1978. *Home Style*. Boston: Little Brown.
- Gailmard, S. and J. A. Jenkins. 2009. "Agency Problems, the 17th Amendment, and Representation in the Senate". *American Journal of Political Science* 53: 324–42.
- Gerber, E. R. and R. B. Morton. 1998. "Primary Election Systems and Representation". *Journal of Law, Economics, and Organization* 14: 304–24.
- Grose, C. R. 2014. "The Adoption of Electoral Reforms and Ideological Change in the California State Legislature". USC Schwarzenegger Institute Policy Report.
- Grose, C. R., N. Malhotra, and R. P. Van Houweling. 2015. "Explaining Explanations: How Legislators Explain Their Policy Positions and How Citizens React". *American Journal of Political Science* 59: 724–43.
- Grose, C. R. and B. I. Oppenheimer. 2007. "The Iraq War, Partisanship, and Candidate Attributes: Variation in Partisan Swing in the 2006 U.S. House Elections". *Legislative Studies Quarterly* 32: 531–57.
- Grose, C. R. and J. C. Peterson. 2020. "Economic Interests Cause Elected Officials to Liberalize Their Racial Attitudes". *Political Research Quarterly*. <https://doi.org/10.1177/1065912919899725>.
- Hare, C. and K. Poole. 2014. "The Polarization of Contemporary American Politics". *Polity* 46: 411–29.
- Hetherington, M. J. 2009. "Putting Polarization in Perspective". *British Journal of Political Science* 39: 413–48.

- Howell, W. G., E. Porter, and T. J. Wood. 2020. "Rethinking Public Appeals: Experimental Evidence on Presidential Performances". *Journal of Political Institutions and Political Economy* 1: 137–58.
- Indridason, I. 2007. "When to Run and When to Hide: Electoral Coordination and Exit". *Economics and Politics* 20: 80–105.
- Jenkins, J. A. 2000. "Examining the Robustness of Ideological Voting: Evidence from the Confederate House of Representatives". *American Journal of Political Science* 44: 811–22.
- Kanthak, K. and R. Morton. 2001. "The Effects of Electoral Rules on Congressional Primaries". In: *Congressional Primaries and the Politics of Representation*. Ed. P. F. Galderisi, M. Ezra, and M. Lyons. Lanham, MD: Rowman and Littlefield.
- Katz, J., G. King, and E. Rosenblatt. 2020. "Theoretical Foundations and Empirical Evaluations of Partisan Fairness in District-Based Democracies". *American Political Science Review*.
- Kousser, T., J. B. Lewis, and S. E. Masket. 2007. "Ideological Adaptation? The Survival Instinct of Threatened Legislators". *Journal of Politics* 69: 828–43.
- Lee, F. 2015. "How Party Polarization Affects Governance". *Annual Review of Political Science* 18: 261–82.
- Lo, J. 2013. "Legislative Responsiveness to Gerrymandering: Evidence from the 2003 Texas Redistricting". *Quarterly Journal of Political Science* 8: 75–92.
- Mann, T. E. and N. Ornstein. 2012. *It's Even Worse Than It Looks: How the American Constitutional System Collided with the New Politics of Extremism*. New York: Basic Books.
- Masket, S. E. 2011. *No Middle Ground: How Informal Party Organizations Control Nominations and Polarize Legislatures*. Ann Arbor: University of Michigan Press.
- McCarty, N. 2019. *Polarization*. New York: Oxford University Press.
- McGhee, E. M., S. Masket, B. Shor, S. Rogers, and N. McCarty. 2014. "A Primary Cause of Partisanship? Nomination Systems and Legislator Ideology". *American Journal of Political Science* 58: 337–51.
- McGraw, K. M. 1991. "Managing Blame: An Experimental Test of the Effects of Political Accounts". *American Political Science Review* 85: 1133–57.
- Munger, C. T., Jr. 2019. *California's Top-two Primary: A Successful Reform*. USC Schwarzenegger Institute. <http://schwarzenegger.usc.edu/institute-in-action/article/californias-top-two-primary-a-successful-reform>.
- Oppenheimer, B. 2005. "Deep Red and Blue Congressional Districts: The Causes and Consequences of Declining Party Competitiveness". In: *Congress Reconsidered*. 8th edition. Washington: CQ Press.
- Oppenheimer, B. and F. Lee. 1999. *Sizing Up the Senate: The Unequal Consequences of Equal Representation*. Chicago: University of Chicago Press.

- Poole, K. T. and H. Rosenthal. 1997. *Congress: A Political-Economic History of Roll-Call Voting*. New York: Oxford University Press.
- Sinclair, J. A. 2013. *Of Primary Importance: American Primary Elections 1945–2012*. Ph.D. dissertation, California Institute of Technology.
- Sinclair, J. A. 2015. “Winning from the Center: Frank Bigelow and California’s Nonpartisan Primary”. *California Journal of Politics and Policy* 7: 1–33.
- Sinclair, J. A., I. O’Grady, B. McIntosh, and C. Nordlund. 2018. “Crashing the Party: Advocacy Coalitions and the Nonpartisan Primary”. *Journal of Public Policy* 38: 329–60.
- Tausanovitch, C. and C. Warshaw. 2013. “Measuring Constituent Policy Preferences in Congress, State Legislatures, and Cities”. *Journal of Politics* 75: 330–42.
- Thomsen, D. 2014. “Ideological Moderates Won’t Run: How Party Fit Matters for Partisan Polarization in Congress”. *Journal of Politics* 76: 786–97.
- Thurber, J. and A. Yoshinaka. 2015. *American Gridlock: The Sources, Character, and Impact of Political Polarization*. New York: Cambridge University Press.