

# Do Primary Elections Exacerbate Congressional Polarization?

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January 2023

## Abstract

Many argue that primary elections increase polarization in the U.S. Congress. We test this hypothesis by exploiting the fact that primary election dates and candidate filing dates vary by state. Implementing differences-in-differences designs that account for idiosyncratic differences between each member in each Congress and each bill by party, we test whether members vote differently before or after their state's filing deadline or primary election date. We find no evidence that members of Congress vote in more extreme or partisan ways in order to deter primary challengers, but we do find that they vote in more extreme and partisan ways during their contested primary campaigns. However, the substantive magnitude of this effect is small, explaining approximately one percent of the overall level of congressional polarization. The polarizing effect of primary elections appears to be increasing over time, greater for more moderate members, and smaller in states utilizing non-partisan primaries.

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Members of the U.S. Congress do not closely represent the preferences of their constituents, with Republicans consistently to the right of the median voter in their constituency and Democrats consistently to the left (e.g., Bafumi and Herron 2010). The ideological differences between congressional Democrats and Republicans are substantively large, normatively troubling, and increasing over time (see McCarty 2019). Strangely, voters strongly prefer more ideologically moderate candidates, so both parties could win more seats if they were willing to field more moderate candidates (Hall 2015, 2019). Why, therefore, are our elected officials so extreme relative to their constituents, and why is there so much polarization in Congress? One common explanation is that incumbent members of Congress have to worry about “getting primaried.” That is, they fear that if they are too moderate, a more extreme candidate could challenge and defeat them within their own party’s primary.

In this paper, we test whether and to what extent primaries exacerbate congressional polarization as claimed. We exploit the fact that different states hold their primary elections at different times and have different filing deadlines for primary challengers. Analyzing nearly 7 million roll-call votes taken in Congress from 1995-2020, we test whether members vote in more partisan or ideologically extreme ways before the filing deadline for primary challengers (potentially with the goal of deterring challengers from running) or before the primary election date (potentially with the goal of defeating primary challengers). Our differences-in-differences design allows for idiosyncratic differences between each member in each two-year Congress and between each bill by party. Identification comes from comparing members of the same party but from different states voting on the same bill, where one member’s filing date or primary election date has already passed and the other’s has not.

We find that members become less partisan and more ideologically moderate after their primary date has passed. However, the magnitudes of these effects are substantively small. The extremism of members before their primary election date explains approximately half of one percent

of the average difference between Democrats and Republicans in Congress. We also find that the polarizing effect of primary elections increased in the most recent decade, is stronger for more ideologically moderate members, and is weaker in states that utilize a non-partisan, top-two primary system.

## **Related Literature**

A large literature shows that general elections in the U.S. have a moderating effect. All else equal, more moderate candidates are more likely to win general elections (Ansolabehere, Snyder, and Stewart 2001; Canes-Wrone, Brady, and Cogan 2002; Canes-Wrone and Kistner 2022; Fowler 2020; Fowler et al. forthcoming; Hall 2015; Hall and Thompson 2018). Other studies have found little evidence that members of Congress moderate their positions in response to electoral incentives (Fowler and Hall 2016; Fu 2022; Poole 2005; Stone 1980), suggesting that most of the moderating effects of general elections are through selection rather than incentive effects. If general elections do have a moderating effect, and if voters prefer moderate politicians, why are our elected officials so polarized?

A common response to this question among pundits and commentators is that incumbent politicians have to worry about potential primary challengers. Theoretically, there are good reasons to be concerned about this possibility. Palfrey (1984) shows that office-motivated candidates might diverge significantly from the median voter's preference if they are worried that they will be flanked by a more extreme candidate. In Palfrey's model, two competing candidates strategically select their platforms, and then a third candidate strategically enters and selects the platform that maximizes her vote share. Primary elections are not explicitly included in the model, but the purportedly polarizing force of primaries that observers have in mind is similar to the polarizing force of the third candidate in the model. This model assumes that voters sincerely support the candidate closest to them. If voters

are strategic, primaries will not necessarily have a polarizing effect because forward-looking primary voters may have an incentive to nominate the more moderate candidate who has a greater chance of winning the general election.

Empirically, there is little compelling evidence that primaries polarize candidates. As expected, primary-election voters are more ideologically extreme than general-election voters (Hill 2015), although the differences are modest (Sides et al. 2020). When states switched from party conventions to direct primaries, the ideological extremism of their members of Congress, if anything, decreased (Hirano et al. 2010). Primary elections appear to select higher-quality candidates (Hirano and Snyder 2014, 2019) but not ideologically extreme candidates (Hirano et al. 2010). Furthermore, voters and especially donors appear to behave strategically in primary elections (Hall and Snyder 2015), suggesting that any polarizing effect of primaries might be mitigated by forward-looking people who want to ensure that their preferred party wins the general election.

Boatright (2013) argues that despite popular rhetoric to the contrary, primary challenges have not become more common over time, although as we later discuss, they have perhaps become more common in the decade after Boatright concluded his analyses. He also claims that competitive primaries have no effect on roll-call voting, although he tests this hypothesis using DW-NOMINATE scores, which are not well-suited to this question because they do not allow members' ideological scores to vary idiosyncratically over time (see Theriault 2016). Meyer (2021) finds that U.S. Senators with a primary challenger are more likely to vote with the party whip in the months leading up to the primary election. However, this cross-sectional analysis does not examine within-member variation in primary competition, so it could potentially conflate the effects of primary competition with factors that cause or are correlated with primary competition. Furthermore, this analysis does not account for the fact that primary election dates vary across states, so the bills leading up to a primary election vary by state.

Our study builds upon this literature by testing whether members of Congress change their roll-call voting in response to the primary election calendar. Unlike the analysis of Hirano et al. (2010), the counterfactual question is not about the effect of primaries versus an alternative nominating system. Rather, we are estimating the effect of having to worry less about primary competition because the filing deadline or primary election date has passed. In our main specifications, we do not condition on whether a member was challenged in a primary (or lost a primary, which is very rare) because this is potentially endogenous to their roll-call behavior. Instead, we estimate the reduced-form effect of no longer having to worry about a primary challenger (at least until the next Congress).

Regardless of our results, we would not propose that the U.S. abolish primary elections and automatically nominate all incumbents seeking reelection because primary competition has important benefits that surely outweigh whatever effect it has on polarization (see Hirano and Snyder 2019). However, when pundits argue that primaries are exacerbating polarization, they are typically not comparing primaries to alternative nominating institutions. Rather, they are arguing that incumbents are more extreme than they would otherwise be if they didn't have to worry about their (potential) primary challengers. Therefore, our study assesses this empirical claim as directly as possible by testing whether incumbents change their behavior when they no longer have to worry about the primary and can focus on the general election.

## **Data and Design**

We collect data from Voteview.com on congressional roll-call votes taken between 1995 and 2020 (Lewis et al. 2022). We collect data from the Federal Election Commission on the dates of all congressional primary elections by state between 1996 and 2020. We also utilize information on contested primaries and retirements that was initially inferred from election returns and verified using Wikipedia and Ballotpedia. We assemble a data set in which every row is a member by roll-call vote.

We exclude members who are not explicitly members of the Democratic or Republican parties. To avoid any potentially conflating effect of members losing reelection, we only include votes that were taken before the general election.

Two states warrant special consideration. Louisiana typically uses a top-two runoff system with no partisan primaries, so we classify the primary date as the date of the general election. Since we also exclude roll-call votes taken after the general election, this effectively means that we do not learn much about the effects of primary election dates in Louisiana. Connecticut has partisan primaries, but they are almost never competitive. Instead, the party nominees are typically selected at the party conventions, which take place before the primary elections. Therefore, we exclude Connecticut from our main analyses, although in Appendix Table A1, we separately test for the effects of the party convention dates in Connecticut. This leaves us with nearly 7 million member-votes for our main analyses.

To estimate the effect of primary elections, we run regressions of the following form:

$$\text{ExtremeVote}_{ipcb} = \beta * \text{AfterPrimary}_{ib} + \gamma_{ipc} + \delta_{pb} + \varepsilon_{ipcb},$$

where  $\text{ExtremeVote}_{ipcb}$  is a binary variable indicating whether legislator  $i$  from party  $p$  in Congress  $c$  cast an ideologically extreme vote on bill  $b$ ,  $\text{AfterPrimary}_{ib}$  is a binary variable indicating whether the primary election date for member  $i$  has passed by the time bill  $b$  came up for a vote,  $\gamma_{ipc}$  represents member-Congress fixed effects,<sup>1</sup> and  $\delta_{pb}$  represents bill-party fixed effects.

Utilizing the method of Fowler and Hall (2013), we classify each roll-call vote as conservative or liberal,<sup>2</sup> and we then classify an extreme vote as a conservative vote taken by a Republican or a

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<sup>1</sup> In the rare cases when members change parties, we treat this as a new member, so when we refer to member-Congress fixed effects, this is a shorthand for member-party-Congress fixed effects.

<sup>2</sup> Specifically, we make an initial guess about the directionality of the bill using levels of support from each party. For example, if Republicans are more likely than Democrats to vote *yea*, then we classify the *yea* vote as the conservative vote on that bill. Using these codings, we estimate Conservative Vote Probabilities (CVP) for each member in each Congress. We then check whether our estimated CVP scores are positively or negatively correlated with the conservative vote on that

liberal vote taken by a Democrat. As an alternative outcome, we also study whether members take a partisan vote, as measured by whether their vote aligns with the majority of their party.

This design accounts for the fact that some members are more likely than others to cast an extreme vote, and we allow this to vary idiosyncratically by Congress. We also account for the fact that an extreme vote is more likely on some bills than others, and we allow this to vary idiosyncratically by party. This is implicitly a differences-in-differences design where identification comes from members of the same party voting on the same bill at a time when one member's primary has taken place but the other's has not. Specifically, our fixed effects mean that we are effectively conducting separate differences-in-differences designs for each Congress by party, and we are pooling together evidence from all of them. Our parallel trend assumption is that differences in roll-call voting around the time of a member's primary election would, in expectation, be the same as differences in the roll-call voting of other members from the same party on the same bills but whose states do not have a primary election at the same time if not for the effect of primary elections.

To illustrate the strength of the design, we explain why the following phenomena would not bias our estimates. If party leaders strategically time controversial bills to be after primary elections, this would not violate our assumptions because our bill-party fixed effects account for the fact that some bills are more controversial than others, and identification comes from comparing how members from the same party (but from different states with different primary election dates) vote on the same bill.<sup>3</sup> If states with more extreme members tend to have earlier or later primary elections, this too

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bill. If the correlation is negative (which, in practice, is extremely rare), we flip the coding for that bill, and re-estimate CVP scores. We repeat this procedure until the CVP scores are positively correlated with conservative voting on every bill.

<sup>3</sup> However, this would potentially influence the local average treatment effect that our design estimates. Specifically, if party leaders avoid especially controversial bills during primary season, we would estimate the effect of primaries on the less controversial bills.

would not be a source of bias because our member-Congress fixed effects account for the fact that some members are more extreme than others.

We can modify this design in several ways to answer different questions and probe mechanisms. We also test whether members change their voting behavior around filing deadlines—the dates by which challengers must announce that they are running in a primary. We can also subset the sample to focus on specific parts of the campaign season, and we explore heterogeneity over time and between partisan and non-partisan primaries. We also subset our analyses or explore heterogeneity by the ideology of members, whether a member has a primary challenger, and whether a member is retiring. However, because primary challengers and retirements are endogenous, we do not condition on these variables in our main specifications.

## **Theoretical Expectations**

Before presenting the results, we briefly discuss our theoretical expectations. In congressional primary and general elections, candidates are faced with two distinct but overlapping electorates (Jacobson 2013). Therefore, if primary elections exacerbate polarization as many scholars and observers claim, we would expect members of Congress to be less likely to cast ideologically extreme or partisan votes after their primary election date has passed.<sup>4</sup> Of course, primary elections need not exacerbate polarization since primary voters and self-identified partisans are not typically more ideologically extreme than incumbent members of Congress (e.g., Bafumi and Herron 2010), and since primary voters may be forward looking (e.g., Hall and Snyder 2015).

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<sup>4</sup>This prediction is unclear for members who lose their primary election. For them, we would predict that they should shift toward their preferred personal ideology, which could either be more or less extreme. However, very few members of the House (on average, approximately 4 per election year) lose their primary election, so these cases are not likely to meaningfully influence our estimates. As previously discussed, we do not condition on whether members won or lost their primary election because this could potentially bias our estimates.



If primary elections exacerbate polarization, we have ambiguous predictions for the effects of filing deadlines. On one hand, members might vote in more extreme or partisan ways before the filing deadline with the goal of deterring primary challengers. On the other hand, if they indeed experience a primary challenge, they might vote in more extreme or partisan ways after the filing deadline. In our subsequent analyses, we subset the data and explore heterogeneity to separately estimate these potentially competing effects.

As mentioned above, we utilize two different measures of roll-call voting—ideologically extreme voting and partisan voting. As expected, these two measures are positively correlated, but because many partisan votes are not ideologically extreme, and vice versa, the correlation is not especially strong ( $r \approx .32$ ).<sup>5</sup> If primary competition changes the way members cast their roll-call votes, would we expect a bigger effect for ideologically extreme voting or partisan voting? The answer surely depends on what kind of voting behavior members believe is likely to motivate potential primary challengers and primary voters.

In the most famous examples of veteran members of Congress “getting primaried,” such as Joe Crowley (D-NY14) and Eric Cantor (R-VA7), their opponents were not motivated by the fact that the incumbents weren’t partisan enough. If anything, perhaps they were viewed as too partisan. Instead, their opponents appear to have been motivated by the ideological moderation of the incumbents. Therefore, if these anecdotes reflect a larger phenomenon, we would expect to see greater effects on ideologically extreme voting than on partisan voting.

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<sup>5</sup> For example, consider a bill in which all Democrats and a majority of (but not all) Republicans vote yea. Most likely, the yea vote will be classified as liberal. Therefore, Republicans voting nay will be classified as taking an extreme but anti-partisan vote, while the Republicans voting yea will be classified as taking a partisan but moderate vote.

## Results

Table 1 shows the estimated effect of filing deadlines and primary election dates on roll-call voting. The top panel shows effects on casting ideologically extreme votes, and the bottom panel shows effects on casting partisan votes. Column 1 shows our baseline specification, which estimates the extent to which members change their roll-call voting once the primary election date in their state has passed. We find that members are 0.26 percentage points less likely to cast an ideologically extreme vote and 0.15 percentage points less likely to cast a partisan vote after the primary election. Both estimates are in the expected direction, and the former estimate is statistically distinguishable from zero ( $p = .003$ ). Therefore, primary elections appear to have a polarizing effect, but the magnitude of the effect is substantively small.

On average, across our period of study, Republicans in Congress are 55 percentage points more likely to cast an ideologically conservative vote than Democrats.<sup>6</sup> Therefore, the 0.26 percentage point effect on ideologically extreme voting is approximately half a percent, or one two-hundredth, of the overall partisan polarization that we observe in Congress. Therefore, if we imagine that no member of Congress were worried about primary competition and all of them voted 0.26 percentage points more moderately, then overall polarization in Congress would be approximately 1 percent smaller than it currently is.

To provide another benchmark, Fowler (2022) estimates that a member of Congress becomes 0.105 percentage points more likely to cast a conservative vote for every 1-percentage-point increase in the Republican presidential vote share in her district. Therefore, the effect of primary election dates

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<sup>6</sup> Using the same data analyzed in Column 1 of Table 1, we regress conservative voting on an indicator for party and bill fixed effects. The resulting coefficient on party is .547, indicating that on average, Republicans are 55 percentage points more likely to vote conservatively than Democrats on the same bill.

**Table 1. Effects of Primary and Filing Dates on Roll-Call Voting, 1995-2020**

	(1)	(2)	(3)	(4)
	DV = Extreme Vote			
After Primary	-.0026** (.0009)	-.0031** (.0009)	-.0045** (.0011)	
After Filing		.0024** (.0009)		.0026** (.0009)
	DV = Partisan Vote			
After Primary	-.0015 (.0009)	-.0019* (.0009)	-.0030** (.0010)	
After Filing		.0019* (.0008)		.0024** (.0008)
Member-Congress FEs	X	X	X	X
Bill-Party FEs	X	X	X	X
Subsample			After Filing	Before Primary
Observations	6,733,751	6,733,751	2,012,637	5,506,387

*Standard errors, corrected for two-way clustering by member and bill, in parentheses; \*\*  $p < .01$ , \*  $p < .05$ . The table presents the results of eight different regressions, all of which include member-Congress and bill-party fixed effects. Column 3 only includes observations after the filing deadline, and Column 4 only includes observations before the primary election.*

that we estimate is comparable to the effect of a member's district becoming approximately 2.5 percentage points more in favor of her party.

Column 2 of Table 1 shows the results of specifications that also include an indicator for whether the filing deadline has passed for a member's state. The results in Column 2 of Table 1 suggest that members are more likely to cast extreme or partisan votes after the filing deadline passes, and then, consistent with the result in Column 1, they become less likely to cast extreme or partisan votes after the primary election date passes. In other words, when the filing deadline passes and the primary election season starts, members become approximately 0.2 percentage points more likely to cast an extreme or partisan vote, but once the primary election passes and the general election season starts, they become 0.2 or 0.3 percentage points more likely to cast an extreme or partisan vote, respectively, than they were before the primary campaign started. All of these estimated effects are statistically distinguishable from zero.

If we focus only on cases where a member is seeking reelection and did not face a primary challenger, we still find no evidence that members moderate their roll-call voting after their filing deadline (see Appendix Table A2). In other words, even in the places where we would most expect to find it, we see no evidence that members cast more extreme or more partisan votes with the goal of deterring primary challengers.

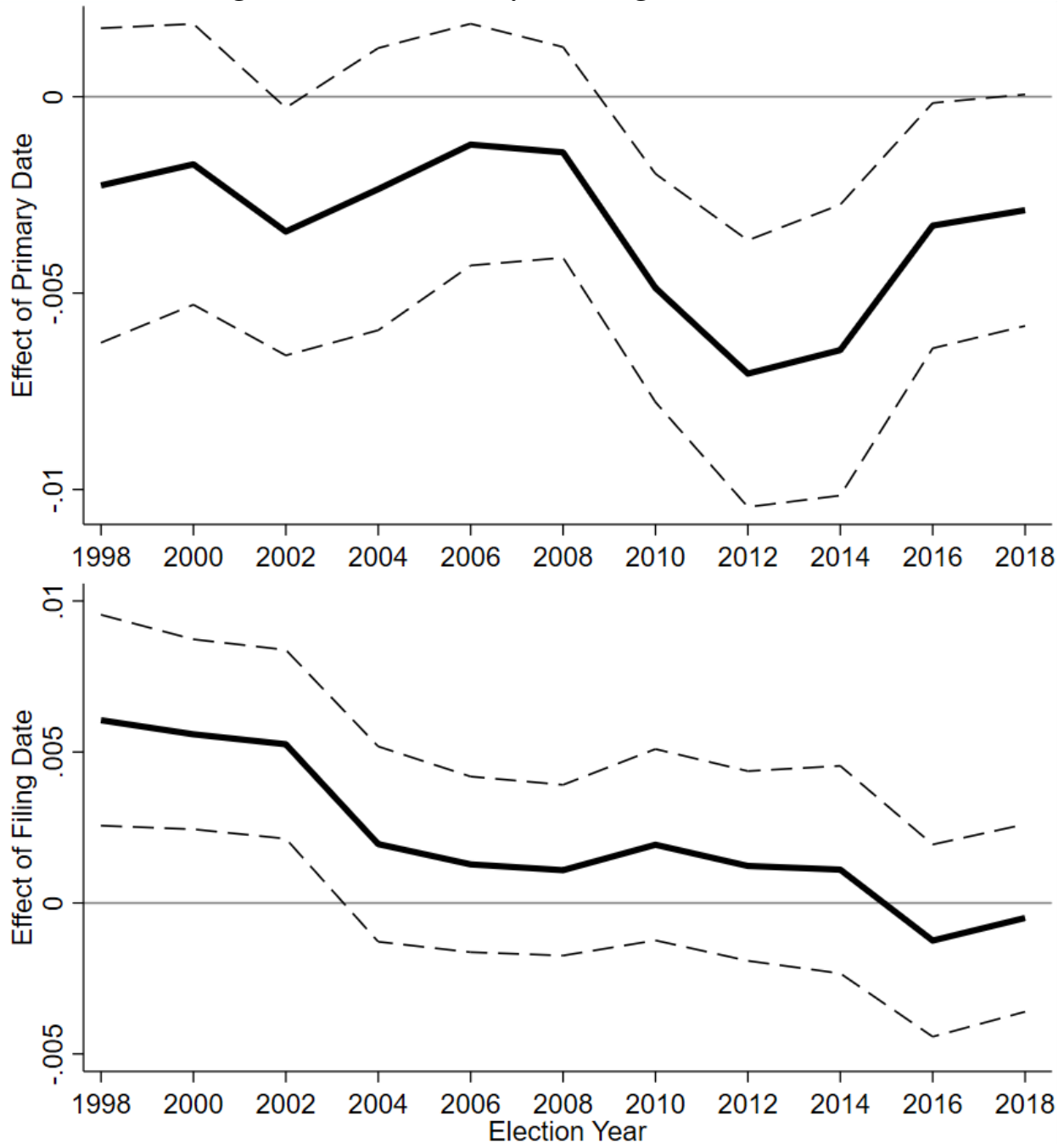
Column 3 of Table 1 highlights the estimated effect of shifting from the primary campaign to the general campaign by focusing only on votes that took place after the filing deadline. When we do this, we find that members become 0.45 percentage points less likely to cast an extreme vote and 0.30 percentage points less likely to cast a partisan vote as their primary election date passes. Both estimates are highly statistically significant ( $p < .001$  and  $p = .004$ , respectively).

Column 4 highlights the estimated effect of shifting to the primary election by focusing only on votes that took place before the primary election date. When we do this, we find that members become 0.26 percentage points and 0.24 percentage points more likely to cast extreme or partisan votes, respectively, when the filing date passes. Both estimates are highly statistically significant ( $p = .004$ ).

Although the results are similar for both outcomes, we find larger effects of the primary election calendar on ideologically extreme voting than partisan voting. Therefore, to the extent that members feel pressure to change their voting to please primary voters and to avoid criticism from primary challengers, they appear to be pressured more to vote in an ideologically extreme way than to vote with the majority of their party.

Figure 1 flexibly explores the heterogeneity of these effects over time. Specifically, we run the specification from the top panel of Column 2 of Table 1 separately for different time periods, and we plot coefficients along with the 95% confidence intervals. We could show separate estimates for each Congress or two-year election cycle, and we do so in Appendix Figure A1, but these election-cycle-

Figure 1. Effects of Primary and Filing Dates over Time



The figure shows how the estimated effects of the primary election date and the filing deadline have changed over the period of our analysis. The figure shows the coefficients and 95 percent confidence intervals arising from a replication of the specification from Column 2 in Table 1 for different time periods. Each estimate is a moving average that includes the even-year election cycle before and after that year. For example, the estimates corresponding with 1998 show the average effects across the 1996, 1998, and 2000 election cycles.

specific estimates are imprecise relative to the effect sizes. Therefore, Figure 1 shows the moving average estimates from three contiguous election cycles. For example, the estimates corresponding with 1998 include the 1996, 1998, and 2000 election cycles.

We see clear evidence that these effects have changed over time. The top panel of Figure 1 shows that the effect of the primary election date was small before 2010 but increased afterward, with the biggest effect emerging around 2012, a redistricting year that saw a record number (13) of incumbent House members lose primary elections, often to other incumbents.

The increase in the effect of the primary election date approximately coincides with an increased risk of incumbents losing primary elections. Between 1994 and 2006, 0-3 incumbents would typically lose their primary in a given election year (ignoring 2002, another redistricting year). In 2008 and afterward, that number never dropped below 4. Although the risk of losing a primary is still small, it increased during this period, and members appear to have adjusted their behavior accordingly. If we split our sample between the 2008 and 2010 election years, we estimate a 0.16 percentage point effect of primary election dates that is not statistically significant ( $p = .172$ ) in the early period, and we detect an effect of 0.54 percentage points that is highly statistically significant ( $p < .001$ ) in the later period.

The bottom panel of Figure 1 shows the estimated effect of the filing deadline over time. If anything, we see that the estimated effect of the filing deadline was greatest in the early period of our sample and has declined over time. Therefore, the period with greater effects of the primary election date experienced smaller effects of the filing deadline, and vice versa.

Table 2 assesses several dimensions of heterogeneity in these effects. We focus on the effects of primary dates on ideologically extreme voting between 2009 and 2020 because this is where we see the clearest and largest average effects. We modify our previous specification by also interacting the after-primary indicator with other variables of interest. When we do this, we also interact our bill-party

**Table 2. Heterogeneous Effects of Primary Dates on Roll-Call Voting, 2009-2020**

	(1)	(2)	(3)	(4)	(5)
	DV = Extreme Vote				
After Primary	-.0054** (.0012)	-.0026* (.0010)	-.0059** (.0013)	-.0033* (.0016)	-.0049** (.0013)
After Primary*Moderate		-.0026 (.0021)			
After Primary*Top Two			.0045 (.0052)		
After Primary*Contested				-.0054** (.0020)	
After Primary*Retiring					-.0055 (.0041)
Member-Congress FEs	X	X	X	X	X
Bill-Party FEs	X				
Bill-Party-Moderate FEs		X			
Bill-Party-Top Two FEs			X		
Bill-Party-Contested FEs				X	
Bill-Party-Retiring FEs					X
Observations	3,102,782	3,102,780	3,102,781	3,102,782	3,102,782

*Standard errors, corrected for two-way clustering by member and bill, in parentheses; \*\*  $p < .01$ , \*  $p < .05$ . Moderate is a binary indicator for whether a member was more moderate than the median member of her party in that Congress. Top Two is a binary indicator for whether a member's state utilized a top-two or blanket primary at that time. Contested is a binary indicator for whether a member was challenged in their partisan primary election (or had a challenger from the same party in a non-partisan primary). Retiring is a binary indicator for whether a member did not seek reelection in their primary.*

fixed effects with that variable of interest to account for the possibility that different kinds of members vote differently on these bills or experience different trends over time.<sup>7</sup>

Column 1 of Table 2 shows that the average effect of the primary election date, when focusing on this period, is  $-.0054$ , meaning that members are 0.54 percentage points less likely to cast an extreme vote once their primary date has passed. Column 2 tests whether this varies according to the ideology of the member. Specifically, we estimate Conservative Vote Probabilities for each member in each Congress (Fowler and Hall 2013), and we classify a member as moderate if their score is more moderate than the median member of their party in that Congress. We estimate that the effect of

<sup>7</sup>This is analogous to running our differences-in-differences design separately on different subsamples and then statistically testing whether the estimated effects differ.

primary dates is twice as large for moderate members (0.52 percentage points) as it is for extreme members (0.26 percentage points), although the difference is not statistically significant.

Column 3 of Table 2 tests whether the effects of primary dates are different in states and years that utilized a top-two or blanket primary system. We estimate that the effect of the primary election date is notably greater in states that utilize partisan primaries (0.59 percentage points) than in those that utilize top-two primaries (0.14 percentage points), although because there are only a few states utilizing this system, the difference is not statistically significant.

Column 4 of Table 2 tests for heterogeneity according to whether a member had a primary challenger. In states that utilize runoffs or non-partisan primaries, we classify a member as having a primary challenger if another candidate from the same party ran. Whether a member faced a primary challenger is likely related to their prior roll-call voting, which could potentially bias our estimates of this interaction. Nevertheless, we would expect the effect of the primary election date to be greater for members who faced a challenger than for those who did not. Indeed, we estimate that the effect of the primary election date is notably greater for members who had a primary challenger (0.88 percentage points) than for those who did not (0.33 percentage points), and this difference is highly statistically significant ( $p = .007$ ).

Although we estimate that the effect of a primary election date is larger when a member faces a primary challenger, we surprisingly estimate a statistically significant effect even in cases where a member faced no primary challenger. Much of this is likely attributable to the behavior of retiring members discussed below. In Appendix Table A2, we show that when we restrict our analysis to members who are seeking reelection and faced no primary challenger, we do not detect a statistically significant effect of the primary election date.

Column 5 of Table 2 tests whether the effects of the primary election date are different for members who did not seek reelection and did not run in their primary. As with primary challengers,



retirement is not exogenous, so this interactive effect may not be cleanly identified, but we would expect retiring members to be less affected by the primary election date than those seeking reelection. Interestingly and surprisingly, we estimate greater effects for retiring members, although the difference is not statistically significant. This could potentially be the result of noise or bias arising from endogenous retirements. However, our results raise the possibility that even retiring members alter their roll-call voting in response to the changing electoral environment. There is some evidence that members of Congress would prefer to vote more moderately but are induced by party leaders and other pressures to vote with the party line (Fowler 2022; Peabody 1976), and perhaps even retiring members are pressured to do this, at least until the primary election campaign is over and their successor has been named.

## **Discussion and Conclusion**

Why are the elected officials so polarized when the voters are so moderate? This has been one of the most perplexing puzzles in American politics over the past several decades. A common explanation among pundits, practitioners, and some scholars is that elected officials are worried that if they moderate too much, they will lose their primary election to a more ideologically extreme candidate. Even if primary losses are rare in practice, nevertheless, the fear of “getting primaried” may explain much of the polarization we see among elected officials.

This paper offers the most direct test yet of this hypothesis. We exploit the fact that filing deadlines and primary election dates vary by state, and we test whether members change their roll-call voting around these critical dates on the calendar. Our differences-in-differences designs implicitly account for ideological differences between members in each Congress, and they also account for differences by party across each bill. Identification comes from situations in which members from the

same party vote on the same bill but the filing deadline or the primary election date has passed for one and not the other.

We find no evidence that members vote in more ideologically extreme or partisan ways with the goal of deterring primary challengers. If anything, members become more partisan and ideologically extreme after their filing deadline has passed, and this is still true even for members who did not face a primary challenger. We do, however, find that members vote in more ideologically extreme and partisan ways with the goal of defeating primary challengers. Members become less partisan and ideologically extreme after their primary election date passes, and this is especially true of members who faced a primary challenger.

Our results suggest that there would likely be less congressional polarization if incumbent members of Congress did not have to worry about primary competition. However, the substantive magnitude of this effect is small. The polarizing effect of the primary campaign explains approximately one percent of the average difference between Democrats and Republicans in Congress. So on the whole, primary elections do not explain a meaningful share of congressional polarization, and they do not resolve the puzzling disconnect between the moderate voters and their polarized elected officials.

Even if our results were stronger than they are, this paper should in no way be interpreted as a recommendation against primary elections. Even if primary elections do exacerbate polarization, they also provide accountability for elected officials in partisan districts, and they likely have many other important effects that are outside the scope of this study.

Although the polarizing effects of primary elections are substantively small, we also find that they appear to be increasing over time. Social media has likely made it easier for ideologically extreme candidates to raise money and credibly challenge incumbents in primaries, and the polarizing effect of primary elections could continue to increase in the coming years. Therefore, what had previously been

a negligible effect could potentially become an important one, and scholars should continue to study this topic.

Lending additional credibility to our results, we find that the effects of primary election dates mostly vary in ways we would theoretically expect. For example, we detect the largest effects in cases where a member faces a primary challenger and no effect in cases where a member is seeking reelection but does not face a primary challenger. Surprisingly, we also find an effect of the primary election date for retiring members. Although this could be a statistical fluke, this result is consistent with the possibility that members of Congress typically vote in more extreme and partisan ways than they would prefer, perhaps because of pressure from party leaders, and once their successor is announced and they are largely freed from such pressures, they moderate their voting behavior.

We also find suggestive evidence that the polarizing effect of primary elections is greater for moderate members, which means primaries likely increase the homogeneity of party members. This also means that the incumbents who are most closely representing the median voter in their district are the ones who seem to worry most about losing their primary election. The irony is that moderate members are more likely to come from competitive districts, so the polarizing effect of primary elections likely causes the incumbent's party to lose general election support in the districts where it matters most.

Lastly, we find suggestive evidence that the polarizing effect of primary elections is weaker in states utilizing a top-two, nonpartisan primary system. This paper should not be interpreted as an endorsement of that system since there are likely many other effects of top-two primaries that we have not investigated, but our results suggest that this institutional reform would likely reduce the extent to which members behave in more extreme or partisan ways during their primary campaign.

## Appendix

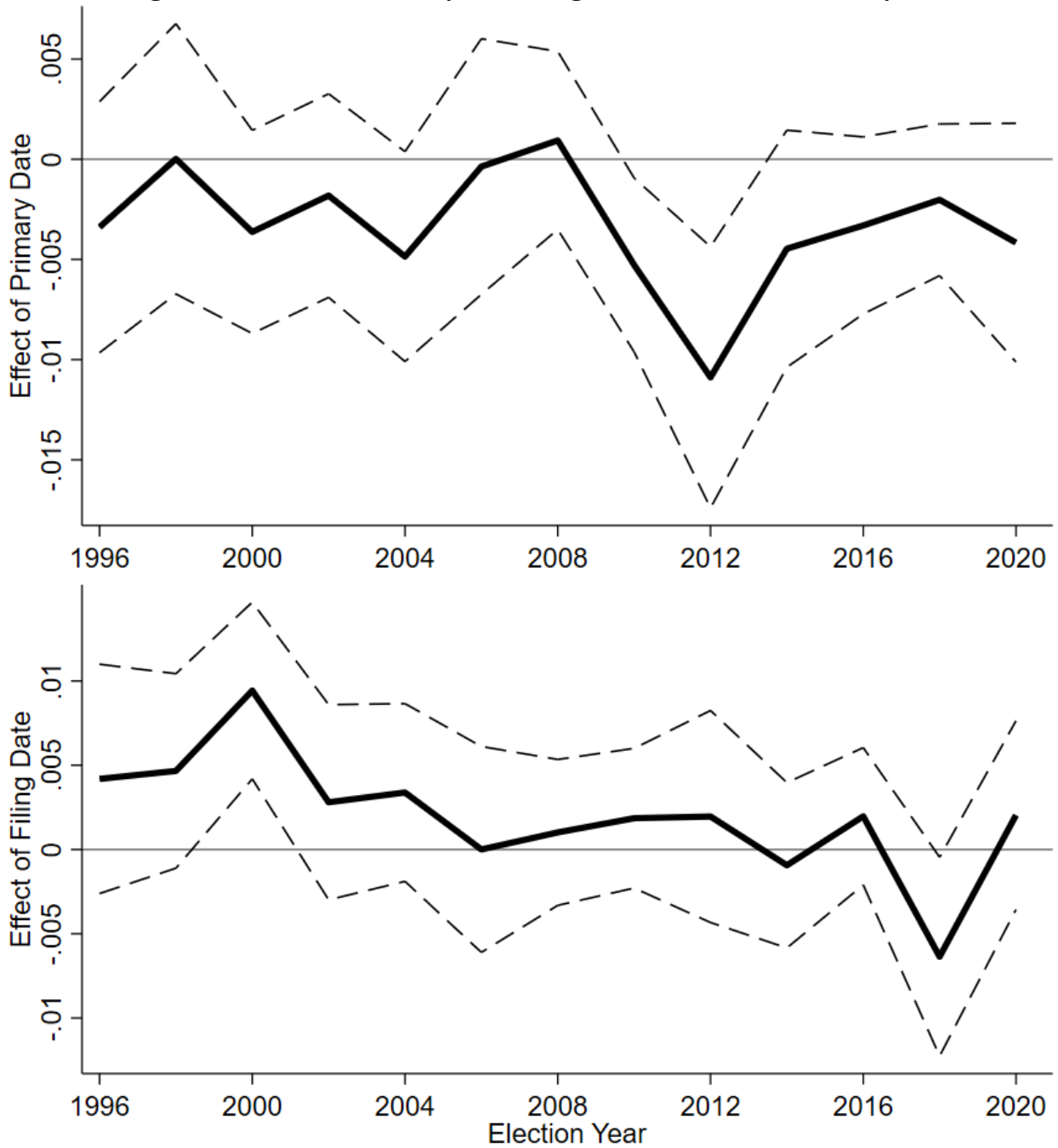
Figure A1 shows separate estimates of the effect of primary election dates and filing deadlines for each two-year election cycle in our analysis. Although the cycle-specific estimates are imprecise, this figure tells the same general story as Figure 1. The negative effect of the primary election date on extremism was small before approximately 2010 and has increased since. The positive effect of the filing deadline on extremism is concentrated in the early period of our analysis.

Table A1 estimates the effect of party convention dates in Connecticut. As discussed in the main text, congressional primaries are rarely contested in Connecticut, and the party nominees are typically selected in party conventions. To assess the effects of these party convention dates, we modify the specifications from Column 2 of Table 1, adding in members from Connecticut. We also code a binary variable indicating whether the party convention date has passed for these members. We only have Connecticut party convention dates from 2000 and onward, so this analysis only includes data from the 106<sup>th</sup> through the 116<sup>th</sup> Congresses.

The estimated effects of filing deadlines and primary election dates is virtually unchanged when we include Connecticut in the analysis. More interestingly, we can also estimate the effect of party convention dates for members from Connecticut. Unfortunately, these estimates are statistically imprecise, but there is suggestive but not statistically significant evidence that convention dates have a similar effect in Connecticut as primary election dates in other states. Column 1 of Table 1 estimates that members from the 49 other states become 0.34 percentage points less likely to cast an ideologically extreme vote after the primary election date, and members from Connecticut become 0.44 percentage points less likely to cast an ideologically extreme vote after their party convention date.

Table A2 further assesses the possibility that members vote in more extreme or partisan ways before their filing deadline in order to deter primary challengers. Specifically, we re-run the specifications from Column 2 of Table 1 but focus only on members who sought reelection but did

Figure A1. Effects of Primary and Filing Dates in Each Election Cycle



The figure shows how the estimated effects of the primary election date and the filing deadline have changed over the period of our analysis. The figure shows the coefficients and 95 percent confidence intervals arising from a replication of the specification from Column 2 in Table 1 for each individual election cycle in our analysis.

**Table A1. Effect of Party Convention Dates in Connecticut, 1999-2020**

	DV = Extreme Vote	DV = Partisan Vote
After Primary	-.0034** (.0009)	-.0017* (.0009)
After Filing	.0020* (.0009)	.0012 (.0008)
After CT Party Convention	-.0044 (.0062)	-.0006 (.0040)
Member-Congress Fes	X	X
Bill-Party Fes	X	X
Observations	5,788,258	5,788,258

*Standard errors, corrected for two-way clustering by member and bill, in parentheses; \*\*  $p < .01$ , \*  $p < .05$ . The variables After Primary and After Filing take a value of 0 in Connecticut. The variable After CT Party Convention takes a value of 0 in all other states. The estimated effect of the party convention dates in Connecticut is similar to that of the primary date in other states, although the former estimates are not statistically significant.*

not face a primary challenger. If these members had voted in more extreme ways in order to deter a primary challenger, we might expect them to moderate their roll-call voting once the filing deadline passes and they see that they successfully deterred a challenger.

We find no evidence that these members changed their roll-call voting after their primary election date. This is what we would expect since they had no primary challenger. More interestingly, we see no evidence that they moderated their roll-call voting after the filing deadline passed and they learned for sure that they would not have a primary challenger. If anything, we see some evidence that they became more extreme after the filing deadline passed. Although these estimates are substantively small, they are statistically significant ( $p = .012$  and  $p = .027$ , respectively). One potential explanation is that some members are worried about relatively moderate primary challengers and moderate their roll-call voting in order to deter them.

**Table A2. Effects of Filing Deadline for Non-retiring Members with No Primary Challenger**

	<u>DV = Extreme Vote</u>	<u>DV = Partisan Vote</u>
After Primary	-.0021 (.0011)	-.0012 (.0010)
After Filing	.0026* (.0010)	.0021* (.0009)
Member-Congress Fes	X	X
Bill-Party Fes	X	X
Observations	4,154,335	4,154,335

*Standard errors, corrected for two-way clustering by member and bill, in parentheses; \*\*  $p < .01$ , \*  $p < .05$ . The table replicates the analyses in Column 2 of Table 1, but it only includes members who sought reelection and did not face a primary challenger.*

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