

Ideological Moderation and Success in U.S. Elections, 2020-2022 *

Michael A. Bailey *Georgetown University*

Benjamin F. Reese *Georgetown University*

This paper assesses the influence of ideological positioning on election outcomes for virtually all general election candidates in the 2020 and 2022 House, Senate and gubernatorial elections. Our approach has two novel features. First, we use original ideology estimates based on the language candidates use on social media and their campaign websites as developed in [Bailey \(2023\)](#). Second, we leverage the fact that multiple elections occur simultaneously in many districts, allowing us to compare the performance of ideologically distinctive candidates within district. All else equal, if a moderate candidate in one race runs ahead of an extreme candidate in another race among the same set of voters, we have evidence that moderation helps. Across two election cycles, a variety of specifications and multiple within-district comparisons, we find that ideological moderation was associated with higher vote shares.

Keywords: Congress, polarization, elections, ideal points

Introduction

Whether voters reward or punish ideological extremism is a central question in American politics. Answering this question helps us understand not only the nature of democratic responsiveness, but also the contemporary political environment, which many worry has become dangerously polarized.

A rich body of research addresses this question, largely finding that voters reward moderation ([Ansolabehere, Snyder and Stewart, 2001](#); [Canes-Wrone, Brady and Cogan, 2002](#); [Burden, 2004](#); [Hall, 2015](#); [Hall and Thompson, 2018](#); [Caughey and Warshaw, 2019](#)). Nonetheless, questions remain. Some questions have been with us from the early days of the literature, as scholars have long struggled with how best to measure the ideology of political candidates, especially those who do not serve in a legislature. And some questions are more contemporary, such as whether there are signs that the nationalization of American politics and other trends have weakened or perhaps eliminated electoral punishments for extreme ideological positioning ([Hopkins, 2018](#); [Bonica and Cox, 2018](#);

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[Tausanovitch and Warshaw, 2018](#); [Caughey and Warshaw, 2019](#); [Canes-Wrone and Kistner, 2002](#)).

This paper assesses the relationship between ideology and election results in the 2020 and 2022 general elections. We present a multi-race spatial voting model that accounts for the different ideological positions of candidates and their opponents, while also accounting for district characteristics. By doing so we leverage the natural experiments that arise when we observe multiple races within a given geography. This occurs when, for example, voters within a district make choices across various combinations of House, presidential, Senate and gubernatorial races. For example, in Ohio in 2022, Republican Senate candidate JD Vance ran 9 percentage points behind Republican Governor Mike DeWine. Was this because Vance was more conservative than DeWine? Or was the difference due to non-ideological differences in candidate appeal? Since both were running in the same state, differences in performance cannot be attributed to differences in voter characteristics.

We also use a new measure of candidate ideology based on the language candidates used on Twitter and campaign web sites ([Bailey, 2023](#)). Previous work in this literature used measures of ideology based on contributor behavior, measures that we show are less predictive of legislative behavior than our text-based measure.

We find that ideological moderation was associated with better electoral outcomes across multiple comparisons and two election cycles. That is, whether we compared House candidates to presidential candidates, House candidates to Senate candidates, Senate candidates to gubernatorial candidates or presidential candidates to gubernatorial candidates, we found consistent evidence that all else equal, Democrats did better when they were more moderate.

This paper proceeds as follows. Section one summarizes the literature on the effects of ideology on electoral outcomes. Section two presents a model of election outcomes for multiple elections within a given district. Section three explains the text-based ideological measures used in this paper. Section four analyzes the relationship between general election vote share and ideology. Section five concludes.

Section 1: Ideology in Elections

Whether voters reward or punish ideological extremism is a canonically central question in American politics. The answer helps us understand mechanisms of democratic representation in the

contemporary political environment, which many worry has become dangerously polarized.

Studies of congressional position-taking often start with median voter theory (Downs, 1957). The idea is simple: if voters vote based on ideology, the candidate who can win the support of the median ideological voter will win. Moving away from the median will open up a candidate to defeat by an opponent who can move closer to the median voter and thus flip the majority to their side.

There are two conditions for median voter theory to apply. First, it must be possible for voters to ascertain the ideology of the competing candidates. Expecting all voters to have comprehensive knowledge of candidate positions is likely asking too much. Instead, voters may be able to use heuristics (Popkin, 1991), in part encouraged by political actors and media sources that have incentives to highlight candidates who get out of line from voter preferences (Arnold, 1990).

It is not a foregone conclusion that ideology will matter in elections. Voters may not think in ideological terms or, at least not in the ideological terms of elite discourse (Converse, 1964). This may be particularly true among potential swing voters (Fowler et al., 2023). Perhaps voters respond to partisan and other identity attachments rather than the ideology of candidates (Huddy, Mason and Aarøe, 2015; Achen and Bartels, 2016).

Even if voters perceive candidates in traditional ideological terms, they may be interested in factors unrelated to the candidates' ideological positions in a given race. They could, for example, be interested in the ability of representatives to deliver specific benefits, as appeared to have been the case in the heyday of incumbency advantage (Fiorina, 1977). Or perhaps voters are simply easily swayed by personal characteristics of candidates including their charm or celebrity.

It is also possible that voters care not about the ideological positioning of individual candidates, but about national-level politics. There is strong evidence that politics has nationalized in recent years (Hopkins, 2018). Voters may be more interested in chamber control than in who specifically represents them. In such a case, voters may be willing to accept virtually any ideology in a legislative candidate – even an extreme one – as long as the elected member votes for their preferred party when deciding control of the legislative chamber. For example, moderate voters in Maryland choosing between a conventionally liberal Democratic Senate candidate (Angela Alsobrooks) and a moderate Republican Senate candidate (former Governor Larry Hogan) may not view the race as between these two candidates but rather as one that could determine whether the Democrats or Republicans control the Senate. Such behavior may be more logical as battles for individual seats

get less competitive while the battle for chamber control intensifies (Lee, 2016).

The empirical evidence of ideology and elections rules out the strongest form of the median voter theory because candidates do not converge within districts across the two parties (Ansolabehere, Snyder and Stewart, 2001). There is, however, consistent evidence that ideological moderation is associated with higher vote shares (Ansolabehere, Snyder and Stewart, 2001; Canes-Wrone, Brady and Cogan, 2002; Burden, 2004; Hall and Thompson, 2018). There is not universal agreement on this point, as Stone and Simas (2010) find that extreme candidates do better.

Analyses of surveys also tend to find that more moderate congressional candidates get more support among survey respondents (Ansolabehere and Jones, 2010; Jones, 2011). Separating the effects of party support and ideological proximity in these studies is a challenge, but even when the analysis separates out these effects, ideological positioning matters, albeit to a smaller degree than is found by others in the literature (Tausanovitch and Warshaw, 2018).

The estimated benefits of moderation tend to be modest, often in the range of 1 to 3 percentage points for plausible ideological shifts (Canes-Wrone, Brady and Cogan, 2002). Caughey and Warshaw (2019) found that a shift in ideology from the extreme for a given political party to the ideological middle of the party was associated with 4 to 9 percent increase in vote share, but argued that a more plausible change in ideology was a two standard deviation shift as measured within, instead of between, candidates. This smaller change in ideology was associated with a roughly 1 to 2 percentage point reduction in vote share for ideologically extreme House candidates and a 0 to 5 percentage point reduction for ideologically extreme Senate candidates. On the higher end of estimated effects, Hall (2015) found that nominating an extremist reduced vote share by 9 to 13 percentage points and decreased the probability of winning by 35 to 54 percentage points, with the effects clearest in open seat races.

Even modest estimated effects may be highly politically relevant. Although rare, nail-biter elections happen; for example, the House seat in Iowa's 2nd district in 2020 was decided by literally six votes. In such a context, a couple of percentage points could matter. In addition, effects should be considered not only in absolute terms, but in terms of what the candidates can actually control. Congressional politics have grown increasingly nationalized (Hopkins, 2018), meaning there are fewer levers for candidates to pull in order to try to increase vote share. Even if the effects are modest, ideological positioning may be more amenable to candidate choice than almost anything

else they can do.

While most studies have found that moderation boosts electoral vote shares, several studies have found signs that this relationship may be softening over time. Several recent papers found that the advantages of moderation have been declining and may even be non-existent in contemporary elections (Bonica and Cox, 2018; Tausanovitch and Warshaw, 2018; Caughey and Warshaw, 2019, 14). The decline may be particularly strong among challengers. Canes-Wrone and Kistner (2002) assessed the effect of candidate ideology on election outcomes from 1980 to 2016, finding that the ideology of incumbents continues to affect election results while effect of the ideology of challengers has declined and even disappeared in their most recent data.

Section 2: Model

In this section we specify a model in which candidate ideology influences electoral outcomes. The model allows us to assess ideological effects while controlling for important characteristics of voters and opponents that could distort our efforts to assess the influence of ideology.

In the simplest form, one could model Democratic vote share in a geography as a function of the ideology of the Democratic candidate. Omitted variable bias would be a serious concern in such a model because unmeasured political liberalism of voters in that area would likely be correlated with the liberalism of the candidate. Omitted variable bias would lead the coefficient on candidate liberalism to absorb the effect of voter liberalism. We therefore need some way to control for the liberalism of voters within the geography of interest. This could be done with demographics, although doing so would be limited by data availability and the extent to which demographics predict voter propensity to support Democrats.

The fact that there are multiple elections within many geographical units and years provides a useful way to control for voter characteristics. When there are multiple elections in a given area, we can look at how, say, a conservative Republican does in the area relative to a moderate Republican running in the same area. In a presidential year, we observe at least two races in each House district: the race for the House seat and the race for the presidency. In many years and districts, there is also a mix of House, Senate, presidential and gubernatorial races allowing for additional comparisons. When we make these comparisons, we can treat electoral outcomes

in a given geographical area as the results of a natural experiment in which a fixed set of voters faces two or more ideological choices. We calculate vote shares by candidate within each area, enabling us to ascertain if ideology explains gaps between performance of candidates from the same party across races among the same set of voters. Doing so allows us to assess the effect of ideology while controlling for voter characteristics. Our approach achieves a similar function as the regression discontinuity in [Hall and Thompson \(2018\)](#). Their approach “ensures, under plausible assumptions, that districts in which a more extreme candidate barely wins nomination and runs in the general election are otherwise identical, in expectation, to those where a more moderate candidate barely wins the primary and runs in the general” (p. 510). In our approach, voters choosing between moderate and extreme candidates in an given area are identical because we look at within-district differences.

Another potential source of omitted variable bias relates to the ideology of the opponent. Suppose that ideology affects voters’ decisions and that moderate Democratic candidates generally face moderate Republican candidates. The moderate Democrats may do less well than if they faced extreme Republican opponents; if we do not account for the ideology of the Republicans, omitted variable bias may mean that the true positive effect of moderation for Democrats may be attenuated in statistical results.

Figure 1 illustrates how our model treats voter and candidate influences on electoral outcomes. In each panel the X-axis shows a range of ideological positions. The black curve is the density of voters in a hypothetical district. The panels on the left show a relatively liberal district in which voter ideology is skewed slightly to the left. The top left panel shows the vote share for the Democratic candidate for Senate. The candidate positions are indicated with circles. The Senate Democratic candidate is on the left with an ideology of $\theta_D^S = -2.5$ and the Senate Republican candidate is on the right with an ideology of $\theta_R^S = 0.5$. The cutpoint between the two candidates is $\kappa^S = -1$. Voters to the left of the cutpoint are expected to prefer the Democrat, producing a Democratic vote share of 50% in the Senate race.

The bottom left panel adds House candidates for the left-leaning district. The Democratic House candidate is relatively moderate with an ideology of $\theta_D^H = -0.5$ and the Republican House candidate is very conservative with $\theta_R^S = 2.5$. The cutpoint between the two House candidate is $\kappa^H = 1$. Voters to the left of the House cutpoint prefer the Democrat, producing a Democratic

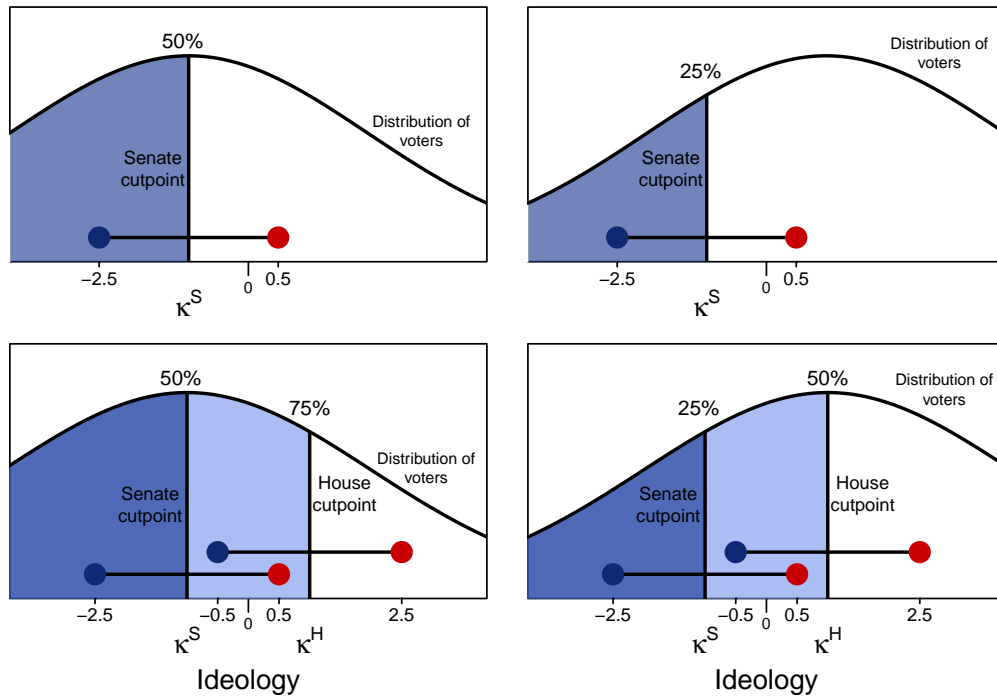


Figure 1: Voter ideology and candidate positions

vote share of 75% in the House race, which is not surprising given the race features a moderate Democrat against a very conservative Republican in a relatively liberal district.

The two panels on the right side of Figure 1 repeat the exercise for the same candidates, but now for a more conservative district. In the top right-hand panel, the Senate Democratic candidate gets only 25% because the district is more conservative. We add the House race in the bottom right panel and see that the House Democrat gets 50%.

Rather than trying to map candidate ideologies and voter characteristics to expected outcomes, we leverage multiple races to assess the differences in Democratic vote share between races within districts. In Figure 1, the mapping from ideology to outcome varied substantially from district to district, but the difference in performance was the same in the two races: the moderate Democrat who faced a conservative Republican did 25 percentage points better than the liberal Democrat who faced a moderate Republican in each district.

Figure 2 illustrates how the model works based on Figure 1. The x-axis in each panel is ideology with the cutpoints for the House and Senate races marked. The panel on the left shows the cumulative density function (CDF) for the liberal district; the panel on the right shows the CDF for the conservative district. The cutpoints produce different results for the Democratic

candidates. The CDFs shift up and down depending on the ideology of district voters. We treat the vote differential for Democrats in the House and Senate races as a roughly linear function of the distance between the cutpoints. If we shift κ^H to the right in either figure, the gap in cutpoint differences widens and the House Democrat gains relative to the Senate Democrat.

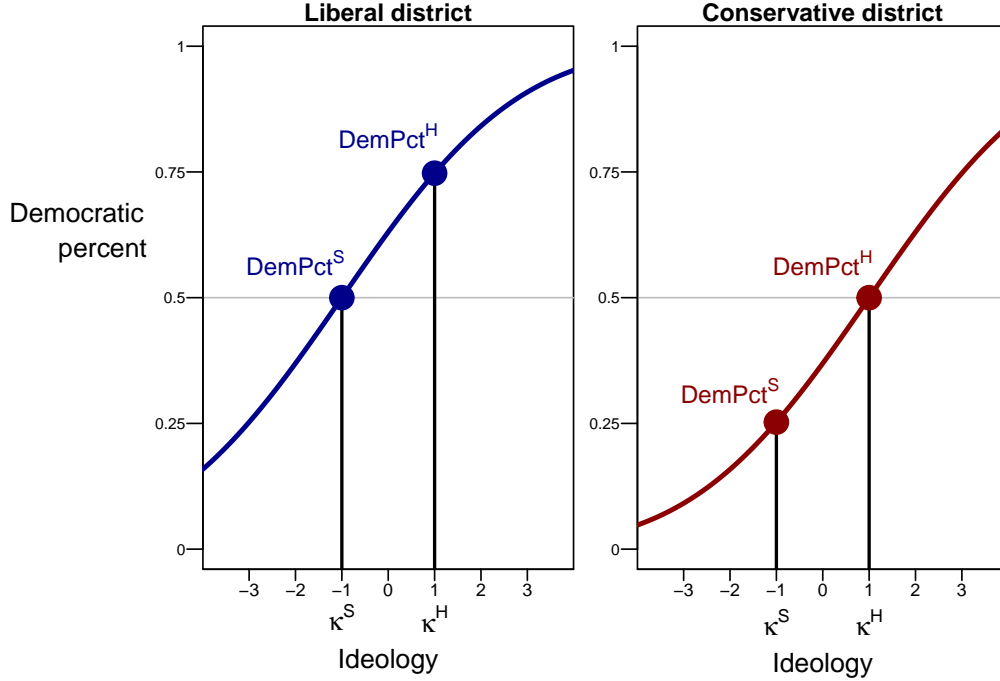


Figure 2: Democratic vote percentage as a function of ideological cutpoints

We incorporate this spatial logic of voting into the following model. We approximate the Democratic vote share in district d as a linear function of district preferences μ_d and the cutpoint between the Democratic and Republican candidates in the race. For House and Senate races in district d we observe:

$$\begin{aligned}
 DemPct_d^{House} &= \mu_d + \beta \frac{\theta_{D,d}^{House} + \theta_{R,d}^{House}}{2} \\
 &= \mu_d + \beta \kappa_d^{House} \\
 DemPct_d^{Senate} &= \mu_d + \beta \frac{\theta_{D,d}^{Senate} + \theta_{R,d}^{Senate}}{2} \\
 &= \mu_d + \beta \kappa_d^{Senate}
 \end{aligned}$$

We do not observe μ_d , but we can net it out by looking at the difference in vote share across the two candidates:

$$\begin{aligned}
DemPct_d^{House} - DemPct_d^{Senate} &= \mu_d + \beta\kappa_d^{House} - \mu_d - \beta\kappa_d^{Senate} \\
\Delta_d^{House-Senate} &= \beta(\kappa_d^{House} - \kappa_d^{Senate})
\end{aligned}
\tag{1}$$

We expect that $\beta > 0$, meaning that the further to the right the cutpoint for the House relative to the cutpoint for the Senate, the more the Democratic House candidate will outperform the Democratic Senate candidate. If the House cutpoint is to the left of the Senate cutpoint, the Democratic House candidate will underperform the Democratic Senate candidate.¹

Based on our discussion in Section 1, we do not expect ideology to matter equally across districts. It is possible that the mechanisms for voters to become informed do not operate in districts in which the minority party has essentially no chance of winning. The minority party candidate will likely raise little money and the media and political interest groups will have little interest in expending time and effort on mobilizing voters.

Our model allows us to account for district characteristics and candidate ideologies in a simple framework. There are, nonetheless, several respects in which the model simplifies matters in ways that could lead us to observe no effects even when ideology does matter. First, we do not model district level differences in the shape of voter ideological distributions. We do not believe that a given shift in ideological cutpoints will produce identical shifts in Democratic performance across all districts. Rather, we test the claim that on average, the more moderate Democratic candidate (in the sense defined by relative cutpoints) will do better in the manner depicted in Figures 1 and 2. To the extent that the distribution of voters with ideologies between the cutpoints varies across districts, we will have more error. If, for example, there are many districts with no or few voters in the gap between cutpoints, we will observe no or a small relationship between cutpoint gaps and election outcomes even if, in theory, there could be an effect if the district had voters in that region. Our maintained assumption is that in general, the ideologies chosen by candidates – and hence the corresponding cutpoints – will tend not to be in regions with very few voters. So even as we believe that variations in district voter ideological distributions could downward bias coefficients or produce more uncertainty, we do not believe that variations in district voter ideological distributions would cause us to observe a spurious relationship between cutpoints and election results.

¹Because the presidential cutpoints do not vary across districts, models comparing outcomes to presidential outcomes would produce the same coefficient (but not intercept) if we did not take the difference.

Second, it is also possible that our candidate ideology measures do not reflect the ideological differences as perceived by voters; this too could cause us to observe no effects even if a candidate’s “true” ideology does in fact matter. This concern is particularly relevant when gubernatorial races are included in our comparisons as it is possible that candidates for state-level offices do not present themselves or compete in terms of the national-level ideology we measure. However, [Hassell, Heseltine and Reuning \(2024\)](#) used a text-based approach to measure the ideology of candidates based on their Twitter content and found that Twitter-based ideology was predictive of voter perceptions of candidates, especially in relatively competitive districts.

Finally, it is possible that other factors could bias results in either direction. That is, non-ideological candidate characteristics that affect vote totals could be correlated with candidate ideology in ways that bias coefficient estimates in either direction. Some of these – such as incumbency – will be easy to observe and control for.

We control for demographic and other traits of the electorates that affect Democratic vote share across races via that μ_d parameter that is swept out via the differencing in Equation (1). It is possible, however, that demographic variables have differential effects on the races being compared. We show how this works in Appendix 2. We report statistical results from models with these control variables below; we also report results from models without these variables in the appendices. Generally, the results are similar whether or not the demographic controls are included.

Inevitably for an observational study, it is possible that unmeasurable confounders matter in ways that could bias results. The most likely unmeasurable factor is “valence”, which is a non-ideological characteristic of a candidate that affects his or her vote share. Valence can be charm or skill or celebrity and is hard to measure. It is possible, for example, that unusually charming politicians can take more extreme positions and still do well; if that is the case, we will not see moderation increasing vote share (and could even observe extremism increasing vote share). On the other hand, if unusually charming or skillful politicians (with high valence) tend to take moderate positions, we risk Type I error as it is possible that positive electoral effects of moderation may in fact be due to valence.

We believe that potential valence-confounding is an inherent challenge in observational studies of ideological effects on vote outcomes. Some scholars may interpret other designs as more robust

to valence-confounding, but we do think that is the case. For example, one can implement a RDD model that limits the analysis to races in which an extreme or moderate candidate narrowly won a primary. In these races it is a “coin-toss” as to whether an extreme candidate is in the general election, which plausibly nets out district effects (such that we do not simply have extreme conservatives running in extremely conservative districts, which would create clear confounding). However, if there is a systematic relationship between valence and ideology such that moderate candidates are systematically higher valence (the threat to validity in our design), a RDD model will still have such a relationship in the general election races that follow close primaries because the moderates who win these close primaries would have relatively high valence.

Section 3: Data

This section documents two core elements of the data we use in the analysis: the original ideology estimates for all candidates and electoral returns aggregated to congressional district, county and state levels.

Ideology Behind questions about the existence and magnitude of ideological influences on contemporary elections, lies a long-standing methodological challenge: how do we measure ideology, especially for non-incumbents? [Caughey and Warshaw \(2019, 1\)](#) summarize the state of affairs: “The first building block of any study of accountability for extremism is data on the ideological positions of candidates.”

The most widely used ideology measures in the study of Congress are Nominat scores ([Poole and Rosenthal, 1997](#)), which are based on voting. Because they are only available for incumbents, they are not useful for studies of the effects of ideology on electoral outcomes, however.²

To control for both incumbent and non-incumbent ideology, the literature has generally moved to measures based on campaign finance scores ([Bonica, 2018](#)). The logic behind contribution-based ideology scores is that contributors are more likely to contribute to candidates who share their ideology. Second, are scores based on Twitter follower networks ([Barbera, 2015](#)). Assuming, similarly, that people are more inclined to follow candidates with similar ideological orientations, it

²Nominat scores in recent years suggest that Representative Alexandria Ocasio-Cortez and several other progressive members are among the most *moderate* Democrats in Congress. [Duck-Mayr and Montgomery \(2023\)](#) explain why and offer an alternative approach that does not have this problem.

is possible to build a scaling model that produces ideology measures for all candidates on Twitter. A related approach by [Bond and Messing \(2015\)](#) uses Facebook data on endorsement of political figures to measure the ideology of politicians and ordinary citizens. These latter scores have been used less often in the literature and are not available for the elections and candidates we study here.

Several scholars have questioned the efficacy of campaign finance-based ideology measures. [Barber \(2022\)](#) shows that the campaign finance-based ideology is “effectively orthogonal” to Nominate scores for Democrats in recent years (see also [Tausanovitch and Warshaw \(2017\)](#)). One possible limitation for the campaign finance and follower measures is that they are based on behavior by someone other than the candidates themselves ([Tausanovitch and Warshaw, 2017](#), 173). Wealthy donors may have different perspectives on candidates ([Bond and Messing, 2015](#), 62).

And contribution and social media behavior related to a candidate may depend on the candidate’s opponent as much as on the candidate him or herself. For example, a candidate running against a high profile and unpopular incumbent such as Mitch McConnell could attract attention due not to her ideology, but due to the ideology or influence of her opponent.

This paper uses estimates of candidate ideology based on the language they use on their websites and social media provided by [Bailey \(2023\)](#). The documents on which these scores are based result from intentional candidate efforts to create a political identity for the public and are publicly observable to voters and scholars alike.

The data comes from two sources: campaign websites and Twitter (as it was known before 2023) feeds from campaign and official accounts. The website data was scraped from a list of all Democratic and Republican candidates who received more than 2 percent in their primary and/or were general election candidates. We use both campaign and official Twitter handles for members of Congress who have both because these were not readily distinguishable in what appeared on Twitter.

We describe the model in the appendix. It builds on the wordfish model ([Slapin and Proksch, 2008](#)) by adding procedures to account for party heterogeneity in the use of many terms and to focus on politically relevant terms.

To provide a sense of the relative performance of the text measures compared to the contribution based measures used in previous studies, Tables 1 and 2 present models predicting 2022 legislative

ideology as a function of the contribution-based and text-based measure of ideology. All scores are standardized. Column 1 of Table 1 shows that using the contribution-based scores based on the 2020 campaign produces a model fit of 0.33 when predicting Republican congressional ideology in the next session. Column 2 shows that the model fit is much higher when we use our text-based ideology scores. Columns 3 and 4 use only new members in 2020. Since they were not incumbents in 2020, there was no legislative ideology measure for them in 2020, making them an interesting subgroup to analyze. For Republicans, the contribution and text-based scores perform similarly.

Table 2 repeats these analyses for Democrats. Consistent with Barber (2022), column 1 of Table 2 shows that contribution-based scores based on the 2020 campaign produce poor model fit for explaining Democratic congressional ideology in 2022. Column 2 shows that the model fit is much higher when using the text-based measure of ideology. Columns 3 and 4 use only new members in 2020; there were relatively few Democrats elected in 2020 so the statistical power is low. Again, however, the text-based scores outperform the contribution-based scores.

Table 1: Predicting Republican congressional voting, 2022

Dependent Variable:	Legislative ideology 2022			
	All		New members	
Model:	(1)	(2)	(3)	(4)
<i>Variables</i>				
Contribution scores 2020	0.56*** (0.06)		0.48*** (0.13)	
Text scores 2020		0.74*** (0.04)		0.47*** (0.13)
Constant	-0.02 (0.06)	0.005 (0.04)	-0.01 (0.13)	1.5×10^{-16} (0.13)
<i>Fit statistics</i>				
Observations	206	230	46	47
R ²	0.33	0.56	0.23	0.22

IID standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Appendix 1 presents additional evidence of face validity by discussing the most informative terms and ideology estimates for prominent members of Congress. Bailey (2023) provides additional evidence on the methods and the convergent and construct validity of the measures.

Election data Data on presidential election results by congressional district is from Singer et al. (2022). For models that include presidential results in 2022 we use the Biden percent from 2020 but matched to the new district by Singer et al. (2022).

Table 2: Predicting Democratic congressional voting, 2022

Dependent Variable:	Legislative ideology 2022			
	All		New members	
Model:	(1)	(2)	(3)	(4)
<i>Variables</i>				
Contribution scores 2020	0.20*** (0.07)		0.37 (0.26)	
Text scores 2020		0.78*** (0.04)		0.80*** (0.14)
Constant	-0.06 (0.07)	-0.004 (0.04)	-0.01 (0.25)	2.5×10^{-17} (0.13)
<i>Fit statistics</i>				
Observations	193	229	17	21
R ²	0.04	0.60	0.12	0.64

IID standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

We include on races in which both a Democrat and a Republican ran and for which we have ideological measures for both. For some districts, two Democrats or two Republicans faced off in the general election (as happened in California due to their top-two electoral structure). Some candidates had neither Twitter nor website data; these tended to be candidates in non-competitive races.

The geography used varied according to the comparison. For models that include House races, we use data on presidential or Senate results aggregated at the House district level. There are relatively few states with Senate-president and/or Senate-governor comparisons; therefore we used data at the county level, with standard errors clustered at the state level.

We constructed the results for Senate and presidential candidates at the House district level by building up from precinct level data available from the MIT Election Labs. This data is available for 2020, but not 2022 ([MIT Election Data and Science Lab, 2022a,b](#)).

The data for the House-Senate comparisons are from [Baltz, Agadjanian and et al. \(2022\)](#) of the MIT Election Lab. We exclude third party and write-in candidates so that all final results are in terms of two-party vote share. To calculate the Senator at the House district level, we constructed a list of precincts from the House precinct-level data identified by the House district and precinct name. We matched this list of precincts to the reported precincts in the Senate precinct-level data by state and precinct name. After matching, we aggregated the precinct level vote totals and candidate vote totals for each Senate candidate to the House district level.

There are some limitations to this strategy. New Jersey, for example, had several mismatched

precinct names, making vote total aggregation difficult. This means that the Senate results may be off slightly from their true totals as not all precincts match perfectly between the House and Senate/Governor precinct-level results. [Baltz, Agadjanian and et al. \(2022\)](#) report that their internal validation methods show their aggregated results never differ by more than 0.46% from the official results.

The data for the other analyses, Senate-President, Governor-Senate, and Governor-President, are the official county and state level vote totals as reported in [CQ Press \(2020, 2022\)](#). The demographic variables for both the county-level and state-level models are from the 2010-2019 U.S. Census Bureau population and demographic tables.³

Section 4: Candidate Ideology in the 2020 and 2022 General Elections

This section analyzes the relationship between relative performance of Democratic candidates within districts, counties and states as a function of ideological cutpoint differences. We begin with an illustrative example and then analyze House-President and House-Senate elections for 2020 and 2022. We then assess Senate-president, Senate-governor and president-governor comparisons at both county and state levels. We show visual evidence followed by summaries of statistical evidence. We provide full statistical results for the models presented and additional models in the appendices.

Figure 3 illustrates the logic behind the analyses by depicting Ohio’s 2022 gubernatorial and senatorial general elections. The cutpoint for the Senate race was 0.1, which is halfway between the ideology of Republican JD Vance who had a quite conservative ideal point of 1.23 and Democrat Tim Ryan who had an ideal point of -1.03. The cutpoint in the governor’s race was -0.31. The gubernatorial race was between Republican Michael DeWine who had a moderately conservative ideal point of 0.47 and Democrat Nan Whaley who had a conventionally liberal ideal point of -1.08.

The cutpoint in the Senate race was 0.41 higher than in the gubernatorial race, suggesting that the Democratic senatorial candidate should do better relative to the Democratic gubernatorial

³We treat candidates from both Minnesota’s Democratic-Farmer-Labor Party and North Dakota’s Democratic-Nonpartisan League Party as Democrats. We also classify David Zuckerman, who ran for the Governor of Vermont in 2020 with the support of both Vermont’s Democratic and Progressive parties as a Democrat. We exclude Louisiana because of Louisiana’s “jungle” primary system that erodes the distinction between primary and general election. We further exclude Alaska because its election results are reported at the election district level rather than the county-level, making it difficult to match to existing U.S. Census demographic data.

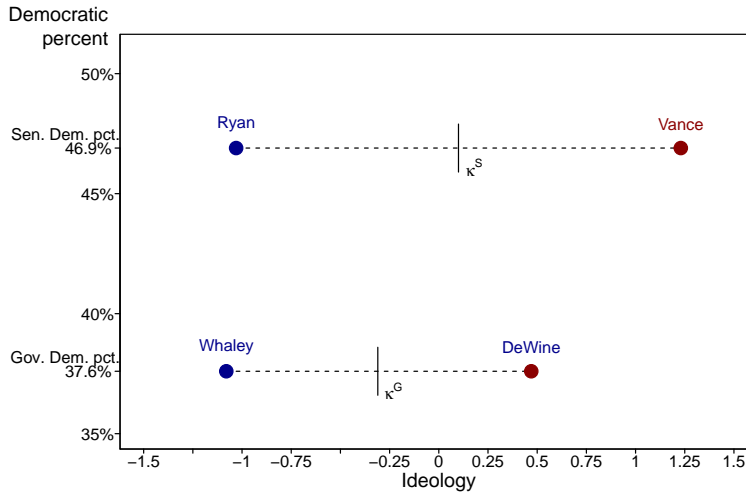


Figure 3: Ohio 2022 U.S. Senate and gubernatorial races

candidate. Tim Ryan, the Democratic candidate for Senate, received 46.9 percent while Nan Whaley, the Democratic candidate for governor, received only 37.6 percent. In this instance, at least, a moderate Republican candidate outperformed a more extreme Republican.

We begin our analysis by visually comparing House results to presidential and senatorial results in Figure 4. Each of the top two panels show the performance of the House Democratic candidate compared to President Biden in their district as a function of the ideological cutpoint between the House Democratic and Republican candidates. The patterns are similar in both 2020 and 2022: when the cutpoint is to the left (implying that the House Democratic candidate is liberal and/or the House Republican candidate is moderate), the House Democrat tends to run behind Biden. When the cutpoint is to the right (implying that the Democrat is moderate and/or the Republican is conservative), the House Democrat tends to run ahead of Biden. There is a shift downward in general for all House Democrats in 2022, as is typical in midterms, but the slopes are quite similar across years.

As noted earlier, not all congressional races are contested to the same degree. Many districts have been heavily gerrymandered and competition is nominal at best; in such districts, we expect that the typical mechanisms for voters to become aware of ideological positioning of candidates – such as campaign spending and media attention – are limited and hence it would be less likely for candidate ideology to matter. We therefore highlight districts that are plausibly competitive (and hence more likely to attract spending and media attention) with blue dots. Here we define

plausibly competitive to be districts in which former President Trump received between 40 and 60 percent of the vote in 2016. The relationship between cutpoint differences and Democratic margins is stronger in these districts.

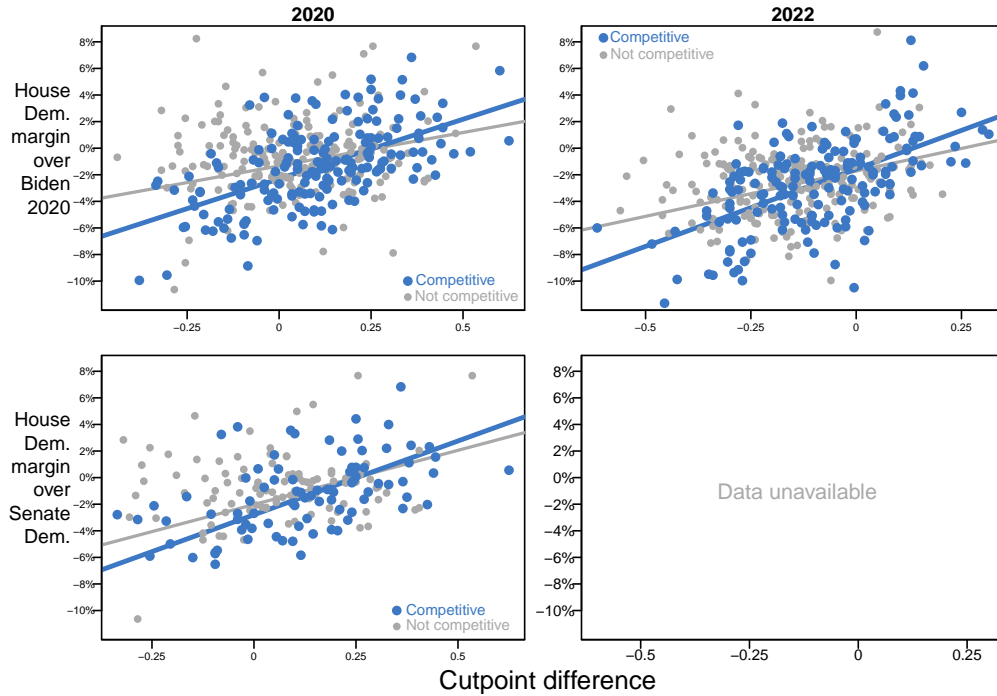


Figure 4: Ideology and House Democratic performance compared to Biden

The bottom panel of Figure 4 compares House and Senate Democratic results. Each dot is the difference in the House Democratic and Senate Democratic margins within a congressional district. A negative cutpoint difference implies that the House cutpoint is to the left of the Senate cutpoint (as would happen, for example, if the House race featured a liberal Democrat and moderate Republican while the Senate race featured a moderate Democrat and a conservative Republican). When the cutpoint differential is negative, the House Democratic candidates tend to run behind their Senate copartisans. The blue dots are plausibly competitive house districts; as with the House-President comparisons, the relationship between cutpoint differences and Democratic margins is stronger in these districts.

Figure 5 presents statistical models for congressional district level comparisons based on Equation 1. The vertical line reflects the coefficient on the cutpoint difference; the horizontal line is the 95 percent confidence interval. We do not have precinct level data for 2022 Senate races and hence are unable to compare House and Senate margins in 2022. We report models with incumbency and

demographic controls. Coefficient estimates on cutpoint differences in models with fewer control variables tend to be larger, as reported in Appendix 2.

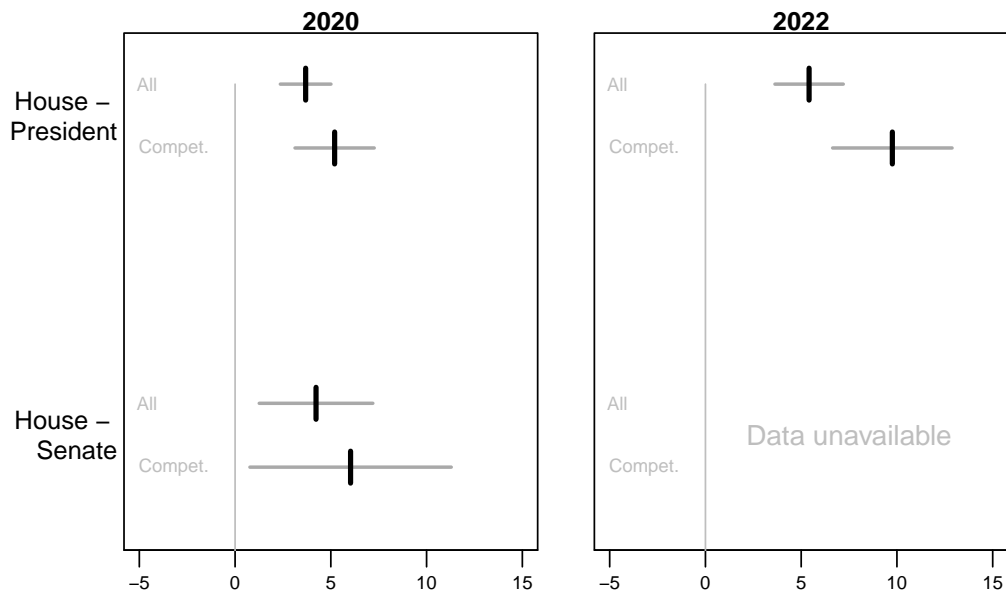


Figure 5: Effect of ideology: House comparisons to President and Senate

The coefficient on the ideological cutpoint difference variable is distinguishable from zero in all comparisons in Figure 5. In the 2020 House-president model, the coefficient was 3.68 when we used all available districts and 5.2 when we limited the model to plausibly competitive districts, defined as being districts in which former President Trump received between 40 and 60 percent in 2016.

In the 2020 House-president data, the ideological cutpoint difference variable ranged from -0.34 to 0.75 with a standard deviation of 0.19. Going from the lowest to the highest value of the cutpoint difference variable is associated with a 4.02 percentage point change in all districts and a 5.67 percentage point change in plausibly competitive races. A two standard deviation increase in the cutpoint difference would correspond to an increase for the House Democrat relative to the Senate Democrat of 1.4 and 1.98 percentage points and 2.0 percentage points in all and competitive districts, respectively.

We can also interpret the coefficient estimates in terms of the estimated ideologies. Democrats largely fall between -1.5 and -0.5 and Republicans largely fall between 0.5 and 1.5. Holding the ideology of the opposing party constant and moving from the minimum (most liberal) Democratic ideology to the maximum (most moderate) Democratic ideology would change the cutpoint by roughly 0.5, inducing changes of 1.84 and 2.6 percentage points in all and competitive models,

respectively.

In the 2022 House-president comparison, we assess the difference between how House Democratic candidates did relative to how Biden had done in their district in the previous election (after accounting for redistricting). The scatterplots showed that House Democrats generally performed less well – as one would expect in a midterm under a Democratic president – but that the relationship between differences in ideological cutpoints and performance was similar to what we saw for 2020. The coefficient on the ideological cutpoint difference variable was 5.41 and 9.76 in all and competitive districts, respectively. In this data, the ideological cutpoint difference variable ranges from -0.52 to 0.42 with a standard deviation of 0.16, implying that going from the lowest to highest cutpoint would be associated with 5.09 and 9.17 percentage point increase in House Democratic margin in all and competitive districts, respectively. Holding the ideology of the Republican candidate constant and moving from the minimum to maximum of Democratic House ideology in 2022 is associated with House Democrats doing 2.71 and 4.88 percentage points better in all and competitive districts, respectively.

For the 2020 House-Senate comparisons, there are substantially fewer observations given that many House districts did not have Senate races. Even with a different – and smaller – comparison set, the the coefficient on the ideological cutpoint difference variable was similar to what we saw in the House-president models: 4.23 and 6.03 in all and competitive districts, respectively. The cutpoint difference variable ranged from -0.53 to 0.71 with a standard deviation of 0.24 in this data. Going from the lowest to highest cutpoint would be associated with 5.24 and 7.48 advantages for House Democratic candidates relative to Senate Democratic candidates in all and competitive districts, respectively. Holding the ideology of the Republican candidate constant and moving from the minimum to maximum of Democratic House ideology in 2022 is associated with House Democrats doing 2.11 and 3.02 percentage points better in all and competitive districts, respectively.

Appendix 2 reports the full results for the comparisons in Figures 3 and 4. The coefficients on the differences in ideological cutpoints tend to be larger and the associated confidence intervals are further from zero in models that control only for cutpoint differentials (models that correspond to the scatterplots in Figure 4) or that do not include demographic controls.

One of the features of our analytical approach is that it can handle different kinds of comparisons. We can, for example, assess how Senate candidates perform relative to presidential candidates and

governors and how presidents perform relative to governors. These comparisons have advantages and disadvantages compared to the House comparisons we have so far conducted. A disadvantage is that there are fewer observations given that there are fewer Senate and gubernatorial results in any given year. This disadvantage is offset, in part at least, by the fact that we can look at county level results. Whereas House districts cross boundaries in ways that prevent us from aggregating results at county levels, the Senate, governor and presidential races can be assessed at the county level, allowing us to view each state race as a series of county level races controlling for unobserved county-level propensity to support Democrats. Of course, the errors will be correlated within state, something we account for in county-level models.

Figure 6 shows bivariate scatterplots for comparisons involving Senate, presidential and gubernatorial results. On the left, we show county-level results, with circle size corresponding to the total number of county votes. On the right, we show state level results. Each panel includes data from both 2020 and 2022. The fitted lines in the figure are from unweighted models; we discuss weighting below.

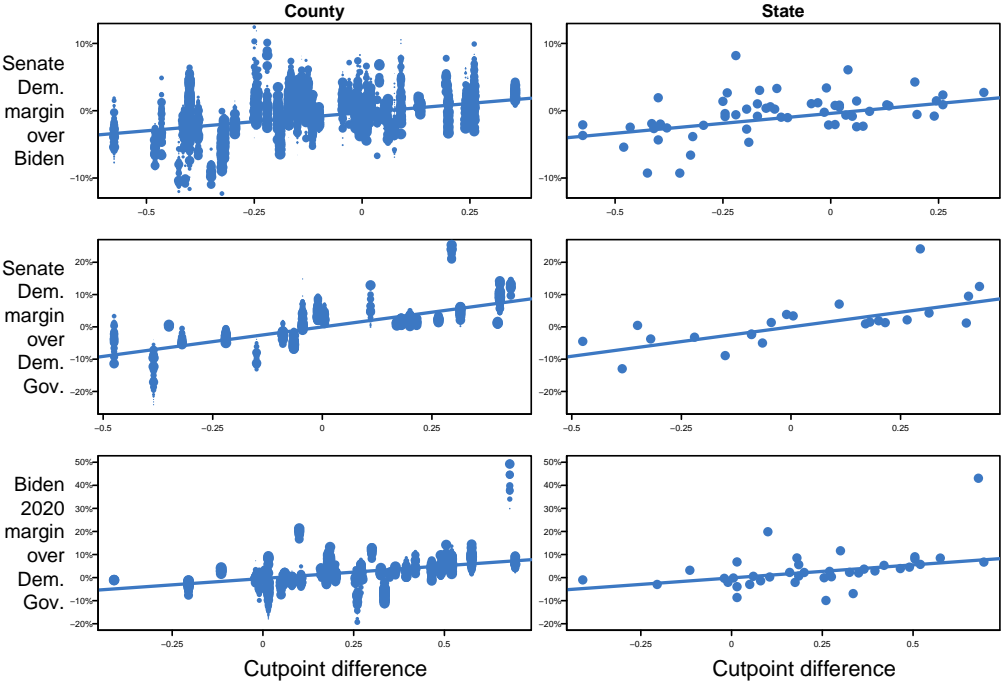


Figure 6: Ideology and Democratic Senate, presidential and gubernatorial races

We do not distinguish competitive races in these plots as we did in House comparisons because potential competitiveness in these non-House races is less clear. Democrats have won gubernatorial

and Senate races in ruby red states such as Kansas, Louisiana, West Virginia and Montana, while Republicans have won governorships in deep blue states such as Vermont and Maryland. This makes us reluctant to write-off races as essentially non-competitive in the way we did for House districts. Even in some seemingly unwinnable Senate races (e.g., Democrats in recent races in South Carolina and Kentucky), the minority party has raised large amounts of money and waged vigorous advertising and mobilization efforts.

The top panels show Senate Democratic margins in both 2020 and 2022 relative to Biden's vote share in 2020. As with Figure 4, we see that as the cutpoint difference moves right – associated in this case with a moderate Senate Democrat or an extreme Senate Republican – the Senate Democrat does better relative to Biden. The county results have more variation, but the pattern is similar across county and state levels.

The middle panels show Senate Democratic margins relative to gubernatorial Democratic margins. There are fewer observations but again we see as the cutpoint difference moves right, the Senate Democrat does better relative to their gubernatorial copartisan. The cutpoint difference is, of course, a function of the ideologies of four candidates; the cutpoint difference moves right as the Senate Democrat moderates or the Senate Republican becomes extreme or as the Democratic gubernatorial candidate moves left or the Republican gubernatorial candidate moderates. Again, the county results have more variation, but the pattern is similar across county and state levels.

The bottom panels compare Biden 2020 results to gubernatorial outcomes. Even as we recognize differences in state and federal elections, the pattern is clear and similar to what we have seen so far. Here, the cutpoint difference will move to the right as the Republican gubernatorial candidate moderates or the Democratic gubernatorial candidate moves left. As this happens, Biden's 2020 results in counties and states tended to exceed the performance of the Democratic gubernatorial candidates in 2020 and 2022.

The outlier points in the upper right of the bottom panels of Figure 6 come from Vermont in 2020 and 2022. (The results are so similar they look like a single race). Biden won the state with 70 percent of the vote in 2020. In 2020 and 2022, the Republican governor Phil Scott won handily. The difference in Democratic margins (the dependent variable) was therefore over 40 percentage points in each year (Biden's 68 percent minus the Democratic gubernatorial candidate's 24 percent in 2020 and 27 percent in 2022). In the weighted results, Vermont is given relatively little weight as

discussed below. Excluding Vermont weakens the results but they remain statistically significant.

Figure 7 presents the coefficients and confidence intervals for the coefficient on cutpoint differences for models with covariates for comparisons corresponding to the scatterplots in Figure 6. These models also include a dummy variable for 2022. We cluster standard errors at the state level for county-level models.

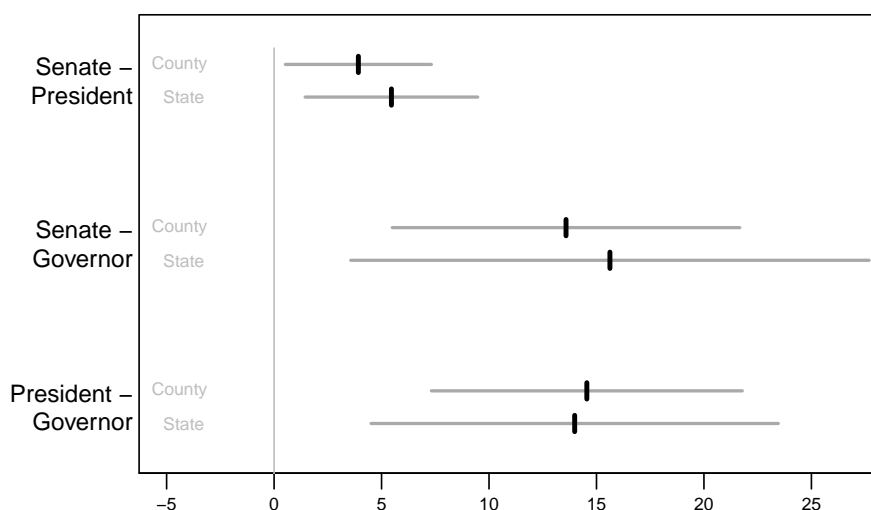


Figure 7: Effect of ideology: Comparisons of Senate, presidential and gubernatorial results

We present models weighted by the number of votes in counties and states, respectively. In the county model, weighting seems imperative given the vast differences in county size. Small counties are more likely to have larger errors and hence it makes sense to use weighted least squares for county-level analyses. The same logic can apply to states, although it is quite common for researchers to weight states equally, presumably on the basis of the idea that California is not 60 times more informative about the relation between ideology and elections. Unweighted models at both the county and state level produce coefficients on differences in ideological cutpoints that are larger than what we report and, with smaller p-values. We see reasonable arguments for and against weighting at the state-level and report the weighted results as the more statistically conservative results. The fact that unweighted models produce larger ideological effects suggests that the effects are larger in small states. It could simply be that Vermont is an outlier; or perhaps the mechanisms of informing voters about candidate characteristics operate more efficiently in small states (see, e.g., [Bailey and Brady \(1998\)](#)). Weighting is less relevant in the congressional district-based models we analyzed earlier because House districts have similar population sizes.

In the Senate-president comparisons the ideological cutpoint difference variable ranges from -0.58 to 0.36 for the Senate-president models. Moving from the minimum to maximum on this variable is associated with a 3.69 percentage point gain for the Democratic Senate candidate at the county-level and 5.13 percentage point gain at the state level. Moving from a Democrat on the left-edge of the party (an ideology of -1.5) to a Democrat on the right-edge of the party (an ideology of -0.5) would induce a change in the cutpoint difference of 0.5 and, therefore, is associated with 1.96 and 2.73 percentage point gain for the Democratic Senate candidate at the county and state levels, respectively.

For the Senate-governor models in the middle panels, the cutpoint difference variable ranges from -0.48 to 0.44. Moving from the minimum to maximum on this variable is associated with a 12.5 and 14.38 percentage point gains for the Democratic Senate candidate relative to the Democratic gubernatorial candidate at the county and state levels, respectively. Moving the Democratic Senate candidate from the liberal to the moderate ends of the party is associated with 6.79 and 7.81 percentage point gains at the county and state levels, respectively.

For the Biden-governor models in the bottom panels, the cutpoint difference variable ranges from -0.41 to 0.7. Moving from the minimum to maximum on the ideological cutpoint variable is associated with 13.39 and 12.87 percentage point gains for Biden relative to the Democratic gubernatorial candidate at the county and state levels, respectively. If the Democratic gubernatorial candidate went from the liberal to moderate ends of the Democratic ideological spectrum, Biden's lead over his Democratic gubernatorial colleague would fall by 7.28 and 6.99 percentage points at the county and state levels, respectively.⁴

The comparison of federal and state level races is particularly interesting. On the one hand, the fact that Democrats can sometimes win governorships in red states and Republicans can similarly win in blue states makes it clear that state level races can separate from national elections. On the other hand, state politics has strong national political elements ([Hopkins, 2018](#)). The comparison of Senate and gubernatorial outcomes suggests that even with opportunities to localize races, the high-level ideology measures used here predict outcomes. This raises the question of why Senate

⁴While there is no substantive reason to exclude Vermont, we run the president-governor models without that state in order to ascertain the influence of that outlier observation. The coefficients fall, but remain large and statistically significant. For example, in the model with constituent covariates, the coefficient on cutpoint differences is 15.7 – which is still substantively large – and is statistically significant at $\alpha = 0.01$ with a t-statistic of 2.99.

candidates do not copy the moderate ideologies of successful minority party governors. In part, it may be that difference between legislative and executive elections forestall such efforts. A moderate governor from the other party will deliver moderate policy. A moderate senator (for example) from the other party may deliver the Senate into the hands of party leadership that is less moderate and possibly extreme.

Appendix 3 reports the full results. The coefficients on ideological cutpoints tend to be larger and confidence intervals are further from zero in models with fewer control variables. We include Trump’s vote share in the models with additional covariates when comparing Senate and gubernatorial results.

Overall, these results suggest ideology matters. As Democratic candidates moderate by moving right – or Republican candidates polarize by moving right – Democratic candidates do better compared to their copartisans in other races in the same geography. If voters simply voted along party lines, we would see House, Senate, gubernatorial and presidential candidates of the same party performing similarly on average. Party matters, of course, but when there is variation within party within district across races, this variation is associated with ideological differences in the manner predicted by ideologically-based spatial theory.

Section 6: Conclusion

This paper examines the relationship between ideological positioning and electoral outcomes in 2020 and 2022. Our analysis involves two innovations. First, we use new measures of ideology based on the language candidates use on Twitter and their campaign websites that allows us to assess incumbents and challengers in House, Senate, gubernatorial and presidential races. Second, we focus on within-district, within-county and within-state differences across races in order to control for geographical characteristics that affect partisan election results. The goal of this approach is to assess what would happen if we were to conduct two elections with different candidate ideological position while holding constant partisan and other features of the electorate.

We analyse relative electoral performance across four elected offices, two elections and several geographic units. We find consistent evidence that moderation was electorally beneficial. All else equal, Democrats did better when the dividing line between the ideology of the candidates in the

race was further to the right, something that was, for example, more likely with a moderate Democrat and a very conservative Republican. Conversely, Republicans did better when the dividing line between the ideology of candidates was further to the left, something that was more likely with a very liberal Democrat and a moderate Republican.

These effects appear to vary depending on the level of races being compared. For comparisons involving federal races (House, Senate and president) the difference in predicted margin associated with a party nominating a moderate rather than extreme candidate ranged from 1.9 to 2.7 percentage points in all races and from 2.6 to 4.9 percentage points in competitive races. These are modest, but not trivial effects. Given that the increasing nationalization of congressional races has left only limited space available for candidates to affect their races, these results suggest that ideological positioning may be one of the more feasible levers open to candidates seeking to improve their electoral fortunes.

The estimated effects of ideology in comparisons involving governors tended to be larger, with the effect of a party nominating a moderate rather than extreme candidate being associated with around a 7.6 percentage point gain. This is consistent with the idea that a governor's ideology has a more direct effect on policy than an individual legislator's ideology may have because the legislator's preferences are mediated by party control of the institution and other institutional factors.

Even though moderation is electorally helpful, not all candidates chart ideologically moderate courses. Why they are extreme continues to be an important research agenda. Two possibilities seem particularly intriguing. First, it could be that some districts are so liberal or conservative that the voters would essentially never be interested in electing a candidate who could empower the disliked party. In such a case, voters would be willing to accept virtually any ideology – even an extreme one. Second, it may be that some candidates – and candidates in one-sided partisan districts, in particular – may be maximizing on outcomes other than vote percentage in their districts. These candidates may be virtually guaranteed of victory, freeing them to pursue other goals. Being extreme may get one more attention in the media and more followers on social media, an outcome that may be psychologically rewarding for some candidates or that may support other goals such as selling books or increasing chances of moving on to higher office or highly paid media jobs.

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