# Candidate Ideology and Electoral Success

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## Abstract

This paper examines the relationship between ideological position and electoral success in U.S. elections. We study primary and general elections to the U.S. House of Representatives over the period 1980-2010, focusing on races with no incumbent. Following previous literature, we use campaign donations to estimate the ideological positions of non-incumbent candidates. We find that in primary elections more extreme candidates receive more votes, and are more likely to win, than moderate candidates. However, the differences between extremists and moderates are small. More importantly, we show that the "reward" to extremism in the primary is swamped by an opposing reward to moderates in the general election. In general elections moderate candidates tend to receive more votes, and win more often, than extremists.

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# Introduction

By many accounts, polarization between the two major parties in Washington is the most serious political problem facing the U.S. today.[1] Some observers and researchers argue that factors internal to the government and governing elites are the main drivers of polarization. Other researchers and observers blame the electoral system. Motivated by these debates, we ask some basic but fundamental questions about U.S. legislative elections. Given the set of candidates who run for office, how does our electoral system filter out some candidates and choose others? At which stage do different types of candidates tend to win or lose? Are the candidates who ultimately win office more or less ideologically extreme than those who lose?

Political science research often has surprisingly little to say about the *overall* electoral process. Existing studies tend to focus on one part of the electoral system at a time – e.g. only general elections, or only primary elections. Moreover, in analyzing elections and candidate ideology, these studies tend to focus most or all of their attention on incumbents. This is due in part to the fact that most of the existing work depends on the observed roll-call behavior of winning candidates to measure ideological positions. In the rare cases where losing candidates might be analyzed, and in particular in which losing *primary* candidates can be analyzed, sample sizes are typically too small and/or unrepresentative to be useful.[2] The dearth of information on the relative positioning of winners *and losers* prevents us from understanding how elections work as a candidate selection mechanism. It is impossible to know which kinds of candidates our elections select if we do not know their ideological positions in relation to their opponents.

In this paper, we consider the relatively broad question: How does the electoral system as a whole function as a process for selecting members to the U.S. House of Representatives? We begin by estimating the ideological positions of more than 5,000 candidates for primary and general elections in the U.S. House, 1980-2010. To do this we follow previous work and estimate positions

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[1] For example, regarding polarization in contemporary politics, Thomas Mann and Norman Ornstein write that they "have never seen [Congress] this dysfunctional." See: `http://www.foreignpolicy.com/articles/2012/11/26/yes_congress_is_that_bad`.

[2] For example, in a comprehensive (and differently purposed) study of the ideological positions of more than 2,000 candidates for the U.S. House, 1996-2008, Rogowski (2012) reports that only 190 ideological positions for losing primary candidates are estimable from NPAT survey responses.

by scaling campaign donations.[3] These scalings allow us to study how the selection process works *within* races, and to directly compare the ideologies of winners and losers.

We find that, among the "serious" candidates who run for congress, those with more extreme ideological positions tend to outperform their more moderate opponents in primary elections, both in terms of vote share and probability of winning. However, while the estimated differences between extremists and moderates are statistically significant, they are small (and relatively precisely estimated). Moreover, moderate candidates do better in general elections – both in terms of vote share and probability of winning – and better by an amount that cancels out the disadvantage that moderates face in primaries. The net result is that those who ultimately win seats in congress tend to be slightly more moderate than those who lose. Thus, we conclude that candidates who are ideologically extreme do *not* have an electoral advantage over those who are ideologically moderate, once the entire electoral process is taken into account.

## Literature on Candidate Positioning and Elections

A rich literature explores the candidate selection process in primary and general elections. The existing empirical studies are limited, however, in that (i) each study deals mainly with only one type of election (with one exception), (ii) most studies focus exclusively on incumbents because they cannot measure the ideological positions of non-incumbents, and (iii) none have measures of ideological positions for a significant number of candidates who lose in the primary election. For example, Ansolabehere et al. (2001), Bovitz and Carson (2006), Burden (2004), Canes-Wrone et al. (2002), and Stone and Simas (2010) focus on general elections, while Brady et al. (2007) focus on primary elections. Hirano et al. (2010) study both primary and general elections, but again only have measures of ideological positions for incumbents.[4] As such, these studies cannot address the "bottom line" question: How does the electoral system function overall, in terms of choosing among more extremist and more centrist candidates? Who wins – extremists or centrists? Do primary and general elections "filter" candidates in a similar manner or differently? Our contribution to the literature is to study both primary and general elections, with candidates' positions measured

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[3]See Poole and Romer (1985), McCarty and Poole (1998), McKay (2008, 2010), McCarty, Poole, and Rosenthal (2006), and Bonica (2013, 2014).

[4]Ansolabehere et al. (2001) and Burden (2004) are the only studies with measures for a significant number of non-incumbents.

on the same scale, and with positions measured for both winners and many (though not all) losers. As such, we can begin to answer these and other questions.

Regarding primary elections, one of the dominant questions is: Do primaries contribute to polarization among elected officials in the U.S.? Many scholars argue that the answer is yes. For example, Jacobson (2004, p. 16) writes: "Primary electorates are much more partisan and prone to ideological extremity, and the need to please them is one force behind party polarization in Congress." Brady et al. (2007), Burden (2001, 2004), Carey and Polga-Hecimovich (2006), Fiorina et al. (2006), Fiorina and Levendusky (2006), Hacker and Pierson (2006), Jacobson (2004), King (2003), Schaffner (2012), Sinclair (2006) and Wright and Berkman (1986) make similar arguments.[5] Concern about polarization has even led prominent law professors such as Richard Pildes (2011) to argue that we might wish to replace the current systems of primaries and generals with an instant runoff system.

Despite the prominence and plausibility of these arguments, there is actually little systematic empirical evidence supporting the claim that primary elections have a polarizing effect on politics. Few studies attempt direct tests of the claim, and the findings from these studies are at best mixed. Hirano et al. (2010) offer a relatively extensive analysis, and find little evidence that polarization among U.S. senators or representatives is related to the presence of primary elections, the level of primary competition, or the level of turnout in primaries.[6] Other scholars study variations in primary election types – open, closed, semi-open, blanket, etc. – and find mixed results.[7]

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[5]Some game-theoretic models supports these claims. For example, Aranson and Ordeshook (1972), Coleman (1972), and Owen and Grofman (2006) analyze simple models in which candidates compete both in primary and general elections, and formalize the logic for how primary competition leads to polarization. These models predict that if an ideological divide exists between the primary electorates of the two parties, primary elections are fully contested, and the outcome of general elections is uncertain, then in equilibrium candidates will adopt positions away from the general election median voter and toward the median voter of their primary electorate.

[6]Norrander (1989) also finds that voters in presidential primaries are not more ideologically extreme than party identifiers who vote in general elections but not primaries.

[7]Grofman and Brunell (2001) and Gerber and Morton (1998) provide the strongest evidence of a link between primary type and polarization. Grofman and Brunell find that U.S. senators from the same state but opposite parties exhibit larger differences in their roll call voting scores if they are selected in closed rather than open primaries. Gerber and Morton also find a statistically significant, though modest, relationship. On average, members of congress nominated in closed primaries have more extreme roll call voting records than those nominated in other types of primaries. However, Gerber and Morton also find the opposite relationship for Republicans – i.e., more extreme voting records in states with open primaries. Kanthak and Morton (2001) find a kind of U-shaped relationship, in which closed and open primaries are both associated with more extreme voting records than either semi-closed and semi-open primaries. Bullock and Clinton (2011) study the switch to blanket primaries in California and find modest effects, but only in districts that are relatively balanced in terms of the level of two-party competition. McGhee et al. (2011) study state legislators and find little evidence that polarization is related to the type of primary used. Rogowski (2012) likewise finds no effect of primary type on the extremeness of candidate platforms, where ideology is measured using NPAT survey responses rather than observed roll-call behavior. Omitted variable bias is a potential concern

With respect to candidate ideological positioning and general elections, the main question is: Do voters appear to favor moderate candidates, all else equal? Erikson and Wright (2000) argue that the answer is yes, and present evidence that a more moderate roll-call voting record is associated with better electoral performance. Canes-Wrone et al. (2002) also use roll-call evidence and find similar results, arguing that U.S. House candidates who are "out of step" with their district do worse electorally. Ansolabehere et al. (2001) present evidence based on NPAT scalings that moderate House candidates perform better, especially in the post-war period. Burden (2004) uses survey evidence and comes to similar conclusions. Stone and Simas (2010), in contrast, find that incumbents perform better by moving away from their district's preferred position. In most of these analyses, however, the size of the estimated effect of ideological positioning is small.

We follow this literature in studying the association between candidate positions and electoral performance, but we go further by assessing the overall effects of the electoral system, accounting for primary election outcomes as well as general election outcomes. In addition, because we do not rely on roll-call voting records or surveys, we are able to study a much larger pool of candidates than all previous studies. Compared to previous studies, our sample includes a much longer time period or a much more comprehensive set of candidates, or both. Our sample covers 15 elections, rather than just one or two as in Ansolabehere et al. (2001) or Burden (2004). Our sample also includes most major-party general election losers, and many primary election losers, rather than just general election winners, as in Canes-Wrone et al. (2002) or Brady et al. (2007).

Before proceeding we must point out three limitations of our analysis. First, our results do not tell us what would happen if primaries were eliminated and some other nomination process were put in place, or if we switched to an instant runoff system. It is possible, for example, that primaries cause a general increase in ideological extremism among the candidates who run in equilibrium – i.e., the "pool" of candidates becomes more extreme – but that voters tend to choose the more moderate candidates among those who run. This seems somewhat unlikely, but we cannot rule it out. Second, we cannot say much about the impact of positioning on incumbents because the sample selection problem is so massive; almost no incumbents are contested, so regression estimates would be highly suspect, and those who are challenged are likely to be a very particular sample

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in most of these studies – i.e., the estimates might reflect other state characteristics correlated with primary election laws, rather than the primary laws themselves.

of all incumbents. Finally, our analysis does not tell us why extreme candidates appear to attract slightly more votes in primaries than moderates, or why moderate candidates appear to attract more votes in the general election. That is, it does not reveal what mechanisms are at work. One possibility, of course, is that some voters learn which candidates are more moderate and which are more extreme, and vote for the candidates because they prefer their positions. It is also possible that few if any voters learn which candidates are more moderate and which are more extreme, and some other attribute of the candidates is doing the work. Moderate candidates might appear more competent, or they might receive more support from interest groups or party workers, or they might receive more endorsements from newspapers, other elected politicians, and local notables. Distinguishing among these and other possible mechanisms will be difficult, but research in this direction is likely to be useful and interesting.

## Data, Variables and Specifications

### Data and Sources

We use data from standard sources. Information on campaign donations is from the Federal Elections Commission (FEC). Information on election outcomes is from *America Votes* (various years), Dubin (1998), and the official election reports from the secretaries of state and state election boards around the country. The data on DW-NOMINATE scores for incumbents is from Bonica (2014), who matched incumbents to their FEC candidate identification codes. For non-incumbents, we matched candidates to their FEC candidate identification codes ourselves.

### Measuring Candidates' Ideological Positions

Measuring the ideological position of candidates – especially losing candidates – is a difficult problem. To overcome this problem we follow Poole and Romer (1985), McCarty and Poole (1998), McKay (2008, 2010), McCarty, Poole, and Rosenthal (2006), and Bonica (2013, 2014), and use the pattern of campaign contributions. The basic idea is straightforward. Suppose, for example, that candidate $A$ mainly receives contributions from conservative groups (PACs), while her primary election opponent $B$ receives contributions from an even mix of conservative, moderate and liberal groups. Then it is quite likely that $A$ is more conservative than $B$.

We start from the intuitive methodology in McCarty, Poole, and Rosenthal (2006), modifying their procedure in a way that makes sense for our purposes, mainly with an eye towards preventing strategic donation behavior from muddying the particular analyses we carry out. More specifically, let $Contribution_{ij}$ be the contribution (in dollars) that candidate $i$ receives from donor $j$. We use *all* donors – both individuals and interest groups – in the procedure.[8] Consider all incumbents. Let $Nominate_i$ be incumbent $i$'s ideological position, as estimated from $i$'s roll call voting record using DW-Nominate (Poole and Rosenthal, 1997, 2007). Let

$$Donor\ Ideology_j\ =\ \frac{\sum_i Nominate_i\ Contribution_{ij}}{\sum_i Contribution_{ij}} \tag{1}$$

be the average contribution-weighted ideology of the incumbents to which donor $j$ contributes. This gives an estimate of the "revealed ideological preference" of donor $j$. A possible problem with this definition is that we allow donor contributions to an incumbent candidate to affect that candidate's own scaling (because that candidate is included in the estimate of the donor's ideology). To avoid this feedback loop, we produce a separate donor scaling for each candidate $i$ and donor $j$, where we *leave out* candidate $i$ in the estimation of donor $j$'s revealed ideological preference. We define this more nuanced measure as

$$Donor\ Ideology_{-i,j} = \frac{\sum_{w \neq i} Nominate_w Contribution_{wj}}{\sum_{w \neq i} Contribution_{wj}}. \tag{2}$$

Finally, for each candidate $k$, let

$$Cand\ Ideology_k\ =\ \frac{\sum_j Donor\ Ideology_{-k,j}\ Contribution_{kj}}{\sum_j Contribution_{kj}} \tag{3}$$

be the contribution-weighted average *Donor Ideology* of all donors that contribute to $k$. This serves as our estimate of the ideological position of candidate $k$. To make the measure more reliable, we exclude donors who make fewer than twenty donations to distinct candidates in our data, and we also exclude candidates who receiver fewer than twenty donations from distinct donors.[9] Later we present results to show that our analysis is not dependent on the choice of threshold. Also in contrast to other scaling methods, we only use donations made during the primary election cycle when scaling candidates, in order to avoid concerns that strategic interest groups target electable

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[8]We have verified, however, that results are substantively the same using only interest group donations.
[9]We first exclude donors, and then drop candidates based on the number of donations they receive from the remaining donors.

candidates in the general election (and thus make those candidates appear more moderate in the scaling).

We create two versions of these scalings. In the first, we use general election and primary election donations to *all* candidates to scale donors (and then use only primary donations from these groups to scale candidates). There is some concern that this method confounds "moderation" with electoral desirability, if some donors are strategic in whom they contribute to. For example, interest groups might donate to incumbents because incumbents are likely to win reelection. This donation behavior would make these interest groups appear moderate (because they would be donating to people from both parties), and in turn make the incumbents they donate to appear moderate, thus creating an artificial link between candidate moderation and electoral success. Even though we never use incumbents in our main analyses, these same interest groups might donate to other candidates in open-seat races, contaminating their estimated ideologies. We therefore construct a second version in which we do not use any donations to incumbents when scaling donors, and in which we do not use any donations to candidates after they become incumbents when scaling candidates.[10] Throughout the paper, we present all of our results using both versions, to stress that they lead to the same conclusions.

To make sure the results do not depend on our measure of roll-call ideology, we also create scalings in which we use party affiliations rather than *Nominate* scores. That is, letting $Party_i = 1$ for Republicans and $Party_i = -1$ for Democrats, we substitute *Party* for *Nominate* in equation (2) and substitute the resulting estimates of *Donor Ideology* in equation (3). In sum, we therefore present all estimated results below using *four* scaling techniques: using either party affiliation or *Nominate*, and using either contributions to all candidates or only contributions to non-incumbents.[11]

To recap, here are the general steps taken to produce our scalings. For each candidate $i$, we:

1. Estimate donor ideology for candidate $i$ according to Equation 2 based either on *Nominate* scores of incumbent recipients or based on party affiliation of all recipients, using either (a)

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[10]We have also used the scaling method where we scale donors using all contributions but only scale candidates using contributions they receive before they become incumbents (if they become incumbents). This method correlates at 0.995 with the method in which we never use incumbent donations for either donors or candidates. All analytical results are identical as a result, so we will not report them in the paper.

[11]As a further robustness check, we also performed all the analyses using these four scalings but without weighting ideology by contribution amount – that is, we substitute 1 for $Contribution_{wj}$ and $Contribution_{kj}$ in equations (2) and (3). Results are substantively indistinguishable using this alternate weighting scheme, so we do not report them in the paper.

primary and general-election donations to all candidates excluding candidate $i$ or, (b) primary and general-election donations to non-incumbent candidates, excluding candidate $i$.

2. Impute ideology for candidate $i$ according to Equation 3, based either on the imputed *Nominate* or party affiliation scores of donors, using either (a) primary-election donations to all candidates or, (b) using only primary-election donations to non-incumbent candidates.[12]

## Measurement Validation

To validate our scalings, we compare them to observed roll-call scalings for those who take office. The left panels of Figure 1 compares contribution scores from the *Nominate* and party based methods using all donations to the observed DW-NOMINATE scores of candidates who win office.[13] The right panel makes the same comparison but with the scalings that only depend on donations to non-incumbents. All four scalings correlate highly with observed roll-call behavior for winning candidates.[14] Using all possible candidates, the *Nominate*-based scaling using all donations correlates with observed DW-NOMINATE scores at 0.9. If we focus only on the sample we will use for our analysis – candidates running for office in races without an incumbent – this correlation is 0.92. In the *Nominate*-based scaling using only non-incumbent donations, these correlations are 0.9 and 0.9, respectively.

However, the more conservative method – the graphs in the right panel, which do not use donations to incumbents to scale donors – does not correlate as highly with DW-NOMINATE *within* party. When we use all donations and focus on the sample we use for analysis, the *Nominate*-based scaling with all donations correlates with NOMINATE scores for Democrats at 0.61 and for Republicans at 0.53, but the correlations for the non-incumbent donations version of the scaling are 0.45 and 0.5, respectively. The analysis we will do on primary elections depends on within-party comparisons, which makes the scaling methods that use all donations appear more attractive.

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[12] "Non-incumbent" candidates are all candidates not in office when they run for election. It includes candidates who go on to become incumbents. For this latter set of candidates, we do not use any contributions they receive after they gain office.

[13] Note that the party-based measure has a larger range of values because donors who give almost exclusively to one party will have a donor-based score near 1 or -1 (because all members of a party have the same party indicator value), but such donors could have a variety of values closer to the middle of the scale depending on the varying roll-call records of the particular party members donated to. Only a donor that only gave to incumbents with unusually extreme NOMINATE scores could range as far out as -1 or 1.

[14] Also, the scalings with and without incumbent donations correlate highly with each other. For the *Nominate*-based scalings, for example, the two methods correlate at 0.94.

[Figure 1 about here.]

That being said, other considerations favor the scalings that do not use donations to incumbents. For one, the strategic donation behavior is a concern (although we do have other ways of addressing it in the analysis below). And second, the scalings without incumbent donations actually correlate slightly more highly than the all donations method with another popular measure of candidate ideology – NPAT scores, which are based on surveys distributed to candidates by Project Votesmart.[15] We rely on the 1996 NPAT scores from Ansolabehere, Snyder, and Stewart (2001) with the addition of scalings for 1998, computed using the same technique. Again focusing on the sample we will use for our analysis, the overall correlations between the *Nominate*-based scalings and NPAT scores (for candidates who filled out the survey) are 0.83 and 0.84 for the all donations and non-incumbent donations methods, respectively. However, the non-incumbent donations method correlates with NPAT scores for Republicans at 0.41 while the all donations method correlates with Republicans at 0.35. Correlations are the same for Democrats with both methods.

Though these within-party correlations are far from 1, they are highly similar to those in Bonica (2013). The remaining error could certainly attenuate estimates in which ideology is included as a right-hand side variable. However, as will become clear below, this source of error cannot explain the varying pattern of results we find for primary vs. general elections.

As a final validation, we used information from Karpowitz et al. (2011) to compile a list of candidates who received at least one tea party endorsement from: the "Tea Party Express," "Contract From America," or Sarah Palin. Given what we know about these endorsers, an effective method should scale these candidates to the right of the Republican party's mean. The mean Republican contribution score, using the *Nominate*-based scaling with donations to all candidates, is 0.18; the mean tea party candidate's score is 0.29, a difference that is highly statistically significant ($p < 0.001$). Among challengers, tea party candidates' contribution scores are on average 0.079 points more conservative ($p < 0.001$). These patterns are consistent across all scaling methods. In sum, candidate contribution scores correlate highly with observed roll-call behavior for winners, and appear to identify known extremists with a high degree of accuracy.

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[15]Survey answers were collected from `http://www.votesmart.org`.

**Figure 1** – Correspondence between contribution-based estimates of ideology and observed roll-call behavior for winning candidates. Graphs on the left use either *Nominate* or party affiliation to impute candidate ideology based on donations to all candidates; those on the right use only donations to non-incumbents.
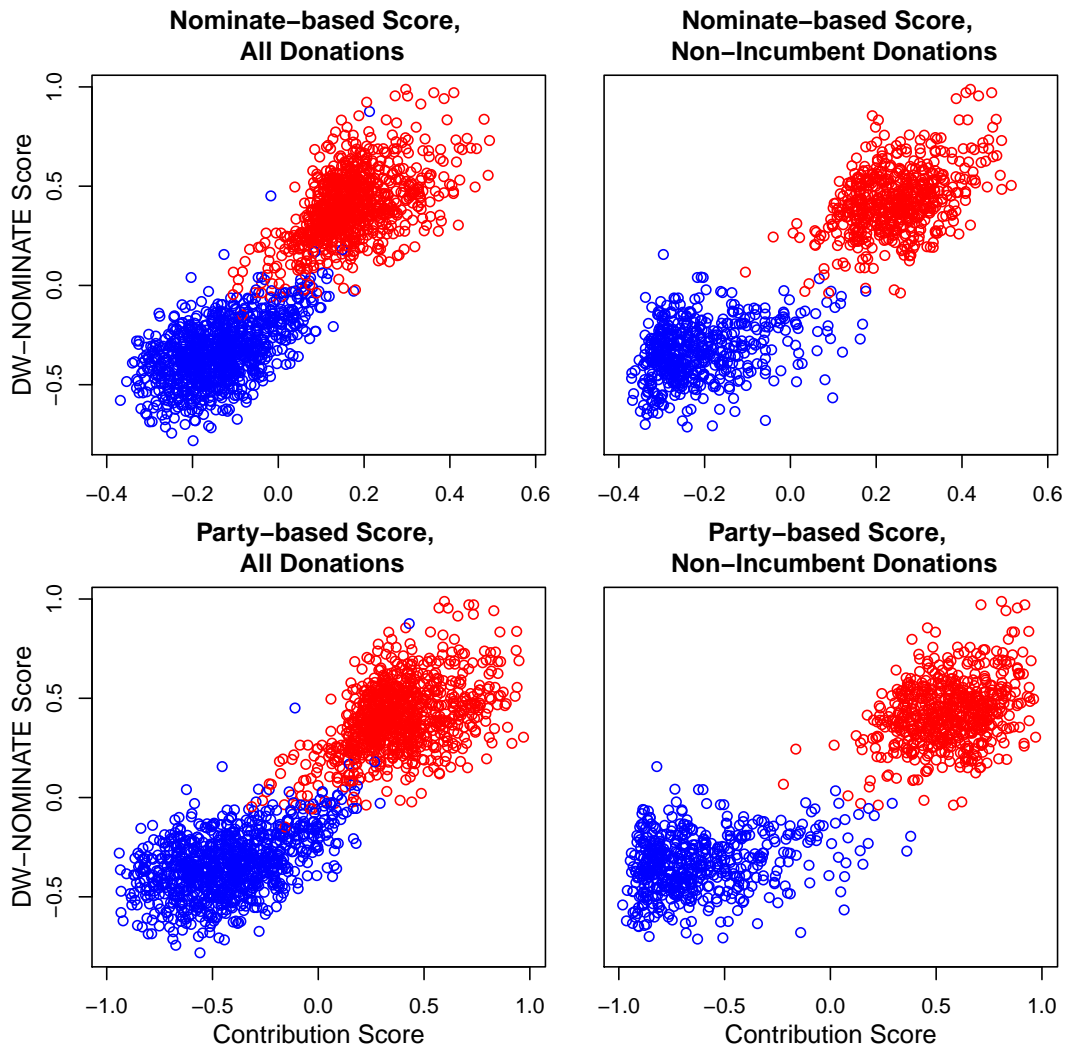
## Primary Elections

We now examine the association between electoral outcomes and candidate ideology more carefully and in a bit more detail. We first investigate the purported tendency for primary elections to produce ideologically extreme candidates. The goal is not to determine whether a candidate's extremism *causes* her to perform better, but rather to assess what kinds of candidates tend to win primary elections in the U.S. House. Do primary elections favor extreme candidates, or do they filter out such candidates?[16] This is the question we address.

### Specification

For each primary race we measure the centrism of each candidate relative to the most extreme candidate in the race. Since more conservative candidates have higher *Cand Ideology* scores, in each Republican primary the most extreme candidate is the candidate with the largest *Cand Ideology* score, and in each Democratic primary the most extreme candidate is the candidate with the smallest *Cand Ideology* score. For each candidate $k$, let *Most Extreme Ideology$_k$* be the *Cand Ideology* score of the most extreme candidate in $k$'s primary. Then,

$$Relative\ Centrism_k = |Cand\ Ideology_k - Most\ Extreme\ Ideology_k|. \tag{4}$$

This is our main independent variable.[17]

We study two outcome variables: (i) *Vote Share$_k$*, which is equal to candidate $k$'s share of the vote in his or her primary, and (ii) *Won Primary$_k$*, an indicator variable that is equal to 1 if candidate $k$ won his or her primary and zero otherwise.

We are mainly interested in simple correlations. However, we must control for two factors. First, since the number of candidates varies across primaries (see below), and since it is likely that the probability of victory and expected vote share for any given candidate are decreasing in the number of candidates, we control for the number of candidates. We do this as flexibly as possible,

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[16]By "favor" we mean simply that more extreme candidates outperform their more moderate opponents. This does not necessarily mean that extremism itself causes these candidates to do better. It could be, for example, that more extreme primary candidates also tend to be higher quality. Such other factors are irrelevant in seeking to answer whether polarization and ideological extremism stem from the primary selection process, but are of course relevant in any normative exercise.

[17]We also ran regressions with centrism in absolute terms as the independent variable. The pattern of results are similar to those reported here, but the estimated coefficients are generally smaller.

with indicator variables for each case, i.e., indicator variables $I(\#Cands = 2)$, $I(\#Cands = 3)$, and so on.

Second, since our estimates of candidates' ideological positions are based on the pattern of campaign donations, and since total campaign contributions are correlated both with election outcomes and, potentially, candidates' estimated ideological positions, we control for total campaign contributions, as well as the number of campaign contributions. Let *Share of Donations$_k$* be candidate $k$'s share of the total amount of contributions (given during the primary election period) to all candidates running in his or her primary. Also, let *Share of Donors$_k$* be candidate $k$'s share of the total number of contributions (made during the primary election period) to all candidates running in his or her primary. To control flexibly, we include third-order polynomials of each of these variables. Results are substantively unchanged using other specifications.[18]

Thus, the model we estimate is

$$Y_k = \beta_0 + \beta_1 \text{ Relative Centrism}_k + \sum_i \beta_{2i} I(\#Cands_k = i)$$

$$+ \sum_{i=1}^{3} \beta_{3i} (\text{Share of Donations}_k)^i + \sum_{i=1}^{3} \beta_{4i} (\text{Share of Donors}_k)^i + \epsilon_k \qquad (5)$$

where $Y_k$ is either *Vote Share$_k$* or *Won Primary$_k$*. We report estimates from this equation with all four of our scaling methods: using either party affiliation or *Nominate* to impute ideology, and using either donations to all candidates or only those to non-incumbents. The coefficient of interest is $\beta_1$, which measures the association between centrism and electoral outcomes.

## Results

Table 1 presents the OLS estimates of $\beta_1$ from Model 5, using each of the four scaling methods described above. For brevity's sake, the table only presents the relevant estimates; full information on the estimates for the other variables are available in the Appendix.[19] We standardize candidate positions before calculating *Centrism* to make the numbers in the table readily interpretable. Each

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[18]Prat et al. (2010) identify another channel through which donations might be related to election outcomes. In a study of the North Carolina state legislature, they find a positive relationship between a candidate's legislative "effectiveness" and the total number of donations the candidate receives from "small" donors. With respect to our ideological measures, If small donors tend to be especially partisan, then we might find a positive relationship between "extremism" and electoral outcomes, via the omitted "quality" channel.

[19]The coefficients on the controls and dummies play no role in interpreting the relationship between centrism and electoral outcomes; we omit them for presentational purposes as a result. As would be expected, vote share is decreasing in the number of candidates, and the share of donations and donors are positively associated with vote share.

point estimate for $\beta_1$ thus gives the expected change in the outcome variable for a one standard deviation increase in *Relative Centrism*.

[Table 1 about here.]

First, we include all primaries. Controlling for the number of candidates and the donation receipts of the candidates, we find that candidates more ideologically moderate than the most extreme candidate – measured using the contribution scores – do perform worse in the primary election, both in terms of vote share and electoral victory. The point estimates are precise and small, however.

Across all primaries, an increase of one standard deviation in the distance between a candidate and the most extreme candidate in her election is associated with about a 1 percentage point decrease in her vote share, and a decrease in her probability of victory in the range of 2.5 to 6.0 percentage points (depending on which scaling method is used). These estimates are all highly statistically significant, and continue to be negative when we subset to only one party or the other. We find some evidence that Republican primaries favor extreme candidates at a higher rate. Overall, we find that more extreme candidates *do* tend to outperform more moderate candidates; however, the effect sizes are modest.

In addition, it is likely that these estimates overstate the electoral benefits of extremism somewhat, due to selection bias. We are unable to estimate an ideological position for candidates who receive too few donations. Who are these candidates? Although we cannot be certain, it is likely that they are disproportionately fringe candidates with extreme political views. Also, these candidates tend to do poorly in terms of vote share in the primaries, and almost never win. Thus, if we were able to include them in our sample we would likely find an even smaller relationship between extremism and electoral success, and the estimated relationship might even turn negative.

We present evidence that is consistent with this idea in a later section (Figure 4). More specifically, we show that as we tighten the threshold for including a candidate in the sample – by increasing the minimum number of donations received from donors with non-missing *Donor Ideology* scores in order to be included – the average ideology of the candidates in the sample becomes more moderate. That is, as the threshold becomes more stringent, we tend to drop more extremists from the sample than moderates.

**Table 1 – Relative Centrism and Primary Election Outcomes**

|  | Vote Share | | | Victory | | |
|---|---|---|---|---|---|---|
| Positions Based on DW-Nominate Scores, Non-Incumbent Primary Contributions | | | | | | |
| All primaries | -0.009 | (0.003) | [903] | -0.060 | (0.016) | [903] |
| Democratic | -0.004 | (0.005) | [478] | -0.032 | (0.020) | [478] |
| Republican | -0.018 | (0.004) | [425] | -0.104 | (0.026) | [425] |
| Positions Based on Party Affiliations, Non-Incumbent Primary Contributions | | | | | | |
| All primaries | -0.008 | (0.003) | [1105] | -0.056 | (0.014) | [1105] |
| Democratic | -0.003 | (0.004) | [554] | -0.026 | (0.018) | [554] |
| Republican | -0.018 | (0.005) | [551] | -0.111 | (0.022) | [551] |
| Positions Based on DW-Nominate Scores, All Primary Contributions | | | | | | |
| All primaries | -0.011 | (0.003) | [1023] | -0.031 | (0.012) | [1023] |
| Democratic | -0.011 | (0.004) | [535] | -0.021 | (0.017) | [535] |
| Republican | -0.012 | (0.004) | [488] | -0.041 | (0.017) | [488] |
| Positions Based on Party Affiliations, All Primary Contributions | | | | | | |
| All primaries | -0.010 | (0.003) | [1210] | -0.025 | (0.011) | [1210] |
| Democratic | -0.009 | (0.004) | [607] | -0.013 | (0.016) | [607] |
| Republican | -0.012 | (0.004) | [603] | -0.040 | (0.016) | [603] |

Cell entries are estimates of coefficient on *Centrism* ($\beta_1$ in equation 4). Standard errors clustered by election in parentheses. Number of observations in brackets.

## Variation by Primary Type and Turnout

As noted above, several previous papers examine the relationship between the type of primary used in a state – open, closed, semi-open, etc. – and the ideology of the state's members of congress or U.S. senators.[20] In addition, a number of scholars argue that primaries favor extremists because turnout is so low and unrepresentative. The main claims are: (1) extremist candidates have a larger advantage in closed primaries than in open primaries, and (2) extremist candidates have a larger advantage when turnout is low than when it is high.[21]

To examine the potential polarizing effects of primary type, we define a dummy variable, $Closed_{it}$, that takes the value 1 if state $i$ has a closed primary system in election year $t$, and takes the value 0 otherwise. The information on primary type comes from Brady, Han, and Pope (2007).

We then run regressions of the form

$$
\begin{aligned}
Y_{ikt} = \ &\beta_0 + \beta_1 \, Relative \ Centrism_k + \beta_2 \, Relative \ Centrism_k \cdot Closed_{it} + \beta_3 \, Closed_{it} \\
&+ \sum_i \beta_{4i} \, I(\#Cands_k = i) + \sum_{i=1}^{3} \beta_{5i} \, (Share \ of \ Donations_k)^i \\
&+ \sum_{i=1}^{3} \beta_{6i} \, (Share \ of \ Donors_k)^i + \epsilon_k
\end{aligned}
\tag{6}
$$

which is the same as Model 5, but with the addition of the main effect and interaction for *Closed*. The quantity of interest is $\beta_2$, which provides the difference in the "return" to centrism for candidates in closed primaries (as compared to all other primary types). In all specifications, using either electoral victory or vote share as the outcome, and using either the party-based or *Nominate*-based scaling method, the point estimate of $\beta_2$ is statistically insignificant. However, in some cases both the point estimate and standard errors are large in magnitude, so we cannot draw any strong conclusions.

The picture is clearer for turnout. We measure turnout using the maximum of the number of votes cast for Senate and Governor in each state and year. We define the variable *Low Turnout$_{it}$* to be an indicator taking the value 1 if state $i$'s turnout in election $t$ is below state $i$'s median

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[20]See Gerber and Morton (1998), Grofman and Brunell (2001), Kanthak and Morton (2001), Bullock and Clinton (2011), McGhee et al. (2011), and Rogowski (2012).

[21]The underlying assumption is that when turnout is low the distribution of voters is skewed towards those with extreme ideologies. Hirano et al. (2010) do not find support for this assumption.

turnout.[22] We then estimate a model identical to Model 6, but with *Low Turnout*$_{it}$ in place of *Closed*$_{it}$. Again, the quantity of interest is the coefficient on the interaction term, in this case *Relative Centrism*$_k \cdot$ *Low Turnout*$_{it}$. We find robust evidence that extremist candidates do *not* do better when turnout is low. Across all specifications and scaling methods, we cannot reject the null hypothesis that the return to extremism is the same in high and low turnout contexts. Also, the point estimates and associated standard errors on the interaction variable, $\beta_2$, are always small – i.e., $\beta_2$ is relatively precisely estimated and small. In the one case in which we *can* reject this null (when we use the party-based scalings and use electoral victory as our outcome), the point estimate has the "wrong" sign, i.e., it implies lower turnout appears to benefit centrist candidates.

## Incumbents and Challengers

Our dataset also allows us to look for systematic differences in the positions of incumbents and their challengers. To be sure, incumbents rarely face primary challenges (Jacobsen, 2004; Ansolabehere et al., 2010). In the cases where a challenge occurs, do the challengers typically come from the more extreme wing, or the more moderate?

To answer this question, we first simply calculate the difference in relative centrism for incumbents and their primary challengers. In the 144 primaries in our sample involving an incumbent and challenger(s), incumbents have a relative centrism score 0.12 points higher than their challengers, indicating that they are a mere 0.12 standard deviations (in relative centrism) more moderate than their challengers. This difference is not statistically significant ($p = 0.495$ with robust standard errors). If we include controls for the dollar amount of total donations and the total number of donors to each candidate, incumbents appear to be *more* extreme, with a difference of 0.16 points in relative centrism. Again, however, we cannot reject the null hypothesis that incumbents and challengers have the same centrism scores $p = 0.335$), and this difference is quite small. Overall, this evidence indicates that challengers are not significantly more extreme than the incumbents they face in the primary.[23]

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[22]We measure median turnout as the median of the within-year average turnouts across Senate and Governor for all years for each state.

[23]We also estimated models that distinguishing between districts that are "safe" for the incumbents from other districts. We find no statistically significant differences between safe districts and other districts in the propensity for incumbents to be challenged by candidates with more extreme ideologies.

We cannot determine the degree to which incumbents preempt challenges by strategically taking extreme positions. Several previous studies argue that this is the case. For example, Fiorina and Levendusky (2006, 70) write: "Even though few incumbents face serious primary challenges, it would be a mistake to conclude that primary elections are unimportant. In all likelihood, incumbents act strategically to preclude primary challenges. Even if they are unlikely to face a challenge, candidates take special pains to maintain the support of their party's hard-core voters." Similarly, Hacker and Pierson (2006, 126) write: "even when a primary challenge does not materialize, the fact that one might occur can effectively pull candidates toward their base." To date, however, no study presents compelling, systematic evidence for these claims.[24] Thus, this remains an important issue for future work.

## General Elections

In this section, we investigate whether extreme candidates maintain their (small) primary advantage in the general election. We find that the general election in fact disadvantages extreme candidates.

### Specification

To test for the effects of candidate positioning on *general* election outcomes, we can no longer rely on our measure of "relative centrism." In primary elections it is generally safe to assume that all candidates within a party are on one side of the district median, and thus it is easy to identify which candidates are more extreme and which are more moderate (relative to the district median). In general elections this is not the case, because in virtually all races the Democratic and Republican candidates are on opposite sides of the district median. Without being able to place congressional districts on the same scale as the contribution scores, we cannot directly identify which candidate is more extreme and which is closer to the district median. However, we can follow the empirical strategy of Ansolabehere, et al. (2001) and look at how changes in the *midpoint* between the two candidates map to electoral outcomes. The intuition is as follows. If we do not know the position of the district median, then we cannot predict whether a candidate's decision to move left will make her closer to, or farther from, the district median, and therefore we cannot predict whether her electoral prospects will rise or fall. However, under relatively weak conditions, we *can* predict that

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[24]The one study that does try to address the issue, Hirano et al. (2010), does not find evidence for it.

the left-most candidate's vote share will decrease if the midpoint between the two candidate's shifts left while the *distance* between them stays the same. The conditions and proof are in Ansolabehere, et al. (2001).

Imagine that both candidates are to the left of the district median. Then clearly any shift left in the midpoint, holding their distance constant, leaves the left-most candidate farther away from the median than her opponent. The same argument holds if the district median lies between them; again the left-most candidate is only getting farther away if the midpoint shifts left. If they are both to the right of the median, then any shift left in the midpoint, holding the distance constant, can only reduce the left-most candidate's vote share by bringing some voters over to the other candidate.

By this logic, if we can hold constant the district's median ideology and the distance between the two candidates – which doesn't require placing the two on a common scale – then we can investigate the effect of changes in the midpoint between the candidates. If general elections reward moderate candidates, then we should see two (equivalent) effects: (a) an increase in the Democratic vote share when the midpoint shifts right, and (b) an increase in the Republican vote share when the midpoint shifts left. Formally, for a general election race $i$ between two candidates, define

$$Midpoint_i = \frac{1}{2}(Cand\ Ideology_1 + Cand\ Ideology_2) \tag{7}$$

and

$$Distance_i = |Cand\ Ideology_1 - Cand\ Ideology_2|. \tag{8}$$

Finally, define *Pres Vote Share*$_i$ as the Democratic share of the presidential vote in district $i$. To hold district preferences constant, we include a flexible polynomial of this measure. The unit of the analysis is the election, and arbitrarily we focus on the Democratic candidate's outcomes (results would be identical if we looked at the Republican outcome instead, since each candidate's share of the two party vote fully determines the opponent's share). We then estimate models of the form

$$Y_{tk} = \beta_0 + \beta_1\ Midpoint_k + \beta_2\ Distance_k + \sum_{i=1}^{3} \beta_{3i}\ (Pres\ Vote\ Share_k)^i +$$
$$+ \sum_{i=1}^{3} \beta_{4i}\ (Share\ of\ Donations_k)^i + \sum_{i=1}^{3} \beta_{5i}\ (Share\ of\ Donors_k)^i + \delta_t + \epsilon_k \tag{9}$$

where $Y_{tk}$ is either *Vote Share Gen*$_{tk}$, the Democratic candidate in district $k$'s vote share in election year $t$, or *Won General*$_{tk}$. The variable $\delta_t$ represents year fixed effects. The coefficient of interest is $\beta_1$, the association between the midpoint between the candidates and electoral outcomes.

## Results

Table 2 presents OLS estimates of $\beta_1$ for Model 9 using both outcome variables and all four scaling methods.[25] In all cases, a move to the right in the midpoint – a proxy for the relative moderateness of the Democratic candidate's position – is associated with an increase in both the Democratic candidate's vote share and probability of victory. A one standard deviation move to the right in the midpoint is associated with an increase in the Democratic candidate's vote share in the range of 1.3 to 1.9 percentage points and an increase in the Democratic candidate's win probability in the range of 5.9 to 12.6 percentage points.

[Table 2 about here.]

Across all scaling methods, moderate candidates appear to possess an advantage in the general election. Depending on the estimate used, this advantage can be roughly equivalent to their disadvantage in primaries, or may be larger. In the next section we will demonstrate that these findings are robust. Then, we examine at the overall picture and see whether winning candidates in open-seat elections appear to be more or less moderate than losing candidates when we consider both primaries and generals at once.

## Robustness to Scaling Threshold

In this section we address concerns that the threshold we use to include candidates in our scaling procedure – and thus in the samples we analyze – drives the observed results. As we make this threshold more strict, by requiring a larger number of donations in order for a candidate to receive a scaling, we reduce measurement error but increase selection bias. The higher threshold reduces measurement error because we only produce estimated ideological positions for candidates for whom we have a large amount of information. However, it increases selection bias by only including candidates who received large amounts of money. This bias is likely to make the association between

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[25]As before, we omit the coefficients on control variables and dummies because they play no role in interpreting the effect of interest.

**Table 2 – Midpoint and General Election Outcomes**

| Positions Based on DW-Nominate Scores, Non-Incumbent Primary Contributions | | | | | | |
|---|---|---|---|---|---|---|
| | Vote Share | | | Won General | | |
| All generals | 0.019 | (0.003) | [253] | 0.126 | (0.024) | [253] |

| Positions Based on Party Affiliations, Non-Incumbent Primary Contributions | | | | | | |
|---|---|---|---|---|---|---|
| | Vote Share | | | Won General | | |
| All generals | 0.019 | (0.004) | [289] | 0.124 | (0.026) | [289] |

| Positions Based on DW-Nominate Scores, All Primary Contributions | | | | | | |
|---|---|---|---|---|---|---|
| | Vote Share | | | Won General | | |
| All generals | 0.015 | (0.003) | [311] | 0.059 | (0.020) | [311] |

| Positions Based on Party Affiliations, All Primary Contributions | | | | | | |
|---|---|---|---|---|---|---|
| | Vote Share | | | Won General | | |
| All generals | 0.013 | (0.003) | [337] | 0.062 | (0.020) | [337] |

Cell entries are estimates of coefficient on *Midpoint* ($\gamma_1$ in equation 9). Standard errors clustered by election in parentheses. Number of observations in brackets.

relative centrism and primary electoral outcomes appear smaller, or more negative, because we are removing fringe candidates who are likely to be ideologically extreme and also unlikely to perform well electorally. In addition, the use of higher thresholds sharply reduces the sample size, especially for high thresholds.

In Figures 2 and 3 we replicate the analysis on primary and general electoral outcomes, respectively, over a range of possible thresholds. To avoid a combinatorial explosion of graphs, we focus only on the scaling methods that use donations to all candidates, but the same story is told using the non-incumbent donation strategy as well. To be clear, for each point on each plot, we re-ran the scaling method using the corresponding threshold, and then reestimated Models 5 and 9 and plotted the resulting coefficient of interest along with a 95% confidence interval (the dotted lines). The results are consistent; the findings presented in the previous section are not driven by the choice of threshold. All estimates remain stable across the thresholds.

[Figure 2 about here.]

[Figure 3 about here.]

We can also examine the candidates who are dropped as we raise the threshold. Do the candidates who tend to receive few donations appear more moderate or more extreme? Although these candidates may be measured with a larger amount of *noise* due to the few donations they receive, the average of their estimated positions should remain relatively informative. Figure 4 plots the absolute average of the contribution scores as we increase the threshold. For both methods, the average score gets smaller, i.e., more moderate, as the threshold increases.[26] Again, to avoid proliferation we only show graphs using donations to all candidates. Graphs using the other scalings tell the same story.

[Figure 4 about here.]

With lower thresholds, we are able to include more fringe candidates, candidates who receive few donations and who tend to do poorly electorally. Because these candidates receive fewer contributions, they are scaled with more error. As we increase the threshold, we increase the overall

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[26]We also investigated these changes within party. The decrease over the threshold was extremely similar for both parties.

**Figure 2** – Robustness of the findings to a variety of scaling thresholds. The threshold is the number of unique donors that a candidate must receive contributions from in order to be included in the scaling procedure.
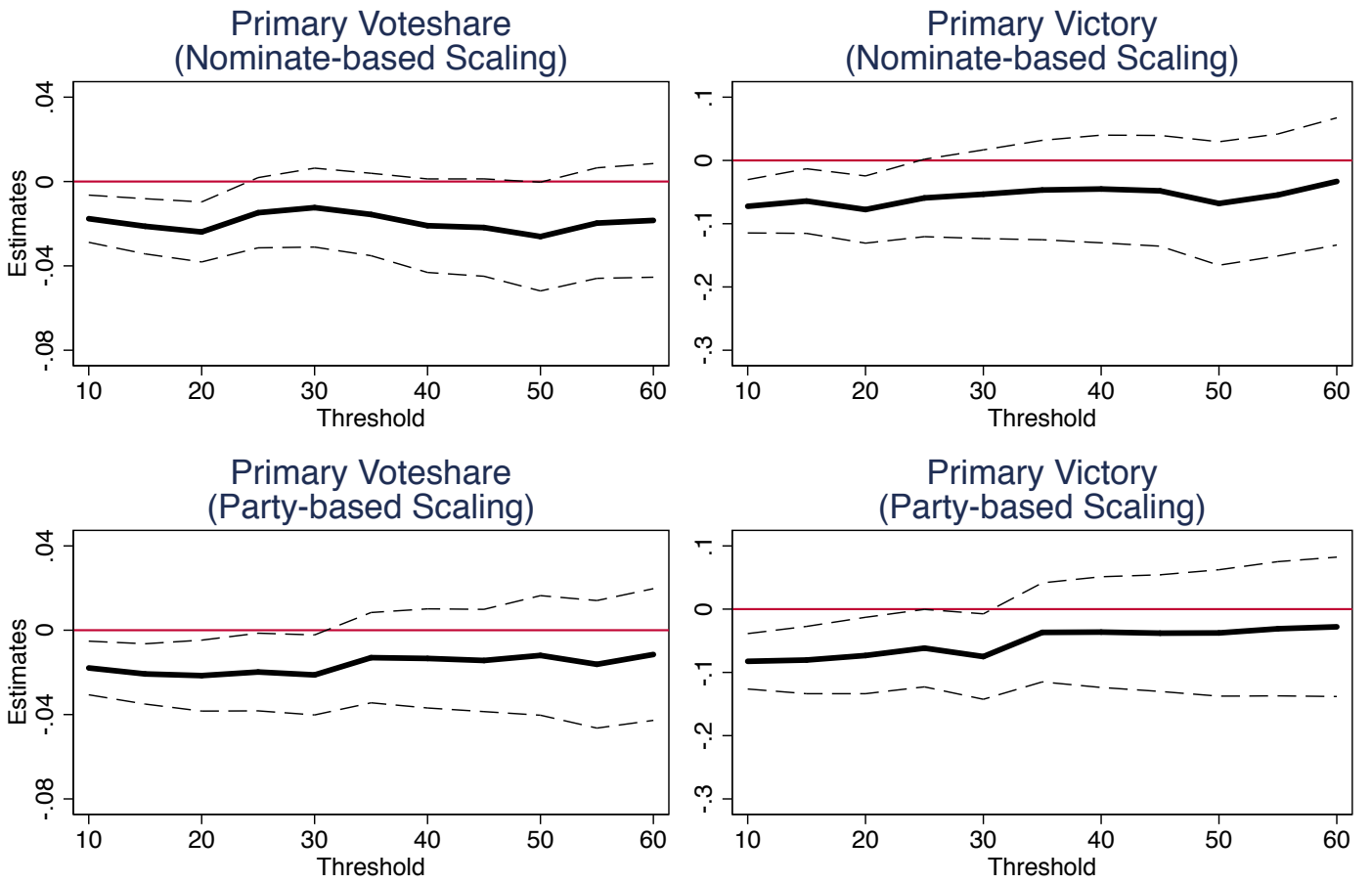
**Figure 3** – Robustness of the findings to a variety of scaling thresholds. The threshold is the number of unique donors that a candidate must receive contributions from in order to be included in the scaling procedure.
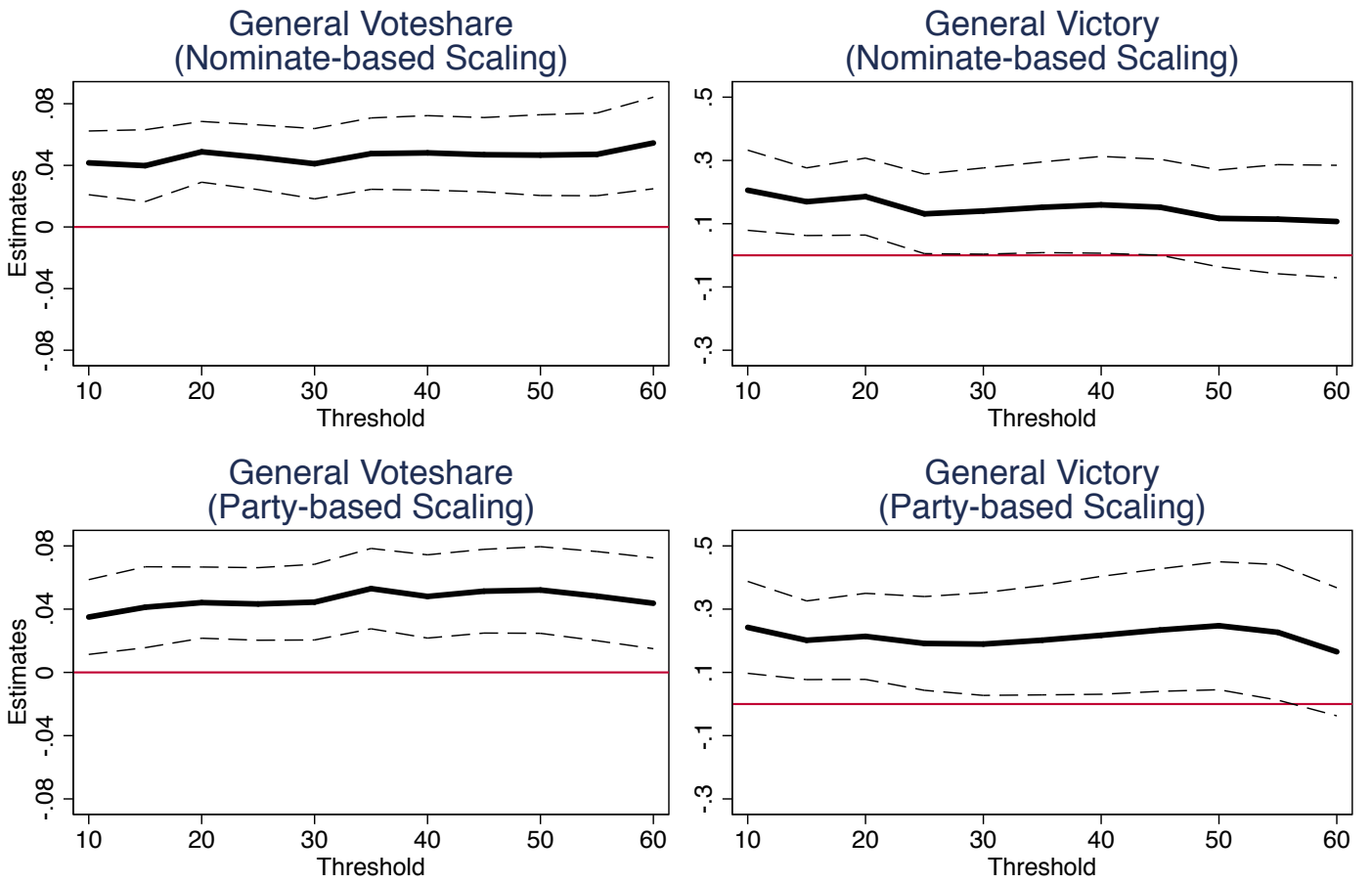
**Figure 4** – Average (absolute) scaling across thresholds. Higher thresholds eliminate more extreme candidates.



accuracy of our scalings but we drop out fringe candidates who do poorly. Higher thresholds should bias us towards finding a smaller electoral adv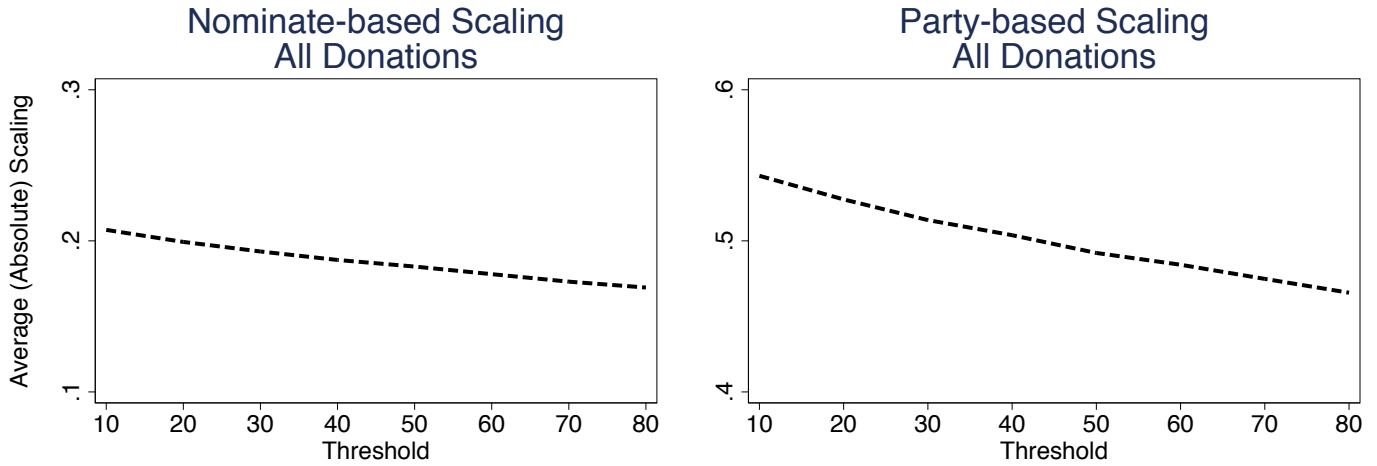antage for moderates as a result. Our overall findings, that elections by and large do not favor extremists, is therefore probably a lower bound. In reality, moderates may possess an even stronger overall electoral advantage, one that we can only detect with more information on the universe of fringe candidates. Future work should explore other techniques for understanding this group.

## A Tentative Bottom Line

As we have shown, more extreme candidates have a statistically discernible, although small, advantage in primary elections. In general elections, the opposite is true; moderate candidates have an advantage that may be large enough to offset, or more than offset, their previous disadvantage. Putting these two observations together, we can ask: what are the average ideological positions of open-seat winners and losers? Overall, what kinds of candidates tend to gain office after surviving both the primary and general election?

In Table 3, we summarize the estimated ideological positions of winning and losing candidates using all four of our scaling methods. We report the absolute value of the estimated positions so that we can pool Democrats and Republicans. When we use the absolute value, higher numbers mean more extreme candidates. In the first two columns, we simply report the raw means. When

we do not use donations to incumbents in the scaling, winning and losing candidates appear to have roughly comparable ideological positions. When we do use incumbent donations, both the party-based and *Nominate*-based methods estimate that winning candidates are significantly more moderate than losing candidates. Across all methods, extreme candidates are never seen to have any noticeable overall electoral advantage.

In the third and fourth column, we go a little further. The simple difference in means in the first two columns may not provide an accurate picture since we know, as we have discussed previously, that we need to control for donation behavior. Otherwise we run the risk of mistaking electoral promise for moderation. To control for donation patterns while still reporting an intuitive difference in average ideology, we match candidates based on their total number and total amount of donations, using nearest-neighbors matching to keep things simple.[27] These matched differences continue to tell the same story as the raw ones in the first two columns. Winning candidates appear to be more moderate than losing candidates. While the differences are not always large enough to declare a significant electoral advantage for moderates, they do rule out the hypothesis that our electoral system favors extreme candidates.

[Table 3 about here.]

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[27]We use `nnmatch` in Stata with 3 matches for each treated unit. Results are not dependent on the number of matches used.

**Table 3 – Ideological Positions of Winners and Losers**

| | Positions Based on Non-Incumbent Primary Donations | | | |
|---|---|---|---|---|
| | Whole Sample | | Matched Sample | |
| | Won General | Lost Prim or General | Won General | Lost Prim or General |
| DW-Nominate Scaling | 0.818 [482] | 0.815 [675] | 0.820 [478] | 0.856 [478] |
| Party Affiliation Scaling | 0.810 [497] | 0.812 [773] | 0.811 [493] | 0.846 [493] |
| | Positions Based on All Primary Donations | | | |
| | Whole Sample | | Matched Sample | |
| | Won General | Lost Prim or General | Won General | Lost Prim or General |
| DW-Nominate Scaling | 0.660 [575] | 0.886 [692] | 0.660 [564] | 0.787 [564] |
| Party Affiliation Scaling | 0.653 [579] | 0.873 [788] | 0.652 [568] | 0.779 [568] |

Cell entries are average values of *Cand Ideology*. Number of observations in brackets.

# Conclusion

In this paper, we ask a broad question: how does our electoral system choose among candidates for legislative office? We present comprehensive evidence that, contrary to much speculation in the media, extreme candidates are not favored overall. To come to this conclusion, we use new measures of the ideological positions of primary and general election candidates, estimated using campaign contributions. Our scaling method is designed to minimize measurement problems due to the strategic links that confound legislator moderation with expected electoral success. In order to keep the analysis especially clean, we scale donors using incumbents but we then analyze non-incumbents (except in one brief section).

To answer our question, then, we must pay the price of focusing on open-seat races. This means, among other things, that we cannot examine the strategic position of incumbents over time. We believe this is a cost worth paying. First, the inability to track incumbents over time is not a serious concern if, as Poole and Rosenthal (1997, 2007) and others argue, candidates elected to office rarely change their ideological positions much over the course of their careers. Second, if incumbents do not change much over time, then we should care especially about the types of candidates selected in open-seat races. Most candidates first enter office from open-seat races. Open-seat races are thus the most relevant locus of candidate selection, given the high re-election rate of incumbents.

A more serious limitation of our study is that it does not address questions about the factors that *cause* candidates to perform better electorally, and it says little about what electoral institutional arrangements appear to affect how our elections filter candidates. These are clearly important questions for future work.

In fact, we have tried to make it clear that our paper makes no causal claims at all. In particular, we do not claim to estimate the independent effect of ideological positions on election outcomes, either in the primary or general elections. We claim only to construct reasonably accurate measures of the average ideological differences of winners and losers, and reasonably accurate measures of the correlation between ideological extremism and vote shares.

Our contribution, then, is to characterize how U.S. congressional elections appear to act as a candidate selection mechanism overall. The bottom line is that U.S. legislative elections on average select more moderate candidates from among the pool of available options.

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# Appendix

The following four tables provide full details on the estimates presented in the paper in Table 1.

**Table 4** – Positions Based on DW-Nominate Scores, Non-Incumbent Primary Contributions

| VARIABLES | All Vote Share | Dem Vote Share | Rep Vote Share | All Victory | Dem Victory | Rep Victory |
|---|---|---|---|---|---|---|
| Relative Centrism | -0.009*** | -0.004 | -0.018*** | -0.060*** | -0.032* | -0.104*** |
| | (0.003) | (0.005) | (0.004) | (0.016) | (0.020) | (0.026) |
| Share of Donations | 0.771*** | 0.700** | 1.018*** | 1.919* | 2.114 | 1.755 |
| | (0.225) | (0.312) | (0.317) | (1.065) | (1.458) | (1.596) |
| Share of Donations$^2$ | -1.070** | -0.770 | -1.649** | -0.965 | -1.709 | 0.228 |
| | (0.530) | (0.757) | (0.733) | (2.564) | (3.526) | (3.802) |
| Share of Donations$^3$ | 0.711* | 0.465 | 1.073** | 0.551 | 1.218 | -0.665 |
| | (0.376) | (0.545) | (0.519) | (1.811) | (2.496) | (2.678) |
| Share of Donors | -0.271 | -0.047 | -0.599* | -0.176 | -0.547 | 0.174 |
| | (0.265) | (0.397) | (0.350) | (1.153) | (1.684) | (1.671) |
| Share of Donors$^2$ | 0.484 | -0.171 | 1.212 | -1.094 | -0.231 | -2.641 |
| | (0.640) | (0.948) | (0.836) | (2.677) | (3.872) | (3.834) |
| Share of Donors$^3$ | -0.396 | 0.130 | -0.896 | 0.564 | 0.030 | 1.866 |
| | (0.473) | (0.695) | (0.616) | (1.903) | (2.742) | (2.705) |
| Constant | -0.043** | 0.111*** | 0.176*** | -0.491*** | 0.071 | 0.012 |
| | (0.018) | (0.030) | (0.021) | (0.067) | (0.106) | (0.082) |
| | | | | | | |
| Observations | 903 | 478 | 425 | 903 | 478 | 425 |
| R-squared | 0.521 | 0.526 | 0.541 | 0.231 | 0.233 | 0.245 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

**Table 5** – Positions Based on Party Affiliations, Non-Incumbent Primary Contributions

| VARIABLES | All Vote Share | Dem Vote Share | Rep Vote Share | All Victory | Dem Victory | Rep Victory |
|---|---|---|---|---|---|---|
| Relative Centrism | -0.00830*** | -0.00332 | -0.0179*** | -0.0562*** | -0.0258 | -0.111*** |
| | (0.00310) | (0.00417) | (0.00461) | (0.0144) | (0.0184) | (0.0216) |
| Share of Donations | 0.933*** | 0.985*** | 0.948*** | 2.302** | 2.457* | 1.876 |
| | (0.228) | (0.310) | (0.335) | (1.022) | (1.308) | (1.629) |
| Share of Donations$^2$ | -1.408*** | -1.436* | -1.474* | -1.632 | -2.029 | -0.382 |
| | (0.541) | (0.746) | (0.777) | (2.416) | (3.130) | (3.767) |
| Share of Donations$^3$ | 0.962** | 0.985* | 0.963* | 0.998 | 1.438 | -0.160 |
| | (0.392) | (0.544) | (0.560) | (1.716) | (2.218) | (2.669) |
| Share of Donors | -0.335 | -0.135 | -0.527 | -0.869 | -1.475 | -0.0534 |
| | (0.274) | (0.391) | (0.372) | (1.096) | (1.518) | (1.657) |
| Share of Donors$^2$ | 0.630 | 0.105 | 1.049 | 0.178 | 1.352 | -1.915 |
| | (0.667) | (0.938) | (0.894) | (2.519) | (3.467) | (3.735) |
| Share of Donors$^3$ | -0.521 | -0.143 | -0.784 | -0.256 | -0.965 | 1.301 |
| | (0.503) | (0.696) | (0.678) | (1.815) | (2.474) | (2.689) |
| Constant | 0.126*** | 0.0870*** | 0.171*** | 0.140** | 0.122 | 0.0221 |
| | (0.0165) | (0.0282) | (0.0214) | (0.0556) | (0.0942) | (0.0758) |
| | | | | | | |
| Observations | 1,105 | 554 | 551 | 1,105 | 554 | 551 |
| R-squared | 0.533 | 0.560 | 0.523 | 0.246 | 0.271 | 0.241 |

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Table 6** – Positions Based on DW-Nominate Scores, All Primary Contributions

| VARIABLES | All Vote Share | Dem Vote Share | Rep Vote Share | All Victory | Dem Victory | Rep Victory |
|---|---|---|---|---|---|---|
| Relative Centrism | -0.0112*** | -0.0111** | -0.0118*** | -0.0308*** | -0.0213 | -0.0407** |
| | (0.00270) | (0.00437) | (0.00354) | (0.0117) | (0.0169) | (0.0172) |
| Share of Donations | 0.202 | 0.138 | 0.294 | 0.833 | 0.913 | 0.691 |
| | (0.187) | (0.269) | (0.255) | (0.894) | (1.296) | (1.206) |
| Share of Donations$^2$ | -0.0409 | 0.119 | -0.219 | 0.333 | 0.326 | 0.476 |
| | (0.442) | (0.632) | (0.623) | (2.283) | (3.249) | (3.209) |
| Share of Donations$^3$ | 0.0728 | -0.0322 | 0.161 | -0.0488 | -0.0200 | -0.217 |
| | (0.295) | (0.423) | (0.418) | (1.562) | (2.227) | (2.192) |
| Share of Donors | 0.0917 | -0.0234 | 0.186 | -0.288 | -0.743 | 0.259 |
| | (0.208) | (0.289) | (0.298) | (0.897) | (1.288) | (1.235) |
| Share of Donors$^2$ | -0.268 | 0.0172 | -0.544 | 0.711 | 1.509 | -0.268 |
| | (0.493) | (0.666) | (0.742) | (2.296) | (3.191) | (3.368) |
| Share of Donors$^3$ | 0.130 | -0.0378 | 0.312 | -0.738 | -1.232 | -0.0850 |
| | (0.334) | (0.450) | (0.507) | (1.575) | (2.187) | (2.316) |
| Constant | 0.199*** | 0.179*** | 0.196*** | 0.0655** | 0.114* | 0.0474 |
| | (0.00763) | (0.0149) | (0.0110) | (0.0289) | (0.0607) | (0.0393) |
| | | | | | | |
| Observations | 1,023 | 535 | 488 | 1,023 | 535 | 488 |
| R-squared | 0.571 | 0.572 | 0.588 | 0.470 | 0.495 | 0.445 |

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

**Table 7** – Positions Based on Party Affiliations, All Primary Contributions

| VARIABLES | All Vote Share | Dem Vote Share | Rep Vote Share | All Victory | Dem Victory | Rep Victory |
|---|---|---|---|---|---|---|
| Relative Centrism | -0.01000*** | -0.00884** | -0.0123*** | -0.0247** | -0.0130 | -0.0397** |
| | (0.00278) | (0.00415) | (0.00382) | (0.0115) | (0.0165) | (0.0161) |
| Share of Donations | 0.0642 | -0.0116 | 0.178 | 0.995 | 0.645 | 1.368 |
| | (0.178) | (0.257) | (0.247) | (0.800) | (1.159) | (1.128) |
| Share of Donations$^2$ | 0.396 | 0.528 | 0.254 | 0.664 | 1.761 | -0.429 |
| | (0.420) | (0.597) | (0.599) | (2.006) | (2.857) | (2.891) |
| Share of Donations$^3$ | -0.217 | -0.299 | -0.162 | -0.319 | -1.097 | 0.409 |
| | (0.282) | (0.402) | (0.403) | (1.378) | (1.970) | (1.985) |
| Share of Donors | 0.298 | 0.282 | 0.282 | -0.268 | -0.310 | -0.251 |
| | (0.198) | (0.286) | (0.269) | (0.802) | (1.153) | (1.129) |
| Share of Donors$^2$ | -0.853* | -0.715 | -0.986 | -0.195 | -0.313 | -0.0543 |
| | (0.464) | (0.645) | (0.668) | (2.026) | (2.784) | (3.006) |
| Share of Donors$^3$ | 0.536* | 0.446 | 0.649 | -0.0487 | 0.129 | -0.200 |
| | (0.314) | (0.433) | (0.459) | (1.399) | (1.918) | (2.089) |
| Constant | 0.160*** | 0.120 | 0.0501*** | 0.0859** | -0.123 | -0.429*** |
| | (0.0103) | (0.0759) | (0.0148) | (0.0361) | (0.171) | (0.0529) |
| | | | | | | |
| Observations | 1,210 | 607 | 603 | 1,210 | 607 | 603 |
| R-squared | 0.583 | 0.592 | 0.581 | 0.487 | 0.527 | 0.451 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1