Everything in Moderation? The Effect of Candidate Extremism on Individual and Corporate PAC Fundraising

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Abstract

Do ideologically extreme candidates enjoy fundraising advantages over more moderate candidates? Extant work documents a relationship between candidates' positions and campaign contributions at the donor level and in subnational contexts, yet scholars have struggled to identify the impact of House candidates' ideology on their fundraising due to the difficulty of disentangling confounded and endogenous factors. To isolate the effect of candidate positioning on fundraising success, I leverage the quasi-random variation provided by just barely nominating an extreme House candidate over a moderate. Using a regression discontinuity design on close primaries between 1990 and 2018, I find no increase in individual contributions nor decrease in corporate PAC contributions among extreme candidates across numerous model specifications, bandwidth selections, and sample compositions. These null results call into question the extent to which candidates' financial support from individual and business PAC donors is simply due to their ideology.

Partisan polarization in Congress is one of the best-documented features of contemporary American politics (Lee 2016; Lewis et al. 2021; McCarty, Poole, and Rosenthal 2008), and many suggest that campaign finance is responsible. Individual donors tend to hold extreme positions (Bafumi and Herron 2010; Barber 2016*c*) and scholars commonly assume or argue that donors contribute to candidates on the basis of ideological congruence, thus aiding in the election of more extreme legislators (Barber 2016*a*, *b*; Bonica 2014; La Raja and Schaffner 2015). Conversely, corporate PACs appear to value moderation, but exert limited spending and influence in the electoral arena (Barber 2016*b*; Bonica 2013; Jacobson and Carson 2019; La Raja and Schaffner 2014; Milyo, Primo, and Groseclose 2000).

Identifying a causal effect of candidates' ideology on their ability to raise money, however, is extremely challenging. Candidates' positions are obviously not randomly assigned, and they are arguably strategically chosen to maximize electoral success. This endogeneity makes it particularly difficult to isolate the impact of candidates' ideology on their fundraising performances. While some studies demonstrate that individual donors tend to support extreme candidates and PACs tend to support moderates (e.g. Ensley 2009; Bonica 2013), interpreting this correlational relationship in terms of implications about the relative ability of moderate and extreme candidates to raise funds is complicated as receipt patterns may not be due to candidate positioning *per se*.

Given these identification challenges, the connection between candidate ideology and campaign fundraising has largely been examined either in state legislative contexts (Barber 2016*b*; La Raja and Schaffner 2015) or at the individual donor level (Barber 2016*a*; Barber, Canes-Wrone, and Thrower 2017). Although such studies provide valuable insight into how candidates' positions might affect donors' campaign contributions, the extent to which these relationships result in differential financial support for House candidates on the basis of their positions remains unclear due to the multidimensional nature of the decisions that donors face.

Indeed, recent evidence suggests that ideology may not be the sole driver of candidates'

individual nor PAC receipts (Stuckatz 2022; Thieme 2020). Because of the contentiousness and importance of majority control in the contemporary Congress, candidates vying for seats needed to maintain or gain a legislative majority may receive strong financial support from individuals looking to maximize the marginal impact of their donation regardless of ideology (Gimpel, Lee, and Pearson-Merkowitz 2008; Lee 2016). On the other hand, corporate PACs are known to optimize "access-buying" by supporting heavily favored candidates and those who hold institutional influence (Bonica 2013; Milyo, Primo, and Groseclose 2000; Fouirnaies and Hall 2014), who may not be moderate given their district compositions and valence advantages (Burden 2004; Carson and Williamson 2018). If individual and business PAC contributions are shaped by such strategic considerations and not allocated on the basis of candidates' positions alone, differences in candidates' positions may not translate to differences in fundraising.

To identify the relationship between candidate ideology and campaign contributions, I leverage a regression discontinuity design to estimate the effect of "as-if randomly" nominating an extreme candidate over a moderate candidate on the winner's general election fundraising success (Hall 2015). Specifically, I use data on candidates' ideology, campaign contributions, and election outcomes from OpenSecrets and the Database on Ideology, Money, and Elections (DIME) from 1990 to 2018 to identify races where an extreme candidate just barely won the primary over a moderate co-partisan, with the "counterfactual" consisting of races where a moderate was just barely nominated over an extreme candidate. Conditional on the identifying assumptions being satisfied, any difference between these otherwise comparable extreme and moderate nominees' fundraising in the general election should be attributable to the quasi-random assignment of an extreme nominee. If campaign contributions to House candidates are solely based on candidates' ideologies, we should observe a substantial difference depending on whether an extreme or moderate candidate wins the primary. If the extreme candidate is nominated and donors contribute based solely on ideology, we should observe an increase in individual fundraising and

a decrease in corporate PAC fundraising. If other factors also drive candidates' receipt patterns, however, we would not necessarily expect differences in the amounts raised by extreme and moderate nominees.

I find little evidence that extreme House candidates are able to raise more money from individuals or less money from business PACs than their moderate co-partisans. Assessing the validity or "truth" of a null finding is always difficult, however I take several steps to bias my analyses *toward* a significant result. In particular, I only analyze closely contested primaries between candidates with vastly different ideologies because the "treated" races consist of those where the extreme candidate barely defeats the much more moderate candidate, and the "control" races are those where the much more moderate candidate just barely wins. Focusing on races with large ideological differences should increase the chances of detecting ideologically-based differences in candidate fundraising. Despite taking these steps, as well as explicitly searching for effects where the extant literature most strongly predicts their presence, I fail to detect substantial effects of nominating an extreme candidate on individual and corporate PAC contributions.

These results build upon recent evidence of strategic business and individual donor behavior (Stuckatz 2022; Thieme 2020), and they have important implications for how we study and understand the causes of ideological polarization in Congress. Individual donors may prefer extreme candidates and corporate PACs may prefer moderate candidates *all else equal*, but the lack of difference between the amounts raised by extreme and moderate candidates suggests that donors also value other instrumental considerations when making contribution decisions. Among those who ran in a close primary against an opponent ideologically different from themselves, candidates' general election fundraising success does not vary greatly on the basis of their ideologies. To be clear, this is merely one pathway for money to affect political outcomes. For instance, donors may influence the candidate field itself (Hassell 2016; Thomsen 2014, 2017), but conditional on winning a closely contested primary, the effects that I identify suggest that nominating candidates

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with vastly different ideologies does not affect candidates' ability to raise funds in the general election from individual nor corporate PAC donors. This strongly suggests that more extreme nominees are not systematically advantaged (or disadvantaged) in fundraising on the basis of ideological positions alone.

The Logic of Political Contributions

To help ground expectations for why extreme candidates may be advantaged in raising funds from individuals and disadvantaged in raising funds from corporate PACs compared to moderates, it is useful to review the literature on contributor behavior. Although I am not directly testing theories of why different types of donors decide to give, this literature can help establish why extreme candidates are thought to have an individual fundraising advantage whereas moderate candidates are thought to have an advantage among corporate PACs. Put differently, prior work focusing on the donation behavior of individuals and PACs creates the expectation of differences in candidates' ability to garner funds on the basis of their ideologies.

Scholars have long been concerned about the disproportionate access to elected officials and accompanying representational advantages enjoyed by political donors (e.g. Hall and Wayman 1990; Kalla and Broockman 2016; Miler 2010; Powell and Grimmer 2016; Thayer 1974). With the growth of ideological polarization in legislatures in recent decades, campaign contributors' role in the electoral process has likewise come under scrutiny. Specifically, the dominant argument of extant work is that individual donors seek to elect extreme candidates while corporate PACs seek to elect moderates.

Individual Donors

The ideological extremity of individual donors is well-documented. Survey evidence suggests that contributors hold more extreme preferences on policy than the general popula-

tion (La Raja and Schaffner 2015), voters (Bafumi and Herron 2010), co-partisans (Barber 2016*c*), primary voters (Hill and Huber 2017), and even senators (Barber 2016*c*). Moreover, Ansolabehere, de Figueiredo, and Snyder (2003) argue that contributions are a "consumption good" in which donors receive utility from the participatory act of supporting candidates who share their policy preferences.

Most recent empirical work on individual donors shares the view that donors give expressively on the basis of ideological congruence. In a study of contributions to senators running for re-election in 2012, Barber (2016*a*) finds that donors report recipient ideology as extremely important in their contribution decisions, and Barber, Canes-Wrone, and Thrower (2017) show that policy agreement increases donors' likelihood of contributing to a senator. Likewise in the sub-national context, scholars have linked polarization in state legislatures to campaign finance environments that are friendly to individual donors (Barber 2016*b*; La Raja and Schaffner 2015). This view of individual contributions as expressions of donors' ideology constitutes the behavioral assumption of donation-based measures of ideology, in which receipt patterns are thought reveal the preferences of both recipients and contributors (e.g. Bonica 2014; Hall and Snyder 2015).

While donor-level surveys provide valuable insight into how individuals make their decisions, and studies of state campaign finance laws illuminate causes of polarization in state legislatures, the extent to which these findings can inform us about the relationship between House candidates' ideology and fundraising is unclear. Respectively, the influence of ideology on donors' decisions may not translate into an aggregate-level difference in individual fundraising for moderate versus extreme candidates, and extreme state legislative candidates' advantage in individual fundraising does not necessarily imply a similar advantage for extreme House candidates. Along these lines, scholars have also found some evidence that House candidates who are more extreme or closer to their district's donor constituency receive more individual campaign contributions (Ensley 2009; Johnson 2012; Kujala 2020). However, given the plethora of factors that likely confound

the relationship between candidate positioning and individual campaign contributions — such as district competitiveness, media attention, and party support — the extent to which these effects on individual receipts can be attributed to candidate ideology is unclear.

Indeed, while the characterization of individual donors as expressive and ideology-motivated largely dominates, other work suggests that donors may also be driven by strategic, instrumental considerations. Given the contentiousness of majority control in recent congresses as well as contributors' disproportionate stake in electoral outcomes (Lee 2016), individuals may prioritize contributions to copartisans in importance races with little regard for ideological congruence. Consistent with this, many Senate donors report influencing the race outcome as a top priority when making their contribution decisions (Barber 2016*a*), and studies have found that competitiveness is a strong predictor of out-of-district individual contributions (e.g. Gimpel, Lee, and Pearson-Merkowitz 2008) and suggested that individuals' contributions may be more related to their perceived benefits of their own party winning than ideological proximity (Hill and Huber 2017). In addition to valuing important races, donors may also strategically support "high-quality" candidates who are otherwise expected to perform better electorally (e.g. Box-Steffensmeier 1996; Maestas and Rugeley 2008), or contribute to candidates supported by their employer (Stuckatz 2022). If individuals consider these instrumental factors in their donation decisions, House candidates' ideologies alone may not strongly affect their individual receipts.

Although donation-based measures of ideal points generally assume purely expressive individual giving, ideology-motivated donors may nonetheless condition their contributions to candidates who share their extreme ideology based on context. In particular, the electoral penalties to extreme candidates are largest in competitive districts — due to worse ideological fit between extreme candidates and moderate or ideologically divided constituencies — and open-seat races, where candidates lack the valence advantages enjoyed by incumbents (Abramowitz, Alexander, and Gunning 2006; Canes-Wrone, Brady, and Cogan 2002; Hall 2015). Thus, if individual donors value ideological congruence,

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extreme candidates should receive especially more individual receipts than moderates in safe districts and incumbent-challenger races, as these present the greatest opportunity for extreme candidates to fare well.

Corporate PACs

In contrast to individual donors, who are thought to allocate funds to extreme candidates, much of the literature on corporate political action committees (PACs) suggests that business PACs seek to elect moderates. Some scholars have argued that PACs are ideologically moderate, and, like individual donors, primarily contribute to campaigns on the basis of ideological congruence (Bonica 2013). Indeed, recent work has suggested that PACs within politicized industries adopt ideologically-motivated contribution strategies (Barber and Eatough 2019) and corporate PACs' contribution strategies may be affected by their donors' partisanship (Li 2018).

In an alternative vein, others argue that corporate PACs prefer moderate candidates for non-ideological reasons (Barber 2016*b*). Specifically, numerous studies suggest that these PACs are primarily driven by their desire to gain access to the policymaking process rather than by ideological alignment (Hall and Wayman 1990; Snyder 1990; Powell and Grimmer 2016). Because gaining election to office is a prerequisite to lawmaking and moderates are thought to be more electable than extreme candidates (e.g. Burden 2004; Hall 2015), moderate candidates should receive more corporate PAC receipts.

Although PACs value candidates' likelihood of election, as demonstrated by their support of those who are heavily favored to win (Bonica 2013; Milyo, Primo, and Groseclose 2000), moderates may not hold a monopoly over electability. Due to the increasing number of uncompetitive districts that are "safe" for one party (Abramowitz, Alexander, and Gunning 2006) and polarization among partisan constituents (Lelkes 2016), recent work has called into question the idea that extreme candidates are less electable than moderates (Utych 2020). If extreme candidates fare no worse than moderates, and corporate PACs

are indeed access-driven and value electability, moderate candidates should receive no more PAC contributions than extreme candidates.

Corporate PACs may also adopt different contribution strategies in different contexts. Even if PACs prefer moderate candidates — whether expressively or for electability reasons — they may recognize that extreme candidates can fare well under certain electoral conditions. Due to the lesser emphasis on policy issues in incumbent-challenger races (Campbell, Dettrey, and Yin 2010) and extreme candidates' better fit in districts that lean heavily toward their party (Carson and Williamson 2018), corporate PACs should be especially more willing to contribute to moderates than extreme candidates in open-seat races and competitive districts if they value moderation.

However, if corporate PACs are indeed access-oriented, supporting electorally successful candidates is merely one aspect of the contribution strategy. Because the goal is to increase their access to and control over the policymaking process, PACs likewise value institutional influence, leading them to fund incumbents (Fouirnaies and Hall 2014), candidates who sit on power committees or chair committees (e.g. Romer and Snyder 1994), and those who hold procedural power (Fouirnaies and Hall 2018), among others. Indeed, recent studies of corporate political giving find that these interest groups are more conservative than what their moderate contribution records suggest, indicating strategic donation behavior (Thieme 2020). Regardless of whether corporate PACs are "truly" moderate or conservative, the importance of candidates' existing institutional clout and other strategic considerations to their goals suggests that candidates may not garner different amounts of corporate PAC funds based on ideology.

Empirical Strategy

While a large body of work has sought to identify whether ideology impacts individual donors and corporate PACs' contribution decisions, assessing whether candidates receive

different levels of financial support on the basis of their ideologies is exceptionally difficult. Candidates' positions are non-random and likely chosen to maximize electoral success in the context of their district, making it particularly challenging to identify the causal impact of positions on fundraising performance. Moreover, confounding and difficult-to-observe characteristics such as experience, strong personal character, and connections in the district threaten our abilities to make inferences about relationships between candidates' ideologies, fundraising performance, and electoral success (Burden 2004; Maestas and Rugeley 2008; Stone and Simas 2010). Even if extreme candidates systematically raise more funds from individual donors and less from corporate PACs than moderate candidates, these receipt patterns may not be due to candidate positioning *per se*.

Because of the difficulty of isolating the effect of congressional candidates' ideology, the evidence on the relationship between candidate ideology and fundraising success comes from contexts that allow for stronger causal claims yet speak less directly to this relationship. Some (e.g. Kujala 2020; McCarty and Poole 1998) have attempted to directly test whether congressional candidates' receive more or less PAC and individual receipts on the basis of their ideologies, such as Ensley (2009) who finds modest evidence that extreme candidates garnered more individual contributions in 1996. However, most recent work has turned to contexts that are less direct yet allow for more sound causal identification.

One such context is the state level, where scholars have leveraged variation in contribution limits and found that extreme state legislative candidates benefited from higher individual contribution limits while moderate candidates benefited from higher corporate contribution limits (Barber 2016*b*; La Raja and Schaffner 2015). Those specifically interested in the behavior of individual donors have also turned to survey methods in order to directly ask donors about their motivations for giving, finding that donors consistently report ideology as very important in their decisions (e.g. Barber 2016*a*).

While these studies illuminate how individuals understand their donation behavior

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and how different types of contributors may affect state legislative polarization, the extent to which their conclusions suggest differential support for moderate and extreme congressional candidates is unclear. For example, individual donors could report prioritizing candidates' ideology in their donation decisions, yet contribute most heavily to co-partisans of varying ideologies running in races critical for majority control of Congress due to their heightened stakes. Likewise, state legislative candidate fundraising dynamics may not generalize to federal contexts due to differences in media attention paid to the races, perceptions of importance of majority legislative control, variation in candidate professionalization and experience, and costs of campaigning.

To investigate whether candidates receive more or less financial support from corporate PACs and individuals due to their ideological positions, I employ a regression discontinuity design to estimate the impact of as-if randomly nominating an extreme candidate over a moderate on general election campaign receipts. To do so, I identify primaries with substantial ideological gaps between candidates, with "treated" races consisting of those where the extreme candidate just barely beat the moderate, and the "control" is those where the moderate just barely won (Hall 2015). Although the sample construction and strong counterfactual maximizes what is ideologically at stake for contributors, the nomination of an extreme candidate over a moderate does not appear to affect individual nor PAC receipts in the general election. To probe the robustness of the null result, I employ multiple model specifications, bandwidth selections, and sample compositions as well as searching for significant effects among elections where the extant literature most strongly predicts their presence. Despite all of these efforts (and more) which should bias my analyses *toward* a significant result, I uncover generally null results.

Like the aforementioned studies of ideology and campaign contributions, the approach adopted here has limitations. I build upon existing work by using causal inference to evaluate one potential pathway for money to influence polarization via a subset of House elections. These results demonstrate that, among those won a close primary against an

opponent with a substantially different ideology than themselves, extreme candidates do not receive substantially more contributions from individuals nor less contributions from corporate PACs than moderate candidates in the general election. In other words, conditional on winning a closely-contested primary against a distinct opponent, nominating candidates with vastly different ideologies does not appear to affect general election receipts from individuals and PACs. While this does not preclude the influence of campaign contributors on political polarization through other means — such as shaping candidate entry decisions — it does suggest that candidates' ideologies do not impact their fundraising success in an important portion of House races.

Data and Sample Construction

Contribution-level data on individual and PAC contributions come from Open Secrets' campaign finance data and run from 1990 through 2020 (OpenSecrets 2021). These data contain information on donors, recipients, as well as the date and amount of the contribution. I focus on direct contributions to candidates for the general election,[1] with business PAC contributions identified using OpenSecrets coding of PAC types as business, labor, or ideological. Data on race-level and candidate characteristics are available through 2018 from the Database on Ideology, Money in Politics, and Elections (Bonica 2019).[2] Following Hall (2015), my sample includes primary elections for which the top two vote-getters are an extreme candidate and a moderate candidate, which I identify using the CFscores found in DIME[3] (Bonica 2013).

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[1] Although unspent contributions received before the date of the primary may be spent by nominees during the general election, restricting general election contributions to those made on or after the primary date ensures that these contributions are, in fact, used only during the general. Additionally, I drop negative contributions (refunds). I thank Shawn Patterson for sharing data on primary dates.

[2] I supplemented vote share data from 2016 and 2018 with election returns from the Federal Election Commission.

[3] Although CFscores are contribution-based ideal point measures, other scholars (i.e. Kujala 2020) have used contributors' and recipients' CFscores in the same equation as campaign contributions. However, I merely use CFscores for the coarse purpose of identifying primaries between an extreme and a moderate candidate, and this is also why I employ an especially strong cutoff of gaps between CFscores (top 25%) for races entering the sample. Because the treatment (extremist victory) is binary *and* the sample consists

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In light of the potential issues with donation-based scaling methodologies (e.g. Barber 2022; Hill and Huber 2017), I impose especially tight restrictions on contests entering the sample to ensure that primaries are clearly between an extreme candidate and a moderate. First, I drop races with a top-two candidate whose CFscore is on the "wrong" side of zero – that is, Republican primaries with a "liberal" candidate and Democratic primaries with a "conservative" candidate. Aside from the chance that such candidates are ideologically misclassified, it is not clear whether a Republican with a liberal score or a Democrat with a conservative score should be classified as the extremist or moderate relative to her correctly-aligned opponent. Second, the main sample is restricted to elections in the top quartile of distance between candidates' positions.[4] This cutoff is stronger than the median cutoff employed by Hall (2015) due to concerns about measurement error, which may lead to primaries being incorrectly classified as between an extremist and a moderate when in reality there is little meaningful difference between candidates. Regardless, the findings that follow are generally robust to a variety of sample selection choices, including the inclusion of races with candidates whose CFscore "disagrees" with their partisanship, and a more relaxed candidate gap requirement of the top median rather than the top quartile. All results of analyses employing these alternative specifications are reported in the Appendix.

Although the sample of primaries employed here is not necessarily representative of the universe of primaries, this subset of races is actually the most theoretically relevant for investigating the influence of candidates' ideologies on their fundraising performances. Table 1 reports characteristics of interest for (1) the universe of primaries over the time period, (2) restricting the sample to contested primaries, (3) further restricting to primaries

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of only races in the top quartile of CFscore distance between candidates, estimation relies very little on the actual individual candidate-level variation in CFscores. Moreover, potential endogeneity issues with using contribution data to measure both candidate ideology and fundraising should, if anything, bias my analysis *toward* significant findings.

[4]The 75th percentile corresponds to a gap in CFscores of at least 0.696. To illustrate, this is greater than the difference between the scores of Senator Kyrsten Sinema when she formerly represented AZ-9 (-1.165) and Rep. Alexandria Ocasio-Cortez of NY-14 (-1.763). Sinema was a member of the centrist Blue Dog Coalition in the House, while Ocasio-Cortez is a member of the Democratic Socialists of America.

Table 1. Characteristics of Primaries Across Samples, 1990 – 2018

	(1) All	(2) Contested	(3) Extreme vs. Moderate	(4) Close Election
Democratic	49.1%	46.4%	47.2%	48.9%
Open Seat	8.7%	22.9%	15.2%	21.3%
Mean |PresVS–50%|	10.5%	10.2%	9.8%	9.3%
Median |PresVS–50%|	8.2%	7.9%	7.6%	7.1%
Midterm Year	51.8%	51.9%	53.7%	54.8%
1990s	32.0%	31.0%	21.5%	26.8%
2000s	34.5%	24.4%	22.2%	23.5%
2010s	33.6%	44.7%	56.3%	49.6%
N	8934	2941	650	272

Note: Table compares characteristics of the universe of primaries, contested primaries, primaries with substantial differences between candidates, and closely-contested primaries between substantially different candidates (those used in the RDD). Column (1) includes primaries with at least one candidate, Column (2) restricts to primaries with more than one candidate, Column (3) further restricts to primaries in top 25% of distance between top-two candidates' CFscores and on same side of zero, Column (4) further restricts to primaries won within 15% margin. Entries are % Democratic party primaries, % open seats, district's average absolute distance from 50% Democratic presidential vote share, % falling during midterm cycle, and % falling into each decade.

with the largest ideological distance between candidates, and (4) further restricting to primaries won within a 15% margin.[5] Across samples, the similarity between districts' average absolute presidential vote, proportion of Democratic Party primaries, and proportion occurring during a midterm cycle demonstrates that races in the RDD sample — closely-contested primaries between candidates with large ideological differences — are relatively representative of the universe of primaries with regard to partisan and competition environment. Importantly, the characteristics with the largest divergences between samples suggest that the RDD analysis relies on an especially timely and consequential set of primaries. While fewer than 9% of all House primaries over the period were for open seats, open seats made up more than 20% of closely-contested primaries between extreme and moderate candidates. Given the infrequency with which incumbents are un-

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[5]This number is consistent with Hirano and Snyder's (2019) definition of competitive primary and approximates the optimal bandwidths automatically selected in the analyses that follow.

seated, open seats are how the vast majority of new members enter the House, making these races which are overrepresented in the RDD sample especially important for the composition and institutional dynamics in Congress. The primaries used in RDD analysis are also drawn most heavily from recent elections: whereas all primaries are equally distributed among the 1990s, 2000s, and 2010s, half of my sample comes from the 2010s alone, suggesting that results obtained here are disproportionately informed by trends occurring most proximately to the present.

Beyond the general representativeness of the subset of races used for the regression discontinuity, we can also investigate fundraising patterns among those that do and do not enter the sample. Extrapolating treatment effects to populations away from the threshold is inappropriate in single-cutoff regression discontinuity settings, but it is nevertheless important to determine whether the design relies upon cases that have entirely anomalous contribution patterns. To compare campaign receipts of extremists and moderates who competed in more and less competitive primaries, Figure 1 plots the density of individual and PAC general election contributions among extreme and moderate nominees who won their primaries within or by more than 15 percentage points.

Plotting the distribution of the dependent variable by candidate ideology and primary competitiveness reveals two important takeaways. First, general election contributions to candidates who won uncompetitive primaries do not look dramatically different than contributions to candidates who won more closely-contested primaries. Comparing funds raised by candidates who won by more than a 15 point margin (top plots) versus within 15 points (bottom plots) suggests that candidates raise relatively similar amounts of funds from corporate PACs and individuals regardless of their primary margin of victory. Second, the most notable difference is that moderates who won their primaries handily appear to have a general fundraising advantage over extreme candidates who also won handily, yet this trend is not evident for those who won a close primary. Among candidates who won by over 15 points, the density and sample mean of moderates' funds from both

Figure 1. Density of General Election Contributions by Candidate Ideology and Primary Competition
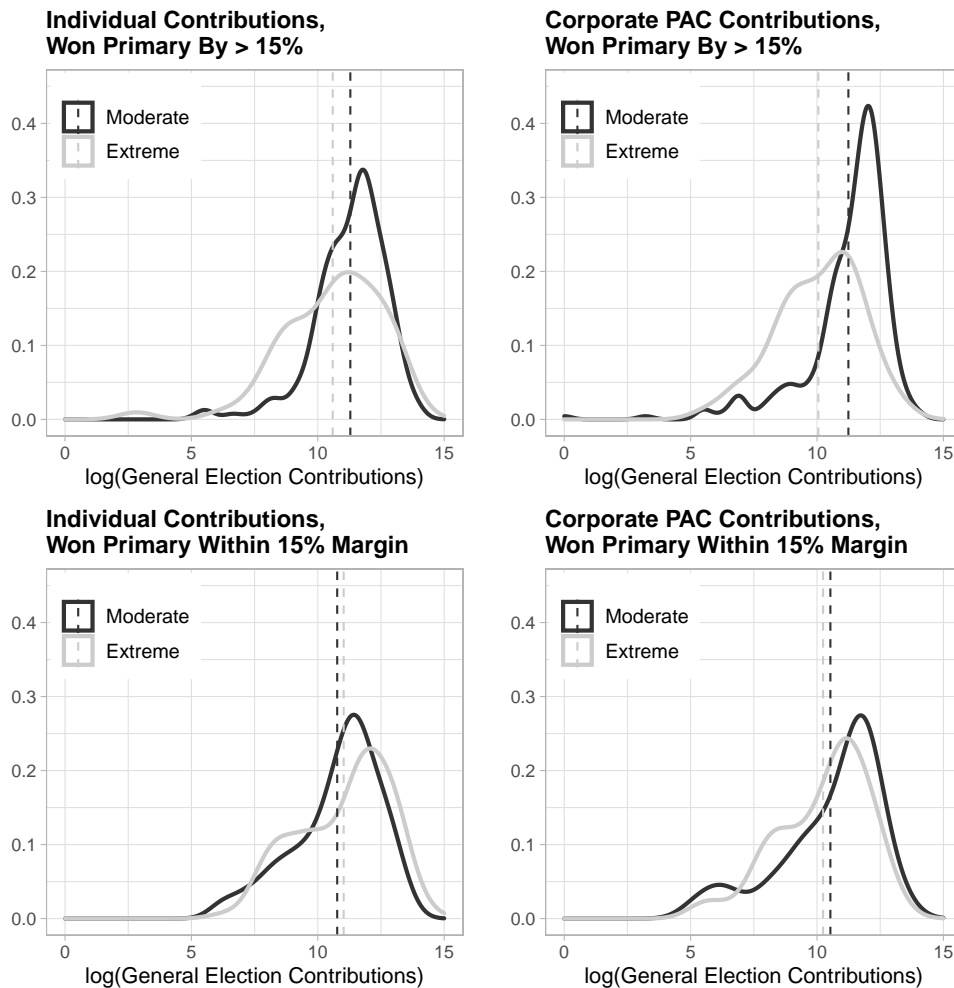
Note: Plots are kernel density estimates of nominees' logged general election contributions with dashed lines representing sample means. Plots on left are contributions from individual donors, and plots on right are contributions from corporate PACs. Top plots include nominees who won their primary by more than 15 points, while bottom plots include nominees who won their primary within a 15 point margin. Black lines are moderates who were nominated over an extreme candidate, and grey lines are extreme candidates who were nominated over a moderate.

individuals and corporate PACs are modestly higher than those of extreme candidates. While moderates' superior PAC fundraising is broadly consistent with previously mentioned characterizations of PACs as moderate donors (e.g. Barber 2016*b*), moderates' *individual* fundraising advantage over extremists does not square with existing arguments that individual donors disproportionately contribute to extreme candidates. The fact that moderate-extremist disparities largely disappear when focusing on candidates who won

competitive primaries suggests that individual and PAC fundraising may not just depend upon ideology, but more strategic factors such as electoral context.

Regression Discontinuity Design

Having established the broad representativeness and importance of the sample, as well as demonstrated the descriptive similarity between fundraising patterns of moderate and extreme nominees, I now turn to regression discontinuity to estimate the effect of "as-if randomly" nominating an extreme candidate over a moderate on general election fundraising.[6] In particular, I use this design to estimate the difference in individual and corporate PAC general election contributions between extreme candidates who narrowly beat a moderate and moderate candidates who narrowly beat an extremist. I estimate the parameters of the equation

$$C_{ipt} = \beta ExtremistNomination_{ipt} + \tau ExtremistVoteShare_{ipt} +$$

$$\mu(ExtremistNomination * ExtremistVoteShare)_{ipt} + \gamma_t + \epsilon_{ipt}$$

where C_{ipt} stands in for the outcome variables used in the analysis that follows: general election logged contributions from individuals and from corporate PACs to party p's nominee in district i in year t.[7] The "treatment" indicator $ExtremistNomination_{ipt}$ takes a value of 1 if the extreme candidate won party p's primary in district i in year t, and 0 if the moderate won instead. Because I focus on close races, β estimates the as-if random effect of nominating an extremist compared to a moderate on general election fundraising from individuals and PACs. The strength of the psuedo-counterfactual, wherein the moderate is in-

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[6]For a similar usage, see Hall (2015) who employs an RDD to estimate the effect of nominating an extreme candidate over a moderate on parties' electoral success. He includes a brief mechanism analysis examining the effect of nominating an extremist on contribution share from PACs generally, but does not examine the effect on dollars from individuals nor corporate PACs.

[7]For example, the Democratic nominee in New Mexico's 1st congressional district in 2000 received $12.7 in logged contributions from individuals and $9.8 from corporate PACs in the general election.

stead nominated over the extremist, should increase the chances of detecting ideologically-based differences in candidate fundraising. The forcing variable $ExtremistVoteShare_{ipt}$ represents the extreme candidate's share of the top-two primary candidates' vote, such that values above 0.5 designate an observation as treated (extremist victory) and below 0.5 as untreated (moderate victory).

Following convention (Imbens and Lemieux 2008; Lee and Lemieux 2010), I allow the slopes to vary on either side of the extremist win threshold by interacting the extremist nomination indicator with the extremist vote share running variable. Thus, the coefficient μ on the interaction term captures the difference in slope for extreme candidates from the parameter τ, which estimates the slope for moderate candidates. Additionally, I present models with and without year fixed effects γ_t to account for secular changes in the campaign finance environment with regard to regulation, campaigning costs, and fundraising trends (Abramowitz, Alexander, and Gunning 2006; Hall 2019; La Raja and Schaffner 2015), as well as differences between donor composition and receipts in presidential election years versus midterms (Rhodes, Schaffner, and La Raja 2018). Remaining idiosyncratic variation is represented by the error term ϵ_{ipt}.

Consistent with current best practices, my main specification uses data-driven optimal bandwidth selection and triangular kernel weights (de la Cuesta and Imai 2016; Gelman and Imbens 2019; Imbens and Kalyanaraman 2012). In the Appendix (and alluded to in-text), I demonstrate robustness to a variety of alternative specifications. In particular, I perform analyses with more relaxed sample requirements of primaries in the top quartile of distance between top-two candidates' ideologies *including* those whose ideology "disagrees" with their partisanship, as well as primaries instead in the top median of ideology gaps both with and without these "mismatched" candidates. With each of these alternative samples, I then probe results by imposing an arbitrary 5% bandwidth and using a dependent variable with raw dollars to ensure that null effects are not due to the log-transformation minimizing differences in contribution amounts.

The key identifying assumption of the regression discontinuity design is that expected potential outcomes — here, the nominations of extreme versus moderate candidates — are continuous at the threshold, as candidates cannot perfectly manipulate their vote shares. Because the density of potential outcomes should be continuous for each individual, this implies that the density for the sample population should likewise be continuous (Mc-Crary 2008; Lee and Lemieux 2010). As argued elsewhere, the no-sorting assumption in House races is especially likely to be met in the context of primary elections (Cooper and Munger 2000) conditional on a lack of electoral fraud or other post-election sorting behavior (de la Cuesta and Imai 2016). In the Appendix, I test for evidence of sorting around the 50% extremist primary victory threshold and find no significant discontinuity in the density of extremist nominees versus moderate nominees. Another important implication of the continuity assumption is that races where an extreme candidate was just-barely nominated are otherwise comparable to those where a moderate was just-barely nominated. I investigate the balance of key pre-treatment covariates related to district partisanship, extremist primary fundraising, district income, and primary field size[8] on either side of the threshold, with the results in the Appendix suggesting that primaries where extreme candidates just barely beat a moderate are not systematically different from those where a moderate just barely beat an extreme candidate.

Results

As a first step, I present the data graphically to allow for visual inspection of whether there exists a significant discontinuous jump in contributions from individuals or corporate PACs at the extremist victory threshold. Figure 2 plots extremist share of the top-two

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[8]I include the following pre-treatment covariates: previous Democratic presidential vote share; absolute distance from 50% previous Democratic presidential vote share; extreme candidate's individual primary contributions; extreme candidate's logged individual primary contributions; extreme candidate's share of top two candidates' logged individual primary contributions; district median income; district mean income; number of primary candidates. For each covariate, I re-run the main RDD specification with the covariate as the outcome. See Appendix for discussion of choice of covariates and results.

Figure 2. Effect of Nominating an Extremist on General Election Contributions
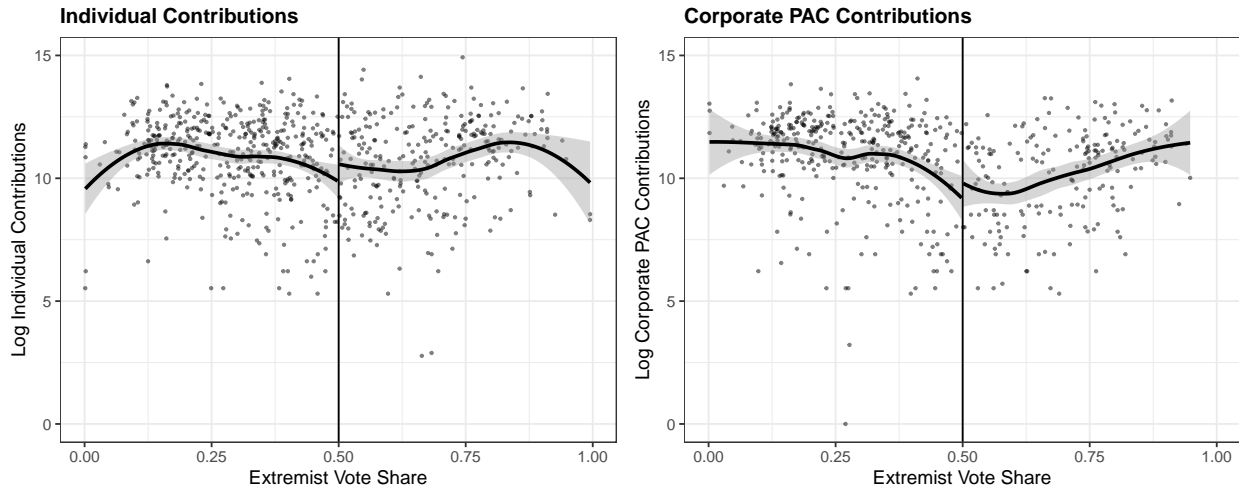
Note: Figures plot relationship between extremist primary vote share and nominee's general election fundraising from individuals (left) and corporate PACs (right). Sample includes races with primary between an extremist and moderate. Horizontal axis plots extremist's share of top-two candidate vote, such that points to the left of the black horizontal line represent moderate victory over extreme candidate, and points to the right represent extremist victory over moderate. Vertical axis graphs logged general election contributions from individuals (left plot) and corporate PACs (right plot). Thick black lines represent loess curves fitted separately on each side of 50% victory threshold, with 95% CI shaded in gray.

candidate primary vote against logged general election contributions from individuals (left plot) and corporate PACs (right plot), with observations to the left of the 50% threshold indicating that a moderate was nominated over an extreme candidate and observations to the right designating an extreme candidate nominated over a moderate. If individual donors are motivated to contribute to extreme candidates and corporate PACs to moderate candidates, we should expect a sharp increase in individual contributions and a sharp decrease in corporate PAC contributions to the right of the 50% extremist victory thresholds in Figure 2. Instead, observing the raw data points and fitted loess curves on either side of the cutoff suggests that just-barely nominating an extreme candidate over a moderate does not lead to significantly greater individual contributions nor lesser corporate PAC contributions than just-barely nominating a moderate over an extremist.

Next, I turn to a formal regression analysis to estimate the size and significance of any discontinuity in general election fundraising that may be present when an extreme candidate is "as-if randomly" nominated compared to a moderate. I report results from mod-

els using the sample that is most likely to bias analyses *toward* a significant finding: races where the gap between the extreme and moderate primary candidates falls in the top 25%, and excluding those with a candidate whose CFscore "disagrees" with their partisanship. These strict requirements for races entering the sample, as well as the stark operationalization of ideology — with the treatment group consisting of extremists nominated over moderates, and the counterfactual group consisting of moderates nominated over extremists — should facilitate the most favorable possible conditions to detect a fundraising discontinuity. Moreover, I present traditional standard errors and do not perform multiple testing corrections despite running numerous models to investigate the same hypotheses, resulting in deflated confidence intervals and corresponding p-values.

Despite these substantial steps taken to stack the deck toward substantively large and statistically significant findings, Table 2 suggests that "as-if randomly" nominating an extreme candidate over a moderate does not affect general election receipts. Extreme House candidates do not appear to raise significantly more funds from individuals than moderate candidates. This lack of statistical significance (despite artificially small standard errors) and the substantive size of the point estimate equalling a mere quarter of one standard deviation is especially stark given the strength of the construction of the treatment and counterfactual groups: the coefficient of interest represents not just a relationship between candidate ideology and individual contributions, but the individual contribution difference between candidates with sharply divergent ideologies. In the Appendix, relaxing sample requirements by allowing for the inclusion of races in the top median of ideology gaps between candidates or with candidates whose ideology "disagrees" with their partisanship produces similarly small point estimates and levels of significance. Overall, the lack of meaningful increase in general election contributions from individuals when an extreme candidate is nominated compared to a moderate suggests that extreme candidates are not systematically advantaged by individual donors.

Likewise, the idea that moderates have an advantage in fundraising from corporate

Table 2. Regression Discontinuity Estimates of the Effect of Nominating an Extremist on General Election Contributions

	log(Individual Contributions)		log(Corporate PAC Contributions)	
Extremist Win	0.42	0.47	0.22	-0.03
	(0.38)	(0.38)	(0.51)	(0.51)
N	297	297	188	188
Bandwidth	0.17	0.17	0.17	0.17
Year Fixed Effects	✓		✓	

Note: Unadjusted standard errors in parentheses. Local linear regressions with Imbens-Kalyanaraman optimal bandwidth and triangular kernel weights. Sample includes primaries in top 25% of distance between top-two candidates' positions, excluding races with a CFscore on the "wrong" side of zero.

PACs over extreme candidates is not borne out by the data. The regression discontinuity estimates of extremist victory on PAC contributions in Table 2 are substantively small, very imprecisely estimated, and not even consistently negative. In the Appendix, I similarly fail to find systematic evidence of corporate PACs penalizing extreme nominees across samples with weaker ideological gap cutoffs and candidates whose ideology "disagrees" with their partisanship: the substantive sizes of the parameter estimates vary substantially across models, and all remain imprecisely estimated despite greater power afforded by larger samples. Given the aforementioned efforts to bias analyses *toward* large and significant effects, these results suggest that extreme candidates are not strongly disadvantaged in corporate PAC fundraising compared to moderates.

Although I have estimated the fundraising effects of nominating an extreme versus moderate candidate using a variety of sample compositions (and model specifications both with and without year fixed effects), it is possible that the choice of dependent variable or bandwidth is obscuring extreme candidates' true penalty from corporate PACs and advantage among individual donors. I take the natural log of campaign receipts due to their highly skewed distribution and the fact that subsequent effects of campaign spending are nonlinear given diminishing returns (Jacobson 1990; Sides, Vavreck, and Warshaw 2022). However, log-transforming contributions may bias effects toward zero by making fundraising differences smallest among the highest spenders. In the Appendix, I estimate

the effect of nominating an extremist over a moderate on raw general election contributions from individuals and corporate PACs via models with and without year fixed effects and across all four samples. Additionally, I re-estimate the same models with the main logged outcome variable using an arbitrary 5% bandwidth in place of bandwidths selected via automated procedures that minimize squared error loss. Current best practices recommend using a data-driven optimal bandwidth to minimize researcher discretion, but I present analyses from this alternatively imposed bandwidth to highlight the strongest possible results in light of the main null finding.

Despite using traditional (deflated) standard errors and not adjusting p-values for the statistical bias present when performing such a large number of tests of the same hypotheses, the effect of nominating an extreme candidate on individual and corporate PAC contributions reaches significance at the 95% level in only 2 of these 48 total models. Across fully independent tests, 5% of these models would be expected to produce statistically significant effects by mere chance in the presence of no true effect. After searching explicitly for significant results across many tests of the same hypotheses, just over 4% of these already-biased models achieve significance at traditional levels.[9]

Heterogeneous Effects

Thus far, we have not uncovered much evidence that nominating an extreme candidate impacts PAC nor individual fundraising. However, analyses have pooled across seat types and levels of competitiveness, which may mask strong *conditional* fundraising differences between extreme and moderate candidates. The potential liability from nominating an extreme candidate varies across electoral contexts such that the penalty is expected to be largest where partisan competition is higher and issues matter more. We can relax the assumption of universal ideology-motivated giving and investigate whether extreme can-

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[9]Making any standard multiple testing adjustments — from more punitive corrections such as Bonferroni to less conservative methods such as Benjamini and Hochberg — to tests of extremist nominee effect on individual and corporate PAC contributions pushes all p-values well above 0.05.

didates raise more funds from individuals where they should fare best and fewer funds from corporate PACs where they are most expected to suffer *ex ante*. If corporate PACs truly prefer moderates over extremists (whether for strategic or expressive reasons), extreme candidates should receive especially fewer such contributions than moderates in competitive districts, where ideological fit is worse, and open-seat races, where valence plays less of a role. Conversely, if individual donors prefer ideological extremism, extreme candidates should receive especially more individual contributions in safe districts where they fit ideologically, and incumbent-challenger races where there is less of an emphasis on issues and ideology.

To test whether nominating an extreme candidate does strongly affect general election fundraising in certain cases, I separately re-estimate a model with an interaction for whether the race was for an open seat (those without an incumbent running in either primary) and a model with an interaction for whether the district is safe for the party, with safe Democratic districts having a previous Democratic presidential vote share of 60% or higher and 40% or lower for safe Republican districts.[10] Table 3 reports the estimated impact of nominating an extreme candidate on logged individual and corporate PAC contributions in incumbent-challenger versus open seat races, as well as in districts not safe for the party versus safe for the party. In the first and third columns, the coefficient on Extremist Win represents an estimate of the casual effect of nominating an extreme candidate over a moderate in incumbent-challenger races, and the coefficient on the interaction represents the additional impact in open-seat races. In the second and fourth column, Extremist Win represents the effect of nominating an extreme candidate in a district that is not safe for the party, with the interaction representing any added impact in districts safe for the party.

Given the greater consideration of policy in open-seat races compared to incumbent-challenger races, where valence plays a greater role, we would expect a large, negative

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[10]To allow the slopes to vary on either side of the extremist victory threshold for the separate seat types, I triple-interact the indicator of interest (safe district or open-seat), extremist vote share, and extremist victory.

Table 3. Regression Discontinuity Estimates of the Effect of Nominating an Extremist on General Election Contributions By Seat Characteristics

	log(Individual Contributions)		log(Corporate PAC Contributions)	
Extremist Win	0.03	0.44	-0.4	0.09
	(0.43)	(0.4)	(0.64)	(0.54)
Extremist Win * Open Seat	1.28		1.79	
	(0.98)		(1.27)	
Extremist Win * Safe		-0.7		0.93
		(1.34)		(1.65)
N	297	297	188	188
Bandwidth	0.17	0.17	0.17	0.17
Year Fixed Effects	✓	✓	✓	✓

First and third columns allow effect of nominating extremist to vary by presence of an incumbent in either party's primary. Second and fourth columns allow effect to vary by whether party is heavily favored based on previous presidential vote share. Unadjusted standard errors in parentheses. Local linear regressions with Imbens-Kalyanaraman optimal bandwidth and triangular kernel weights. Sample includes primaries in top 25% of distance between top-two candidates' positions, excluding races with a CFscore on the "wrong" side of zero.

interactive effect of nominating an extreme candidate in an open seat on corporate PAC contributions. Instead, the open seat interaction in Table 3 is so large and *positive* (albeit statistically indistinguishable) that nominating an extremist in an open seat is, if anything, estimated to have a positive effect on corporate PAC contributions. At the same time, individual donors should feel especially unconstrained to fund extreme candidates in incumbent-challenger races due to the lesser role of policy, yet the small and insignificant coefficient on Extremist Win and positive coefficient on the open seat interaction suggests that individuals do not even disproportionately contribute to extreme nominees over moderate nominees in contests where candidates' ideology is less of a liability. In the Appendix, similarly weak and incorrectly-signed results persist across the three alternative samples. Despite explicitly searching for effects of nominating an extremist on individual and corporate PAC contributions where they should be the strongest, this seat type analysis reinforces the null results from the pooled regression discontinuity.

Similarly, Table 3 suggests that the original results do not mask strong effects by district safety. Because of extreme candidates' better ideological fit in highly co-partisan districts

than districts with more out-partisans, we should observe an additional large positive effect of nominating an extreme candidate in a district safe for the party on individual receipts. However, uniformly *negative* and statistically insignificant estimates on the safe district interaction term persist across all sample specifications. And while corporate PACs would be expected to contribute far less to extreme nominees than to moderate nominees in districts that are not safe for the nominee's party, the positive and tiny coefficient on Extremist Win in the fourth column indicates that this is not the case. If there is no strong, significant increase in individual contributions nor decrease in corporate PAC contributions to extreme candidates compared to moderates even within electoral contexts where effects should be most apparent, the extent to which candidates are systematically funded on the basis of their ideologies is unclear.

Conclusion

Do House candidates' ideologies drive their campaign contributions? Although evidence from state legislatures and donor surveys suggests that individual donors favor extremists while corporate PACs prefer moderates, the challenges of isolating variation in House candidates' ideologies have made it difficult to test whether more extreme candidates have a fundraising advantage among individual donors and a disadvantage among business PACs. Using a close-elections regression discontinuity design, I assessed the impact of nominating an extreme candidate as compared to a moderate on individual and PAC receipts in the general election. Despite taking several steps to bias analyses toward finding substantial effects of candidate ideology on fundraising — including focusing on disproportionately important races with much at stake for contributors, investigating many models without statistical corrections, and explicitly searching for effects where they should be the largest — I find little evidence that extreme candidates systematically garner more funds from individual donors and fewer from corporate PACs than moderate candidates.

While the identification strategy adopted here obtains causal estimates conditional on identifying assumptions being satisfied, the sample and scope conditions of the analyses make these average treatment effects local to cases near the winning threshold and cannot be extrapolated away from the cutoff. In other words, nominating an extremist compared to a moderate may not substantially impact general election fundraising among those who competed in close primaries where the top-two candidates' positions were quite far apart, but there may be an effect in other contexts. As noted in the discussion of Table 1, however, the subset of races upon which these analyses are based are both disproportionately important and actually where we would most expect to observe strong effects.

First, the sample includes only primaries with at least two viable candidates. Uncontested primaries or primaries with just "token" challengers are relatively common, but typically occur in districts with a popular incumbent, where positioning would be expected to play an especially small role in fundraising given the centrality of valence. The sample is further restricted to primaries where the positions of the top vote-getters were sufficiently different. It is possible that these races are systematically different than those where the top candidates are positioned similarly, yet places where only candidates of certain ideologies can perform well are the least relevant for assessing an impact of candidate ideology, as a counterfactual wherein a candidate of a different ideology emerges is unlikely to obtain. Additionally, the RDD relies on close primaries — races where the top two candidates' vote shares were relatively similar. General elections with candidates who earn similar vote shares are obviously different than those with lopsided vote shares, but it is not obvious that this is true of primary elections given their unpredictability (Cooper and Munger 2000). The clear difference between this sample and the universe of primary races is the overrepresentation of open seats — the avenue through which most new House members are elected. Taken together with the oversample of cases from the 2010s, this sample focuses on disproportionately consequential races and those where we would most expect to find different fundraising patterns for extreme candidates versus moder-

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ates.

Although these elections might constitute a particularly relevant set of cases, the research design adopted here investigates just one avenue through which campaign contributors have an opportunity to incentivize political polarization. For instance, individual donors may advantage extreme candidates by helping build up their war chests to war to sufficiently ward off would-be opponents, allowing them to run uncontested in their primary race. Moreover, individual and corporate donors may nevertheless weigh candidates' ideologies heavily in their contribution decisions, yet more instrumental considerations could dominate in practice. While the findings presented here do not preclude campaign finance from creating incentives for certain ideological positions through other means, these results do suggest that candidates' ideologies do not impact their general election fundraising from individual donors nor corporate PACs in an important portion of House races.

Previous studies have documented a connection between candidates' positions and their PAC and individual campaign receipts at other levels of government. However, the lack of institutional variation within the U.S. congressional context has made it particularly difficult to overcome endogeneity issues involved in isolating candidate positioning itself. Identifying quasi-random variation in House nominees' ideologies suggests that candidates with vastly different ideologies do not raise substantially different quantities of funds from individual donors and corporate PACs. While the approach adopted here likewise introduces limitations, this paper builds upon existing work, including recent evidence of strategic individual and corporate donor behavior (Stuckatz 2022; Thieme 2020), by using causal inference to evaluate another potential pathway for money to create incentives for polarization or, alternatively, moderation.

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