Do Small Donors Make a Big Difference in U.S. Elections?: Evidence from 50 Million Campaign Contributions

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Abstract

This paper leverages 50 million small and large contributions to 2020 and 2022 House campaigns, linked to a national voter file and geolocated to the donor's congressional district. With these data, we examine three common claims about small donors and their impact: whether they 1) diversify the donorate, 2) provide a viable fundraising base under small-dollar matching programs, and 3) direct seed funding to extreme candidates, propelling them to office. We find that while small donors do diversify the donorate, their share of the contribution pool is so minimal it may not amplify the voices of the underrepresented. We also show that some small donor matching programs improve candidates' fundraising potential, but less than a third of candidates meet eligibility requirements. Importantly, public financing programs that only match constituent contributions do not elevate candidate fundraising. Finally, contrary to conventional wisdom, we demonstrate that small contributions are unlikely to propel extreme candidates into office. We hope our analyses provide context for researchers and public policy experts navigating the nuances of campaign finance reform.

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Introduction

Small-dollar donating to campaigns has seen explosive growth in recent U.S. elections. From 2012 to 2022, the number of unique small donors increased from less than one million to over 12 million. Small donors now compose half of all campaign contributors (1). In response to this shift, a flurry of news articles, op-eds, and public policy reports have speculated on how the growing small-dollar donor class has impacted politics. In 2022, the New York Times and Washington Post published a combined 300 articles discussing small-dollar fundraising, with provocative headlines like: "The Small-Donor Antidote to Big-Donor Politics", "Small Donors Have A Large Impact on Electoral Races," and "Small-Dollar Donors Didn't Save Democracy—They Made It Worse." However, these and other speculations regarding the consequences of small-dollar donors and donations have gone untested due to data limitations.

Changes in the campaign finance environment have only recently made the systematic study of small-dollar donations possible. Candidates are required to report information on their fundraising to the Federal Election Commission (FEC) on a quarterly basis. Direct contributions totaling more than $200 are required to be *itemized* by campaigns, and these itemized reports provide specific information about individual contributors (e.g., their names, addresses, occupations) as well as amounts contributed. Direct contributions from individuals in quantities aggregating to less than $200 are *unitemized*—that is, candidates report these contributions as a single aggregate total. This data structure impedes research on small-dollar giving because donation-specific and contributor-specific information is not accessible for the vast majority of small-dollar donors (2). Over the past decade, small-dollar giving has increasingly occurred through intermediary fundraising platforms, such as WinRed and ActBlue, rather than directly to a candidate's campaign (1; 3). Under federal law, these so-called "conduit committees" must report donation-specific and contributor-specific information for all donors, *regardless of donation size.*

This paper leverages data reported from conduit committees to explore the political implications of small-dollar giving. Some recent work employs these data to describe who small-dollar donors are and why they donate (1; 4). We advance this burgeoning literature by examining the purported impacts of small-dollar donors and donations on electoral politics. We test three common claims: 1) small-dollar donors diversify the pool of contributors to better resemble the American public; 2) programs for small donor contribution matching provide a compelling alternative to our existing campaign fundraising environment; and 3) small-dollar fundraising propels extreme candidates into office.

We focus our analyses on giving directed to candidates who ran for the U.S. House of Representatives in 2020 and 2022. In these election years, 92% of all small-dollar giving occurred via a conduit committee, providing near-comprehensive information on small-dollar contributors. We analyze every small- and large-dollar donation reported as an itemized contribution to the FEC by a candidate or a conduit

committee during the 2020 and 2022 election cycles (see Materials and Methods, section 1). Our data includes details on over 50 million donations to House candidates, encompassing contributions from 5 million unique small donors and 1.3 million large donors (see Materials and Methods, section 2). We construct demographic profiles for each small and large donor to augment these data by linking FEC records to a national voter file (see Materials and Methods, section 3). Finally, we geolocate each unique contributor to their appropriate congressional district (see Materials and Methods, section 4).

Do Small Donors Diversify the Pool of Campaign Contributors?

The donorate has not historically been representative of the American public. Individuals who contribute large sums to electoral campaigns skew male (5), white (6), wealthy (7), and elderly (4). Demographic disparities between the pool of donors and non-donors are consequential for representation because elected officials are especially responsive to campaign contributors (8; 9). Thus, an unrepresentative donor class may facilitate inequality in political representation (10; 11). Recent work suggests that small-dollar donors may better reflect the demographics of an average American (1; 12). Increases in the participation of small contributors in elections could, therefore, grow the ranks of donors so that they are more similar to the American public at large (13; 14). A more representative donor class has broader implications for politics. As the donor pool becomes more diverse, fundraising for the campaigns of women and people of color increases (4; 6; 15), providing these candidates with an electoral advantage. In this way, diversifying the donorate may help to improve the descriptive diversity of Congress.

Small donor participation has grown exponentially over the past decade, but their overall impact on the demographic composition of the donorate has yet to be tested. Figures 1(A) and 1(B) quantify how much small-dollar donors diversify the donor pool and contribution pool. In these figures, each facet corresponds to a demographic dimension (age, education, gender, race, wealth); each bar reports the percentage of a constituent group who belong to that demographic (the American public, registered voters, all individual donors, and large individual donors). Observations included in the pool of all donors are year-wise, unique individual contributors who we linked to national voter file records (see Materials and Methods, section 3). In the large donor pool, these observations are restricted to individuals who contributed more than $200 to a campaign.[1] Demographic differences between the "all donors" and "large donors" bars are thus attributable to the presence of small-dollar donors in the donorate. To compare the demographics of donor pools to the demographics of the American public, we rely on data from the 2019 and 2022 American Community Survey (ACS). To compare donor pools to registered voters, we rely on demographic data from national voter file records.

[1] Individuals who contributed to multiple campaigns are considered large donors in this analysis if they contributed more than $200 to any one campaign.

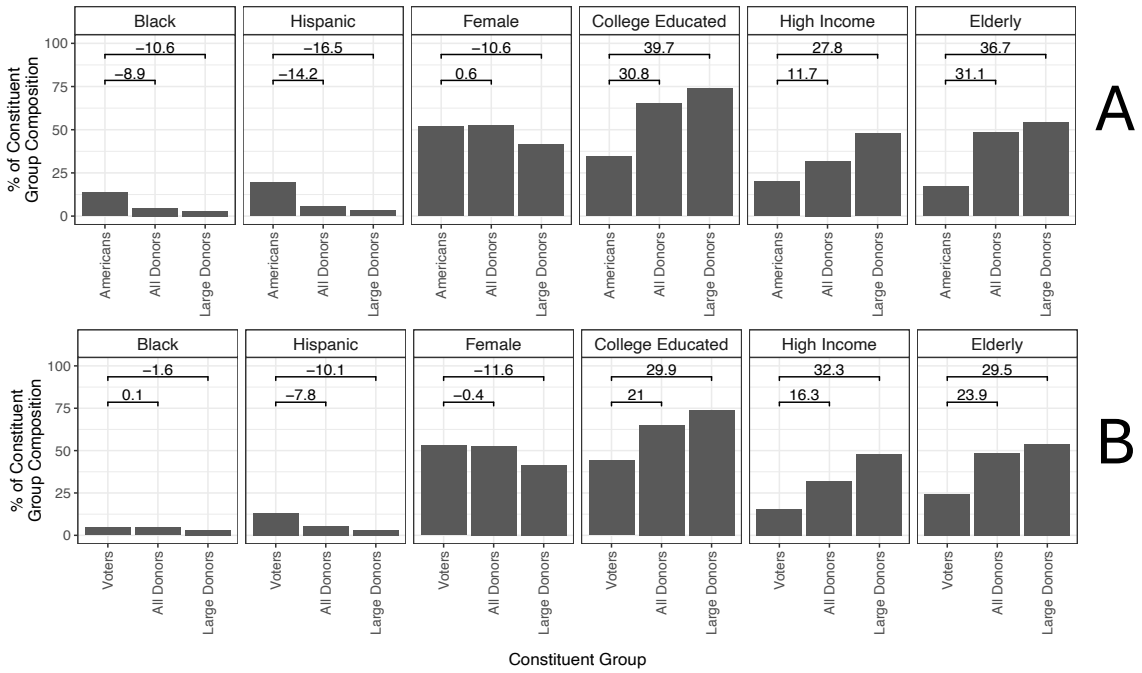

Figure 1: Diversity of the Donor Pool. (A) Percentage of Americans, large donors, and all donors in each demographic category. Brackets report differences between the donor pools and the American public. (B) Percentage of registered voters, large donors, and all donors in each demographic category. Brackets report differences between the donor pools and registered voters. (Demographics) % Black includes individuals who identify as Black or African-American. % Hispanic includes individuals who identify as having Hispanic or Latino origin. % Female includes individuals who identify as female. % College Educated includes individuals who graduated from a 4-year college or university. % High Income includes individuals whose household income exceed $150,000. % Elderly includes individuals aged 65 or older.

As Figure 1(A) and 1(B) indicate, small contributors make the donorate more representative across every demographic dimension, though not to the degree that it reflects the diversity of the American public nor registered voters. Bracketed statistics in Figure 1(A) denote the percentage difference in demographic composition between the American public and the donor pool. Positive values indicate that the donor pool is composed of *less* of a particular demographic group than the American public; negative values indicate that the donor pool is composed of *more* of a particular demographic group. Bracketed statistics in Figure 1(B) denote the percentage difference in demographic composition between the American public and registered voters. Per Figures 1(A) and 1(B), the presence of small contributors *increases* the proportion of people who identify as Black, Hispanic, and female in the donor pool. Small contributors' presence *decreases* the proportion of people who are elderly and college-educated, as well as high-income earners in the donor pool.

Small donors have the greatest impact on the demographic composition of the donorate from a wealth dimension. High-income earners are over-represented in the large donor pool compared to the general public and registered voters. Per the second-to-right facet of Figure 1(A), the inclusion of small contributions reduces the wealth disparity between the donor pool and the general public from a nearly 30 percentage point difference to a 12 percentage point difference. Figure 1(B) depicts a similar relationship,

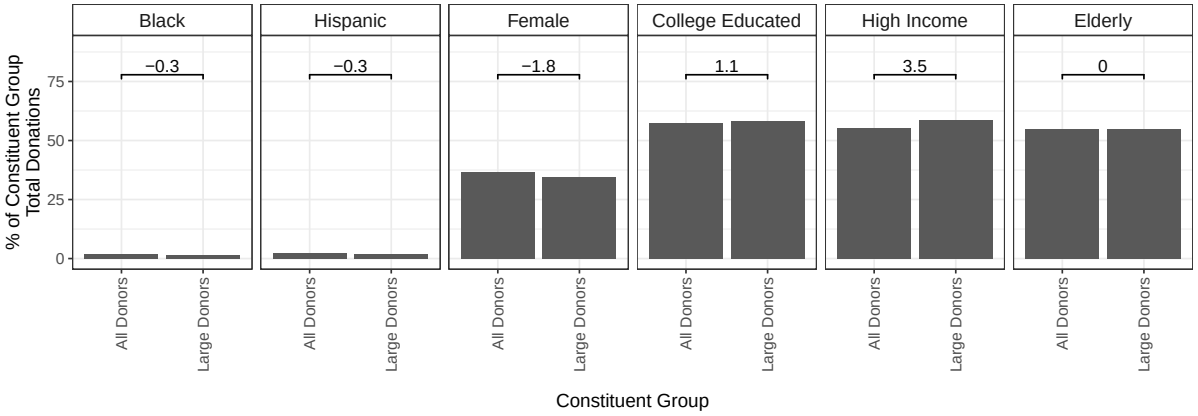

Figure 2: Diversity of the Contributor Pool. Percentage of total donations from large donors and all donors from each demographic category. (Statistics) Brackets report differences between the complete donor pool and the large donor pool. Positive values indicate large donor pool is less composed of a demographic group; negative values indicate the large donor pool is more composed of a demographic group.

the wealth disparity between the donor pool and registered voters declines by 16 percentage points with the inclusion of small donors.

In Figure 2, we examine diversity in the donor pool from a different perspective. We quantify the percentage of total individual contributions given by donors who belong to a particular demographic category. By examining total fundraising rather than counts of contributors, we quantify the relative "voice" various demographic groups possess through fundraising. If contributions from small donors compose a significant percentage of total fundraising, these contributions should equalize the over- or under-representation of particular groups in the large donor fundraising pool. Bracketed statistics denote the percentage difference in demographic composition between the complete contribution pool and the pool of contributions from large donors. We see virtually no difference across distributions in Figure 2; the inclusion of small dollar donors does not shift the relative "voice" of various demographic groups within the contributor pool. Unlike Figures 1(A) and 1(B), where the sizable contingent of small donors impacted the demographic distribution of the *donor pool*, the relatively meager total fundraising of small donors does not shift the demographics of the *contribution pool*. Our findings across these analyses underscore the large-scale size but weak relative financial power of the small-dollar donorate.

Can Small Donor Matching Serve as a Viable Financing Alternative?

A common refrain about modern politics is that politicians better represent the interests of the wealthy because they are beholden to onerous fundraising expectations. Raising money is a vital component of electoral campaigns. It is required to build a campaign infrastructure (16), to ward off electoral challengers (17), and to demonstrate viability in competitive races (18). Studies affirm the relationship between fundraising and electoral success, finding that the more money a candidate raises, the more likely

she is to win her election (18; 19; 20; 21). As illustrated in Figures 1 and 2, wealthy contributors comprise the bulk of large donors, and their donations constitute a majority of individual contributions. Given the importance of fundraising to (re)election prospects, it follows that candidates are highly responsive to the resource-rich contributors who "underwrite" their campaigns (8; 20; 22). Everyday Americans acknowledge this representational inequality: eight in ten U.S. adults say people that donate large sums of money to campaigns and special interest groups have outsized influence on the decisions of members of Congress (23).

Campaign finance reformers assert that small donor matching programs can re-balance politicians' representational incentives. It has not traditionally been economical for politicians to pursue a fundraising strategy focused on small donors; courting these contributors was too costly for their minimal donations. Today, technological advances have made accessing and engaging with small-dollar donors more affordable (3; 24). However, for most candidates, the electoral importance of small-dollar donors is still inferior to that of large-dollar donors. In 2022, large donations composed at least a majority of fundraising from individual contributors for all but eleven members of Congress (25). Matching programs seek to bridge this gap in donor electoral importance by using public funds to supplement small contributions at some pre-determined ratio up to a fixed limit. For instance, under New York State's small-donor matching program enacted in 2022, candidates for state-wide office receive a \$6-to-\$1 match for small donations up to \$200. For candidates who qualified and opted-in to New York's matching program, this meant a \$200 donation produced an additional \$1,200 for their campaign. In this way, matching programs incentivize candidates to seek out a range of supporters rather than just wealthy donors.

Small donor matching programs may be especially effective at elevating the voices of individuals within a politician's own constituency. Today, donors from outside a politician's district make up the majority of individual contributions (26). In 2018, the median general election candidate for the U.S. House raised just 31% of their individual contributions from in-district donors; in 2020, this number was 23% (27). This is troubling for representation as members of Congress who rely more heavily on out-of-district donations prioritize responsiveness to these contributors over their geographic constituents (26). Some work finds that constituents perceive this poorer quality of representation and view themselves as at a representational disadvantage relative to out-of-district donors (23; 28).

In states and localities that have adopted small-donor financing reforms, rates of candidate participation are promising (29; 30)—whether this kind of success would translate to federal elections is unclear. The composition of the donorate in congressional elections may too heavily favor large, out-of-district donors for a small donor matching program to enjoy comprehensive adoption. Most matching programs place strict limits on large-dollar fundraising to maximize representational benefits; for federal

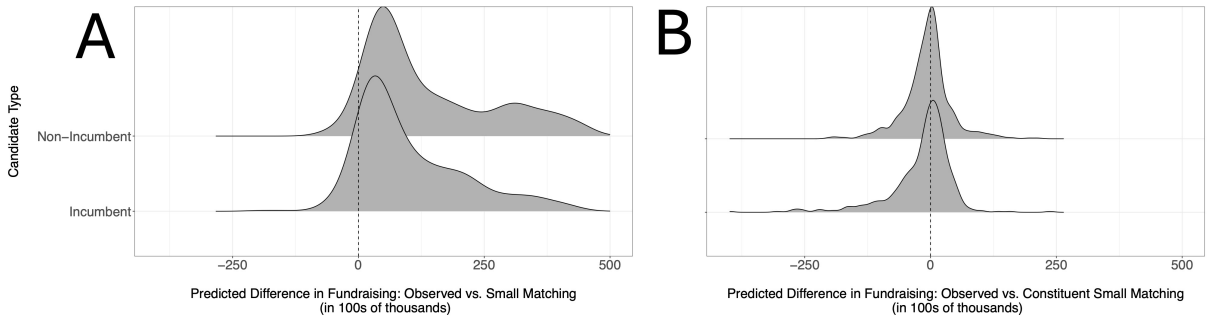

Figure 3: Distribution of difference in observed and simulated fundraising for incumbent and non-incumbent predicted difference in observed vs. small matching (A) and observed vs. constituent small matching (B). Predictions presented in the 100s of thousands.

candidates, these limits may outweigh the gains made by opting in.

We simulate counterfactual fundraising outcomes under different small-donor matching regimes using observed data from the 2020 and 2022 U.S. House elections to predict opt-in rates among congressional candidates (see Materials and Methods, section 5). We assume that candidates will opt-in to matching programs if doing so will elevate their fundraising potential.[2] We apply the qualifying and matching rules put forward in the Freedom to Vote Act introduced as H.R. 1 in 2021, which passed by a party-line vote in the House and was filibustered in the Senate (34). Under this legislation, candidates can opt-in to the matching system if they raise at least 1,000 contributions of $200 or less, in an aggregate amount of $50,000 or more. Participating candidates receive a 6-to-1 match on contributions of up to $200 per donor.[3] However, participating candidates must also limit their contributions to no more than $1,000 per donor, compared with the current limit of $2,800. To provide an additional point of comparison, we assess an alternative variant of the H.R. 1 that has been put forward by public policy experts (30; 33). Under this financing regime, small donations are only matched for constituent contributors (i.e., small donors in a candidate's own district). This matching program better aligns with the structure of previously enacted matching programs and works specifically to increase representatives' responsiveness to their constituents.

Figure 3 plots the distribution of differences between a candidate's observed fundraising and simulated fundraising (for more detail, see Materials and Methods, section 6). Figure 3(A) depicts differences in observed fundraising and small donor matching for all small contributions; Figure 3(B) depicts differences

[2]Our analyses face several important limitations. First, we do not account for the mobilization effects of small donor matching programs that may further expand the small donorate (29; 31; 32). Second, we do not account for the strategic motivations of large donors who could choose to spread their wealth over a greater number of candidates under a matching system (33). Finally, we do not account for other potential drivers that may motivate candidates to opt-in to small donor matching programs, such as moral qualms with accepting large donations.

[3]Per H.R. 1, 116th Cong. § 5111 (2021), if a given contributor exceeds to $200 giving threshold for a specific candidate, all of their contributions are non-qualifying for matching. Per H.R. 1, 116th Cong. § 501(c) (2021) the total amount of matching for a candidate is capped at half of the average of the 20 most expensive winning campaigns in the previous cycle.

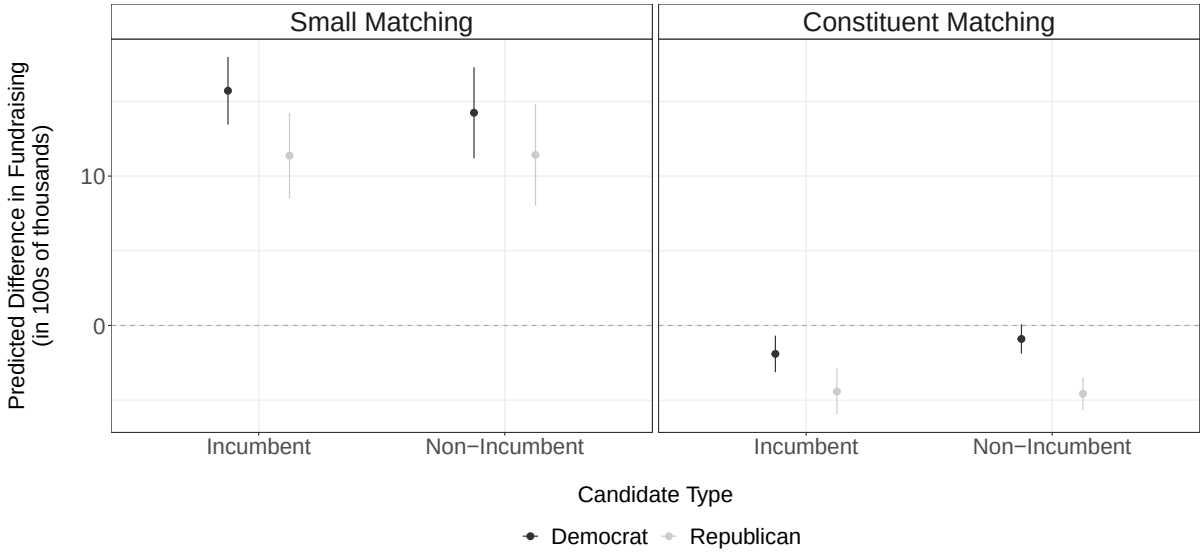

Figure 4: Predicted differences between a candidate's observed fundraising and simulated fundraising from in district and small dollar donors, respectively. These are predicted separately for incumbents and non-incumbents. Control variables are held at their means unless otherwise stated. Tables A1 and A2 are the associated regression tables.

in observed fundraising and small donor matching for in-district contributors (i.e., constituent small contributors). Units of analysis include all qualifying candidates, which composes about 27% of the candidate pool in U.S. House elections for 2020 and 2022.[4] Positive values indicate that a candidate garnered *more* campaign contributions by opting-in to a matching scheme; negative values indicate *less* fundraising under a matching opt-in. As Figure 3 illustrates, some candidates benefit from matching programs, while others are disadvantaged. Overall, a greater proportion of candidates benefit under a full small donor matching program than a regime that only matches small donations from constituents.

To more rigorously assess the predictors for candidate (dis)advantage under various small donor matching systems, we model differences in observed and simulated fundraising. In our models, we explore various district and candidate-level factors that could affect the cost-benefit of opting-in to small donation matching. In particular, we explore electoral competitiveness, the presence of an incumbent in the race, and district economic conditions. In addition to examining different fundraising schema, we produce predictions for two sets of qualifying candidates: incumbents and non-incumbents. We examine incumbents in isolation because these politicians are thought to be especially reliant on wealthy donors. Further, because these politicians are current officeholders, examining their predicted fundraising is especially pertinent to questions of representation.

Figure 4 presents predicted differences in observed versus simulated fundraising. Predictions presented hold all independent variables at their observed mean or mode. Turning first to our full small

[4]We use a candidate's observed fundraising to determine donation matching eligibility. See Materials and Methods, section 5 for more details.

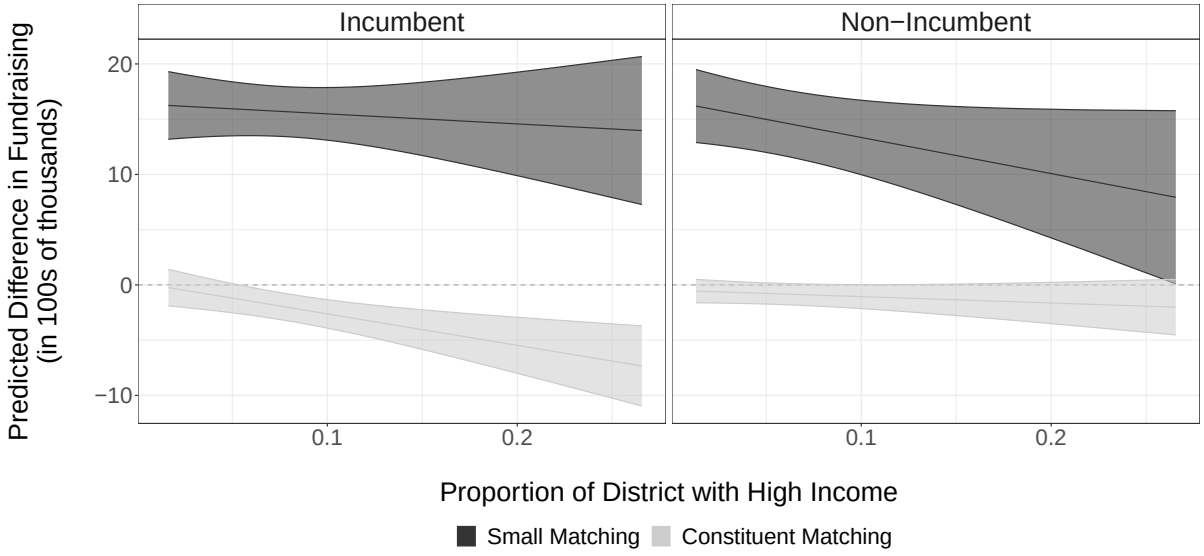

Figure 5: Predicted probabilities of the difference between in-district and small donations received for incumbents and state legislators, by the proportion of their district that is high income.

matching predictions, we find that, after accounting for electoral and district factors, candidates raise a greater sum of campaign contributions under a public financing regime where all small contributions are matched. Under this system, a candidate who qualifies for matching would garner $1.5 million more in campaign contributions than their observed fundraising total. While this increase in fundraising would be a boon for these candidates, recall that *over two-thirds* of all candidates did not qualify for a matching program. Given that fundraising disparities already create significant gaps in electoral competitiveness (18), our findings highlight a major weakness of small donor matching programs. Turning next to constituent small matching, we find that incumbents performs significantly worse in fundraising and non-incumbents fundraising does not significantly improve under this regime. Although a constituent matching program may be preferable because it works to strengthen the representative-constituent linkage, our findings suggest that these programs will not enjoy widespread opt-in by candidates because they lack a fundraising payoff.

Next, we evaluate the extent to which specific characteristics make candidates better or worse off under different matching schemes. As rational actors, we can expect that if a politician perceives that she will be worse off under a reform, she is less likely to uptake. We present predicted differences in fundraising (in hundreds of thousands of dollars) between small matching and constituent matching for incumbents and non-incumbents, by the proportion of their district with high income in Figure 5.[5] As the proportion of wealthy constituents increases, the value of opting into a matching program decreases. For incumbents, those in wealthier districts are worse off under a small dollar matching program and

[5]Additional figures showing the predicted differences for incumbents and non-incumbents by party, district competitiveness, and open seat, and the proportion of a district that is unemployed, are in Appendix Figures A1, A2 and A3.

notably worse off with constituent matching. While non-incumbents' predicted benefit from a constituent matching program is about the same regardless of the wealth of their district, we find that they are much worse off in fundraising if their district is wealthy under a small matching program. The difference in predicted fundraising for non-incumbents from matched small dollars is hundreds of thousands of dollars less in the wealthiest districts than in poorer districts for non-incumbents. While small-dollar matching schemes may have the most positive impact in less wealthy districts, as we showed above in Figures 1(A) and 1(B), wealthy donors would continue to have an outsized impact even under these schemes—and they are unlikely to support reforms that lessen their impact.

Have Small Donors & Donations Propelled Extreme Candidates to Office?

Enthusiasm for growing the small dollar donorate is not universal; there is some concern that small donors are especially extreme and that their donations propel candidates with similar ideologies into Congress, perpetuating polarization. Moderate incumbents are increasingly leaving office—either because of retirement or a failed reelection bid—and the politicians replacing them are more ideologically extreme than their predecessors. This trend in member replacement is responsible for much of the partisan polarization seen in Congress today (35). Although many explanations exist for the increase in extreme politicians reaching office, donors are often held responsible for this trend because they disproportionately direct fundraising towards extreme candidates (36; 37). Individuals who donate to campaigns tend to be politically active (38) and ideologically sophisticated (8). Extant work finds that small-dollar donors share these qualities; they are as—if not more—extreme in their ideological leanings than the average individual contributor. Further, unlike other contributors, small donors are often motivated to give because of ideological homophily rather than for partisan or strategic reasons (1; 9; 12; 36).

Extreme candidates often lack support from the party establishment (39), leading some to conclude that their campaigns are propped up by grassroots fundraising from small-dollar donors. This view aligns with research finding that candidates closer to the ideological poles of their party tend to rely on small donors for a greater share of their fundraising (12). The association between small-dollar giving patterns and ideological extremity is also apparent in observational data. Marjorie Taylor Green (R-GA), Alexandria Ocasio-Cortez (D-NY), and Matt Gaetz (R-FL) were all among the top small-dollar fundraisers in 2022. These and other extreme incumbents are especially good at attracting small-dollar donors because of their leadership status, celebrity, high-visibility stunts, and political brands (1; 33).

A critical, unexplored factor that ties to the electoral importance of small-dollar fundraising is the timing of these contributions. A long line of work finds that contributions received by a candidate *early* in her campaign especially impact future fundraising and electoral success (20; 40; 41; 42). This is

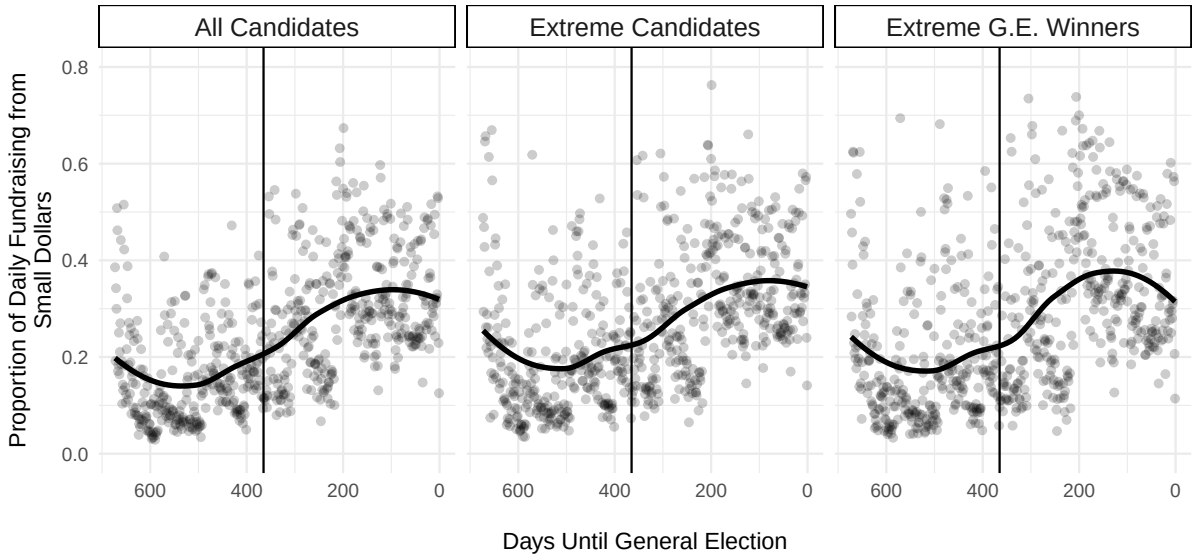

Figure 6: Daily Proportion of Small Donations in 2020. The numerator is summed small dollar donations garnered by all candidates on a given day; the denominator is total contributions garnered by all candidates on a given day. LOESS lines included to visualize time trends. The vertical reference line indicates 365 days until the general election.

because early money is seed money for a candidate's entire campaign effort—it is needed to hire staff, hold events, and run advertisements. Early money also signals campaign viability; candidates who raise money early are thought to have more favorable electoral odds, leading them to raise even more money. Finally, given the increasing competitiveness of primary elections, securing ample fundraising well before a nominating contest is vital (36). Indeed, the locus of electoral competition today lies in the primary—the vast majority of congressional districts heavily favor one party over the other, leading to wholly uncompetitive general elections.

If small donors are propelling extreme candidates into office, then we should expect their contribution activity to come early in the election season and to compose a large segment of the donation pool. Figure 6 plots the daily proportion of small donations garnered by candidates in the 2020 election for the U.S. House as a function of time until the general election. The numerator is summed small donations garnered by candidates on a given day; the denominator is total contributions garnered by candidates on a given day. Proportions are calculated for all candidates, extreme candidates, and extreme general election winners.[6] LOESS lines are included to visualize trends, and the vertical reference line indicates 365 days until the general election.

As Figure 6 illustrates, small contributions make up less than 20% of all fundraising garnered by candidates early in the election season; this statistic is only slightly higher for extreme candidates and general election winners. A year before the general election, small-dollar donations still compose about

[6]We use candidate estimates from Case (2024) to determine candidate ideology. Estimates are based on scaled campaign platform text. We consider a candidate to be extreme if her ideology score is greater than the party mean.

20% of contributions for all candidate types. It is not until the final 100 days of the campaign that small dollars comprise a greater share of daily fundraising, topping out at 40% of all daily contributions for extreme general election winners. Nearly all primaries are complete at this point in the election season, and most candidates are advancing to uncompetitive general elections. In this way, our results challenge the conception that small donors propel extreme candidates' campaigns. Per our results, their giving activity ramps up too late in the election season to have a sizeable impact on outcomes.

Discussion

There is no shortage of significant obstacles to representation because of our current campaign finance environment. Some are hopeful that increasing the participation of small donors will have positive externalities on the political process—leading to a more diverse donorate and elevating the campaigns of underrepresented and underfunded candidates' campaigns (30; 43; 15; 13). Others are more cautious, highlighting the dangers of a growing small dollar donorate, namely that this subset of contributors perpetuates polarization by sending extreme politicians into Congress (12; 33). It has historically been difficult for researchers to test whether these refrains about small-dollar donors are true systematically. In this paper, we are among the first (with (1; 20), among others) to attempt this task. To that end, we examine whether small donors: 1) diversify the donorate, 2) provide a viable fundraising base under small-dollar matching programs, and 3) provide the seed funding extreme candidates need to reach office. To do so, we examine over 50 million small and large contributions to 2020 and 2022 House campaigns, linked to a national voter file and geolocated to the donor's congressional district.

We find that the benefits and drawbacks of an expanded small-dollar donorate are perhaps more complicated than commonly thought. Although small donors improve the descriptive diversity of the pool of campaign donors, their share of the contribution pool is too meager to elevate the voices of the underrepresented. Furthermore, small donor matching programs improve the fundraising potential of many candidates who qualify, but these politicians compose less than a third of the entire candidate pool. Moreover, candidate fundraising potential *does not* improve under a public financing regime that only matches contributions from constituents. Finally, we uncover little evidence that small donors are propelling extreme candidates into office—these contributors give too late in the campaign season to impact the outcomes of primary elections, missing out on the most competitive stage of modern elections.

For the first time in decades, the American public has placed "the role of money in politics" as one of the most important problems facing the United States (23). There is no question that campaign finance reforms related to small dollar donors and donations will continue crop up across the country. Candidates

now regularly tout statistics about average donation sizes and the composition of their donor pool to demonstrate a commitment to small-dollar fundraising and rejection of big-money politics. Multiple states are considering adopting public financing reforms similar to that of New York, and proposals for a federal-level small dollar matching programs have been introduced at the start of session of Congress since 2019. We hope our analyses will provide context for other researchers and public policy experts seeking to navigate this complex and nuanced issue.

Materials & Methods

1. Querying Data from the Federal Election Commission

We compiled data on all campaign contributions using the OpenFEC API. First, we queried the API for all contributions reported by WinRed, ActBlue, and other conduit committees for the 2020 and 2022 elections. Data employed from conduit committees reflects the most up-to-date report version histories as amended. Recall that conduit committees must report all contributions to the FEC of any size; conversely, candidates must only itemize contributions in their reports if a given individual's donation exceeds $200 or that individual's donations aggregate to greater than $200 over the course of the election cycle. We extracted committee IDs reported in each contribution's receipt memo to attribute contributions made through conduit committees to a specific candidate. Since 2009, these memos have adopted a standard template of text: EARMARKED FOR CANDIDATE COMMITTEE NAME (COMMITTEE ID). We extracted the ID reported within these parentheses. Any contribution that was not earmarked for a specific committee was dropped.

Next, we queried the API for all itemized contributions reported by candidate campaign committees. We restricted these data to include contributions from individuals, political party committees, and other political committees. These contributions are reported in Schedule A, Form 3 records on Lines 11(a)(i), 11(b), and 11(c); they summarize a candidate's total itemized contributions minus a candidate's personal contributions to her own campaign. These totals do not include refunds, loans, or other receipts. Data employed from committee reports reflect the most up-to-date report version histories as amended. To attribute itemized contributions data to candidate committees, we relied on the committee IDs tied to fundraising reports filed by campaigns. To avoid double-counting receipts, we drop all itemized contributions reported by candidate committees that were donated via a conduit committee. This was achieved by excluding contributions with transaction type 15E. We also excluded contributions with memo text or a receipt type that included the strings: "WINRED" or "ACTBLUE".

In our conduit committee data and itemized campaign receipts data, we restrict observation to include

only contributions made to the principal fundraising committees for a specific candidate's campaign, as defined by the FEC's candidate-committee linkages.

2. Identifying Small-Dollar Donors

To discern small- and large-dollar donors among individual contributors required several steps. First, we produced unique identifiers for each name and address observed in our data. Next, we aggregated contributions using a fuzzy match by year-name-address-committee. This produced year-wise contribution totals for each unique donor to each principal candidate committee. Observations are considered small-dollar donors if (1) their aggregated contributions to a given campaign did not exceed $200 in a given year and (2) they are individuals rather than a political action committee or other committee. We consider all contributors specified with the is_individual boolean returned in OpenFEC API queries to be individuals.

3. Campaign Contribution-Voter File Linkage

We link FEC records to a national voter file to augment the demographic details available for campaign contributors. Specifically, we rely on snapshots of the L2 voter file taken in October 2020 and October 2022. We employ the probabilistic record linkage model **fastLink** to merge these data sets. We match on first name, last name, and street address; in our implementation, we block on census tract so that potential linkages are made only on maximally similar geographic groups. We consider a FEC record and a voter file record to be "matched" if the posterior probability of a match is 0.85. In our data, 73% of all unique individual campaign contributors are matched to a voter file record; more specifically, we secure a match for 70% of small-dollar donors and 76% of large-dollar donors. This approximates the match rates found in other research that pairs national voter files with fundraising data (44; 4).

4. Geolocating Campaign Contributors

To geocode individual contributors into congressional districts, we translate addresses reported in FEC data into latitude and longitude using the Census Batch Geocoding service.[7] This approach uses street, city, state, and zip code to geocode an address to the corresponding latitude and longitude. Using this approach, we identify each donor's census tract, census block, and congressional district with TIGER files for the corresponding election year, accounting for redistricting between the 2020 and 2022 elections. This geocoding procedure produces an exact or partial geocode match for 91% of the unique individual

[7] This service provided by the Census Bureau identifies the latitude and longitude for a given address, as well as other geographic boundaries for a given address, such as its county or water district.

contributors in our data.[8] The 9% of individual contributors who could not be matched largely constitute individuals who listed a P.O. boxes as an address in their contribution reporting form.

5. Simulated Small Dollar Fundraising Data

To determine simulated fundraising totals under (1) a full small donation matching program, and (2) a constituent-oriented small donation matching program, we first determine each candidate's eligibility under observed data. Per H.R. 1, 116th Cong, a candidate is eligible for small donation matching if they raise at least 1,000 contributions of $200 or less, in an aggregate amount of $50,000 or more. Using these conditions, we identified 553 of 2,045 candidates as eligible for public maxxfPtching in 2020, and 559 of 2,109 candidates in 2022. To produce simulated fundraising for eligible candidates, we next determined whether a given candidate met the public match limit in that election year. Per H.R. 1, 116th Cong. § 501(c) (2021) the total amount of matching for a candidate is capped at half of the average of the 20 most expensive winning campaigns in the previous cycle. In 2020, we calculated the public match limit as $4.7 million; in 2022, we calculated the public match limit as $4.9 million. If a candidate met the match limit, to produce fundraising totals we summed: the amount of small donations she raised, the match limit, the amount of large donations she raised (where all donations over $1,000 were capped at this amount), and her total amount of PAC fundraising. If a candidate *did not* meet the match limit, we determined how close she was to reaching the limit and how many maxed-out $200 donations it would take to make up this difference. We then replaced the fundraising totals for this many large contributions with a $200 matchable donation.[9] To produce fundraising totals for these candidates, we summed: the amount of small donations she raised, the total match value, the amount of large donations she raised (where all donations over $1,000 were capped at this amount), and her total amount of PAC fundraising.

6. Models for Fundraising Differences

To predict simulated fundraising from in district and small dollar donors, we estimated several OLS (ordinary least squares) regression models. The full regression equation for all models is Equation 1.[10] The unit of analysis is a congressional candidate, i, during either the 2020 or 2022 election cycle who qualified for a matching program. The dependent variable is either (1) the difference in observed fundraising and simulated fundraising from in district donors ('Constituent Matching') or (2) the difference in observed

[8] Partial matches largely constitute small deviations between a reported address from a campaign contributor and a Census-verified address (e.g., st. vs. street).

[9] Under a public matching system, a $200 donation equates to $1,400 in total fundraising making it more powerful than a maximum $1,000 large donation.

[10] Note that the incumbent model does not control for previous electoral experience ('Other Elected' and 'Previous Legislator') or if the seat was open. The non-incumbent model does not include the variable for being unopposed in the general.

fundraising and simulated fundraising from small dollar donors ('Small Matching'). We estimated models on two different sets of candidates: incumbents running for re-election and non-incumbents. For each model, we controlled for several district- and election-level variables.

$$MatchedDifference_i = PropHighIncome_i + PropUnemployed_i + OtherPartySafe_i + SamePartySafe_i + PropNonWhite_i + PropElderly_i + UnopposedGeneral_i + NumPrimaryCands_i + Party_i + OtherElected_i + PrevLegislator_i + OpenSeat_i + Ideology_i + ElectionYear_i + \epsilon \quad (1)$$

First, we compile congressional district-level demographic data from the Census Bureau using the American Community Survey (ACS). For the 2019–2020 election year analysis, we use estimates from the 2019 ACS, and for the 2021–2022 election year analysis, we use estimates from the 2022 ACS.[11] We collect variables from the ACS for congressional district income, unemployment, age, race, and gender.[12] Second, we consider a district to be competitive if the Democratic presidential candidate's vote share aggregated over all previous elections since the last redistricting was between 42.5 percent and 57.5 percent. If the candidate is a Democrat and the Democratic presidential candidate's average vote share was less than 42.5 percent, or the candidate is a Republican and the Democratic presidential candidate's average vote share was greater than 57.5 percent, then the district is considered other party safe. However, if a candidate is a Democrat and the Democratic presidential candidate's average vote share was greater than 57.5 percent, or the candidate is a Republican and the Democratic presidential candidate's average vote share was less than 42.5 percent, then the district is considered same party safe. Third, we control for whether a candidate was unopposed in the general election in 2020[13] or 2022[14], respectively. Fourth, we control for the number of primary candidates who ran in a race. Fifth, we control for whether the seat was open (i.e., if an incumbent did not run in the race). Sixth, we control for the candidate's political party. Seventh, we control for relevant political experience (for non-incumbents)– whether a given candidate had previously held elected office or specifically was previously a legislator. Eighth, we control for candidate ideology with a measure available for incumbents and non-incumbents from Case (2024), which uses online messaging ideology. Finally, we control for whether the candidate ran in 2020 or 2022.

With the OLS models, for each dependent variable and candidate type we predict difference between

[11] There is no 2020 ACS.

[12] Specifically, we take the proportion of each district before and after redistricting that is high income (i.e., income $150K or more), proportion of the district that is unemployed, proportion of the district that is elderly (i.e., 65 or older), proportion of the district that is nonwhite (i.e., proportion Black, Hispanic, Asian, Native American, Pacific Islander, multiracial, or other), and proportion female.

[13] https://ballotpedia.org/U.S._House_elections_without_a_Democratic_or_Republican_candidate,_2020

[14] https://ballotpedia.org/U.S._House_elections_without_a_Democratic_or_Republican_candidate,_2022

observed and simulated donations and associated 95 percent confidence intervals. For each we keep proportion high income, proportion unemployed, proportion elderly, proportion nonwhite, and candidate ideology and number of primary candidates at their means. Further, we hold districts as competitive, party as Democratic, seat as open, and the year at 2020. We choose these values for our predictions to represent the cases where small dollars are most likely to make a difference.

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Appendix

Table A1: These are the full regression results used to create the difference in small dollar estimates in Figure 4.

	Dependent Variable: Small Matching	
	Incumbents	Non-Incumbents
	(1)	(2)
DistHighIncome	−911,134.000	−3,269,790.000*
	(1,712,581.000)	(1,748,742.000)
DistUnemployed	−11,362,513.000	−5,133,137.000
	(12,551,951.000)	(12,088,804.000)
OtherPartySafe	327,164.000	−121,696.000
	(646,251.000)	(155,656.000)
SamePartySafe	−452,699.000***	−497,532.000***
	(121,096.000)	(161,569.000)
DistNonWhite	149,713.000	223,079.000
	(241,048.000)	(257,325.000)
DistElderly	−1,047,302.000	−1,477,980.000
	(1,862,725.000)	(1,838,044.000)
UnopposedGeneral	−45,082.000	
	(241,196.000)	
NumPrimaryCands	28,262.000	2,684.000
	(37,079.000)	(24,455.000)
Republican	−434,635.000***	−282,302.000**
	(138,490.000)	(122,956.000)
OtherElected		13,395.000
		(184,479.000)
PrevLegislator		202,709.000
		(149,826.000)
OpenSeat		−262,830.000*
		(138,334.000)
Ideology	229,576.000	403,385.000**
	(145,714.000)	(179,946.000)
2022	−37,078.000	−79,713.000
	(129,321.000)	(131,258.000)
Constant	1,753,136.000***	1,820,751.000***
	(513,028.000)	(510,369.000)
N	401	507
R^2	0.086	0.062
Adjusted R^2	0.060	0.037
Residual Std. Error	1,093,612.000 (df = 389)	1,257,213.000 (df = 493)
F Statistic	3.341*** (df = 11; 389)	2.498*** (df = 13; 493)
N	401	507
R^2	0.086	0.062
Adjusted R^2	0.060	0.037
Residual Std. Error	1,093,612.000 (df = 389)	1,257,213.000 (df = 493)
F Statistic	3.341*** (df = 11; 389)	2.498*** (df = 13; 493)

*p < .1; **p < .05; ***p < .01
Unit is a candidate-election year.

Table A2: These are the full regression results used to create the difference in district estimates in Figure 4.

	Dependent Variable: Constituent Matching	
	Incumbents	Non-Incumbents
	(1)	(2)
DistHighIncome	−2,843,361.000***	−574,768.000
	(926,709.000)	(561,871.000)
DistUnemployed	−7,918,970.000	5,652,645.000
	(6,792,091.000)	(3,884,138.000)
OtherPartySafe	−131,682.000	212,022.000***
	(349,699.000)	(50,012.000)
SamePartySafe	301,087.000***	17,850.000
	(65,527.000)	(51,912.000)
DistNonWhite	−338,681.000***	−387,805.000***
	(130,435.000)	(82,679.000)
DistElderly	1,621,268.000	470,820.000
	(1,007,955.000)	(590,564.000)
UnopposedGeneral	34,406.000	
	(130,515.000)	
NumPrimaryCands	−42,607.000**	−7,667.000
	(20,064.000)	(7,857.000)
Republican	−251,898.000***	−366,786.000***
	(74,939.000)	(39,506.000)
OtherElected		91,542.000
		(59,273.000)
PrevLegislator		114,654.000**
		(48,139.000)
OpenSeat		−139,156.000***
		(44,447.000)
Ideology	−2,762.000	105,945.000*
	(78,848.000)	(57,817.000)
2022	−142,886.000**	−25,161.000
	(69,978.000)	(42,173.000)
Constant	166,637.000	14,445.000
	(277,609.000)	(163,982.000)
N	401	507
R^2	0.153	0.305
Adjusted R^2	0.129	0.287
Residual Std. Error	591,774.000 (df = 389)	403,943.000 (df = 493)
F Statistic	6.402*** (df = 11; 389)	16.680*** (df = 13; 493)

*p < .1; **p < .05; ***p < .01
Unit is a candidate-election year.

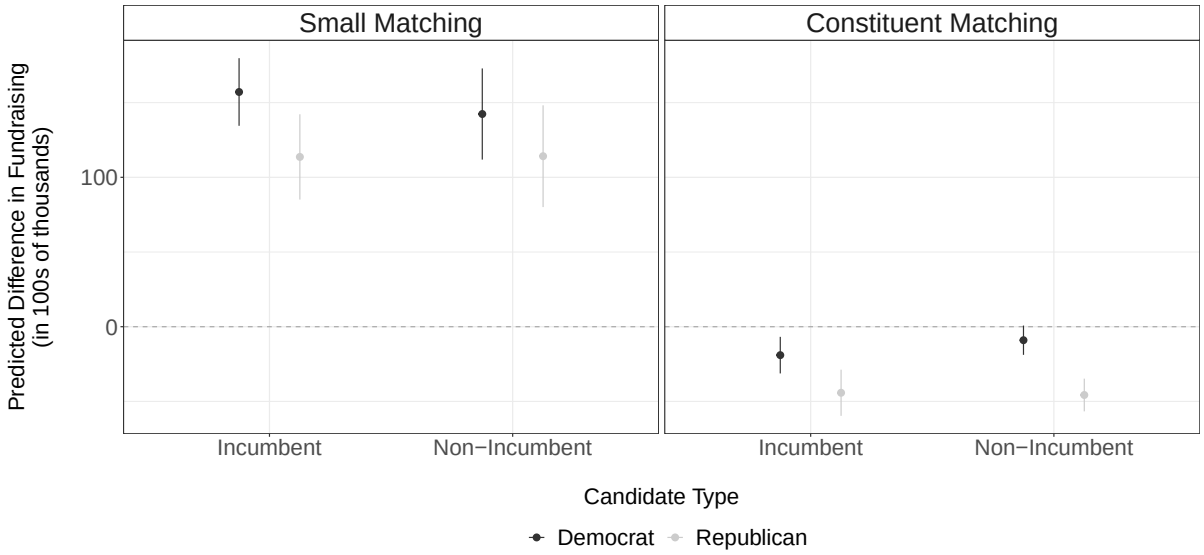

Figure A1: Predicted probabilities of the difference in in district and small donations received for incumbents and non-incumbents, by their political party.

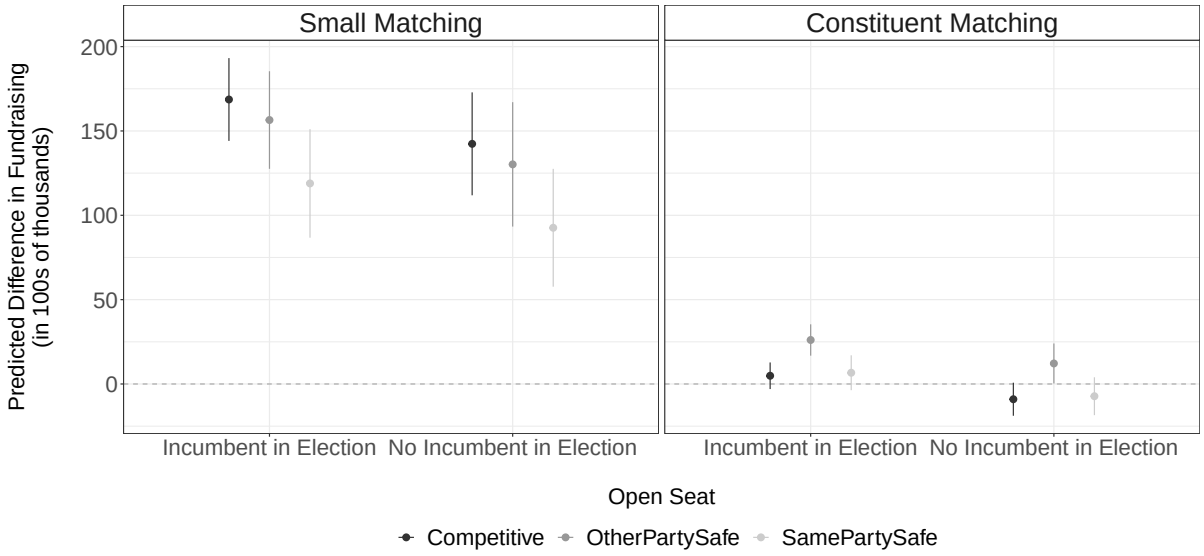

Figure A2: Predicted probabilities of the difference in in district and small donations received for non-incumbents, by whether an incumbent ran in the race and district competitiveness.

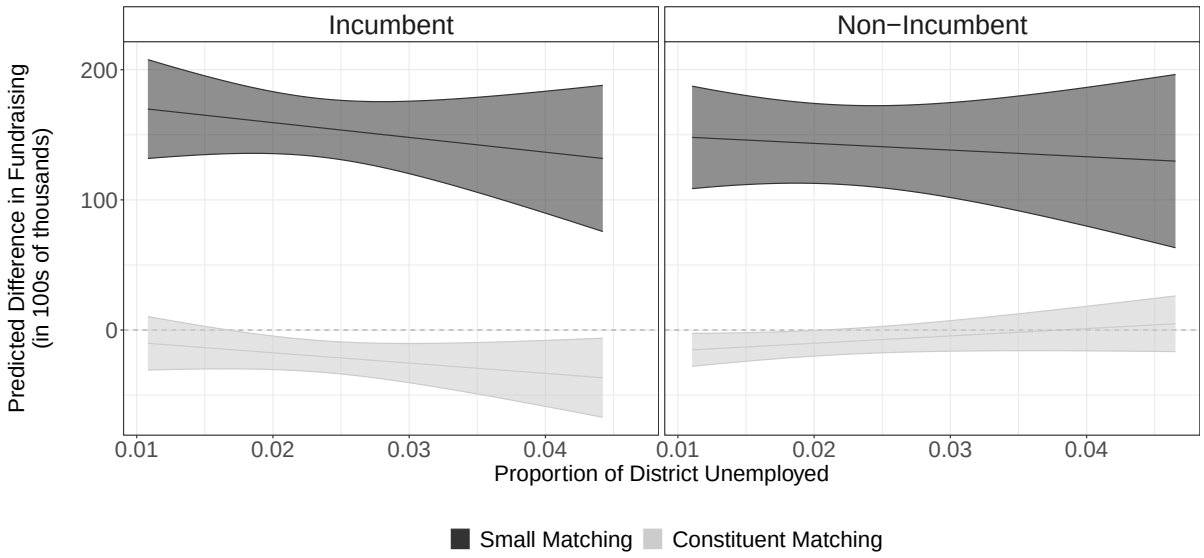

Figure A3: Predicted probabilities of the difference in in district and small donations received for incumbents and non-incumbents, by the proportion of their district that was unemployed.