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UNOBSERVED CONTRIBUTIONS AND POLITICAL INFLUENCE:  
EVIDENCE FROM THE DEATH OF TOP DONORS

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Unobserved Contributions and Political Influence: Evidence from the Death of Top Donors  
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### **ABSTRACT**

It has long been noted that there is little money in U.S. politics relative to the stakes. But what if political contributions are not fully observable or are non-monetary and thus difficult to quantify? We study this question using new data on top donors in U.S. congressional races. To identify their influence, we exploit exogenous shocks to candidate–donor relationships generated by donor deaths. We show that the death of a top donor reduces a candidate’s probability of election in subsequent elections. The loss of a donor also affects legislative behavior: elected candidates become more aligned with their party and concentrate their legislative activity in fewer policy areas. These effects are not explained by the size of donors’ direct contributions. Instead, they are stronger for prominent donors and appear to operate through their impact on broader fundraising and social networks. Our findings suggest that observable campaign donations capture only a small share of the political influence exercised by major donors.

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# 1 Introduction

It has long been observed that, relative to the stakes, there is little money in U.S. politics (Tullock, 1972; Ansolabehere et al., 2003). For example, in the most recent electoral cycle, total campaign spending amounted to roughly \$22 billion, a small fraction of federal expenditures.<sup>1</sup> Moreover, wealthy donors often contribute far below legal limits.<sup>2</sup> This apparent scarcity of money in politics has become known as the *Tullock paradox*.

Two leading explanations have been proposed. One view holds that campaign contributions have limited instrumental value because political competition dissipates rents; donations instead reflect consumption motives (Ansolabehere et al., 2003). A second view suggests that powerful interest groups may not need to contribute to politicians at all if they can instead rely on contingent threats, credibly committing to support their opponents if needed (Chamon and Kaplan, 2013). The first explanation leaves little room for individual donors to influence political outcomes through contributions, whereas the third depicts a scenario in which donors hold most of the bargaining power. In both cases, individual donors provide limited, or even negative, value to a politician.

In this paper, we revisit the Tullock paradox starting from a simple preliminary question. Is it possible that monetary contributions are not fully observable, or that they are non-monetary in nature, so that large individual donors can gain sway over candidates even if their observable monetary contributions are relatively small? Donors may provide valuable non-monetary inputs, such as access, coordination, and network mobilization, or channel financial support through less transparent means. From this perspective, observed contributions constitute only the “tip of the iceberg,” a signal of a social connection between a donor and a candidate that points to the existence of a broader network of support—whether financial, social, or otherwise—mobilized on behalf of the candidate.

We study this hypothesis using a newly constructed dataset that combines information on the universe of candidates participating in U.S. House elections over six electoral cycles (2008–2018) with hand-collected biographical data on their donors. We focus on the top 1,000 donors in each cycle, ranked by their total observable political contributions.<sup>3</sup>

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<sup>1</sup>Annual federal government spending over the same period was about \$6 trillion or more, while federal consumption and gross investment exceeded \$4 trillion. Sources: US Federal Election Committee: <https://www.fec.gov/updates/statistical-summary-of-24-month-campaign-activity-of-the-2021-2022-election-cycle/>; Congressional Budget Office: <https://www.cbo.gov/>; and Federal Reserve Bank of St. Louis: <https://fred.stlouisfed.org/series/GCE>.

<sup>2</sup>Studying a sample of top managers of blue-chip corporations in the U.S., Ansolabehere et al. (2003) estimate that the average manager donated about \$7,500 to candidates, parties, PACs, and other committees in the 1997–1998 election cycle, far less than the \$25,000 allowed under the Federal Elections Campaign Act.

<sup>3</sup> Following the definition of the Federal Election Committee, we consider a contribution to be any gift,

Rather than focusing on the amount contributed to individual candidates (which, as noted above, may be only partially observed), we focus on what top donors accomplish for the candidates they support. To address the identification challenge arising from non-random matching between candidates and donors, we exploit exogenous shocks to donor-candidate relationships generated by donor deaths. This approach allows us to isolate variation in political support that is orthogonal to both candidates' electoral prospects and donors' strategic decisions.

We ask three interrelated questions. First, we ask whether large individual donors can influence electoral outcomes even if their observable monetary contributions to each candidate are relatively small, though large in aggregate. Specifically, we study how the probability of election is affected by the death of a top donor. Importantly, donor deaths are not rare. In our dataset, we observe 278 deaths, which affect a significant share of candidates for the U.S. Congress—on average, more than 24 percent per election year for candidates participating in at least two electoral races, and almost 34 percent for candidates with at least one top donor.

Second, we study whether the influence of top donors extends beyond electoral outcomes. A key challenge in this analysis is that donors are heterogeneous in the interests they pursue, and these interests are not perfectly observed. As a result, it is not always possible to directly associate the death of a top donor with changes in the legislative activity of the associated politician on the specific issues of interest to the donor. A natural conjecture is that, absent outside influence, politicians focus on the party agenda or their preferred policy projects, whereas donors introduce additional, heterogeneous concerns into candidates' political agendas. We test this hypothesis by comparing legislators' voting behavior with that of their party and by examining the entropy of the distribution of topics in the bills sponsored by elected candidates. In addition, we provide a first attempt to identify the policy areas most closely related to donors' interests by collecting new information on the sector of activity of their employers, as reported in FEC contribution records, and matching this information with the content of sponsored legislation.

The third contribution is that we investigate the channels through which donors influence politics. Three mechanisms are particularly relevant. Do top donors matter because of the observable, and relatively small, contributions they make directly to individual candidates? If not, do they exert influence by mobilizing contributions from other individual donors

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subscription, loan, advance, or deposit of money or anything of value given to influence a federal election, made by any person directly to any candidate or political action committee. For additional details, see <https://www.fec.gov/help-candidates-and-committees/candidate-taking-receipts/types-contributions/>.

or organizations? And do they influence elections through monetary contributions made through legal or illegal channels that are not directly observable in campaign finance data? We make progress on these questions by combining our data on the deaths of top donors with novel sources of information, including detailed data on political advertising expenditures, textual analysis of sponsored legislation in the U.S. Congress, data on social events to which elected officials are invited by interest groups, and a new dataset on illegal campaign finance violations based on prosecutions brought by the Federal Election Commission and the U.S. Department of Justice over the past five years. We complement this quantitative evidence with rich anecdotal material drawn from journalistic accounts and documented legal cases.

Our analysis uncovers three main findings. First, the death of a top donor reduces a candidate’s probability of election by approximately 2.8 percentage points on average. The effect is robust to using vote share as an alternative measure of electoral performance and is substantially larger in close races, indicating that top donors are especially decisive at the margin.

Second, donor influence extends beyond electoral outcomes to shape legislators’ behavior in office. Using a detailed classification of bills by topic, we show that following the loss of a top donor, elected politicians become more closely aligned with their party and concentrate their legislative activity on a narrower set of issues. Consistent with this interpretation, we find that while a top donor is alive, about 50 percent of legislators sponsor bills containing provisions relevant to at least one company owned by the donor. After the donor’s death, roughly 75 percent of these legislators no longer sponsor any related legislation.

Third, we investigate the mechanisms underlying donor influence. We show that the effects we document are not driven by the magnitude of observable contributions. Instead, they are stronger for more prominent donors and they induce changes in contributions from other donors, spending by political intermediaries, and access to socially relevant networks.<sup>4</sup> We further show that donors combine indirect or concealed forms of giving with smaller, legal contributions made in their own name.

Taken together, these findings suggest that direct contributions primarily operate as *signals* of underlying donor: candidate relationships that mobilize broader networks of financial and

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<sup>4</sup>By “political intermediaries” we refer to organizations such as Political Action Committees (PACs) and nonprofit groups (mainly 527 and 501(c)(4) organizations) that can channel financial support to candidates indirectly. Donors who wish to support their candidates can contribute through these “intermediaries.” Super PACs are prohibited from donating directly to candidates but can spend on advertisements that explicitly advocate for or against them, while disclosing their donors to the Federal Election Commission. In contrast, 501(c)(4) organizations can spend unlimited amounts on issue advocacy ads without disclosing donors, allowing contributors to support candidates through less transparent channels. During the 2008–2018 electoral cycles, 501(c)(4) groups accounted for about one-third of group-sponsored advertising (Fowler et al., 2020).

political support. Consistent with this interpretation, we show that the death of donors who are close to candidates (because they reside in the same state or have aligned economic interests) but who never donated to them has no statistically significant effect on electoral outcomes.

These findings point to a broader interpretation of the role of campaign contributions. Observable campaign contributions capture only a small share of the political influence exercised by major donors. Rather than reflecting the true scale of political investment, observed donations appear to signal relationships that facilitate broader—and partly unobserved—forms of support. In this sense, the apparent paucity of money in U.S. politics may arise not because contributions are unimportant, but because a substantial portion of them is difficult to measure.

Our results suggest that politicians obtain significant material and strategic benefits from top donors, benefits that shape both electoral outcomes and legislative behavior. At the same time, our findings do not contradict existing explanations of the Tullock paradox. They do not rule out that donors face competitive pressures, derive consumption value from giving, or exert influence through contingent threats. Rather, they indicate that these mechanisms may coexist with an additional channel operating through relationships and networks that are only partially observed.

The remainder of the paper is organized as follows. Section 2 describes the data, and Section 3 outlines the empirical strategy. Section 4 presents the main results, while Sections 5 and 6 examine, respectively, the long-term effects and the mechanisms. Section 7 discusses the implications of our findings for campaign finance regulation, and Section 8 concludes. We next discuss the related literature.

## 1.1 Related literature

We contribute to three related strands of literature. First, we contribute to the literature on the Tullock paradox, which seeks to explain why observed campaign contributions are small relative to the stakes (Tullock, 1972; Ansolabehere et al., 2003). As noted above, existing explanations emphasize either the limited instrumental value of contributions in competitive environments or the role of contingent threats that do not require large observed transfers.<sup>5</sup> We provide evidence for a third possibility: observed contributions may understate

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<sup>5</sup>Important work suggesting that political contributions should be seen as instrumental political investments is presented, among others, by Denzau and Munger (1986); Poole et al. (1987); Baron (1989); Snyder (1990); Baron and Mo (1991); Stratmann (1991); Grier and Munger (1993); Romer and Snyder (1994); Ansolabehere and Snyder (1999); Stratmann (2002); Battaglini and Patacchini (2018). The literature on contingent

the true extent of political influence because an important share of contributions –monetary or non-monetary–is unobserved. While both of the previous explanations predict that the loss of a big donor should have little or even a positive effect on a politician, we instead present evidence that the effect is significantly negative. In this sense, our findings suggest that the apparent paucity of money in politics does not reflect a lack of influence, but rather a limitation of what can be measured.<sup>6</sup>

A second closely related strand of literature studies campaign finance and political influence. A central challenge in this literature is the endogeneity of contributions; existing studies rely on fixed effects, instrumental variables, regression discontinuity designs, or structural models to address it.<sup>7</sup> This literature finds that the magnitude and relevance of the effects depend on the context in which they are measured. The effect of observable campaign contributions on electoral outcomes is small (Levitt, 1994; Cox, 2022) but can be large for federal financial legislation (Stratmann, 2002). The effect of lobbying expenditures on the allocation of federal earmarks is small for universities (De Figueiredo and Silverman, 2006) when they are not represented in the House or Senate Appropriations Committee, but large for local governments (Goldstein and You, 2017). At the same time, lobbying expenditures can generate large returns for individual firms (Huneus and Kim, 2021), but not for an entire industrial sector (Kang, 2016). Two related recent papers are Spenkuch and Toniatti (2018) and Pons (2018). The former exploits discontinuities in exposure to political advertising across media markets, and shows that campaign advertising has economically meaningful effects on vote shares, although not on turnout. The latter studies the allocation of door-to-door canvassing in the 2012 French presidential election and finds that canvassing increases vote shares but has little effect on turnout.

Very little empirical work directly observes exogenous, or nearly exogenous, shocks to the demand for or supply of political contributions, as we do in this paper. Roberts (1990) and Jayachandran (2006) present event studies of the effects of the death or unexpected

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contributions begins with Bernheim and Whinston (1986) and Grossman and Helpman (1994). Goldberg and Maggi (1999) provide an empirical study of this type of model. The observation that contingent threats may help explain the Tullock paradox is made by Chamon and Kaplan (2013).

<sup>6</sup>In recent important work, Bertrand et al. (2020) provide evidence that corporate philanthropy is used as a tool of political influence, a finding that supports and complements ours, since this channel can be used to obfuscate the source of political contributions.

<sup>7</sup>Studies that rely on fixed effects to exploit repeated challenges and repeated roll calls include Levitt (1994) and Stratmann (2002). Recent empirical studies relying on instrumental variables include Chappell (1982); Welch (1982); Gerber (1998); De Figueiredo and Silverman (2006). Studies based on structural models are presented by Kang (2016); Huneus and Kim (2021); Goldstein and You (2017); Cox (2022), among others. For recent surveys, see Ansolabehere et al. (2003); Stratman (2005); De Figueiredo and Richter (2014); Bombardini and Trebbi (2020), among others.

party switch of influential politicians on the stock market valuations of corporate donors.<sup>8</sup> Ansolabehere et al. (2004) present an event study of the effect of campaign finance regulatory changes affecting corporate donations on the market valuations of contributing firms. Kalla and Brookman (2016) provide quasi-experimental evidence suggesting that politicians sell donor access.<sup>9</sup> Avis et al. (2022) exploit a natural experiment to show how looser campaign limits decrease electoral competition.<sup>10</sup> These papers provide valuable insights into the channels through which private interests affect policymakers and into the value of political connectedness to donors. However, they do not provide direct evidence on the extent to which private interests are *successful* in affecting *electoral outcomes* and politicians' *legislative behavior*, which are central outcomes in our analysis.<sup>11</sup>

We complement this literature by introducing a new source of quasi-experimental variation to identify the causal impact of donor support—both monetary and non-monetary—on electoral outcomes and legislative behavior. The key idea is to use observable contributions to identify links between donors and candidates, and then to measure the influence of top donors by examining the effect of their death on connected politicians in terms of electoral outcomes, dark money expenditures (e.g., advertising by 501(c)(4) groups), and legislative behavior. In effect, we use observed direct contributions to construct *top donors' social networks*, and we then use donor deaths as exogenous shocks to these networks to identify the causal effect of these connections on political outcomes.

Finally, our paper relates to the literature on the importance of social connections with politicians. Prior work documents the benefits to firms and individuals of being connected to politicians (for work on the United States, see Knight, 2006; Do et al., 2015; Goldman et al., 2009; Brown and Huang, 2017).<sup>12</sup> We instead study the reverse channel—the benefits

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<sup>8</sup>Roberts (1990) study the impact of the death of Senator Henry Scoop Jackson on his constituencies and the constituencies of his successor. Jayachandran (2006) studies the unexpected decision of Senator James Jeffords to switch parties, thus ending Republican control of the U.S. Senate in 2001.

<sup>9</sup>The authors study the responses received from 191 congressional offices to requests to schedule a meeting from a political organization, depending on whether past contributions were revealed in a randomized way. They show that senior policymakers made themselves available three to four times more often to political donors.

<sup>10</sup>The authors show that campaign spending limits induced by an electoral reform in Brazil, which set a higher spending cap for some municipalities than for others, reduced the probability that richer candidates were elected by increasing the pool of candidates and lowering its average wealth.

<sup>11</sup>Also indirectly relevant is the work of Blanes i Vidal et al. (2012) and Bertrand et al. (2014), who assess the effect of U.S. Senators' retirements on, respectively, the lobbying revenues of their former staff turned lobbyists and the topics on which they specialize.

<sup>12</sup>Important work for political systems other than the U.S. is done, among others, by Fisman (2001), who studies Indonesia; Khwaja and Mian (2005), who study Pakistan; Faccio (2006), who presents evidence for a panel of 47 countries; Ferguson and Voth (2008), who studies Nazi Germany; and Baltrunaite (2019), who studies Lithuania.

to politicians of being connected to major donors—and show that these connections have substantial effects on both electoral success and policy choices. Together, this literature and our findings highlight the importance of non-monetary, or monetary but unobserved, forms of exchange between politicians and private interests.

## 2 Data and Definition of Variables

We assemble a comprehensive dataset covering the universe of candidates and donors in U.S. electoral campaigns for the House of Representatives across six election cycles (2008-2018). The dataset includes information on (i) the characteristics and electoral outcomes of all candidates, not only winners; (ii) the characteristics and political profile of their electoral districts; (iii) the legislative activity of elected candidates; and (iv) the characteristics, economic interests, and contributions of the donors who supported them. Section 2.1 describes the data sources used to construct variables in categories (i)-(iii) and the information extracted from each source. Section 2.2 describes the data on top donors (iv).<sup>13</sup>

### 2.1 Candidates in the U.S. Congress

*U.S. Federal Election Commission (FEC).* We extract data on the electoral outcomes of all candidates running for a seat in the U.S. House of Representatives during the period considered from the FEC database, available at <https://www.fec.gov/introduction-campaign-finance/election-and-voting-information/>.<sup>14</sup> From this source, we construct two measures of electoral performance: an indicator for whether the candidate won the election and the percentage of votes obtained. In addition, we retrieve the unique candidate identifier (FEC ID), which we use to merge these data with the DIME dataset described below.

*Database on Ideology, Money in Politics, and Elections (DIME).* For each candidate in each election cycle, we extract three sets of information.<sup>15</sup>

*Candidate characteristics.* These include the candidate’s name, gender, party affiliation, prior political experience (whether the candidate previously held a state-level political office),

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<sup>13</sup>Appendix Table A1 reports further details and summary statistics for all variables used in the analysis.

<sup>14</sup>In the period considered, the FEC records 7,121 candidates running for a seat in the U.S. House of Representatives. This figure excludes individuals who ran in primaries but not in the general election.

<sup>15</sup>See Bonica (2014) for further details about the construction of the database. The data are available at <http://bit.ly/2vYrSuU>. We identified a small number of coding errors in the variables—approximately 250 incorrect FEC IDs and 50 incorrect district assignments—which we manually verified and corrected. All corrections are documented in the paper’s replication package.

party or congressional leadership roles (e.g., party leader, Speaker, Chair, or Vice-Chair), the incumbency status (i.e., whether the candidate won the previous election in the district), and incumbency history, measured as the number of consecutive elections the candidate has won in the same district.

*Electoral environment.* We collect information describing the political context in which the candidate runs. This includes the level of support for the candidate’s party in the district in the previous presidential election (categorized as below 25 percent, 25-50 percent, 50-75 percent, or above 75 percent); whether the most recent congressional race in the district was close (defined as a margin of victory below 5 percentage points); and whether the candidate was selected through a primary election, which may indicate stronger support from party affiliates.<sup>16</sup> Using the district in which a candidate ran for office, we also construct a dummy variable that takes the value 1 if candidate  $i$  from party  $j$  ran during election cycle  $t$  in a district that voted for  $j$ ’s nominee in the most recent presidential election, and 0 otherwise.

*Campaign resources.* Finally, we collect information on the monetary resources available to candidates during the electoral campaign and the characteristics of the contributors. Specifically, we measure the share of individual and PAC contributions received by the candidate within the district, the share of independent expenditures received within the district, and an indicator for whether the candidate received substantial financial support from their party (defined as above the annual median).<sup>17</sup> Next, for each contributor in each election cycle, we extract the donor’s name and state of residence. Using the recurrence rate of last names in the U.S. Census Bureau data—which associates surnames with racial groups—we also predict the donor’s race.<sup>18</sup>

The DIME dataset allows us to uniquely match candidates to their donors and provides detailed information on the amount donated, distinguishing between contributions made directly to candidates and those made to political committees. While donor information is

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<sup>16</sup>Not all candidates are selected through primaries. This includes independent and write-in candidates, or cases where primaries are not held despite multiple candidates from the same party appearing on the ballot. For example, this occurred in Arizona’s 1st district in 2008; see [opensecrets.org/races/candidates?cycle=2008&id=AZ01&spec=N](https://www.opensecrets.org/races/candidates?cycle=2008&id=AZ01&spec=N).

<sup>17</sup>This indicator is intended to capture candidates receiving the largest contributions from their respective parties, such as those participating in programs like the *Frontline Program* run by the Democratic Congressional Campaign Committee (DCCC) or the *Patriot Program* run by the National Republican Congressional Committee (NRCC). These initiatives provide selected candidates with both financial resources and strategic support in competitive districts (see <https://frontline.dccc.org/>, <https://www.nrcc.org/>). To the best of our knowledge, no official public list of participants in these programs exists.

<sup>18</sup>Specifically, we use the R package `predictrace`, which estimates the probability that an individual’s last name belongs to a given ethnic group based on its frequency in the U.S. Census data. The ethnic groups considered are White, Black or African-American, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander. We assign each donor to the racial category with the highest predicted probability.

also available in the FEC records, DIME assigns a unique identifier to each donor, allowing us to link multiple donations to the same individual.<sup>19</sup>

Using these data, we compute for each donor (i) total contributions to each candidate within an election cycle and (ii) total contributions to both candidates and political committees.<sup>20</sup> For each election cycle, we rank donors according to their total contributions and identify the top 1,000 donors. We then construct two variables measuring the total donations received by each candidate from top donors and from all other donors during the election cycles from 2008 to 2018.

*U.S. Internal Revenue Service (IRS).* To characterize the income distribution of each district, we manually associate districts with the zip codes they contain and merge this information with data from the U.S. Internal Revenue Service (IRS) on the number of taxpayers residing in each zip code during a given year who report: (i) less than \$50,000 in income (low-income taxpayers); (ii) between \$50,000 and \$100,000 (middle-income taxpayers); and (iii) more than \$100,000 (high-income taxpayers).<sup>21</sup> Using these data, we compute for each district the share of high-income taxpayers and calculate the national median share across districts for each election cycle. We then construct a dummy variable (*wealthy* district) equal to 1 if candidate  $i$  ran in a district where the share of high-income taxpayers is above the national median in election cycle  $t$ , and 0 otherwise. We use this measure to identify districts with a large presence of high-income voters. Such districts are more likely to host resident top donors—making it easier for candidates to replace a donor after his or her death—and may also require greater campaign spending. This information is used to study how top donors allocate their contributions across candidates (see Section 2.2).

*Political Advertisement.* We construct a proxy for candidates' media exposure during an election cycle to examine changes in the support provided by interest groups after a candidate loses a top donor. For this purpose, we use data from the Wesleyan Media Project, which records information on each political advertisement aired on broadcast television stations across all media markets in the United States.<sup>22</sup>

From these data, we retrieve the name of the candidate supported by the advertisement, the expenditures associated with the advertisement, and the identity of the sponsor. The

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<sup>19</sup>DIME also contains information on electoral outcomes. However, we rely on FEC data for electoral results because the DIME records contain inconsistencies for the years after 2014.

<sup>20</sup>To account for differences in the value of donations across years, we deflate contributions using the Consumer Price Index (CPI), the most widely used measure of inflation in the United States (US Bureau of Labor Statistics, 2018). The series is available at <https://fred.stlouisfed.org/series/CPILFESL>.

<sup>21</sup>Available at <https://www.irs.gov/statistics/soi-tax-stats-individual-income-tax-statistics-zip-code-data-soi>.

<sup>22</sup><https://mediaproject.wesleyan.edu/>

sponsor information indicates whether the advertisement was funded by the candidate (either alone or in coordination with the party) or by an interest group. For each candidate, we calculate the total amount spent on political advertisements supporting the candidate by each source (the candidate or interest groups) during each election cycle.<sup>23</sup> We then manually match these data with the DIME dataset using candidate names.<sup>24</sup> This match is available only for election cycles from 2010 to 2018, since the Wesleyan Media Project records the candidate’s name associated with each advertisement only starting in 2010.

*Legislative Activity and Voting.* We construct two indicators to measure changes in the legislative behavior of elected candidates following the death of a top donor.

The first indicator captures the breadth of a legislator’s policy agenda. Using the universe of bills sponsored by each member of Congress in each Congress, we measure the diversity of topics covered by sponsored bills. Specifically, we compute the *Shannon entropy index* (Shannon, 1948; Boydston et al., 2014):  $\sum_{i=1}^n -p_i \log_2 p_i$ , where  $p_i$  denotes the share of bills with main topic  $i$  sponsored by a legislator in a given Congress, and  $n$  is the number of distinct topics covered by that legislator’s bills. Values close to zero indicate that the legislator’s activity is concentrated on a small number of topics, whereas higher values indicate that legislative activity is spread across a broader range of issues.<sup>25</sup>

The second indicator captures legislators’ voting behavior. We measure the ideological distance between a legislator and the median member of their party using the second dimension of the Nokken-Poole ideology scores. Specifically, we compute  $|id_i - median(id_p)|$ , where  $id_i$  denotes legislator  $i$ ’s ideological score and  $median(id_p)$  is the median score of members of the same party in that Congress. While the first dimension of the Nokken-Poole index primarily captures the liberal-conservative spectrum in economic policy, the second dimension reflects positions on salient social issues—such as gun control and abortion—that often generate divisions within parties (Nokken and Poole, 2004).<sup>26</sup> Nokken-Poole scores are widely used in

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<sup>23</sup>In the Wesleyan Media Project data, interest groups include Political Action Committees (PACs), super PACs, and nonprofit organizations such as the so-called 501(c)(4) and 527 groups.

<sup>24</sup>In the data, fewer than 30 percent of candidates receive support through political advertising expenditures. Among these candidates, at least 85 percent are supported by at least one top donor. Appendix Table A2 provides additional details, reporting for each election cycle the share of candidates—with and without a top donor—who are supported by at least one political advertisement, as well as the average cost of these expenditures.

<sup>25</sup>The main topic of each bill in the U.S. House of Representatives is recorded using the Policy Agendas Project (PAP) topic classification system ([www.comparativeagendas.net/us](http://www.comparativeagendas.net/us)), which assigns each bill to one of 20 major policy areas (e.g., Macroeconomics, Civil Rights, Health, Agriculture, Education, Defense, Foreign Affairs, and others). The dataset linking bill topics to the names of sponsoring legislators is available at [www.congressindata.com](http://www.congressindata.com). For additional details and descriptive evidence on the topics covered in sponsored legislation, see Battaglini et al. (2023).

<sup>26</sup>Appendix Figure A1 illustrates the first and second dimensions of the Nokken-Poole index for members of

the study of legislative voting. Positive values indicate more conservative voting behavior, negative values indicate more liberal positions, and values close to zero correspond to more moderate positions.<sup>27</sup>

*Networking Activity.* Finally, we complement our measures of legislative behavior within the House with information on activities taking place outside Congress. Specifically, we collect data on the number of meetings during gift travels reported by members of the U.S. House of Representatives between 2007 and 2018 (110th-115th Congresses).<sup>28</sup> Gift travel refers to trips sponsored by private organizations or interest groups, typically intended to foster relationships and facilitate information exchange (McGee and Moniz, 2022). Using these records, we compute for each representative and Congress the total number of meetings held during gift travel events.

## 2.2 Top Donors in the U.S. Congress

We collect demographic characteristics of the top 1,000 political donors in each election cycle between 2004 and 2018, ranked by the size of their total observable political contributions.<sup>29</sup> This time window extends four years beyond the period used for the candidate data, allowing us to capture relationships between donors and candidates that may have formed prior to the first electoral competition observed in our sample.

Across election cycles, this procedure identifies 3,248 unique individuals who appear at least once among the top 1,000 contributors. We manually collected biographical information on these donors from more than 1,000 online sources. This information allows us to construct the key source of exogenous variation used in the empirical analysis—namely, the death of a top donor. We are also able to retrieve dates of birth for 89 percent of them.<sup>30</sup>

We validate our data collection by assessing whether mortality patterns among top donors resemble those of a comparable segment of the U.S. population. Specifically, we compare the age distribution of donor deaths to mortality statistics from the U.S. Centers for Disease Control and Prevention (CDC), available at <https://wonder.cdc.gov/>. Because the general population includes individuals with heterogeneous socioeconomic backgrounds, we restrict

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the 118th Congress (2023-2025). The first dimension exhibits clear partisan polarization, whereas legislators from both parties are widely distributed along the second dimension. For further discussion of these dimensions and their interpretation, see Hare and Poole (2014).

<sup>27</sup>Ideology data are obtained from [voteview.com](http://voteview.com). The dataset linking these scores to bill sponsorship information is available at [www.congressindata.com](http://www.congressindata.com).

<sup>28</sup>Source: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/TM8V2K>.

<sup>29</sup>The list of political contributions considered is presented in footnote 3.

<sup>30</sup>Appendix Figure B1 summarizes the primary sources used.

the CDC comparison sample to decedents with a master’s degree or PhD, using education as a proxy for socioeconomic status.<sup>31</sup>

Appendix Figure B2, Panel A, shows a close correspondence between the age distribution of deaths among highly educated individuals and that of top donors. For example, individuals aged 75-84 account for 31.99 percent of deaths in the highly educated population; instead, in the top donor population, they account for 30.77 percent. Donors die at slightly older ages on average, consistent with their greater wealth and access to healthcare. The similarity remains when the comparison is conducted separately by gender (Appendix Figure B2, Panels B and C).

Overall, these results indicate that donor mortality patterns closely track those of a socioeconomically comparable population, lending credibility to the reliability and completeness of our data. Since deaths occur at relatively advanced ages, this evidence also supports the plausibility that the timing of donor deaths is largely unpredictable. Building on this newly assembled dataset, we merge our donor-level information with candidate data from DIME to provide the first systematic portrait of top donors to the U.S. Congress.

Figure 1 shows some demographic information for the top 1,000 donors in the 2008-2018 Congresses. Top donors are, on average, 65 years old; most are white males and are concentrated in California, New York, and Texas. Appendix Figure B3 shows that the majority contributed in more than ten election cycles between 1982 and 2018.

Table 1 indicates that total contributions per donor range on average per electoral cycle from \$60,000 to \$380,000.<sup>32</sup> Of these amounts, \$21,000 to \$80,000 are directed to candidates and \$43,000 to \$340,000 to political committees.<sup>33</sup> Donors typically support 13-25 candidates and 8-30 committees.<sup>34</sup>

Table 2 characterizes top donors by examining the attributes of the candidates they support. The table shows that top donors typically do not provide exclusive support: only 282 candidates (out of nearly 3,500) are backed by a single top donor. Moreover, top donors do not specialize in candidates from a particular party: the shares of Republican and Democratic candidates supported by top donors are approximately equal (50 percent). Top donors tend

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<sup>31</sup>At this level of disaggregation, the CDC reports deaths but not the living population, preventing construction of age-specific mortality rates. We therefore compare the distribution of deaths across age groups. State-level CDC deaths are weighted by the geographic distribution of deceased donors in our sample.

<sup>32</sup>Individual donors can contribute substantially larger amounts: in our data, the maximum total contributions by a single donor range from approximately \$3 million to \$72 million across electoral cycles.

<sup>33</sup>The larger dispersion in committee contributions reflects the post-2010 regulatory changes following *Citizens United v. FEC*, which allowed unlimited donations to Super PACs. See Klumpp et al. (2016).

<sup>34</sup>The practice of major donors supporting numerous candidates, often across parties, is well documented. See Section 3.1 for a discussion.

to support fewer female candidates and fewer candidates with less political experience (as proxied by incumbency status). At the same time, they are more likely to support candidates who receive backing from their party (proxied by participation in primaries) and whose districts are politically aligned with their party (proxied by whether the district supported the party’s presidential nominee). Interestingly, top donors do not appear to restrict their support to candidates sharing their ideological orientation. More than 50 percent of candidates are supported by donors whose inferred ideology differs from their own.<sup>35</sup>

Looking across all electoral races in the sample period (2,610 races, corresponding to 435 per election cycle), Table 3 shows that 95 percent of races feature at least one candidate supported by a top donor.<sup>36</sup> Among races with close outcomes (defined as a margin of victory below 5 percentage points), at least one candidate receives support from a top donor. On average, 55 percent of candidates in a race are supported by top donors, and 94 percent of candidates backed by top donors win their elections. This share rises to roughly 98 percent in close races, suggesting that top-donor support is particularly prevalent in competitive contests.<sup>37</sup>

To identify the profile of candidates supported by top donors, we estimate a regression in which the (log) amount of donations received by a candidate from a top donor in election cycle  $t$  is regressed on a set of candidate characteristics. The results are reported in Figure 2, where dots represent the estimated coefficients and bars indicate the corresponding 95 percent confidence intervals. The estimates suggest that top donors contribute more to candidates who are more likely to win elections, such as incumbents or candidates running in districts that supported their party’s presidential nominee. Contributions are also larger when directed to Republican candidates. In contrast, donors do not appear to favor candidates who run repeatedly for office or those competing in districts with a share of high-income taxpayers above the national median.

We construct several additional measures to characterize donors’ prominence and potential influence. First, we identify “superstar” donors as those whose total contributions—accounting for donations to both candidates and committees—fall in the top quartile of the contribution distribution within an election cycle. In our data, the death of such donors affected 18 percent of the candidates who lost at least one top donor. Second, we measure donor prominence

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<sup>35</sup>Donor ideology is inferred from donation patterns. Specifically, a donor is classified as Republican (Democrat) if more than 50 percent of the candidates they support are Republicans (Democrats).

<sup>36</sup>Appendix Figure B4 shows the average number of candidates supported by at least one top donor in each state. Most such candidates are located in California, Florida, and Texas.

<sup>37</sup>Further discussion of the characteristics of the top 10 donors in each election cycle, together with a list of their names, is provided in Appendix B.1.

using the *Forbes 400* list of the wealthiest individuals in the United States, published annually since 1982. For each candidate, we count the number of deceased top donors who have ever appeared on this list (or whose last name matches that of an individual who has appeared on the list). In our data, 20 percent of deceased donors appear in the *Forbes 400*, and their death affected 32 percent of the candidates who lost at least one top donor.

Finally, we infer donors’ economic interests using information on employers reported in FEC contribution records. For each employer, we consult the company’s website to identify its sector of activity and manually map it to one or more Policy Agendas Project (PAP) topic codes—the standard classification used to categorize bills introduced in Congress.<sup>38</sup> This procedure allows us to identify the policy areas most closely related to the donor’s firm.

## 3 Empirical Strategy

### 3.1 The Social Network of Direct Contributions

The key difficulty in studying the impact of top donors on political outcomes is that their true social network, that is, the set of candidates they actually intend to promote, is not directly observable. In this paper, we address this difficulty by using direct campaign contributions, which we interpret as informative signals of underlying donor-candidate relationships. While any single contribution may be noisy, the literature and institutional context strongly suggest that direct donations constitute a reliable—and plausibly the only systematically observable—proxy for donor-candidate ties.

At first glance, the decision to rely on direct contributions to retrieve the social network of donors and candidates may be puzzling. Since the landmark decision of the US Supreme Court in *Citizens United v. Federal Election Commission*, 558 U.S., commonly referred to as “*Citizens United*”, donors can provide unlimited support through Super PACs, seemingly rendering small direct contributions redundant. Yet top donors continue to make direct donations, and they do so for reasons central to our identification strategy.

**Direct contributions convey information.** Both the existing literature and common campaign practices suggest that direct contributions often serve primarily as signals of endorsement rather than as the main channel of financial support. Candidates actively seek early donations from prominent contributors because such contributions signal candidate viability, shape expectations among observers, and attract additional donors when other sources of information—such as polling—are limited (Thomsen, 2025). Consistent with this

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<sup>38</sup>See footnote 25 for more details on the PAP topic system.

signaling role, exposure to an existing donor substantially increases the likelihood that other individuals will contribute (Traag, 2016). Direct donations can therefore activate broader fundraising networks and allow donors to publicly affiliate with candidates (Francia et al., 2003; Magleby et al., 2018). One common fundraising strategy is for prominent donors to pledge matching contributions for grassroots donations up to a specified amount within a given time window.<sup>39</sup>

**Direct contributions coexist with other forms of giving.** A striking indication of the importance attached to direct donations by both donors and candidates is that illegal “straw donations” are often *intentionally* paired with legal direct contributions.<sup>40</sup> In Appendix C, we document anecdotal evidence from the high-profile enforcement cases against two billionaires, Sam Bankman-Fried and Hui Qin.<sup>41</sup> In both cases, donors combined indirect or concealed forms of giving with small, legal, direct contributions made in their own name. Crucially, for both Sam Bankman-Fried and Hui Qin, these direct donations were not redundant: they served to make the donor-candidate relationship publicly observable, even when the bulk of financial support was routed through other channels. In the Appendix, we also present new systematic evidence from Federal Election Commission and U.S. Department of Justice cases over the past five years that supports this point (see Appendix Table C1). In approximately 70 percent of cases, straw donations are accompanied by legal direct contributions from the same individual, reinforcing the interpretation of direct donations as a relational signal rather than a residual funding mechanism.

**Direct contributions are the first step in a broader giving strategy.** Many top donors initially support candidates through direct contributions and subsequently provide much larger amounts through PACs or Super PACs. This pattern—sometimes referred to in journalistic accounts as “double dipping”—has attracted considerable media attention.<sup>42</sup> Consistent with this behavior, Appendix Table C2 presents new evidence from our data showing that the amount a donor contributes directly to candidates is positively correlated with the amount the same donor contributes to PACs and Super PACs.

Contemporary accounts of recent election cycles illustrate this mechanism. For example,

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<sup>39</sup>Anecdotal evidence on this common practice is provided in Appendix C.

<sup>40</sup>A contribution in the name of another, or *straw donation*, is when “Reimbursing someone for a contribution or otherwise contributing in the name of another person”. Source: [www.fec.gov/updates/contribution-s-in-the-name-of-another-are-strictly-prohibited/](https://www.fec.gov/updates/contribution-s-in-the-name-of-another-are-strictly-prohibited/).

<sup>41</sup>Anecdotal evidence is not confined to billionaire donors. Similar behavior is documented among other political actors. For example, Oklahoma State Senator Gene Stipe provided both legal direct contributions and illegal straw donations to the 2004 congressional campaign of Walt Lamb. See Federal Election Commission, *Matter Under Review 4818* (<https://www.fec.gov/files/legal/murs/4818/000013DC.pdf>).

<sup>42</sup>See <https://time.com/3062899/double-dipping-for-america/>.

*Forbes*, commenting on the 2020 U.S. presidential campaign, noted that among Democratic candidates, only those who had previously received direct contributions from American billionaires later benefited from Super PAC support. Early direct donations were interpreted as signals of campaign viability that precede large independent expenditures.<sup>43</sup>

Taken together, this evidence—documented since the first post-*Citizens United* election cycles and corroborated by our data (see Section 6.1)—suggests that direct donations are not displaced by other channels of giving. Instead, they mark the establishment of a donor–candidate relationship that persists throughout the campaign.

**Direct contributions as a social network.** The fact that large donors support many candidates does not dilute the informational content of direct contributions; rather, it reflects an access-seeking mode of political engagement. As emphasized by the U.S. Supreme Court in *McConnell v. FEC* (2003), large donors are often motivated by the desire to gain access to officeholders.<sup>44</sup> Consistent with this interpretation, the literature on fundraising events shows that donors devote substantial time and resources to cultivating personal relationships with candidates—behavior that is difficult to reconcile with purely ideological motivations and that underscores the relational nature of campaign finance (Francia et al., 2003; Kates and Thieme, 2026). Accordingly, donors often cultivate extensive portfolios of political relationships across races, parties, and election cycles. Barber (2017) shows that individual donors commonly make repeated contributions and support multiple candidates with whom they share specific policy interests, often cutting across party affiliation and geography. Similar patterns characterize corporate donors. Cooper et al. (2010) document that a typical firm supports approximately 31 candidates per election cycle—16 Democrats and 20 Republicans—interpreting this strategy as the construction of a “portfolio of politicians.” In this context, a direct contribution identifies a concrete and publicly observable link between a donor and a candidate within a broader network of political relationships.<sup>45</sup>

Taken together, this evidence supports our interpretation of direct contributions as a

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<sup>43</sup>Source: <https://www.forbes.com/sites/michelatindera/2020/03/02/biden-no-longer-competing-with-buttigieg-now-has-most-billionaire-donors-by-far/>. Similar behavior was documented during the 2024 election cycle by *The Chronicle of Philanthropy*, which reported that donors such as Ken Griffin, Paul Singer, Michael Bloomberg, and Reid Hoffman collectively provided hundreds of millions of dollars to candidates and Super PACs, consistent with a strategy in which early direct support anchors subsequent large-scale giving (Source: <https://www.philanthropy.com/news/philanthropists-political-donations-2024-elections/>).

<sup>44</sup>This consideration stems from evidence cited by the Court showing that, in the 1996 and 2000 election cycles, more than half of the top 50 soft-money donors gave substantial sums to both major national parties, consistent with the view that donors’ motivations are not purely ideological. Source: <https://www.law.cornell.edu/supremecourt/text/02-1674>.

<sup>45</sup>For additional anecdotal evidence, see Appendix C.

meaningful proxy for donor–candidate network ties. While much of the underlying relationship remains unobservable, direct donations capture a crucial and information-rich component of these networks. In the remainder of the paper, we present additional evidence that empirically corroborates this interpretation. In Section 4, we show that candidates connected to top donors through direct contributions experience significant career consequences following the donor’s death. Conversely, in Section 6.1, we show that candidates without such direct connections—even when they are geographically or politically close to a donor because they campaign in states where the donor plausibly has substantial interests, either because the donor resides there or has economic interests in the state—do not experience comparable effects. These findings support our interpretation of direct contributions as an effective measure of donor–candidate network ties.

### 3.2 Identification Strategy

A central challenge in estimating the effect of campaign contributions on electoral outcomes is that donor support is not randomly assigned. Donors select candidates based on observable and unobservable characteristics that may also predict electoral success. Figure 3, Panel A, illustrates this concern: candidates supported by top donors receive a higher share of votes than those who are not. Attributing this performance gap solely to donor support would therefore be problematic.

To address this identification problem, we exploit the death of a top donor as an exogenous shock to the candidate-donor network. The timing of a donor’s death is plausibly unrelated to short-run electoral dynamics, yet it generates an abrupt and involuntary disruption in financial and relational support. By focusing on the loss of an existing donor, rather than on the receipt of new contributions, we isolate variation in campaign support that is not driven by donors’ strategic decisions or candidates’ contemporaneous electoral prospects.

Using the dates of death collected from our biographical data, we construct two measures. The first is a dummy variable equal to one if candidate  $i$  in election cycle  $t$  experienced the death of at least one top donor who supported the candidate in cycle  $t$  or in any prior cycle between 2004 and 2018. We denote this variable  $dead\ donor_{i,t}$ . The second is a count variable measuring the number of deceased top donors previously supporting candidate  $i$ , denoted  $\# dead\ donor_{i,t}$ .

In our data, 278 top donors die during the sample period—an average of 44 per election cycle (minimum 21, maximum 67). Appendix Figure D1 shows that exposure to donor death is quantitatively meaningful. Among candidates running in at least two election cycles, 24

percent experienced the loss of a top donor (13 percent in the full sample).<sup>46</sup> In total, 887 candidates—approximately 150 per cycle (s.d. 38)—are affected. Of these, 35 percent lose more than one top donor.

To investigate whether donors who will eventually die disproportionately support weaker candidates, Figure 3, Panel B, compares the electoral performance of candidates who will lose a top donor in the next election cycle to that of candidates who will not. The figure mirrors the structure of Figure 3, Panel A. In contrast to the earlier comparison between supported and unsupported candidates, we find no statistically significant difference in vote shares between these two groups. This suggests that donors who eventually die are not systematically selecting candidates with weaker electoral prospects or distinct unobserved characteristics correlated with performance.

We reach the same conclusion by examining whether future donor mortality is associated with observable candidate characteristics. Table 4 compares candidates who will lose a top donor in cycle  $t + 1$  to those who will not, using characteristics measured in cycle  $t$ . We consider party affiliation, gender, incumbency status, seniority, district partisan leaning, prior candidacy, and participation in primaries. For elected candidates, we also examine ideology, measured by the period-specific Nokken-Poole DW-NOMINATE score. Balance is assessed using standardized mean differences in standard-deviation units (Rosenbaum and Rubin, 1985). As is standard, values below 0.20 indicate observational similarity (e.g., Imbens and Rubin, 2015). Across all dimensions, we find no evidence of systematic imbalance, with standardized mean differences consistently below 0.20. Appendix Figure D2 reports the estimation results from a specification in which the probability of winning is regressed on a set of indicator variables capturing the number of cycles remaining until the first donor death, together with candidate and cycle fixed effects. The estimated coefficients on these indicators are small and statistically indistinguishable from zero. Moreover, they are not statistically different from one another. This pattern indicates that electoral performance does not vary systematically in the periods leading up to a donor’s death, providing no evidence of differential pre-trends before the first donor death.<sup>47</sup>

Taken together, these findings indicate that donor deaths are not predictably related to prior candidate strength or characteristics, supporting the plausibility of our identification

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<sup>46</sup>Among candidates who have ever received support from a top donor, the share rises to 34 percent.

<sup>47</sup>Standard event-study designs are not well suited to settings in which treatment can occur repeatedly and treatment exposure varies over time. In our case, both treatment intensity—the number of dead donors associated with a candidate—and the probability of treatment vary across election cycles. For this reason, we instead implement the pre-trend test described above. Additional details are provided in Appendix D. We address the resulting dependence structure in treatment exposure for inferential purposes in Section 4.2.

strategy.<sup>48</sup> Consistent with this interpretation, candidates appear to have limited ability to replace a deceased donor. Following the loss of a top donor, the probability of securing a new top donor within one year is 19.4 percent on average (s.d. 32.4).<sup>49</sup> This low replacement rate suggests that candidates are unlikely to fully offset the loss of a top donor or to preemptively ensure against it. At the same time, we observe a small and statistically insignificant decline in direct contributions received in the cycle of the donor’s death, indicating that the shock does not have immediate financial consequences.<sup>50</sup>

Appendix Figure D3 provides further evidence that donor-candidate relationships are persistent and difficult to replicate. For each candidate, we compute the longest sequence of consecutive electoral cycles in which a given donor contributes and express this duration as a share of the candidate’s career. Fewer than 1 percent of candidates have only donors who contribute less than half of their campaigns. About 8 percent have at least one donor contributing for 50-75 percent of their campaigns, while roughly 92 percent have at least one donor supporting them in at least 75 percent of their electoral races.<sup>51</sup>

This evidence indicates that donor-candidate relationships are highly persistent and relationship-specific. Establishing a new connection with a top donor appears costly and time-consuming, reinforcing the view that donor death constitutes a meaningful and difficult-to-replace shock.

## 4 Empirical Model and Baseline Results

### 4.1 Baseline results

We estimate the effect of donor loss on electoral success using the following specification:

$$win\ election_{it} = \beta_0 + \beta_1 \# dead\ donor_{it} + \beta_2 X_{it} + \beta_3 M_{it} + v_i + \zeta_t + \epsilon_{it}, \quad (1)$$

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<sup>48</sup>Further evidence that candidates do not systematically anticipate the death of older donors is provided in Section 4.1, showing that the effect of donor loss does not attenuate with donor age.

<sup>49</sup>Replacement is concentrated geographically: 30 percent of candidates who replace a donor are from donor-dense states (California, Texas, New York), and 50 percent of replacement donors originate from those same states.

<sup>50</sup>In the election cycle of death, average direct contributions from the donor decline by approximately \$380 relative to the previous cycle.

<sup>51</sup>Among candidates with at least one donor contributing in more than 75 percent of campaigns, the average number of such loyal donors is 5.17 (s.d. 8.43). Moreover, for 90 percent of candidates, at least one donor supports them throughout their entire career.

where  $win\ election_{it}$  is a dummy equal to one if candidate  $i$  wins a seat in the U.S. House of Representatives in election cycle  $t$ . The key regressor,  $\# dead\ donor_{it}$ , measures the number of previously supporting top donors who die during cycle  $t$ . The vector  $X_{it}$  includes candidate and district characteristics, and  $M_{it}$  captures campaign monetary resources. The model includes candidate fixed effects ( $v_i$ ) and election-cycle fixed effects ( $\zeta_t$ ). Candidate fixed effects absorb time-invariant candidate attributes, while election-cycle fixed effects capture common shocks and aggregate political conditions. Identification therefore comes from within-candidate variation in exposure to donor death across cycles.

To isolate the effect of donor death from other determinants of electoral performance, we include a rich set of candidate- and district-level controls. The set  $X_{it}$  includes indicators for whether the candidate: i) is male; ii) is a Republican, Democrat, or Independent; iii) previously held state-level political office; iv) held a leadership position within the party (e.g., party leader) or in Congress (e.g., Speaker, Chair, or Vice-Chair); v) was selected through primary elections;<sup>52</sup> vi) faced no incumbent in the district; vii) changed district or ran in a redrawn district; and viii) competed in a district where the most recent Congressional race resulted in a close outcome. The vector also includes a measure of district-level support for the candidate’s party in the previous presidential election (categorized as below 25 percent, 25-50 percent, 50-75 percent, or above 75 percent), as well as a measure of incumbency history, defined as the number of consecutive elections the candidate has won in the same district.

The set  $M_{it}$  captures campaign resources and includes: i) the share of individual and PAC contributions received within the district; ii) the share of independent expenditures received within the district; and iii) an indicator for whether the candidate received substantial financial support from their party (defined as above the annual median). In the main analysis, we exclude candidates whose share of total district contributions is below 0.05 percent or above 99.95 percent, as well as candidates serving as Speaker of the House, to avoid comparisons driven by electorally marginal or institutionally atypical cases. Results are qualitatively unchanged when these observations are included (see Section 4.2).

Table 5 shows the estimation results. In column (1), we estimate the model 1 when including, apart from individual and time fixed effects, the variable  $\#dead\ donor_{i,t}$ , which reflects the number of top donors a candidate loses during an electoral cycle. The estimated effect of this variable is negative and statistically significant, indicating that the loss of a top donor negatively affects a candidate’s electoral performance. Specifically, each donor lost reduces a candidate’s chances of being elected by 3.2 percentage points, corresponding to a 4

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<sup>52</sup>Not all candidates are selected through primary elections (e.g., non-party and write-in candidates). For additional details, see footnote 16.

percent decline relative to the sample mean.

In column (2), we augment the baseline specification by including the full set of candidate and district characteristics,  $X_{it}$ . The estimated effect of losing a top donor remains quantitatively stable: the coefficient declines by approximately 3 percent and retains the same level of statistical significance.

Several patterns emerge from the additional controls. As expected, competing in an open-seat race is associated with a higher probability of victory. Electoral success also increases with the level of district support for the candidate’s party in the most recent presidential election, consistent with persistent partisan alignment across electoral contests. By contrast, candidates who run in a different electorate—either because district boundaries were redrawn or because they switch districts—face significantly lower odds of winning.

We find no statistically significant differences in the probability of victory for candidates selected through primary elections, those running in districts where the previous congressional race was close, or those holding leadership positions.<sup>53</sup> The coefficient on *Incumbency streak* is negative and statistically significant. Given the inclusion of candidate and election-cycle fixed effects, this estimate does not capture the conventional incumbency advantage. Instead, it reflects a dynamic selection pattern: conditional on remaining in office, the probability of continuing to win declines over time. To estimate the standard incumbency premium, one must replace candidate fixed effects with district fixed effects, thereby comparing incumbents to challengers within the same district. We implement this alternative specification in Table 7, Panel A, column (1), where the effect of incumbency is large, positive, and statistically significant.<sup>54</sup> We return to this specification in the next section.

In column (3), we further extend the specification by incorporating monetary controls,  $M_{it}$ . A higher share of total district-level contributions is positively and significantly associated with electoral success, consistent with the importance of campaign resources. By contrast, we find no statistically significant independent effects for independent expenditures or substantial party financial support.<sup>55</sup>

Importantly, the estimated effect of donor death remains largely unchanged. Although the coefficient declines by approximately 9 percent after controlling for monetary channels, it remains economically meaningful and statistically significant, corresponding to an effect of approximately 2.8 percentage points. The stability of the estimate suggests that the impact

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<sup>53</sup>Leadership status may proxy for time-invariant traits, such as charisma or political skill, which are absorbed by candidate fixed effects.

<sup>54</sup>See Appendix Table F2 for the estimation results displaying also the control variables.

<sup>55</sup>These channels may overlap with candidates’ own fundraising capacity, making their separate effects difficult to disentangle once contribution shares are included.

of losing a top donor is not driven solely by reductions in observable campaign funding, pointing to the relevance of non-monetary mechanisms, which we explore in Section 6.

In column (4), we distinguish between the intensive and extensive margins of donor loss. In our sample, 65 percent of affected candidates lose only one top donor in a given cycle. To this purpose, we replace the count variable  $\#dead\ donor_{i,t}$  with a dummy indicator  $dead\ donor_{i,t}$ , equal to one if the candidate loses at least one top donor. The estimated effect is negative and statistically significant: losing a top donor reduces the probability of election by 2.8 percentage points. The magnitude is similar to that reported in column (3), indicating that the effect is approximately linear in the number of donors lost.

Finally, we explore four sources of heterogeneity in the effect of the death of a top donor, depending on i) the age of the dead donor at the time of death, distinguishing between donors in the highest age tertile and those below it; ii) the type of race (tight or regular); iii) the stakes of the race, proxied by whether or not the donor resided in the state where the race takes place; and iv) the legal limits on the amount of money that could be used to support a candidate's campaign, which were in place before Citizens United and removed afterward. Formally, this exercise is conducted by replacing the variable  $\# dead\ donor_{i,t}$  in Eq. (1) with two separate variables that count the number of lost donors in each of the two categories considered (i.e., older vs young donors; tight vs. regular races; donors residing vs. not residing in the state where the race takes place; and periods before vs. after Citizens United).

Results are reported in Table 6. Column (1) reports estimates separately for the death of donors in the highest age tertile and for younger donors. The effects are negative, statistically significant, and similar in magnitude across the two groups. This pattern provides evidence that candidates do not systematically anticipate the death of older donors. If candidates adjusted their behavior in expectation of donor mortality, one would expect the effect of donor loss to attenuate with donor age. The absence of such a pattern reinforces the interpretation of donor death as an unanticipated shock to the candidate-donor relationship. It suggests that anticipation is unlikely to be a first-order concern in our setting.

Column (2) shows that the effect of the death of a top donor during a tight race is about ten times larger than during regular races, indicating that top donors are especially decisive at the margin. Column (3) reports no differential effect by whether the deceased donor resided in the same state as the candidate: in both cases, the loss of a donor has a negative and statistically significant effect on the probability of winning.

Finally, column (4) reports estimates separately for the pre and post-Citizens United

periods. The effect of losing a top donor is negative and statistically significant in both subsamples. The magnitudes of the two coefficients are not statistically different. The point estimates, however, suggest a somewhat larger effect prior to Citizens United. This pattern is consistent with changes in the campaign finance environment following the decision. By relaxing constraints on independent expenditures, Citizens United likely expanded the pool of major donors and reduced frictions in large-scale political giving. As a result, candidates who lose a top donor may face greater opportunities for substitution in the post-decision period. The smaller post-Citizens United point estimate should therefore not be interpreted as evidence that top donors became less important, but rather that individual donors may have become more replaceable. At the same time, the absence of a statistically significant difference across periods is not surprising. Citizens United did not represent a sharp break in campaign finance practices. Earlier decisions—such as *FEC v. Wisconsin Right to Life* (2007) and *Davis v. FEC* (2008) – had already relaxed certain constraints and allowed motivated donors to increase political spending. The 2010 ruling reduced legal uncertainty and organizational costs, but major donors were already active before it. This evidence also supports the importance of non-monetary contributions. When contribution caps were more binding, top donors may have provided valuable non-financial inputs—such as network access, coordination, or reputational signaling—thereby amplifying the consequences of donor loss.

In the previous analysis, including candidate fixed effects requires observing candidates in more than one election cycle. This restriction would affect inference if donor death influenced the probability that candidates who otherwise run only once would instead run again. In our data, this does not appear to occur. Fewer than 2 percent of single-election candidates are exposed to donor death. These candidates are overwhelmingly independent, receive limited donor support, obtain less than 20 percent of the vote on average, and 98.9 percent are not elected. Their single-election participation is therefore largely unrelated to donor death. Results estimated on the full sample, reported in Table 7, Panel B, column (1), are highly comparable to the baseline estimates. If anything, the coefficients are slightly smaller. This pattern is mechanical: candidates who run only once perform extremely poorly, so including them drastically reduces the baseline average success of untreated candidates, attenuating the overall estimate rather than altering its interpretation.

## 4.2 Robustness Analysis and Additional Evidence

In this section, we present a series of robustness checks and additional evidence supporting our main results.

**Alternative Specifications.** Table 7, Panel A, examines the sensitivity of the results to alternative specifications. Column (1) removes candidate fixed effects from the baseline model and instead controls for time-invariant candidate characteristics—such as prior state-level officeholding, party affiliation, and gender—while introducing district fixed effects. The estimated effect of donor death remains quantitatively unchanged. Column (2) augments the specification with an additional measure of campaign resources—the share of advertising expenditures directed to the candidate within the district—allowing us to control more comprehensively for observable monetary support. The additional control is not statistically significant, and its inclusion leaves the estimated effect of donor loss essentially unchanged. This pattern suggests that the influence of top donors is not driven solely by observable fundraising. At the same time, disentangling monetary and non-monetary channels is inherently difficult. Monetary support may itself reflect non-monetary mechanisms—such as coordination, social pressure, or signaling—through which donors mobilize their networks. Consequently, interpreting the estimated effect of donor loss, conditional on observable monetary support, as a clean measure of purely non-monetary influence would be misleading and would likely understate the broader, unobserved impact of top donors. Section 6 provides detailed evidence on these channels. Column (3) introduces state-by-election-cycle fixed effects to absorb time-varying state-level shocks, including political realignments and local economic conditions. The estimated effect remains stable and statistically significant. Column (4) adds candidate-specific time trends, flexibly controlling for changes in candidates’ age and experience over time. The results are again qualitatively unchanged.

**Alternative Samples.** Table 7, Panel B, evaluates sensitivity to sample definitions. Column (1) includes candidates who run in a single election cycle. As mentioned before, these candidates typically have limited donor networks and rarely experience donor death (fewer than 2 percent). Their inclusion attenuates the estimated coefficient mechanically, though the effect remains statistically significant. Column (2) excludes candidates from California, New York, and Texas to ensure the results are not driven by states with highly concentrated donor markets. The estimated effect remains stable. Column (3) reintroduces previously excluded outliers—candidates whose share of total district contributions is below 0.05 percent or above 99.95 percent, as well as candidates serving as Speaker of the House. The estimated effect remains statistically significant and qualitatively similar. The coefficient is somewhat smaller, as expected, reflecting the inclusion of candidates whose atypical electoral or fundraising environments make donor-related shocks less consequential. Column (4) excludes senior candidates—those who have run more than the sample median of three election cycles—to

address the possibility that donor age and candidate age evolve jointly. If older candidates tend to have older donors, donor death could partly capture declining electoral performance associated with candidate aging rather than a donor-specific effect. The estimated effect remains statistically significant and quantitatively similar under this restriction.<sup>56</sup>

**Alternative Inference Procedures.** Table 7, Panel C, addresses the network structure of treatment exposure. In our setting, donor deaths represent shocks that may affect multiple candidates, and each candidate may experience the death of multiple donors over time. This many-to-many exposure structure motivates inference procedures that allow for residual correlation across linked observations and that remain valid under complex dependence patterns.

Column (2) reassesses inference in the baseline candidate-cycle specification using wild cluster bootstrap procedures, following Cameron et al. (2008). This procedure is well-suited to panel settings with serial correlation within politicians and heterogeneous cluster sizes, and provides finite-sample p-values that remain valid when standard asymptotic approximations are unreliable. The estimated effect remains statistically significant. Column (3) further accounts for dependence arising from donor-level shocks by estimating the model in a donor-candidate-cycle (“dyadic”) dataset that decomposes candidate exposure into donor-specific components. Within this framework, we cluster standard errors two ways—at the candidate and donor levels—allowing outcomes to be correlated both within candidates over time and across candidates connected to the same donor. The estimated effect remains statistically significant. Column (4) clusters standard errors at the donor and candidate-state levels to account for geographically correlated donor shocks. The estimated effect again remains statistically significant. Across all inference procedures, the statistical significance of the donor-loss effect is preserved, indicating that the main findings are robust to alternative approaches that account for donor-level dependence.

**Alternative Electoral Outcome.** Appendix Table F1 replaces the binary victory indicator with vote share. The estimated effect remains negative and statistically significant: the death of a single top donor reduces vote share by approximately 0.3 percentage points. The estimated effect is small on average, suggesting that donor loss does not substantially shift vote shares across most races. In close races, however, the impact is considerably larger. Column (2) shows that in competitive contests, losing a top donor reduces vote share by 1.2

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<sup>56</sup>We also examine whether donor age at death predicts the legislative performance of elected candidates, measured by the Legislative Effectiveness Score (Volden and Wiseman, 2009). In candidate-donor-level regressions, donor age is negatively but not statistically significantly associated with legislative effectiveness. The estimated magnitude is also economically negligible: a one-year increase in donor age corresponds to a 0.45 percent decrease in effectiveness relative to the sample mean.

percentage points. This magnitude is electorally meaningful. To gauge its implications, note that, on average, about 7 winning candidates would lose their seats in a given election cycle if their vote shares declined by 1.37 percentage points in tight races.

Using vote share as an alternative outcome also allows us to benchmark our estimates against the literature on the electoral effects of campaign activities such as advertising and canvassing. Our estimates are comparable to those reported for political advertising. Spenkuch and Toniatti (2018) show that a one standard deviation increase in the partisan difference in advertising raises vote share by about 0.5 percentage points. In their framework, our estimate of a 0.3 percentage point decline in vote share following the loss of a top donor corresponds to roughly half a standard deviation in advertising exposure.<sup>57</sup>

A similar comparison can be made with estimates of canvassing effects. Pons (2018) shows that a large-scale door-to-door campaign during the 2012 French presidential election increased vote share by 2.5 percentage points. Scaling proportionally from those estimates, the electoral impact of losing a top donor corresponds to mobilizing roughly 120 canvassers in a typical U.S. congressional district.<sup>58</sup> This magnitude appears reasonable. Mobilizing roughly one hundred canvassers in a congressional district represents a modest campaign effort, suggesting that the electoral impact we estimate is well within the range of effects documented for other campaign activities.

**Re-Entry and Selection.** Because identification relies on within-candidate comparisons, the baseline analysis is restricted to candidates who run in at least two election cycles. This restriction raises a natural question: if losing a top donor discourages candidates from running again, the sample of repeat candidates may exclude some of the candidates most affected by donor loss.

Appendix Table F2 examines this issue directly. In column (1), we estimate the probability that a candidate runs in the subsequent election cycle using the full sample of candidates, including those who run only once. The estimated effect of donor loss is negative but small and statistically insignificant. As mentioned in Section 4.1, this result reflects the fact that

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<sup>57</sup>A one standard deviation increase in partisan advertising corresponds to roughly 22 additional ads favoring one candidate (Spenkuch and Toniatti, 2018). Our estimate, therefore, corresponds to roughly half a standard deviation, or about 13 additional ads seen by the average voter. Using data from the Wesleyan Media Project (the same source used by Spenkuch and Toniatti, 2018), airing 13 ads costs approximately 7,200, which is close to the 8,687 reduction in advertising expenditures observed after the loss of a top donor (see Section 6.2).

<sup>58</sup>The campaign studied by Pons (2018) involved 80,000 canvassers targeting 15 percent of dwellings across 4,674 precincts, or about 17 canvassers per precinct. A typical U.S. congressional district contains roughly 407 precincts. Targeting 15 percent of precincts implies canvassing about 61 precincts, corresponding to approximately 1,000 canvassers to generate a 2.5 percentage point increase in vote share. Scaling proportionally, the 0.3 percentage point effect estimated in this paper corresponds to mobilizing roughly 120 canvassers.

candidates who run only once have very few donors, are rarely exposed to donor death, and therefore contribute little information about the effect of the treatment.<sup>59</sup>

Column (2) focuses on the relevant population—candidates who run in at least two elections and are therefore exposed to the possibility of donor loss. In this sample, the loss of a top donor has a negative and statistically significant effect on the probability of running again. This finding suggests that replacing a top donor is difficult and that donor loss may influence established candidates’ decisions to exit electoral competition.

Finally, column (3) examines electoral success in the subsequent cycle among candidates who do re-run. The estimated effect of donor loss is not statistically significant. This estimate should be interpreted with caution. Because donor loss reduces the probability that some candidates run again, the set of candidates observed in the following election is positively selected. The estimate in column (3), therefore, reflects outcomes only among candidates who continue to compete after losing a donor and likely understates the overall impact of donor loss on subsequent electoral performance.

## 5 Long-Term Effects on Legislative Behavior

We next examine whether the influence of top donors extends beyond elections and shapes the subsequent legislative behavior of the politicians they support.

A challenge in testing this hypothesis is that we observe the goals and interests of top donors only partially and imperfectly, and therefore cannot perfectly link the death of a donor to changes in a politician’s activity on the specific legislative issues that may matter to that donor. Nevertheless, we can advance two natural conjectures to assess whether a top donor’s death affects the legislative activity of the candidates they support. First, donors may encourage legislators to engage with issues reflecting their personal or business interests, potentially broadening the set of topics legislators address. Second, when such donors are no longer present, legislators may face fewer external demands and may therefore devote more attention to issues aligned with their own priorities or those of their party. If this interpretation is correct, the loss of a top donor should lead legislators to focus on a narrower set of topics and to vote more consistently with their party.

To test these conjectures, we examine the sponsorship activity and voting behavior of legislators across two consecutive mandates, Congress  $t - 1$  and Congress  $t$ . We study how the

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<sup>59</sup>Candidates who run only once are overwhelmingly independents, have less than 5 donors on average and rarely experience donor death ( $< 2\%$ ). They receive a substantially lower vote share: on average, they obtain less than 20 percent of the votes in their district, and 98.88 percent of them are not elected.

loss of a top donor during Congress  $t - 1$ —that is, during the electoral campaign preceding Congress  $t$ —affects legislative behavior in Congress  $t$ . We focus on two outcomes. First, we measure the ideological distance between a legislator and the median member of their party in roll-call voting. Second, we compute the entropy of the topics covered by the bills sponsored by the legislator, following Shannon (1948) and Boydston et al. (2014). Lower entropy indicates that legislative activity is concentrated on fewer topics, while higher entropy reflects a broader dispersion across issues.<sup>60</sup>

We estimate the following specification:

$$\Delta y_{it} = \beta_1 \# \text{ dead donor}_{it} + K_{it} + M_{it} + v_i + \zeta_t + \epsilon_{it}$$

The dependent variable  $\Delta y_{i,t} = y_{i,t} - y_{i,t-1}$  measures the change between Congress  $t - 1$  and Congress  $t$  either in (i) the entropy of the topics of bills sponsored by legislator  $i$ , or (ii) the ideological distance between legislator  $i$  and the median member of their party. The variable  $\# \text{ dead donor}_{it}$  counts the number of top donors supporting legislator  $i$  who died during the electoral campaign for election at Congress  $t$ . The vector  $K_{it}$  includes standard determinants of legislative behavior,<sup>61</sup> while  $M_{it}$  controls for the financial resources available during the electoral cycle  $t$ . The terms  $v_i$  and  $\zeta_t$  denote legislator and Congress fixed effects, respectively.

Table 8 reports the results.<sup>62</sup> Column (1) shows that the loss of a top donor reduces the ideological distance between legislators and their party colleagues: legislators vote more closely in line with their party after a donor’s death. The estimated effect corresponds to a reduction of 0.02 points, about 12 percent of a standard deviation of ideology within a Congress. This pattern suggests that donors may encourage legislators to accommodate specific issues in their political agenda; once the donor is no longer present, legislators revert to positions more aligned with their party. Column (2) shows that this result remains robust when controlling for campaign resources. Column (3) shows that the loss of a top donor also reduces the entropy of topics addressed in sponsored bills. In other words, legislators

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<sup>60</sup>We exclude legislators who hold party leadership positions or committee chairs, as their institutional responsibilities involve competing obligations that may limit changes in voting behavior (Rothenberg and Sanders, 2002) and reduce bill sponsorship (Volden and Wiseman, 2009).

<sup>61</sup>These include indicators for whether the legislator belongs to the majority party and whether the legislator belongs to the party of the President. Our estimates are qualitatively unchanged if these variables are lagged at Congress  $t - 1$ . Results are available upon request.

<sup>62</sup>The estimated effect of top donors is identified for candidates who experience the loss of a top donor at time  $t - 1$  and are elected at  $t$ . These candidates are likely less reliant on top donors; if anything, our estimates should therefore be interpreted as a lower bound on the true effect of top donors on legislative outcomes.

concentrate their legislative activity on a narrower set of issues. The estimated reduction in entropy is 0.0345 points, corresponding to about 8 percent of a standard deviation of the entropy measure. Column (4) shows that this result is robust to controlling for campaign resources. Taken together, these findings suggest that the loss of a donor is associated with fewer competing demands on a legislator’s agenda and a stronger focus on a core set of issues.

We provide additional evidence consistent with this interpretation in Figure 4. Panel A examines whether, in the last electoral cycle in which the donor was alive, a legislator sponsored at least one bill associated with a PAP topic<sup>63</sup> aligned with the interests of the donor’s company.<sup>64</sup> We find that roughly 50 percent of legislators sponsored at least one such bill during that cycle. Panel B then examines whether these legislators continued to address the same topic after the donor’s death. Among those who had previously sponsored bills related to the interests of a now-deceased donor, 75 percent did not sponsor any related legislation in the subsequent cycle. This pattern further suggests that donors can influence not only electoral outcomes but also the legislative agendas of the politicians they support.

## 6 Investigating the mechanisms

In this section, we investigate four channels through which the death of top donors may affect a candidate’s electoral performance.

The first channel, which we label *Hypothesis 1*, is the most direct: the effect operates through the loss of funds contributed by the donor. If this mechanism drives our results, electoral outcomes should depend on the amount of money the deceased donor previously contributed to the candidate.

The second channel, *Hypothesis 2*, operates through indirect financial support. Donors may encourage additional giving by mobilizing their networks or by acting as prominent examples that induce other donors to contribute. In addition, financial support may flow through intermediaries such as Super PACs or 501(c)(4) organizations, which can obscure the link between donors and candidates. If this mechanism is important, the death of a top donor should reduce contributions from other donors and independent expenditures directed toward the candidate.

The third and fourth channels relate to non-monetary influence. *Hypothesis 3* posits that more prominent donors exert a larger impact on electoral outcomes. Under this hypothesis, the electoral consequences of donor death should be greater when the deceased donor is more

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<sup>63</sup>See footnote 25 for details.

<sup>64</sup>See Section 2.2 for a description of how we infer donors’ economic interests.

visible or prominent. *Hypothesis 4* focuses on one specific channel of non-monetary influence: donors' ability to provide candidates with access to wide social and political networks. Top donors often give candidates access to valuable contacts that can facilitate fundraising and campaign support. If this channel is important, donor death should reduce the networking activities of candidates connected to the deceased donor.

The following subsections examine these hypotheses.

## 6.1 Hypothesis 1: Observable Money is All that Matters.

We begin by testing whether the effect of donor death operates through the loss of direct financial contributions.

First, we examine whether the magnitude of direct donations provided by the deceased donor predicts the electoral consequences of donor death. To do so, we compute the total amount each candidate received from donors who subsequently died and interact this amount with the number of deceased donors in equation (1).

The results are reported in Table 9, column (1). The evidence does not support *Hypothesis 1*. While the death of a top donor has a negative and statistically significant effect on electoral performance, the interaction between donor death and the amount previously contributed is small and statistically insignificant.<sup>65</sup> This suggests that the electoral impact of losing a donor does not depend on the financial magnitude of the donor's direct contributions.

This finding raises a natural question: if the amount of direct contributions does not matter, why do donors provide direct support at all? One possibility is that direct donations primarily signal a meaningful relationship between the donor and the candidate rather than operating through their financial value.

We provide evidence consistent with this interpretation through two exercises.

We first examine whether the death of individuals who are geographically close to a candidate—but who never contributed to that candidate—affects electoral outcomes. To this end, we replace in equation (1) our baseline measure of donor death with a variable counting the number of deceased donors residing in the candidate's state who never donated to that candidate. Geographic proximity is empirically meaningful in our setting: despite the much larger pool of out-of-state candidates, top donors concentrate a substantial share of their giving within their home state.<sup>66</sup> This placebo therefore examines candidates who are

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<sup>65</sup>The baseline effect associated with the amount previously contributed by dead donors is also small and statistically insignificant, and it remains almost unchanged when excluding the interaction term from the model specification; results are available upon request.

<sup>66</sup>In our data, donors support on average about 32 percent of candidates from their own state in a given

geographically close to the donor along an important margin of donor activity but who were never directly connected to that donor through an observed contribution.

We next consider donors who are economically connected to a candidate but who never contributed to that candidate. Specifically, we replace our baseline measure of donor death with a variable counting the number of deceased donors whose firms operate in sectors with legislative interests in the candidate’s state but who never donated to the candidate. We define a donor as having a legislative interest in a state if the sector of activity of the donor’s firm is related to policy topics that are particularly salient for that state.<sup>67</sup>

The results are reported in Table 9, columns (2) and (3). The estimated coefficients are small in magnitude—approximately four and forty times smaller than the baseline estimate, respectively—and statistically insignificant. These findings suggest that direct donations are important for identifying the donor-candidate relationship, even though the influence of top donors is unlikely to operate primarily through the financial value of their direct contributions.

Taken together, the results indicate that the electoral influence of top donors does not operate primarily through the direct financial value of their contributions. Instead, direct donations appear to function largely as signals of support within a broader donor-candidate relationship that may operate through additional channels, including mobilizing other contributors or providing access to influential networks. The following sections investigate these channels.

## 6.2 Hypothesis 2: Top Donors as Vectors of Monetary Support

Top donors may influence electoral outcomes by mobilizing financial support from others. Through their social networks and public endorsement, prominent donors can encourage additional contributions from other major donors. If this mechanism is important, the death of a top donor should reduce the financial support that a candidate receives from other contributors.

To test this hypothesis, we estimate equation (1) using two outcome variables: the share  

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election cycle, compared with less than 1 percent of candidates from other states.

<sup>67</sup>The legislative interest of a donor in the state of a candidate is measured as follows. For candidate  $i$ , running in election cycle  $t$  in state  $s$ , we first identify all candidates from state  $s$  who were elected at  $t - 1$ , i.e., the state’s delegation to the U.S. House of Representatives. We then examine the distribution of the topics covered in all bills written by this delegation while in office (topics are categorized using the PAP code system; see footnote 25). We select the three most frequently covered topics, which are likely to be salient during the electoral campaign in state  $s$ . Next, we identify all donors who died at  $t$  and were affiliated with companies whose activities are related to these topics (see Section 2.2 for additional details). Among these donors, we retain only those who never made direct contributions to candidate  $i$ ’s campaign.

of individual contributions received by a candidate (which does not include top donors); and the share of contributions from top donors other than the top donors who die in the cycle. If top donors act as conduits for broader financial support, the death of a top donor should reduce these contributions.

The results are reported in Table 10, Panel A, columns (1) and (2). Consistent with this mechanism, the death of a top donor reduces the individual contributions received by the candidate. The effect is statistically significant for contributions from other top donors, while the effect for small donors is negative but not statistically significant. Quantitatively, the loss of a top donor is associated with a 1.1 percentage point decline in contributions from other top donors. These results suggest that top donors serve as catalysts for broader support, consistent with *Hypothesis 2*.

We next examine whether donor influence also operates through their indirect financial channels. In particular, as discussed in Section 3, donors may support candidates through Super PACs or other organizations that finance independent political advertising. If top donors use such channels, we should observe that their death has no impact on advertising expenditures sponsored by the candidate, but it should reduce expenditures financed by interest groups supporting the candidate. To test this prediction, we estimate equation (1) using two outcome variables: the share of political advertising expenditures in the district sponsored by candidate  $i$  and the share financed by outside groups.<sup>68</sup>

The results are reported in Table 10, Panel B, columns (1) and (2). Consistent with this prediction, the death of a top donor has no statistically significant effect on advertising expenditures sponsored by the candidate. In contrast, it significantly reduces advertising expenditures financed by interest groups. The estimated effect corresponds to a 1.2 percentage point decline in the share of district advertising devoted to the candidate, equivalent to an average reduction of approximately \$8,700.<sup>69</sup>

This magnitude is economically meaningful. Using estimates from Spenkuch and Toniatti (2018), who show that increased political advertising has a measurable effect on vote shares, the reduction in advertising expenditures we observe corresponds to roughly 13 fewer advertisements viewed by the average voter, reducing a candidate’s vote margin by about 0.3

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<sup>68</sup>Observe that expenditures by candidates and Super PACs cannot be coordinated. The U.S. Federal Election Commission states that Super PACs are created “for the purpose of financing independent expenditures.” According to the Code of Federal Regulations, an independent expenditure cannot be made “in concert or cooperation with or at the request or suggestion of” a candidate, the candidate’s authorized committee, or a political party committee.

<sup>69</sup>In our data, candidates who run in at least two election cycles receive on average \$32,938 in advertising expenditures from interest groups in their district. A decline of 1.2 percentage points, therefore, corresponds to a reduction of about \$8,700 in advertising expenditures directed toward the candidate.

percentage points.<sup>70</sup>

Taken together, these results suggest that top donors influence electoral outcomes not only through their own contributions but also by mobilizing additional financial support—both from other donors and through independent political expenditures. An alternative interpretation is that a donor’s death conveys a negative signal about a candidate’s viability, inducing other donors and PACs to withdraw support. This mechanism is consistent with our hypothesis: both channels imply that top donors affect electoral outcomes by shaping the flow of financial support from others.

### 6.3 Hypothesis 3: Prominent Donors

The third hypothesis, which we refer to as *Hypothesis 3*, is that the influence of top donors depends on factors other than the money they provide, such as their ability to connect candidates to influential social networks that may shape electoral outcomes. If this mechanism is important, donors with greater prominence should exert a larger impact on candidates’ electoral performance.

To test this hypothesis, we estimate the effect of losing a top donor separately for two categories of donors: those whose total contributions fall in the highest quartile (labelled as “Superstar donors” in Section 2.2) and those whose contributions fall below this threshold.<sup>71</sup> This allows us to assess whether more prominent donors—as proxied by their total contributions—play a different role in candidates’ electoral fortunes. Formally, we replace the variable  $\# \text{ dead donor}_{i,t}$  in equation (1) with two variables that count the number of lost donors in each category.

The results are reported in Table 11, column (1). The estimated effects are negative and statistically significant for both groups, but the effect associated with the loss of “Superstar donors” is almost four times larger. This indicates that the electoral consequences of donor death are substantially greater when the deceased donor was among the most influential

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<sup>70</sup>According to Coate (2004), political advertising may be less effective in influencing voters due to its perceived association with *quid pro quo* arrangements between candidates and donors. This perception can foster cynicism among the electorate and undermine the credibility of the candidate. Our findings suggest that donors may seek to circumvent this negative signaling by channeling their contributions through Super PACs that ostensibly pursue the general interest, such as “America PAC” or “Leading the Future PAC,” which enable the indirect sponsorship of campaign advertising. By doing so, donors can obscure the link between themselves and the advertising content, thereby mitigating reputational risks for the candidate and preserving the persuasive power of the advertisement. This has important implications, since Spenkuch and Toniatti (2018) finds a positive and economically meaningful effect of advertising on candidates’ vote shares, as discussed above.

<sup>71</sup>Contributions are measured in the last cycle in which the donor supported a candidate.

contributors in the market for political donations. Taken together with the evidence from *Hypothesis 1* (Section 6.1), this finding suggests that powerful donors matter most for candidates, even when their direct financial contributions are not the primary channel through which their influence operates.

We provide additional evidence using a second proxy for donor prominence: whether the donor appears on the Forbes 400 list (see Section 2). We again split the variable  $\# \text{ dead donor}_{it}$  into two components: one counting deceased donors listed on the Forbes 400 and another counting deceased donors not listed.

The results are reported in Table 11, column (2). Although both estimated effects are negative and statistically significant, they are not statistically different from each other. Nevertheless, the point estimate for Forbes 400 donors is larger, consistent with the previous evidence suggesting that candidates suffer the greatest electoral losses when they lose highly prominent supporters, as predicted by *Hypothesis 3*.

## 6.4 Hypothesis 4: Networking and Social Connections

Finally, we examine the hypothesis that the importance of top donors depends on their ability to connect candidates to social circles that are relevant for a political career and that may be disrupted by the death of a donor. We investigate this implication by focusing on candidates who win elections and serve in the U.S. House of Representatives. While candidates are not required to disclose their meeting agendas, members of Congress must report certain official activities, making them the only group for which systematic evidence on networking opportunities can be collected.

In particular, we analyze the number of social gatherings to which Representatives are invited during *gift travels*, i.e., trips organized by interest groups to foster relationships with legislators. The data cover all U.S. Representatives who served between 2007 and 2018 (110th to 115th Congress).<sup>72</sup>

We estimate the following model:

$$y_{i,t} = \beta_1 \# \text{ dead donor}_{it} + K_{it} + M_{it} + v_i + \zeta_t + \epsilon_{it}. \quad (2)$$

Here,  $y_{i,t}$  denotes the number of social events attended by Representative  $i$  during gift

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<sup>72</sup>Consistent with the exercises presented in Section 5, we exclude legislators holding party leadership positions or committee chairmanships, as the invitations they receive may differ systematically due to their institutional roles (see also footnote 60). The number of observations used here differs from that in Section 5, since those estimates are conducted in first differences, whereas the present analysis is not.

travels in Congress cycle  $t$ . The variable  $\# \textit{dead donor}_{it}$  counts the number of top donors lost by candidate  $i$  during the electoral campaign preceding Congress cycle  $t$ . The term  $K_{it}$  includes standard determinants of legislative behavior,<sup>73</sup> while  $M_{i,t}$  captures the monetary resources available to the legislator during the electoral campaign. The terms  $v_i$  and  $\zeta_t$  denote member and Congress fixed effects, respectively, and  $\epsilon_{it}$  is an idiosyncratic error term.

Table 12, column (1), reports the results when the specification includes only legislator characteristics (contained in  $K_{i,t}$ ) and the set of fixed effects. Column (2) adds the monetary controls ( $M_{i,t}$ ). The estimates are consistent across specifications. The loss of a donor has a sizable and statistically significant effect on the number of social gatherings to which a legislator is invited: relative to the Congress cycle in which the donor was alive, invitations decline by approximately 20 percent.<sup>74</sup>

This evidence provides further support for the view that top donors contribute assets beyond financial resources, particularly access to valuable social networks. The loss of a prominent donor may therefore have consequences that extend beyond campaign finance, reducing a legislator’s opportunities to participate in networking environments that are important for maintaining influence and visibility.

## 7 Implications for Campaign Finance and Disclosure

These findings have implications for campaign finance regulation and for the way the U.S. Supreme Court has interpreted such regulation. Beginning with *Buckley v. Valeo*, the Court has increasingly embraced what it has described as a “*deregulate and disclose*” approach (Hasen, 2012). Under this framework, deregulation is justified on the grounds that disclosure requirements allow citizens to evaluate political messages and make informed judgments about their sources.

In practice, however, deregulation has proven easier to implement than effective disclosure. Designing disclosure rules that are comprehensive, enforceable, and difficult to circumvent has proven challenging.<sup>75</sup> As a result, significant gaps in transparency remain (see, among

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<sup>73</sup>These are the same controls used in Section 5 (see also footnote 61), including indicators for whether the legislator belongs to the majority party and whether the legislator belongs to the President’s party.

<sup>74</sup>The estimated effect is identified for candidates who experience the loss of a top donor at time  $t - 1$  and are elected at  $t$ . As mentioned in footnote 62, these candidates are likely less reliant on top donors; if anything, our estimates should therefore be interpreted as a lower bound on the true effect of top donors on networking activities.

<sup>75</sup>Apart from the difficulties in ensuring effective disclosure, a theoretical argument that disclosure alone may be insufficient—and that contribution limits may be Pareto improving—is provided by Coate (2004), who shows that the informational content of campaign spending may increase in the presence of contribution

others, Wood, 2018; Koningisor, 2020). Our work highlights the importance of these gaps by providing causal evidence that top donors exert significant but often opaque influence both on electoral outcomes and on legislative behavior.

Several features of the current disclosure regime contribute to these transparency gaps. One source of opacity arises from the use of 501(c)(4) “social welfare” organizations, which may raise funds to support political activity without disclosing their donors. Although the law formally prohibits these organizations from operating primarily for political purposes, enforcement is infrequent and often delayed, allowing organizations that spend heavily on political activity to treat potential penalties as a cost of doing business (Wood, 2018). A related concern is the ability of such organizations to coordinate informally with candidates despite formal prohibitions. Coordination rules apply only after a candidate has formally declared a campaign and leave substantial room for signaling through public statements, press releases, and other public communications.

Technological change has also introduced new challenges. As Kim et al. (2018) document, a substantial share of online political advertising is placed anonymously and often omits legally required disclaimers. Weak enforcement of existing rules further reduces the effectiveness of disclosure requirements. As Wood (2018) notes, many advertisers omit disclaimers precisely because they correctly anticipate that enforcement will be limited.

Our results also point to a less-examined channel of influence: the ability of prominent donors to provide valuable non-monetary support through their social networks. Well-connected donors can signal their endorsement, introduce candidates to potential contributors, and facilitate access to influential political and economic networks. These activities can be understood as a form of political expression, since donors use their social capital to direct support toward candidates they believe deserve backing. For this reason, this channel is difficult to regulate, even when it may generate disproportionate influence for individuals with extensive networks. As emphasized by Lessig (2011), existing disclosure requirements track financial flows but fail to capture the broader system of dependence on a relatively small group of major fundraisers and networked donors.

Even in this domain, however, greater transparency could improve accountability. Fundraising activities are typically disclosed only indirectly through campaign finance reports, and current rules do not systematically identify donors who organize or bundle contributions unless specific conditions are met. Under the *Honest Leadership and Open Government Act* of 2007, campaigns must disclose lobbyist bundlers who raise more than a specified threshold

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limits.

(currently about \$19,000), but this requirement applies only when the intermediary is a registered lobbyist or lobbying organization. If a major donor organizes fundraising activities without being registered as a lobbyist, no bundler disclosure is required. Our findings suggest that these forms of network-based support may be highly valuable to candidates. More systematic disclosure of fundraising activity and donor-provided network access could therefore improve transparency and better serve the public interest.

## 8 Conclusions

In this paper, we revisit a classical question in political economy, the so-called *Tullock Paradox*: the observation that the amount of money spent in U.S. politics appears small relative to the size of the stakes. The question is ultimately not only about money, but about influence. Is it really the case that there is too little money for private interests to sway public policy or, to use Tullock’s more colorful expression, too little money to “purchase politicians”?

The premise of our analysis is simple. The apparent scarcity of money in politics may reflect the fact that an important component of political influence takes forms that are either non-monetary (such as advice, connections, and experience) or otherwise unobserved. In this paper, we provide evidence consistent with this hypothesis, showing that top donors significantly affect the political fortunes of congressional candidates; and they also influence the behavior in the U.S. Congress of elected candidates. We also offer a first investigation of the mechanisms through which top donors exert influence other than through observable monetary channels. A top donor’s death leads to a decline in contributions from other donors and in PAC-funded advertisements supporting the candidate, while no comparable decline is observed in advertisements funded directly by the candidate, where funding sources are fully transparent. The loss of a top donor reduces invitations to social gatherings organized by interest groups, suggesting that prominent donors also facilitate valuable networking opportunities. Finally, we find that the effect of a donor’s death on a candidate’s electoral prospects depends strongly on the donor’s prominence.

Naturally, our results do not imply that political spending in the United States is commensurate with the enormous economic stakes involved. Nevertheless, they suggest that observable monetary contributions are only the proverbial “tip of the iceberg”, and that top donors play an important role in shaping politicians’ fortunes and behavior.

These findings, in turn, raise a new set of questions for future research. How should

non-monetary contributions be measured? To what extent are unobserved contributions provided through legal channels, such as PACs, or through illegal means? And how does the total value of observed and unobserved contributions compare with the private interests at stake? Answering these questions is essential both for understanding the full scope of political influence and for designing effective systems of campaign finance regulation. More broadly, the study of non-monetary contributions should be central to future research on elections and campaign finance.

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Table 1  
Top Donors  
- Characteristics of Contributions -

Election Cycle	2008	2010	2012
Amount of donations			
-Total	59,843.89 (87,361.11)	74,178.98 (180,424.26)	214,854.51 (1,523,667.96)
-to candidates	21,084.05 (16,871.56)	28,568.76 (23,078.73)	28,694.56 (25,121.28)
- same party	19,593.32 (16,100.17)	26,777.97 (22,252.38)	27,005.98 (24,367.01)
- different party	1,445.44 (3,896.87)	1,813.06 (5,036.71)	1,531.39 (5,154.99)
-To PACs	43,570.4 (85,237.79)	52,434.5 (185,044.31)	205,130.5 (1,594,568.39)
Candidates supported			
- same party	13.25 (10.78)	14.99 (12.75)	14.53 (12.53)
- different party	10.53 (8.70)	12.28 (10.48)	11.09 (9.90)
- different party	0.79 (1.99)	0.89 (2.20)	0.70 (1.93)
PACs supported	8.32 (11.44)	8.76 (12.90)	11.22 (23.63)
Election Cycle	2014	2016	2018
Amount of donations			
-Total	190,823.66 (1,510,997.14)	492,288.00 (2,459,751.77)	391,197.86 (2,428,964.72)
-To candidates of	40,509.52 (40,282.33)	51,013.38 (68,727.63)	80,781.29 (108,066.22)
- same party	38,796.61 (39,410.99)	49,126.19 (67,626.88)	78,381.52 (106,163.04)
- different party	1,909.87 (6,205.70)	2,068.17 (8,160.83)	3,167.27 (16,418.18)
-To PACs	175,135.4 (1,616,435.11)	480,134.0 (2,532,997.90)	344,593.1 (2,513,751.51)
Candidates supported			
- same party	15.48 (14.63)	19.40 (18.85)	24.90 (27.63)
- different party	13.54 (13.06)	15.95 (16.37)	20.91 (24.18)
- different party	0.77 (2.30)	0.81 (2.59)	0.90 (2.98)
PACs supported	12.25 (29.14)	21.06 (64.49)	28.84 (238.12)

*Notes:* Average (and standard deviations) of contribution characteristics by election cycle. The party of a donor is defined as the party with a share of supported candidates higher than 50 percent. The sample includes the top 1,000 donors in each election cycle from 2008 to 2018.

Table 2  
Top donors:  
- Characteristics of Supported Candidates -

	All	% Republicans	% Democrats
Num. candidates with $n > 1$ top donors	3367	49.45(50)	50.31(50.01)
Num. candidates with $n = 1$ top donors	282	49.29(50.08)	45.74(49.91)
% Women	63.06(48.28)	68.9(46.37)	79.24(40.59)
% Not incumbent	28.2(45)	97.29(16.24)	98.1(13.66)
% Ran only once	25.59(43.64)	40.55(49.13)	44.49(49.72)
% Ran primaries	61.55(48.65)	73.61(44.09)	74.23(43.75)
% District in favor of candidate's party presidential nominee	90.91(28.79)	49.35(50.02)	45.37(49.81)
% Candidates supported by donors of a different party	53.67(49.87)	52.24(49.96)	55.62(49.7)

*Notes:* Average (and standard deviation) of characteristics of candidates receiving support from at least one top donor. The party of a donor is defined as the party whose share of supported candidates exceeds 50 percent.

Table 3  
Top Donors:  
- Characteristics of Races -

	All Races	Tight Races
% Races with at least a candidate supported by a top donor	95.19(21.41)	100(0.00)
% Races with at least a candidate supported by a top donor from a different state	85.79(34.92)	99.2(8.94)
% Candidates supported by a top donor in a race	55.05(28.38)	76.11(23.22)
% Elected candidates supported by top donors	94.25(2.44)	97.58(4.01)

*Notes:* Average (and standard deviation) of race characteristics for elections in which at least one candidate received support from a top donor. The donor state of residence is taken from FEC records in the DIME database. When multiple states are reported within a cycle, the donor is assigned the state with the largest share of contributions.

Table 4  
 Characteristics of Candidates Who Will and Will Not Suffer  
 from the Loss of a Top Donor in the Next Election Cycle  
 - Standardized Differences -

	Candidate is Republican	Male	Incumbent	Ran Primaries	DW Ideology (I)	Dimension (II)
Avg. St. Difference	0.070	0.042	0.136	0.086	0.178	0.092

*Notes:* Average standardized differences (across election cycles) in candidates' characteristics at time  $t$  between candidates who lose a top donor at  $t + 1$  and those who do not. Standardized differences are calculated as the difference in means divided by the pooled standard deviation. The sample in columns (1)-(4) includes all candidates who run for the U.S. House of Representatives in two consecutive election cycles and have at least one top donor. The sample in columns (5)-(6) includes all candidates elected to the U.S. House of Representatives in two consecutive election cycles and have at least one top donor. DW Ideology is a continuous variable ranging from -1 to 1, where higher values indicate more conservative positions and values farther from zero indicate more ideologically extreme positions. The first dimension situates Representatives along the liberal-conservative spectrum on economic policy, while the second dimension positions Representatives on high-salience, cross-cutting civil rights issues, such as gun control and abortion rights. For further details, see Hare and Poole (2014). The other variable definitions are provided in Section 2, and Appendix Table A1.

Table 5  
Top Donors and Election Outcomes

Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)	Win election (1 = Yes) (3)	Win election (1 = Yes) (4)
Number of dead top donors in current election cycle	-0.0325*** (0.0103)	-0.0314*** (0.0099)	-0.0287*** (0.0096)	
At least one top donor died in current election cycle (1 = Yes)				-0.0274* (0.0147)
No Incumbent in the electoral race		0.0511** (0.0258)	0.0736*** (0.0251)	0.0745*** (0.0253)
Voters in favor of the candidate's party presidential nominee				
-between 25 and 50%		0.0277 (0.0643)	0.0203 (0.0569)	0.0203 (0.0567)
-between 50 and 75%		0.1671** (0.0698)	0.1313** (0.0625)	0.1315** (0.0623)
-more than 75%		0.2306*** (0.0888)	0.1833** (0.0782)	0.1836** (0.0780)
Previous race was tight (1 = Yes)		-0.0016 (0.0388)	0.0061 (0.0382)	0.0071 (0.0383)
Candidate changed district/District was redesigned (1=Yes)		-0.0752** (0.0379)	-0.0485 (0.0368)	-0.0469 (0.0362)
Candidate has a leadership role (1=Yes)		0.0017 (0.0160)	-0.0038 (0.0155)	-0.0041 (0.0155)
Incumbency Streak		-0.0935*** (0.0175)	-0.0974*** (0.0164)	-0.0979*** (0.0163)
Candidate ran primaries (1 = Yes)		0.0112 (0.0137)	0.0228* (0.0137)	0.0217 (0.0137)
Candidate received major financial support from Party (1=Yes)			-0.0138 (0.0211)	-0.0124 (0.0212)
% of contributions received			0.0036*** (0.0005)	0.0037*** (0.0005)
% of independent expenditures received			-0.0001 (0.0002)	-0.0001 (0.0002)
Election cycle fixed effects	Yes	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes	Yes
Dependent variable: average value	0.7675	0.7675	0.7675	0.7675
Num. obs.	2,353	2,353	2,353	2,353

*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. The sample includes candidates for the U.S. House of Representatives from 2008 to 2018. It excludes candidates who ran in only one election cycle, candidates who were Speaker of the House at the time of the election, and candidates whose share of contributions received relative to the district is below 0.05 percent or above 99.95 percent. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 6  
Heterogeneous Effects of Top Donors

Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)	Win election (1 = Yes) (3)	Win election (1 = Yes) (4)
Number of dead top donors in current election cycle				
-with age in the highest tertile	-0.0341*			
	(0.0201)			
-with age below the highest tertile	-0.0305*			
	(0.0181)			
-in tight races (top 10%)		-0.0950***		
		(0.0288)		
-in regular races (bottom 90%)		-0.0133		
		(0.0091)		
- resident in the candidate state			-0.0234*	
			(0.0129)	
- resident outside the candidate state			-0.0322**	
			(0.0133)	
-pre Citizen United				-0.0475***
				(0.0179)
-post Citizen United				-0.0211**
				(0.0092)
Other controls	Yes	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes	Yes
Dependent variable: average value	0.7675	0.7675	0.7675	0.7675
Num. obs.	2,353	2,353	2,353	2,353

*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. “Other controls” includes candidate and district characteristics, and campaign monetary resources. Appendix Table E1 reports the estimated effects for these control variables. The sample is the same as in Table 5. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 7  
Additional Evidence  
- Different Model Specifications, Samples, and Inferential Procedures -

<b>Panel A: Alternative Model Specifications</b>				
Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)	Win election (1 = Yes) (3)	Win election (1 = Yes) (4)
Number of dead top donors in current election cycle	-0.0284*** (0.0109)	-0.0286*** (0.0096)	-0.0335*** (0.0101)	-0.0324*** (0.0120)
Other controls	Yes	Yes	Yes	Yes
Independent ads expenditures control	No	Yes	No	No
Election cycle fixed Effects	Yes	Yes	No	No
Candidate fixed effects	No	Yes	Yes	No
District fixed effects	Yes	No	No	No
Election cycle x state fixed effects	No	No	Yes	No
Candidate-specific time trend	No	No	No	Yes
Dependent variable: average value	0.7675	0.7675	0.7675	0.7675
Num. obs.	2,353	2,353	2,353	2,353
<b>Panel B: Alternative Sample</b>				
Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)	Win election (1 = Yes) (3)	Win election (1 = Yes) (4)
Number of dead top donors in current election cycle	-0.0153* (0.0092)	-0.0255** (0.0126)	-0.0183*** (0.0070)	-0.0594** (0.0256)
Sample:	Include one-time candidates	Exclude major States	Include outliers	Exclude senior candidates
Other controls	Yes	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes	Yes
Candidate fixed effects	No	Yes	Yes	Yes
District fixed effects	Yes	No	No	No
Dependent variable: average value	0.4643	0.7709	0.6453	0.6662
Num. obs.	4,336	1,755	3,719	1,417
<b>Panel C: Alternative Inference Procedures</b>				
Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)	Win election (1 = Yes) (3)	Win election (1 = Yes) (4)
Number of dead top donors in current election cycle	-0.0287 (0.0096)	-0.0287 (0.0096)		
	[-0.047; -0.0098]***	[-0.048; -0.0096]***		
One top donor died in current (1 = Yes) election cycle			-0.0260*** (0.0100)	-0.0260** (0.0104)
Clustering by	Candidate	Candidate wild bootstrap	Donor-candidate	Donor- candidate state
Election cycle fixed effects	Yes	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes	Yes
Dependent variable: average value	0.7675	0.7675	0.8193	0.8193
Num. obs.	2,353	2,353	38,863	38,863

*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. “Other controls” includes candidate and district characteristics, and campaign monetary resources. Appendix Table F3, F4, and F5 report the estimated effects for these control variables for Panels A, B, and C, respectively. Unless specified, the sample is the same as in Table 5. In Panel B, “Include one-time candidates” adds candidates who ran only one campaign; “Exclude Major States” excludes candidates running in California, New York, and Texas; “Include Outliers” adds candidates who were Speaker of the House at the time of the election and candidates whose percentage of contributions received relative to the district is below 0.05 percent or above 99.95 percent; and “Exclude senior candidates” excludes candidates who ran more than the median number of campaigns (three). In Panel C, square brackets report confidence intervals and p-values based on clustered robust standard errors in column (1) and the wild cluster bootstrap with 9,999 iterations in column (2). In Panel C, column (1), the unit of observation is candidate-cycle. In columns (2) and (3), the unit of observation is candidate-donor-cycle, and the sample is restricted to candidates who ran in at least two election cycles and had at least one top donor. In columns (2) and (3), each observation is weighted by  $1/N_t$ ,  $N_t$  being the number of top donors of a candidate at time  $t$ . Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 8  
- Top Donors and Legislative Activity -

Dep. variable	Change from congress $t$ to $t+1$ in			
	Ideological distance from party's median position		Entropy of topics in sponsored bills	
	(1)	(2)	(3)	(4)
Number of dead top donors in election cycle $t + 1$	-0.0177** (0.0073)	-0.0172** (0.0072)	-0.0345** (0.0174)	-0.0348** (0.0175)
Representative is in the majority party (1 = Yes)	0.0058 (0.0173)	0.0102 (0.0185)	-0.0351 (0.0351)	-0.0446 (0.0348)
President is from representative's party (1 = Yes)	-0.0609*** (0.0142)	-0.0645*** (0.0144)	-0.0121 (0.0306)	-0.0061 (0.0307)
Candidate received major financial support from party (1 = Yes)		0.0112 (0.0181)		-0.0191 (0.0466)
% of contributions received		0.0000 (0.0005)		0.0005 (0.0010)
% of independent expenditures received		-0.0004** (0.0002)		0.0005 (0.0004)
Congress member fixed effects	Yes	Yes	Yes	Yes
Congress fixed effects	Yes	Yes	Yes	Yes
Dependent variable: average value	0.49	0.49	0.01	0.01
Num. obs	1,323	1,323	1,323	1,323

*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. The sample includes candidates elected to the U.S. House of Representatives from 2008-2018. The sample excludes candidates who were elected to the U.S. House of Representatives in only one congressional cycle, who were Speaker of the House, members of the party leadership, or committee chairs. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 9  
Further Evidence  
- Top Donors, Campaign Contributions, and Electoral Outcomes -

Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)	Win election (1 = Yes) (3)
Number of dead top donors in current election cycle	-0.0260** (0.0108)		
- who did not support candidate but... resides in their State		-0.0051 (0.0035)	
has a legislative interest in their State			-0.0007 (0.0008)
* Tot. indiv. contribs from dead donors in past elections	-0.0027 (0.0050)		
Tot. indiv. contribs from dead donors in past elections	0.0026 (0.0077)		
Other controls	Yes	Yes	Yes
Election cycle fixed effects	Yes	Yes	Yes
Candidate fixed effects	Yes	Yes	Yes
Dependent variable: average value	0.7675	0.7675	0.7675
Num. obs.	2,353	2,353	2,353

*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. The variable “Tot. indiv. contribs from dead donors in past elections” is divided by 100,000. “Other controls” includes candidate and district characteristics, and campaign monetary resources. Appendix Table G1 reports the estimated effects for these control variables. The sample is the same as in Table 5. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 10  
Further Evidence  
- Top Donors, Ads Expenditure, and Campaign Contributions -

<b>Panel A: % Individual Contributions</b>		
Dep. variable	% Individual contributions	
	from top donors	from small donors
	(1)	(2)
Number of dead top donors in current election cycle	-1.0738** (0.5448)	-0.6146 (0.5082)
Other controls	Yes	Yes
Election cycle fixed effects	Yes	Yes
Candidate fixed effects	Yes	Yes
Dependent variable: average value	58.71	57.20
Num. obs.	3,702	3,702
<b>Panel B: % Expenditures for Political Ads</b>		
Dep. variable	% Expenditures for political ads	
	from candidate	from interest groups
	(1)	(2)
Number of dead top donors in current election cycle	-0.3028 (1.2208)	-1.2134* (0.6784)
Other controls	Yes	Yes
Election cycle fixed effects	Yes	Yes
Candidate fixed effects	Yes	Yes
Dependent variable: average value	18.11	4.39
Num. obs.	2,277	2,277

*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. “Other controls” includes candidate and district characteristics. Appendix Table G2 reports the estimated effects for these control variables. The sample includes candidates for the U.S. House of Representatives from 2008 to 2018. The sample excludes candidates who ran for the U.S. House of Representatives in only one election cycle. Data on expenditures for political ads is not available for the period from 2008 to 2012. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 11  
Further Evidence  
- Prominent Donors and Electoral Outcomes -

Dep. variable	Win election (1 = Yes) (1)	Win election (1 = Yes) (2)
Number of dead top donors in current election cycle		
- with total contributions in the highest quartile	-0.0913*** (0.0216)	
- with total contributions below the highest quartile	-0.0270*** (0.0095)	
- who were listed on Forbes 400		-0.0402** (0.0198)
- who were not listed on Forbes 400		-0.0246** (0.0112)
Other controls	Yes	Yes
Election cycle fixed effects	Yes	Yes
Candidate fixed effects	Yes	Yes
Dependent variable: average value	0.7675	0.7675
Num. obs.	2,353	2,353

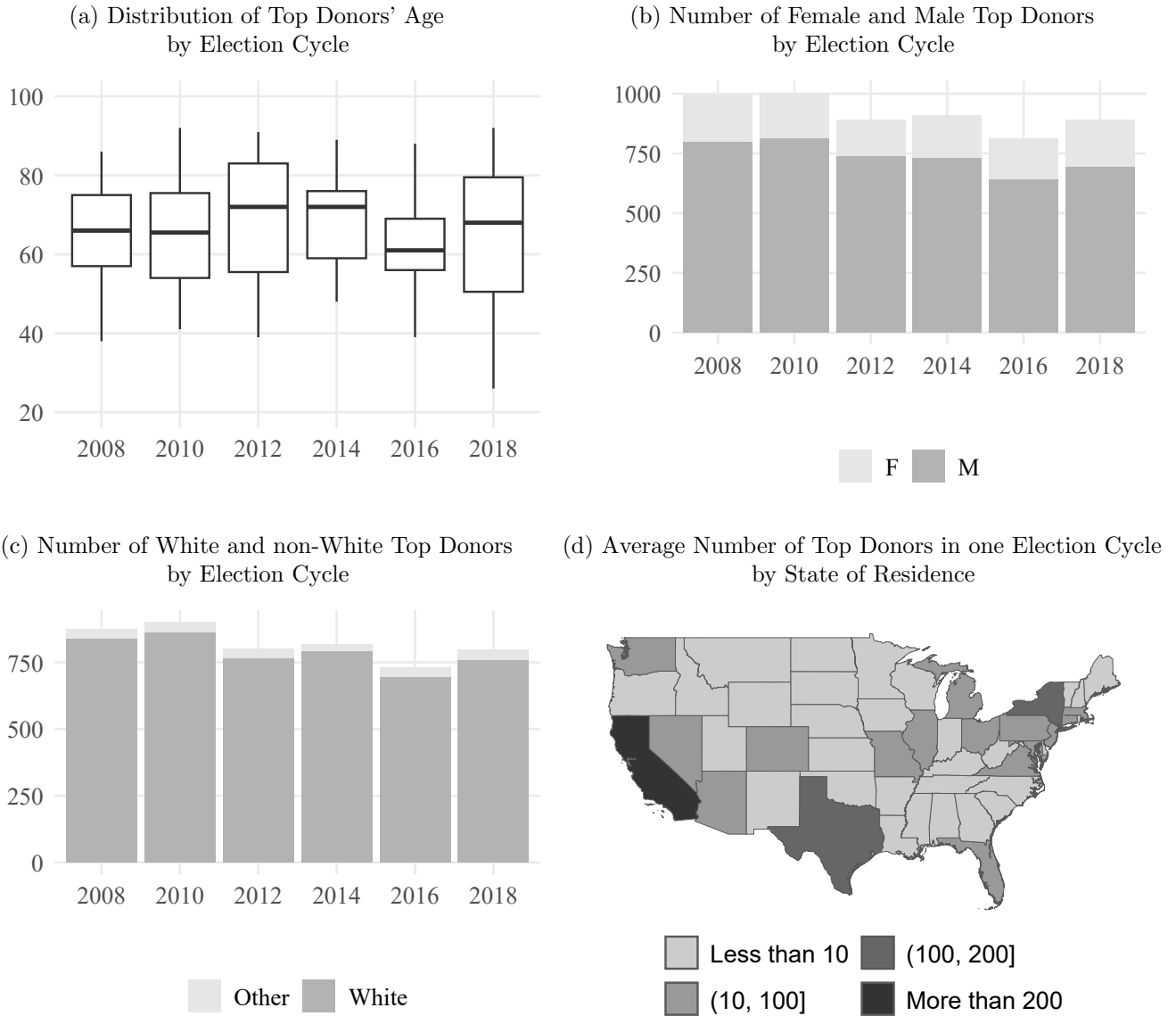
*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. “Other controls” includes candidate and district characteristics, and campaign monetary resources. Appendix Table G3 reports the estimated effects for these control variables. The sample is the same as in Table 5. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Table 12  
Further Evidence  
- Top Donors and Networking -

Dep. variable	Number of events during gift travels (1)	Number of events during gift travels (2)
Number of dead top donors in current election cycle	-1.9339** (0.9759)	-1.9362* (0.9865)
Representative is in the majority party (1 = Yes)	-0.2288 (1.4129)	-0.6758 (1.5042)
President is from representative's party (1 = Yes)	1.8699 (1.4731)	2.0292 (1.4715)
Candidate received major financial support from Party (1 = Yes)		-0.2797 (1.9735)
% of contributions received		0.0327 (0.0388)
% of independent expenditures received		0.0139 (0.0162)
Election cycle fixed effects	Yes	Yes
Candidate fixed effects	Yes	Yes
Dependent variable: average value	10.10	10.10
Num. obs.	1,425	1,425

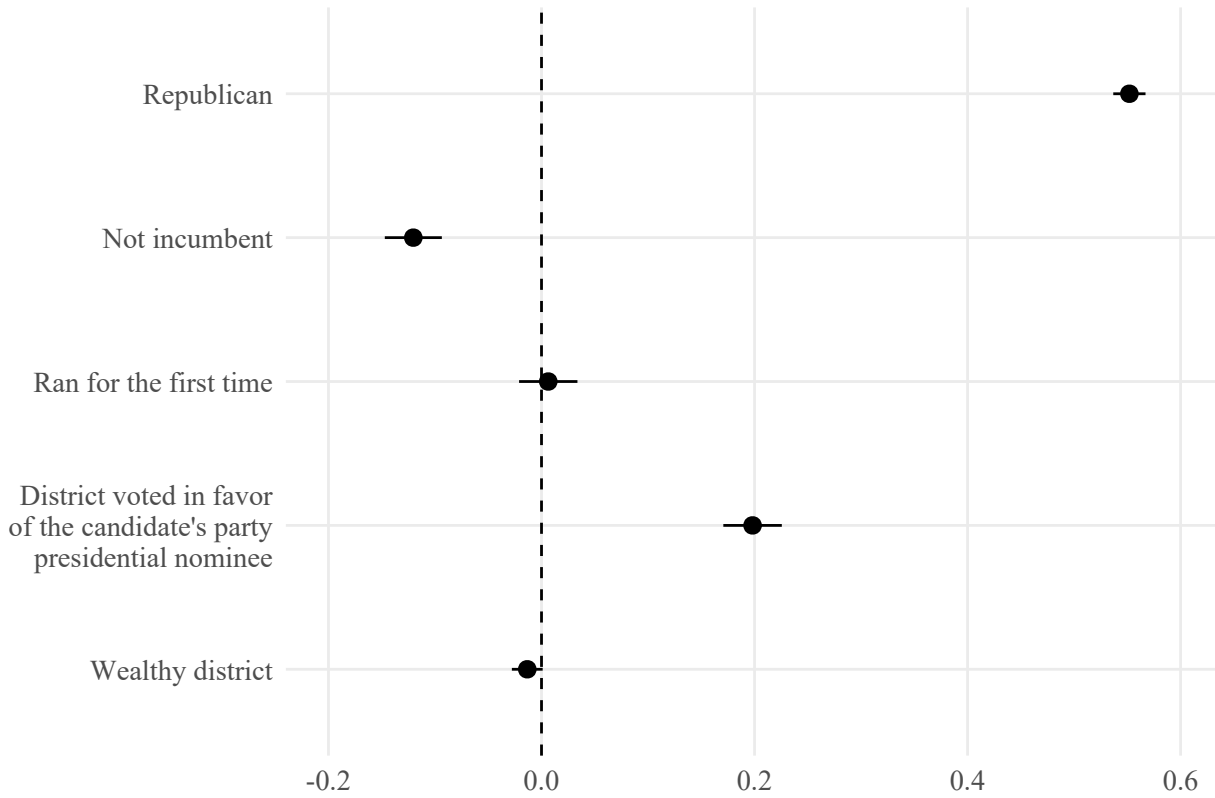
*Notes:* OLS coefficients are reported with robust standard errors clustered at the candidate level. The sample is the same as in Table 8. Variable definitions are provided in Section 2, and Appendix Table A1. \*, \*\*, \*\*\* indicate statistical significance at the 10, 5, and 1 percent levels.

Figure 1  
 Top Donors  
 - Demographic Characteristics -



Notes: Figure (a) shows the box plot of the top donor's age in each cycle. Data about age is available for 22 percent of top donors. Figure (b) shows the gender distribution of the top donors in each cycle. Data about gender is available for 99 percent of top donors. Figure (c) shows the race distribution of top donors in each cycle. The race information is retrieved using the R package "predictrace". Data was retrieved for 90 percent of top donors. See footnote 18 of the paper for additional details on the procedure to extract the donor's race. Figure (d) shows the average number of top donors by State of residence in one cycle. The State of residence of the top donor is the State declared by the donor to the Federal Election Commission (FEC) and registered in the DIME. Within the same cycle, the State of the top donor may change. We use the State from which the top donor made most of his/her donations. Data about the State of residence is available for 99 percent of top donors. For visualization purposes, Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands are excluded from the map. In each of them, the *Average Number of Top Donors in one Election Cycle by State of Residence* is less than 10. The sample includes the top 1,000 donors in each election cycle from 2004 to 2018.

Figure 2  
 Top Donors  
 - Profile of Supported Candidates -

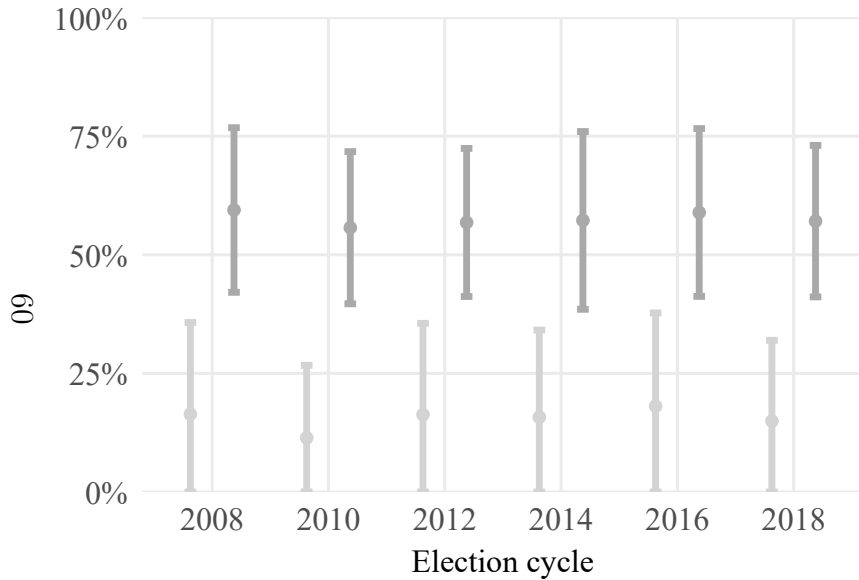


*Notes:* The x-axis reports the estimated coefficient of correlation (indicated with a dot) and the relative confidence interval at the 95 percent level (indicated with a bar) of a candidate's characteristic with the (log) total amount of donations received from a top donor at election cycle  $t$ . The y-axis indicates the characteristics considered. Variable definitions are provided in Section 2. The sample includes all candidates running for office in the U.S. House of Representatives who received at least one donation from a top donor in a given election cycle from 2004 to 2018.

Figure 3  
Electoral Outcomes and the Loss of Top Donors

Panel A

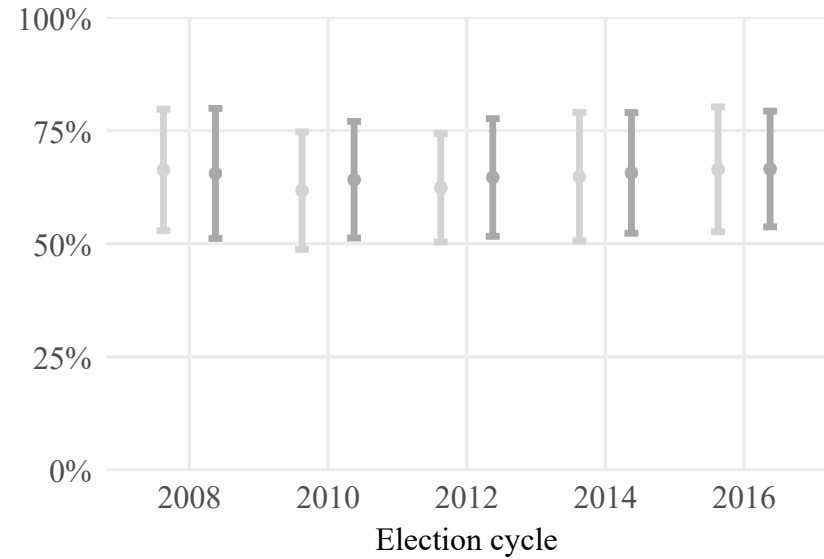
Percentage of Votes for Candidates With and Without Top Donors



Top donor — No — Yes

Panel B

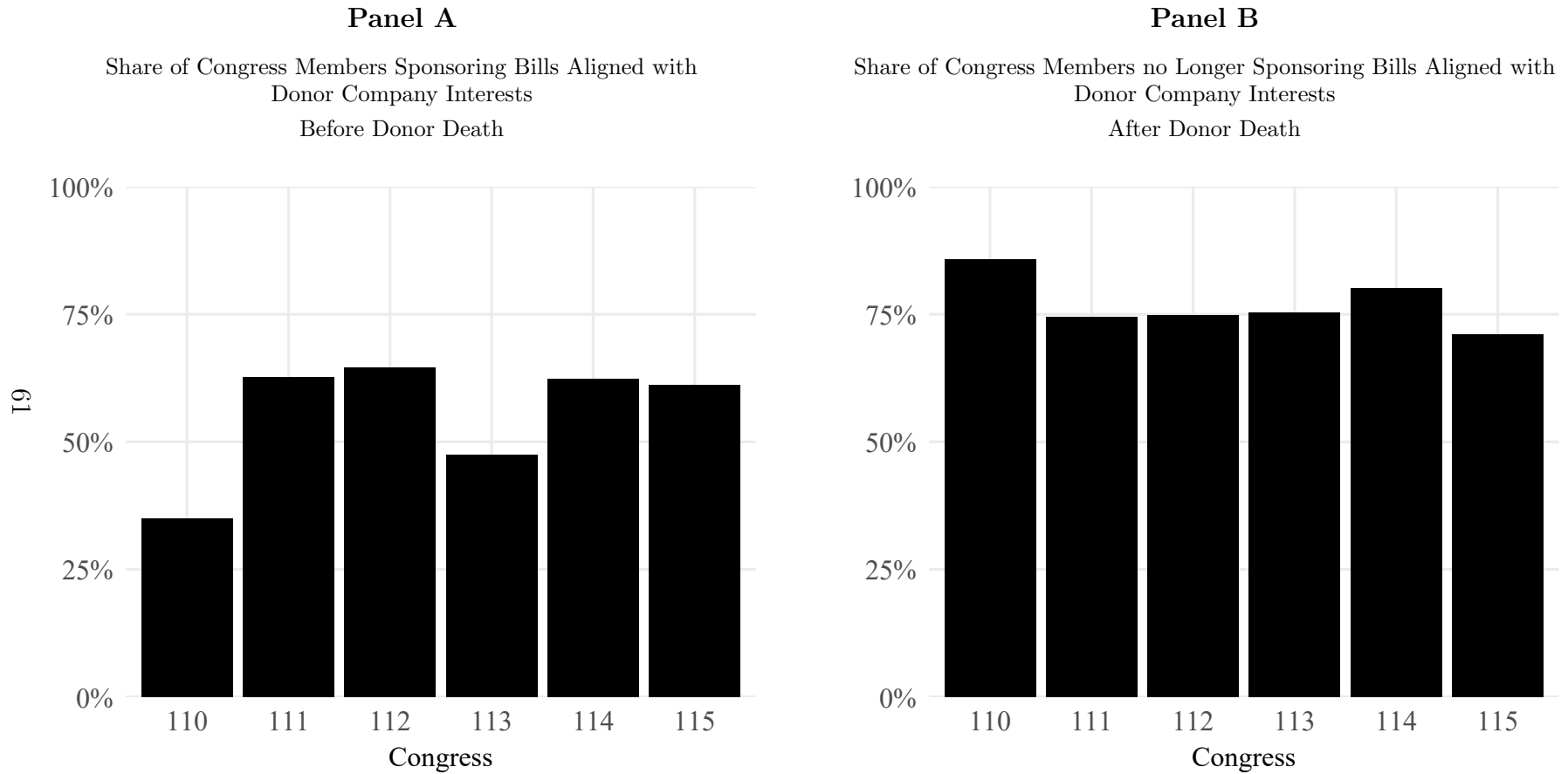
Percentage of Votes for Candidates Who Will and Will Not Suffer from the Loss of a Top Donor in the Next Election Cycle



Lost (at least) one top donor in the next election cycle — No — Yes

Notes: Dots and bars indicate the average and standard deviation of the percentage of votes obtained by candidates in a given election cycle, respectively. In Panel A, light color denotes candidates without top donors and dark color denotes candidates with top donors. In Panel B, light color denotes candidates who will not suffer from the loss of a top donor in the next election cycle, and dark color denotes candidates who will suffer from the loss of a top donor in the next election cycle. The sample in Panel A includes all candidates running for office in the U.S. House of Representatives from 2008 to 2018. The sample in Panel B includes all candidates running for office in the U.S. House of Representatives in two consecutive election cycles with at least one top donor from 2008 to 2016.

Figure 4  
Legislative Alignment with Donor Interests Before and After Donor Death



Notes: Panel A shows the percentage of Representatives who lost a donor with whom they shared a legislative interest. Panel B shows the percentage of Representatives who lost interest in a legislative topic previously shared with a donor after the donor's death. The sample includes all Representatives elected in two consecutive election cycles who suffered from the loss of at least one top donor from the 110th (2007-2008) to the 115th (2017-2018) Congress.