

## ***The Behavioral Consequences of Election Outcomes: Evidence From Campaign Contributions***

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Existing research offers competing predictions as to whether election outcomes affect the future political behavior of individual supporters. Drawing on a dataset of millions of donors across thousands of candidates in different races, this study analyzes a series of regression discontinuities to estimate the effect of donating to a barely winning candidate as opposed to a barely losing one. It finds that winning donors were substantially more likely to donate in the future to that same office type. These effects are large and occur even when their original candidate was not up for re-election. The results show that the consequences of election outcomes extend beyond control of a particular seat, and affect the future behavior of ordinary citizens.

*Keywords:* political donation; elections; regression discontinuity

Elections have consequences. At an institutional level, the outcomes can determine who holds a political office, which party controls a chamber, who a party's nominee will be or whether a state constitution will be amended. But elections do not just involve formal institutions; for any candidate in a campaign, there are ordinary individuals who donated money, made phone calls, canvassed or turned out to support her at the ballot box. In this article, we test whether the future political behavior of those supporters, specifically the campaign donors, is influenced by the eventual election outcome.

Existing theories of both political participation and donation behavior offer somewhat competing predictions as to whether election outcomes should have a behavioral impact. While research within political psychology has demonstrated that prior participation has a causal effect on future participation,<sup>1</sup> there are continued debates as to whether participating *and winning* has a different psychological impact than participating *and losing* does. According to some psychological theories of participation, it is the *act* of participation itself, not the resulting outcome, that matters.<sup>2</sup> According to others, the electoral outcome following that participation will affect individuals' perceptions of control over politics, which in turn affects their future likelihood of participation.<sup>3</sup> If these latter theories apply to campaign donors, then we would expect electoral outcomes to influence their future behavior, at least among those who are motivated to donate to affect an outcome, which research suggests some are.<sup>4</sup>

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<sup>1</sup> Coppock and Green 2015; Meer 2013; Meredith 2009.

<sup>2</sup> Aldrich, Montgomery, and Wood 2011; Green and Shachar 2000; Wood and Witt 2005.

<sup>3</sup> Valentino, Gregorowicz, and Groenendyk 2009.

<sup>4</sup> Hill and Huber 2017.

In addition to some theories of control beliefs, there are also theories within the study of networks and donations that suggest electoral outcomes may have behavioral consequences, through the continued presence of a particular candidate. Previous studies of campaign contributions often emphasize the role of candidates in structuring the donation market.<sup>5</sup> But not only do candidates rely on previous supporters for donations to their *own* future campaigns, they also sometimes ask their supporters to donate to their colleagues' races as well. Because candidates who win an election go on to occupy a given seat, they are therefore more likely to run in the future for re-election, and to raise funds for their future colleagues. The more influential these winning candidates are in securing donations from particular individuals, the larger we would expect the behavioral consequences of elections to be.

Determining whether election outcomes have an impact on future donation behavior is an important question, with implications for our understanding of elections and donor recruitment strategy. However, separating the effect of successful participation from unsuccessful participation on future behavior poses three significant methodological challenges. First, it requires measures of participation over at least two electoral cycles, which can be extremely expensive to collect. Secondly, we need to know which candidate the individual supported. Otherwise, we cannot determine if the participation was ultimately electorally successful. This information is not publicly available for most forms of participation, and although some surveys collect self-reports of candidate preferences, such surveys carry additional challenges, including comparatively small sample sizes and the possibility of biased reporting with respect to both participation<sup>6</sup> and candidate support.<sup>7</sup> Thirdly and finally, because individuals who participate on behalf of a winning candidate are likely to be different than those who participate on behalf of a losing candidate even prior to the outcome of the election, some sort of causal research design is required to identify the causal effect of participating and winning, as opposed to participating and losing.

The research design we employ surmounts each of these challenges. We draw on data from 1.8 million unique donors, who contributed to 17,274 state legislative, 180 gubernatorial, and 478 US senatorial candidates in general elections from 1990 to 2004. We employ a regression discontinuity (RD) design to estimate the causal effect of electorally successful versus unsuccessful participation. In order to understand the scope of the effects, we examine the effect of victory on three different outcomes: whether that individual donated to the same office during a cycle when their original candidate would be up for re-election, whether that individual donated to the same office when their original candidate would not be up for re-election, and whether that individual donated to a candidate running for a different office entirely. While the nature of our design limits our inference to the effects of election outcomes in *close races*, these are precisely the types of races we would care most about. Moreover, previous studies have found that election RDs are generalizable to a wider range of final election outcomes.<sup>8</sup> We return to this point in the discussion.

Our results show that elections can have important consequences for future political behavior. We find that backing a barely winning candidate makes an individual 5–8 percentage points more likely to donate to that candidate's office type in a cycle when that candidate would not be facing re-election, an outcome with an already low baseline rate.

Before we discuss our data and analysis, we briefly review some of the previous research that gives rise to this question, and discuss the competing predictions they offer with respect to the answer.

<sup>5</sup> E.g., Francia et al. 2003.

<sup>6</sup> Ansolabehere and Hersh 2012.

<sup>7</sup> Berinsky 2004.

<sup>8</sup> Hainmueller, Hall, and Snyder 2015.

## PREVIOUS RESEARCH

In this section, we review theories from two schools of research, each of which has potential bearing on whether we should expect election outcomes to affect future behavior: research on political psychology, and research on network effects and donation behavior. We discuss each in turn.

A large and growing body of evidence in political science has causally linked past participation to future participation. Green and Shachar and Denny and Doyle<sup>9</sup> employ a variety of model-based approaches to estimate the causal effect of past participation, and find evidence that past participation causally impacts future participation. Green and Shachar<sup>10</sup> present the results of two previous experiments in which treatment increased turnout in the following election, and the election after that.<sup>11</sup> Employing a two-step estimation procedure, they again find a large causal effect of past voting on future voting. Gerber et al. and Coppock and Green<sup>12</sup> employ a series of experimental and RD designs, and show that individuals who were experimentally induced to vote in the past are more likely to vote again in the future.<sup>13</sup>

Less clear from these empirical studies is what aspect of political participation drives this relationship. Existing research points to several aspects of political participation that could encourage future participation. The first is the act of participation itself, whether it be casting a ballot at the voting booth, penning a letter to a local paper in support of a ballot initiative or, in our case, making a donation. The most well-known mechanism in this category is habit formation, a well-documented psychological process whereby repeating an action in a similar context eventually causes that act to become automatic, increasing the probability of repetition.<sup>14</sup> Aldrich et al.<sup>15</sup> leverage the fact that in order for past behavior to contribute to habit formation, the context in which that behavior occurs must remain the same. They show that the relationship between past participation and future participation is muted when individuals move, thereby changing their context.

However, other strands of research in political science and psychology suggest that the *outcome* of participation moderates the impact of past participation on future participation. Psychological studies of control beliefs have shown that control beliefs are increased by taking actions that precede a desired outcome.<sup>16</sup> Consistent with these more general theories of control beliefs, Valentino et al.<sup>17</sup> analyze panel data from the American National Election Studies and argue that internal political efficacy, a measure of self-efficacy as applied to politics specifically, is increased by previous successful political participation. Internal efficacy, in turn, increases participation, as others have demonstrated before.<sup>18</sup> Valentino et al.<sup>19</sup> write: ‘Our central thesis [...] is that internal efficacy plays a critical, yet *conditional* psychological role in the formation

<sup>9</sup> Denny and Doyle 2009; Green and Shachar 2000.

<sup>10</sup> Green and Shachar 2000.

<sup>11</sup> Kraut and McConahay 1973; Yalch 1976.

<sup>12</sup> Coppock and Green 2015; Gerber, Green, and Shachar 2003.

<sup>13</sup> While these studies have focused on voting, research in economics has found a causal relationship between past and future donation behavior in the context of university giving (Meer 2013). No political science article that we can find has tested the causal effect of past donation behavior on future donation behavior. We have been likewise unable to find a pre-analysis plan for any such experiment on EGAP.

<sup>14</sup> Wood and Neal 2007; Wood and Witt 2005.

<sup>15</sup> Aldrich, Montgomery, and Wood 2011.

<sup>16</sup> Bandura 1977; Skinner 1996.

<sup>17</sup> Valentino, Gregorowicz, and Groenendyk 2009, 310, emphasis added.

<sup>18</sup> Rosenstone and Hansen 1993.

<sup>19</sup> Valentino, Gregorowicz, and Groenendyk 2009.

of participatory habits [...] *Successful* participation breeds efficacy, thereby perpetuating future involvement'. This echoes the findings from Madsen,<sup>20</sup> who analyzes survey data from individuals who signed petitions to the government, and shows that individuals whose petitions were ultimately successful feel a heightened sense of self-efficacy compared to individuals whose petitions failed. Similarly, Clarke and Acock<sup>21</sup> argue that electoral outcomes, not the act of participation itself, enhance political efficacy. They write: 'One of the best-known hypotheses in democratic theory [habit-forming] asserts that participation per se enhances political efficacy. Analyses indicate that neither voting nor campaign activity in the most recent American national elections had such an effect. However, voting for winning candidates is associated with increased internal and external efficacy'.<sup>22</sup>

The concept of a causal distinction between successful and unsuccessful past participation has also been incorporated into some formal models of behavior. Bendor et al.<sup>23</sup> present a model of turnout in which potential voters adjust their perception of their own efficacy based on previous experiences, which in turn affects their voting behavior. Fowler<sup>24</sup> points out that without this distinction, the predictions of the model comport more closely to the realities of voting, which tends to be stable over an individual's life span, with most people always voting or always abstaining. However, for an outcome like donating, which is less stable, it is possible that such a pattern does exist. This debate highlights the need for a clearer empirical resolution to the question of whether participating and winning has a different impact on future participation than participating and losing does.

In addition to political psychology, another school of research highlights the role that social connections play in influencing donations. Francia et al.<sup>25</sup> conduct a factor analysis on a large survey of political donors to decompose their motivations. They find that a substantial proportion of 'solidary' donors are motivated by a social connection to a particular candidate. In order to understand how election outcomes might influence donor behavior through candidate effects, consider a hypothetical individual A and candidate B (for clarity, A is male and B is female). A has never donated to a campaign before, but knows candidate B, and will donate only if she asks him to. When B runs for office for the first time, she reaches out to A, and he therefore donates to her campaign. If B loses the election, she will not run again, and A will therefore not donate again. However, if B wins, she will likely run for re-election, and B will likely donate again.

While existing research often emphasizes the role of candidates in soliciting donations to *their own* campaigns, politicians regularly raise funds for their colleagues as well. If candidates are able to persuade donors, who otherwise would not, to donate to their colleagues as well, then we would expect an effect on future donations to the same office, even when the original candidate is not up for re-election. Otherwise, we would only expect to find an effect on donations to the same office when that candidate is up for re-election.

Depending on which of the theories discussed above are correct, it could be that donating and winning has a minimal impact on any future donation behavior, or that it has a significant effect. Before we present the results, we discuss our data in the next section.

<sup>20</sup> Madsen 1987.

<sup>21</sup> Clarke and Acock 1989.

<sup>22</sup> Clarke and Acock 1989, 561.

<sup>23</sup> Bendor and Ting 2003.

<sup>24</sup> Fowler 2006.

<sup>25</sup> Francia et al. 2003.

## DATA

We combine data from several sources. For data on donations, we turn to the Database on Ideology, Money in politics, and Elections (DIME), which combines political contribution data scraped from the Federal Election Commission and state election board websites.<sup>26</sup> While this does not include individuals whose total campaign contributions for a cycle fall below the federal or relevant state reporting requirements, our dataset is diverse and large, comprising donors from all fifty states, as well as the District of Columbia. The DIME data specifically comprise two different datasets relevant for our analysis: one containing detailed information about donors, including the ID of the candidate to whom they donated; and another dataset with more information about each candidate (with the same candidate ID, allowing researchers to merge the two). For the state legislative election returns, we use data from Klarner et al.,<sup>27</sup> who provide detailed data on state legislative election returns from 1967 to 2010, although the DIME data only include state legislative donations from 1990 onward. State gubernatorial and US senatorial election returns come from *Congressional Quarterly's* election results data.<sup>28</sup> For the state legislative donors dataset, we merged the DIME donors dataset and the DIME candidates dataset by the candidate ID, and then merged the resulting dataset with the Klarner state legislative election returns by state, cycle, district and last name (using exact matching). For gubernatorial and US senatorial elections, we merged the DIME data to election returns data by state, cycle and last name.

In order to ensure that the future behavior of every donor in our dataset was observed for a sufficiently long period of time, we also subset the data to donors who donated between 1990 and 2004. To ease the analytic interpretation of the results, we dropped donors who gave to multiple campaigns that cycle, at any level, as well as donors who gave to candidates in multi-member districts.<sup>29</sup> We also threw out donors who only donated to a candidate *after* the election, and those who gave to a candidate who was not one of the top two vote earners in the general election. The resulting dataset comprises 1,861,906 unique donors,<sup>30</sup> who gave to 19,107 state legislative candidates, 210 state gubernatorial candidates and 497 US senatorial candidates.

We look at three outcomes of interest. First, we look at whether that individual donated in the next three cycles to a different office type (state legislative, US senatorial or gubernatorial office); secondly, whether that donor donated again to a candidate for the same office type in a cycle when their original candidate was not up for re-election;<sup>31</sup> and finally, whether that individual donated in the future to the same office when their candidate was running for re-election.

Table 1 summarizes the mean value of this outcome across donor types, for all donors of that type, for losing donors within 2.5 points of winning (control), and for winning donors within 2.5 points of losing (treatment). The only outcome that has a substantially different overall mean is donating to the same office in a non-re-election cycle for gubernatorial donors. This is

<sup>26</sup> Bonica 2013.

<sup>27</sup> Klarner et al. 2013.

<sup>28</sup> Quarterly 2013.

<sup>29</sup> In the Appendix, we conduct some additional (but less cleanly identified) analyses looking at individuals who donated to multiple different candidates.

<sup>30</sup> The number of observations is slightly greater – 1,985,109 – because some individuals appear in the dataset in multiple cycles. We do not cluster at the individual level because the treatment is not administered at this level.

<sup>31</sup> For US Senate donors, this means donating in the next two cycles. For state legislative donors to a four-year seat, this means donating in the next cycle. And for gubernatorial donors whose candidates were running for a four-year term (every state other than Vermont and New Hampshire), this means donating in the next cycle.

TABLE 1 *The Means for Each Outcome for Each Donor Type in Our Analysis*

	Other office	Same office (non-re-election cycle)	Same office (re-election cycle)
State Legislative donors (all)	0.14	0.16	0.15
State Legislative donors (control)	0.13	0.13	0.11
State Legislative donors (treatment)	0.14	0.21	0.18
Gubernatorial donors (all)	0.21	0.03	0.13
Gubernatorial donors (control)	0.21	0.01	0.16
Gubernatorial donors (treatment)	0.21	0.06	0.19
US Senatorial donors (all)	0.26	0.14	0.10
US Senatorial donors (control)	0.24	0.12	0.08
US Senatorial donors (treatment)	0.25	0.16	0.14

*Note:* we present results for all donors ('all'), donors within the bandwidth below the electoral victory cut point ('control'), and donors within the bandwidth above the victory cut point ('treatment').

unsurprising, given that doing so necessarily means donating to a gubernatorial candidate in a different state than the candidate you originally supported. For the rest, the mean value of the outcomes hovers between a tenth and a quarter of that population, suggesting that while these outcomes are less common, they are not particularly extraordinary.

The DIME data tracks individuals over time, and previous analyses have relied on this temporal tracking.<sup>32</sup> While there is likely error in this method of tracking, unless the electoral success of recipient candidates somehow affects the reliability of tracking over time (for example, if donors whose candidates lose are more likely to change their name or move out of state), such errors will not bias our causal estimates, although they will increase our standard errors.<sup>33</sup>

In order to test the role of candidates more directly, a researcher might be tempted to either directly control for the presence of a particular candidate, or to look at the effects of donating to a different candidate than the one the individual originally supported. Unfortunately, neither of those is a viable option. If we control for the presence of a particular candidate, then we introduce post-treatment bias. And if we look at the effect of victory on whether that individual donated to a different candidate, then we introduce the risk that measurement error would not be orthogonal to treatment assignment.<sup>34</sup>

#### ANALYSIS

In order to test the effects of donating and having your candidate win, as opposed to donating and having her lose, the ideal design would be an experiment in which we randomly assign some candidates to victory and others to defeat, and then compare the behavior of winning donors and losing donors over the next several cycles. Of course, randomizing the outcomes of elections is not possible, but we can exploit the fact that victory in single-seat general elections is assigned based on a strict cut-off along an observed variable (50 per cent of the top-two vote share) and use an RD design to recover an unbiased estimate of the causal effect of victory at the 50 per cent cut-off.

<sup>32</sup> Bonica 2014.

<sup>33</sup> Wooldridge 2013, 318–19.

<sup>34</sup> For more on the perils of measuring outcomes differently for treatment and control, see Gerber and Green (2012, Chapter 2). We thank an anonymous reviewer for raising this point.

Developed by Thistlethwaite and Campbell,<sup>35</sup> RDs have gained recent popularity particularly following efforts by Lee<sup>36</sup> to estimate the party incumbency advantage in the House.<sup>37</sup> The driving assumption behind the sharp RD (which is the most common type, and the one we employ) is that treatment is administered based on whether the value of a unit along a given variable (the forcing variable) crosses a threshold, and that potential outcomes are continuous around that threshold, or cut point. RD designs with large-scale observational datasets that comprise data on individuals over time have been particularly attractive to political participation scholars who aim to estimate the impact of variables that are frequently difficult or impossible to randomize.<sup>38</sup> In other words, every unit on one side of the cut point receives treatment, while every unit on the other side does not, but as the units approach the cut point on either side, their potential outcomes approach one another. An implication of this is that, at the exact cut point, whether or not a unit receives treatment is as-if randomly assigned.

Formally, the causal effect of the treatment at the cut point is identified as the following:

$$\tau = \lim_{x \downarrow c} E[Y_i | X_i = x] - \lim_{x \uparrow c} E[Y_i | X_i = x] \quad (1)$$

In order to estimate the causal effect, researchers estimate the value of the outcome at the cut point in two ways: using only observations above the cut point ('treated' units) and using only observations below the cut point ('control' units). The difference in estimates is the effect of the treatment at the cut point. Of course, because the functional form of the population regression function is unknown, only observations within some bandwidth of the cut point are included, in order to reduce extrapolation bias. In this article, as in other analyses, we use a wide range of bandwidths to test the robustness of our findings.

It is important to note that RDs do not rely on the assumption that simply because a given race is neck and neck, the two candidates (and, in our case, their donors) are somehow comparable. This would be highly unlikely. Consider a low-quality candidate running in a great year for her party against a low-quality candidate in a terrible year for her party. They might be 50–50, but they, and their supporters, are certainly not comparable on many dimensions. However, if victory versus loss is as-if random at the 50–50 mark, then over many such races, the pool of winning candidates and the pool of losing candidates will be comparable *on average*. In other words, over many razor's edge races, there will be an equal number of high-quality candidates in the winning pool and the losing pool. This fact follows from the randomization.

The assumptions of the RD are violated in cases where units can precisely sort themselves around the cut point. For example, Caughey and Sekhon<sup>39</sup> find that post-World War II elections in the House of Representatives are imbalanced with respect to resources and incumbency. In other words, candidates who barely win are far more likely to be incumbents, and to have more resources, than candidates who barely lose. In the potential outcomes framework, this finding implies that potential outcomes are not continuous around the cut point, which violates the RD assumptions. However, Eggers et al.<sup>40</sup> repeat the analysis for a wide array of other types of elections, including state legislative, US senatorial and state gubernatorial elections, and find no evidence for sorting around the cut point, and a large and growing number of studies have

<sup>35</sup> Thistlethwaite and Campbell 1960.

<sup>36</sup> Lee 2008.

<sup>37</sup> For a more detailed discussion of RDDs in political science, see Skovron and Titunik (2015).

<sup>38</sup> Holbein 2016; Holbein and Hillygus 2014.

<sup>39</sup> Caughey and Sekhon 2011.

<sup>40</sup> Eggers et al. 2015.



employed RDs with state legislative or US senatorial elections.<sup>41</sup> RDs can only identify the effect of treatment at the cutoff, but Hainmueller et al.<sup>42</sup> show that RD produces valid estimates, at least for incumbency effects, of the causal effect in races where the difference between candidate vote shares was as great as 15 percentage points.

In addition, we conduct several diagnostic tests to confirm previous findings that the RD assumptions are met with our data. First, we check for evidence of sorting around the cut point, and secondly, we test whether the RD predicts pre-treatment variables, including past donation behavior, incumbent status and contributor gender, as a placebo test. Consistent with Eggers et al.,<sup>43</sup> we uncover no evidence of sorting, and the RD passes the placebo tests. The full results are presented in the Appendix.

## RESULTS

For the main model specification, as with the diagnostics we previously discussed, we estimate the effect using a local linear regression with a triangle kernel, using the RDD package in R. As we discussed above, we estimate the effect of donating and barely winning as opposed to donating and barely losing on three outcomes: (1) whether that individual donated in the future to a candidate for a different office; (2) whether that individual donated in the future to a candidate for the same office as their original donation, but in a cycle when their original candidate is not up for re-election; and (3) whether the individual donated in the future to the same office in a cycle when their candidate was up for re-election. In Appendix Figure 3, we plot the data for each donor type for each outcome, with a linear fit for reference.

Table 2 summarizes the results for each group of donors, estimated at a bandwidth of 5 per cent, as well as the number of observations and clusters. In Figure 1, for each analysis, we present the results estimated at a variety of bandwidths. Overall the state legislative and US senatorial donor pools are larger, and the standard errors for the estimates for those groups are smaller, so the results tend not to vary much based on the bandwidth. The results for gubernatorial donors are less precise and somewhat more sensitive to specification. Nonetheless, across all three donor types and all three outcomes, some fairly consistent patterns emerge.

As shown in the table and in Figure 1, the effect on donations to other office types is consistently trivial and statistically indistinguishable from zero. This holds true for every donor type for every bandwidth. While this likely offers no information about candidate effects, since candidates rarely raise money for other office types, this suggests that either there is no efficacy effect associated with donating and then winning, or that this effect does not extend to donations to other office types.

Yet the effects on donations to the same office type are much larger. For donations to the same office during re-election cycles, the effect for state legislative and US senatorial donors is large and statistically significant at nearly every specification. For gubernatorial donors, the effect size is small and insignificant through about a 7 per cent bandwidth, and then the effect size estimates increase, but the confidence intervals always include zero.

The effect of election outcomes on future donations to the same office during *non-re-election* cycles is large for all three donor types. For US senatorial donors and gubernatorial donors, some smaller bandwidth estimates are not significant at the 0.05 level, but the estimates of the magnitude are consistent. For state legislative donors, the effect size is consistently both large and statistically significant. These effect sizes (generally between 5 and 10 percentage points) are particularly striking given the relatively rare nature of the outcome variables noted in Table 1.

<sup>41</sup> Barber, Butler, and Preece 2016; Fowler and Hall 2014; Fowler and Hall 2017; Hall and Snyder 2015.

<sup>42</sup> Hainmueller, Hall, and Snyder 2015.

<sup>43</sup> Eggers et al. 2015.



TABLE 2 *LATE estimates*

Donor type	Num. obs.	Num. clusters	Future donor to:		
			Other office (3 cycles)	Same office (reelection cycles)	Same office (other cycles)
US Senate	463,113	497	0.016 (0.025)	0.055 (0.018)	0.050 (0.028)
State Governor	586,997	210	-0.012 (0.021)	0.011 (0.087)	0.083 (0.044)
State Legislative	934,999	19,107	0.004 (0.009)	0.072 (0.018)	0.076 (0.016)

*Note:* each cell shows the late and standard error of barely winning for different donor types, for different future donor behaviors, each estimated with a 5 per cent bandwidth. Standard errors are clustered at the candidate level. We find little effect on future donations in general, but there is consistently an effect for future donations to the same office type, even when that same candidate is unlikely to be up for re-election.

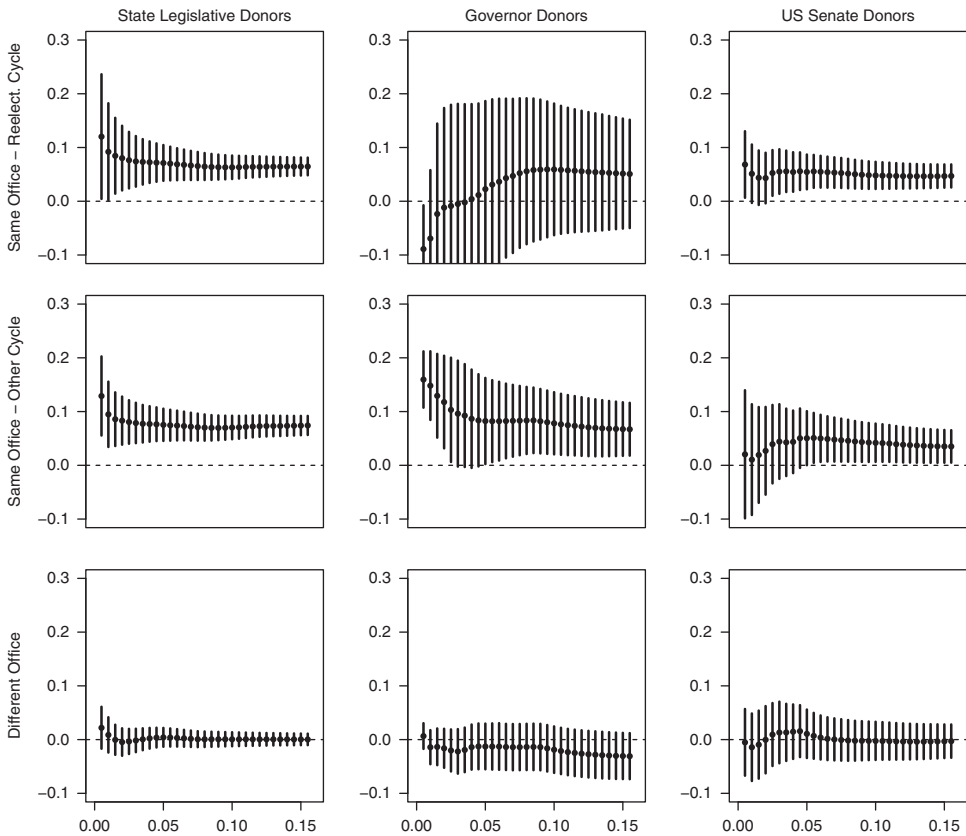


Fig. 1. Robustness checks for main analysis: varying bandwidths

That we find a large effect on future donations to the same office during re-election cycles is not particularly surprising, nor does it necessarily have much bearing on the stakes of an election. As long as there are individuals who would only donate if a particular candidate were running (say, less politically engaged family members and friends), then we would expect to find an effect, via the winning candidate's continued presence in future elections. However, that we also find a large effect for donations to the same office during non-re-election cycles suggests either some sort of efficacy effect (that does not extend to donations to other office types) or that candidates are effective at soliciting donations for their colleagues among individuals who would not otherwise donate.

Both the figure and the table paint a similar portrait: election outcomes do influence behavior, and not just in the narrowest way expected by a particular candidate repeatedly soliciting donations to her campaign. These results provide compelling evidence for the influence of election outcomes on political behavior.

#### DISCUSSION

Having presented the results of our analyses, we now turn to potential limitations of our design and avenues for future research. The first limitation we discuss is the local nature of our analysis. While employing an RD allows us to recover unbiased and consistent estimates of the effect of winning versus barely losing, the effect is only identified for races at the theoretical cut point, in this case, 50–50. However, Hainmueller et al.<sup>44</sup> show that, in state legislative races, the effect estimates of an incumbency advantage from the RD extend to races within 15 percentage points of the 50–50 cutoff, although effects outside of that range are likely different. That means that in our case, the RD cannot tell us how a donor to a candidate who lost by fifty points would have behaved had that candidate won, although it might be able to tell us how a donor whose candidate lost by a small margin would have behaved if her candidate had instead barely won.

There is certainly reason to think that the effect of winning might differ between elections that are close and ones that are not. Perhaps donors who experience a blowout loss experience a humiliation that deters them from further participation, above and beyond the experience of barely losing. Or perhaps losing in a close election could motivate individuals to participate more, since they believe they were so close. For this reason, it is important to delineate the scope of our inferences, and to clarify that our current study estimates the effect of outcomes in close elections.

A second question that remains somewhat unanswered from this analysis is whether the mechanism underlying these results is an individual-level psychological change, or the continued presence of a particular candidate fundraising for her colleagues. Due to the nature of our analysis, we cannot disentangle these two underlying causes. While the underlying cause is not necessarily relevant to the question of whether election outcomes in general affect future donor behavior – the answer to which our article argues is yes – it is an important and interesting question, and should be the subject of future scholarly inquiry.

Finally, while our design allows us to estimate the effect of donating and then winning as opposed to donating and then losing, it allows us to also infer what those donors would have done had they not donated in the first place, but merely observed the candidate they would have supported win or lose. This is a question that could be addressed with an (admittedly expensive) field experiment in which all subjects are asked who they would donate to if they were to donate, and then some were additionally incentivized to make that donation. This design would allow a researcher to compare not only donors whose candidate won to donors whose candidate lost, but also to examine *would-be* donors whose candidate lost, and those whose candidate won.

<sup>44</sup> Hainmueller, Hall, and Snyder 2015.

## CONCLUSION

As we have discussed, previous studies offer ambiguous predictions as to whether the outcome of participation influences individuals' future political behavior. One possible reason this question has remained unresolved, despite its significance for both scholars and practitioners, is the significant methodological challenges associated with causally identifying the effect of successful participation. By constructing a large dataset of nearly two million donors over a treatment window of fourteen years, and employing an RD design, we have measured the causal effect of donating and barely winning as opposed to donating and barely losing.

Our results show that election outcomes matter for more than just institutional control; in certain contexts, they can have large effects on the political behavior of citizens involved in campaigns. For state legislative and US Senate donors, and possibly for gubernatorial donors, having their candidate barely win as opposed to barely lose made individuals substantially more likely to donate again to the same office type. These results highlight the stakes in an election, but also suggest that as individual campaign contributions become increasingly common and central to campaigns, parties may face a more complicated strategic decision than they recognize: more donors to a campaign that goes on to lose may mean fewer donors in the future.

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