How Much of the Incumbency Advantage is Due to Scare-Off?

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Abstract

This paper uses a regression discontinuity design to estimate the degree to which incumbents scare off "high-quality" challengers, where quality is measured by previous officeholder experience. The estimates indicate a surprisingly small amount of scare-off, at least in cases where the previous election was nearly tied. As Lee (2008) and others have shown (and as we confirm for our samples) the estimated party incumbency advantage in these same cases is quite large – in fact, it is about as large as the average incumbency advantage for all races found using other approaches. Drawing from previous estimates of the electoral value of candidate quality, we thus calculate that scare-off in these cases accounts for only about 5-7% of the party incumbency advantage. We show that these patterns are similar in elections for U.S. House seats, statewide offices and U.S. senate seats, and state legislative seats.

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1 Introduction

The incumbency advantage is an important phenomenon in U.S. politics, but even after years of study it is not clear what it represents. One possibility is that it mainly captures a scare-off effect. The logic is straightforward. If "high-quality" challengers are especially strategic in their behavior, and wait for open seats to become available rather than challenge incumbents, then most incumbents will face "low-quality" challengers (or no challenger at all). It is therefore possible that incumbents do well in their re-election attempts not because they are particularly high quality or enjoy large officeholder benefits, but simply because their opponents are low quality.

This argument is made forcefully in Cox and Katz (1996) and Levitt and Wolfram (1997). Cox and Katz (1996) write, "Most of the increase in the incumbency advantage, at least down to 1980, came through increases in the quality effect (i.e. the advantage to the incumbent party of having a low-quality challenger)" (478). Levitt and Wolfram (1997) reach a similar conclusion, arguing that "a large fraction of the incumbency advantage is the result of incumbents' apparent ability to deter high-quality challengers. Virtually all of the growth in the incumbency advantage since the 1960s appears to be attributable to a reduction in the relative quality of challengers" (56).

The idea that a large part of the incumbency advantage is due to scare-off may have reached the status of conventional wisdom. For example, in his widely used text *The Politics of Congressional Elections*, (Jacobson 2009: 42) writes: "The electoral value of incumbency lies not only in what it provides to the incumbent but also in how it affects the thinking of potential opponents and their potential supporters. Many incumbents win easily by wide margins because they face inexperienced, sometimes reluctant, challengers who lack the financial and organizational backing to mount a serious campaign for congress." In the *Encyclopedia of Campaigns, Elections and Electoral Behavior*, Sidman (2008) writes: "High quality challengers often do not want to waste the resources they have built in an unsuccessful challenge. Before emerging, they will look at a variety of factors that signal how

vulnerable the incumbent is and weigh the likelihood of winning office. Given the strength of many incumbents, it takes the right mix of incumbent vulnerability and national political climate...for a high-quality challenger to emerge" (118). Finally, in *Conventional Wisdom and American Elections*, Baumgartner and Francia (2010) write: "Experienced politicians or prominent leaders have enough political savvy to know that the chances of beating an incumbent are slim. Generally, only open-seat races attract quality candidates...This is the so-called scare-off effect, and while it is clear that anything can happen in a campaign, most challengers are amateurs who pose little threat to incumbents" (151).

As the last quote suggests, the argument is particularly plausible in light of the fact that one of the best measures of candidate quality is previous officeholder experience. Intuitively, many of the strongest candidates are elected officials who hold offices similar to those they are seeking and with similar constituencies – e.g., state legislators running for the U.S. House, state representatives running for the state senate, or state attorneys general running for governor. Strategic entry by such high-quality challengers can then be explained as the result of the opportunity costs that officeholders face. Current officeholders have a high opportunity cost of running for higher office, since they typically must give up their current office. This leads them to wait for an incumbent to retire, and to disproportionately enter races where their party is favored. Several theoretical papers formalize the scare-off effect.[1] In addition, previous empirical work finds strong evidence of strategic challenger behavior.[2]

In this paper we provide a causal estimate of the impact of incumbency on candidate quality in the opposition party, using a regression discontinuity (RD) design. More specifically, we exploit the "as-if random" assignment of incumbency status to the winner in very close elections, and thereby isolate the effect of party incumbency status on the quality of

[1]See for example Banks and Kiewiet (1989), Epstein and Zemsky (1995), Gordon, Huber and Landa (2007), and Ashworth and Bueno de Mesquita (2008).

[2]See, e.g., Jacobson and Kernell (1983), Bianco (1984), Bond, Covington and Fleisher (1985), Krasno and Green (1988), Jacobson (1989), Stone, Maisel and Maestas (2004), Kiewiet and Zeng (1993), Carson, Engstrom and Roberts (2007), Carson and Roberts (2013).

each party's candidate in the next election.[3,4] We follow previous work and measure quality in terms of prior officeholder experience. Jacobson (1989, 2009), Squire (1992), Cox and Katz (2002), Carson, Engstrom and Roberts (2007), and many others find that candidates who previously held elective office have significantly larger vote shares and significantly higher probabilities of winning than other candidates.[5] We study U.S. House elections, state legislative elections, and elections for statewide offices, including the U.S. Senate.

The bottom line is easily stated: we find a very small scare-off effect. Summary statistics reveal that, when a party loses a close election, the probability that it fields a quality challenger in the next election cycle falls by only 0.3 percentage points in the U.S. House, and by only 4 to 12 percentage points in statewide and state senate elections. Using the more rigorous RD estimator, we again find small estimates for the effect of party incumbency on the subsequent quality gap between the incumbent and challenger in the next election, and we cannot reject the null hypothesis that incumbency has no effect on this differential.

Finding a small scare-off effect when the incumbent party won by a very close margin in the previous race would be relatively uninteresting if there were little or no party incumbency advantage in these cases. However, as many previous papers have shown (and as we confirm

[3]The RD design has become a workhorse for causal inference in electoral research. The RD is a popular empirical strategy because it offers an unusual opportunity to disentangle the effects of elections from factors that influence elections, at least for the subset of elections that are decided very narrowly. Lee (2008) formalizes the logic of the RD design based on close elections, and gives precise conditions under which the outcome of close elections can be used as a quasi-random treatment variable. Eggers et al. (2013) provide references for many recent papers employing this type of design.

[4]Snyder (2005), Caughey and Sekhon (2011) and Grimmer et al. (2012) criticize the use of election-based RD studies, because the electoral outcomes sometimes exhibit substantial imbalance near the threshold that distinguishes winners from losers. That is, observable attributes of one of the candidates – in particular, incumbency status – appear to be significantly correlated with victory even in very close elections. They show this for the case of U.S. House elections over the period 1946-2010. Eggers et al. (2013) show that this case is an anomaly.

[5]While scholars acknowledge that previous elective office experience is only one component of quality, it is an important component – at least from an electoral point of view. Bond, Covington and Fleisher (1985), Krasno and Green (1988), and Canon (1990) have constructed more fine-grained, nuanced, and detailed measures of quality. Carson and Roberts (2011) conclude that, "Despite numerous attempts to develop more detailed codings of challenger quality... the simple dichotomy has typically proven just as reliable a predictor of a competitive House election... we believe that trying to come up with yet another alternative measure of candidate quality represents an area where further research is clearly unwarranted" (151). In a similar vein we should also note that Stone et al. (2010) have developed a more nuanced measure of *incumbent* quality. We focus on incumbency's overall effect on the quality differential, thus averaging over the heterogeneity in incumbent quality.

below for our samples), the party incumbency advantage in these cases is quite large. In fact, it is about as large as the estimates of the incumbency advantage based on other methods that use all available races. For example, Fowler and Hall (2013) use the Lee (2008) RD strategy in state legislatures and estimate that incumbency causes an overall increase of 7.8 percentage points in vote share. Using the same data, Fowler and Hall (2013) estimate that the "sophomore surge" estimate (Erikson 1971) of the incumbency advantage, which uses almost all elections, is 4.7 percentage points – if anything, smaller than the incumbency advantage when estimated using only close elections.[6]

Combining our results with estimates from the literature about the effect of candidate quality on the probability of winning elections (and vote share), we can estimate how much of the party incumbency advantage appears to be due to scare-off. We calculate that scare-off can account for only 5–7% of the incumbency advantage across the House, statewide offices, and state senates. Even if we use a "high" hypothetical estimate of the return to quality, we still find that scare-off only explains 10–15% of the incumbency advantage.

How do we interpret our findings? First, the RD analysis gives a *local* estimate of the effect of winning in close races.[7] It is therefore possible that in cases where the previous election was not close the incumbency advantage *is* mainly due to scare-off. However, it is not obvious that incumbency status itself should cause more scare-off in safer districts. The fact that incumbents tend to face fewer experienced challengers in safe districts does not, by itself, imply that the scare-off effect due to incumbency is larger in safe districts. For example, consider the calculus of an experienced Republican candidate in a safely Democratic district.

[6]Of course, these estimates differ not only in the set of elections used but also in the identifying assumptions necessary to produce unbiased estimates. In addition, the Lee (2008) estimate is divided by 2 in order to make it comparable with the Erikson (1971) paper (see Erikson and Titiunik (2012), Fowler and Hall (2013) and the Appendix to this paper on this point). The reported estimates from Fowler and Hall (2013) are from Table A8 on p. 58.

[7]In addition, we are careful to call the RD estimate the *party* incumbency advantage, since the treatment is defined in terms of one of the major parties (the Democratic party by convention, although the problem is symmetric and the choice is arbitrary) and the winning candidate does not necessarily choose to run again. Despite this definition, there is good evidence that, at least in the context of state legislatures, the resulting estimate captures the *personal* incumbency advantage because there is no electoral advantage from party incumbency status separate from individual status (Fowler and Hall 2013).

She might be reluctant to run simply because the normal vote is against her. In order to assert that scare-off is larger in the safe district, we would have to show that the decrease in the probability that she would run caused by the presence of a Democratic incumbent (compared to an open-seat election) in this safe district is larger than the analogous decrease in the more competitive district. It is not obvious that this differential ought to be larger in safe districts, and for now we remain agnostic.

Second, we are not arguing that experienced challengers are not strategic. On the other hand, they are not perfectly strategic, or perfectly foresighted, either. The R-squared statistics in the literature from regressions predicting candidate experience are far from 1, indicating that idiosyncratic factors lead some experienced candidates to run while others stay out. These factors might be term-limits, dissatisfaction with the current office held, decisions to "move up or move out" of politics as a career, staggered terms (e.g. state senators with four-year terms or local officials elected in odd-numbered years who can challenge incumbents without giving up their current offices), and so on.

Regardless, the set of districts in which close races are likely to occur – mainly marginal districts in which the distribution of partisan affiliations of voters is relatively balanced – are especially relevant for key questions regarding the U.S. electoral system. Does the incumbency advantage lead to persistence in the identity of the majority party, as well as to dampened responsiveness to shifts in voter preferences? If so, is this mainly due to the ability of incumbents to scare off experienced candidates in the marginal districts that are most likely to flip between parties? Is it the case that even in marginal districts – where an underperforming incumbent would be especially vulnerable to a strong challenge from the other party – incumbents remain in office mainly due to their ability to scare off experienced opponents? Our findings suggest the answers to the second question and third questions are: "probably not."

2 Data and Specifications

The U.S. House elections data are from Dubin (1998) and the Office of the Clerk of the U.S. House of Representatives.[8] The statewide office elections data are from official state sources.[9] The state legislative elections data are from ICPSR Study #34297. The data on candidate previous experience for U.S. House candidates was graciously provided by Gary Jacobson, and supplemented by the electoral data itself (tracking previous winners), along with various issues of *Congressional Quarterly Weekly Reports*. The data on candidate previous experience for statewide races and state senates is from the electoral data.

We follow the previous literature in the exact definitions of which previous offices count for the quality indicator, which is a binary variable taking on the value 1 if the candidate has held one of these offices in the past, and 0 otherwise. Candidates running for the U.S. House are considered to be of quality if they hold, or have previously held, any of the following offices: state representative, state senator, any statewide office, U.S. Senate, another U.S. House seat, or a local office (including mayor, city council, county commissioner, district attorney, etc.). Candidates running for statewide office are considered to be of quality if they hold, or have previously held, any of the following offices: state representative, state senator, any statewide office, U.S. Senate, U.S. House, or mayor. Finally, candidates running for state senate are considered to be of quality if they hold, or have previously held, any of the following offices: state representative or another state senate seat.

We employ a standard RD design. The forcing variable is the Democratic share of the two-party vote, *Democ Vote Pct*, and the threshold separating winners from losers is 50%.[10]

[8] See http://clerk.house.gov/member_info/electionInfo/.

[9] See Ansolabehere and Snyder (2002) for more details.

[10] We drop cases where an independent or minor-party candidate came in first or second place at time t. This only happened in 0.8% of the close U.S. House races, 1.5% of the close statewide office races, and 1.5% of the close state senate races (where "close" races are those in which the winner received between 50% and 55% of the total votes won by the top two candidates).

Thus, our specification is

$$Y_{i,t+1} = \beta\, Democ\ Win_{it} + f(Democ\ Vote\ Pct_{it}) + \epsilon_{it} \tag{1}$$

where f is either a local linear or polynomial control function and Y is the dependent variable of interest.[11] We estimate this equation using a small bandwidth around the discontinuity. In the body of the paper, all results are presented using a 5% bandwidth, i.e., using all elections in which the winning candidate obtained 50–55% of the two-party vote.

The parameter of interest is β, which provides an estimate of the causal effect of winning at time t on Y at $t+1$. The dependent variables are: *Democ Win*, *Democ Vote Pct*, *Democ Cand Experienced*, *Repub Cand Experienced*, and *Net Cand Experience* $\equiv$ *Democ Cand Experienced* $-$ *Repub Cand Experienced*. We use the first two dependent variables to estimate the party incumbency advantage. We use the last three dependent variables – particularly the last variable – to estimate scare-off.[12] Importantly, in constructing these variables we do not include the experience due to incumbency that is "automatically" acquired by the party that wins at time t, in the event that party's candidate runs again at time $t+1$. Thus, for the last dependent variable, β provides an estimate of the causal effect of winning at time t on the difference in candidate experience between the parties at time $t+1$ (other than that acquired via incumbency due to the outcome at time t). If this is large and negative then it indicates a large amount of scare-off.

Following best practices, in the Appendix we show that our results are robust to the use of a wide variety of bandwidth sizes and specifications of the forcing variable. In addition, it is important with any design to test the validity of the identifying assumption wherever possible. In the RD framework, this is done by checking for evidence of sorting around the discontinuity at time t. Fortunately for the present study, Eggers et al. (2013) studies the

[11] The slope of the local linear control function is allowed to vary on either side of the threshold.

[12] In the RD literature, like in the analysis of experiments, it is standard practice to use OLS with binary dependent variables and correct standard errors for induced heteroskedasticity (e.g., Angrist and Pischke 2009). Doing so ensures that the probability model (e.g., logit or probit) does not bias the estimate of the discontinuity, which is at an end-point.

same elections used in this paper (along with others), and finds no evidence of sorting. In addition, in the Appendix we present further evidence that the districts with close Democratic winners and those with close Republican winners exhibit no differences in net quality differential at time t – further validation of the RD assumption. As a result, there is no evidence that sorting is an issue for the analysis.

3 Results

3.1 Summary Measures

We begin with some summary statistics, which are in the spirit of "naive" RD estimates. Consider the following questions: After winning a close election at time t, what is the probability that a party goes on to win at time $t+1$? What is the probability that the opposing party runs an experienced candidate at time $t+1$, and how does this compare to the probability that the opposing party ran an experienced candidate at time t? What is the probability that the winning party runs an experienced candidate at time $t+1$, not counting the experience "automatically" accumulated by the victory at time t? How does this compare to the probability that the party ran an experienced candidate at time t?

Table 1a shows these statistics for U.S. House races, Table 1b shows them for statewide office races, and Table 1c shows them for state senate races. In all three tables we first consider all cases where the race at time t was close, and then focus on cases where the election at time t was an open-seat race (and close). In all cases we define a race as close if the winner received between 50% and 52% of the vote.[13]

Consider Table 1a. The top panel shows that the incumbent party in a district wins much more often than 50% of the time. More specifically, the difference in the probability of

[13]Because these comparisons are naive (compared to the RD estimates in the next section), we use an especially small bandwidth for this analysis.

winning at time $t+1$ between the winning and losing parties at time t is about 49.3% (row 3 of the table). Not surprisingly, this is similar to the RD estimates in Lee (2008).

Table 1a – Summary Statistics on Candidate Experience and Winning (Win Margin < 2); U.S. House, 1948-2010

Variable	All Races	Open-Seat Races
Electoral Outcomes		
% Wins at $t+1$, Party Losing at t	25.4	25.3
% Wins at $t+1$, Party Winning at t	74.6	74.7
Difference in % Wins at t+1	**49.3**	**49.4**
Candidate Experience		
% Experienced at t, Party Losing at t	50.1	46.1
% Experienced at $t+1$, Party Losing at t	49.9	47.8
Change from t to $t+1$	**-0.3**	**1.7**
% Experienced at t, Party Winning at t	60.5	58.4
% Experienced* at $t+1$, Party Winning at t	59.4	56.7
Change from t to $t+1$	**-1.0**	**-1.7**
Diff. in Change in % Experienced t to t+1	**-0.7**	**-3.4**
Competition		
% With Candidate at $t+1$, Party Losing at t	98.7	97.2
% With Candidate at $t+1$, Party Winning at t	100.0	100.0
% Same Candidate at $t+1$, Party Winning at t	90.0	96.6
Number of races	678	178

* The officeholding due to the victory at t is not included in calculating % Experienced for the Party Winning at t.

Next, consider the middle panel. The first row of this panel shows the percentage of cases in which the party losing the election at time t fields an experienced candidate at time t. The second row shows the percentage of cases in which this party fields an experienced candidate at time t+1. The difference between these two rows gives a crude estimate of the scare-off effect, which, if it is present, should produce a *negative* change in the probability of an experienced candidate for the losing party. Thus, for example, in the first column (all races) we see that the percentage falls from 50.1% to 49.9%, suggesting an initial scare-off estimate of 0.3 percentage points. In the second column (open-seat races) we see that the percentage actually *increases* from 46.1% to 47.8%, the opposite of what we would expect from scare-off.

The fourth row of this panel shows the percentage of cases in which the party winning the election at time t fields an experienced candidate at time t. The fifth row shows the percentage of cases in which this party fields an experienced candidate at time t+1. As noted above, this row does not include the "automatic" experience acquired due to the victory at time t, in the event that the candidate winning at time t runs again at time $t+1$.[14] The difference between these two rows shows that the percentage of experienced candidates even falls a bit in the party that wins at time t, likely due to occasional retirements.

Row 10 of the table shows the difference between rows 9 and 6 of the table. This gives a more complete measure of the "differential change in quality" between the time t winning and losing parties (again, not including the experience acquired due to the victory at time t). If scare-off is present, we would expect the change in quality for the winning party to be less negative than the change for the losing party – and thus to see a *positive* difference. We see that these figures are -0.7% for all races, and -3.4% for open-seat races. That is to say, in both cases, the party winning at t sees a slightly larger decrease in quality than the party losing at t. This does not suggest a large scare-off effect.

[14] That is, if the candidate winning at time t runs again at time t+1, then he or she is considered "experienced" if and only if he or she was experienced prior to the election at time t.

Tables 1b and 1c show the same statistics as Table 1a, but for statewide office and state senate elections, respectively. The overall patterns in these tables are similar to those in Table 1a. First, there appears to be a large party incumbency advantage – the difference in the probability of winning at time $t+1$ between the winning and losing parties at time t is around 40%. Second, there appears to be relatively little scare-off – the differential change in quality between winning and losing parties at time t is around 8-9% for statewide offices and less than 2% for state senate districts. Like the results for the U.S. House, it is unlikely that scare-off causes a significant part of the (large) party incumbency advantage in these other offices.

Table 1b – Summary Statistics on Candidate Experience and Winning (Win Margin < 2); Statewide Offices, 1970-2010

Variable	All Races	Open-Seat Races
Electoral Outcomes		
% Wins at $t+1$, Party Losing at t	30.0	29.2
% Wins at $t+1$, Party Winning at t	69.2	70.8
Difference in % Wins at t+1	**39.2**	**41.5**
Candidate Experience		
% Experienced at t, Party Losing at t	50.7	51.8
% Experienced at $t+1$, Party Losing at t	42.3	39.9
Change from t to $t+1$	**-8.3**	**-11.9**
% Experienced at t, Party Winning at t	50.9	54.5
% Experienced* at $t+1$, Party Winning at t	50.5	51.4
Change from t to $t+1$	**-0.4**	**-3.2**
Diff. in Change in % Experienced t to t+1	**8.0**	**8.7**
Competition		
% With Candidate at $t+1$, Party Losing at t	97.6	96.8
% With Candidate at $t+1$, Party Winning at t	99.8	100.0
% Same Candidate at $t+1$, Party Winning at t	67.8	73.9
Number of races	503	253

* The officeholding due to the victory at t is not included in calculating % Experienced for the Party Winning at t.

Table 1c – Summary Statistics on Candidate Experience and Winning (Win Margin < 2); State Senates, 1978-2010

Variable	All Races	Open-Seat Races
Electoral Outcomes		
% Wins at t+1, Party Losing at t	30.8	27.6
% Wins at t+1, Party Winning at t	68.7	71.7
Difference in % Wins at t+1	**37.9**	**44.1**
Candidate Experience		
% Experienced at t, Party Losing at t	25.8	27.9
% Experienced at t+1, Party Losing at t	21.2	22.4
Change from t to $t+1$	**-4.7**	**-5.5**
% Experienced at t, Party Winning at t	31.6	35.7
% Experienced* at t+1, Party Winning at t	28.2	32.0
Change from t to $t+1$	**-3.3**	**-3.7**
Diff. in Change in % Experienced t to t+1	**1.3**	**1.8**
Competition		
% With Candidate at t+1, Party Losing at t	91.8	87.5
% With Candidate at t+1, Party Winning at t	98.7	98.9
% Same Candidate at t+1, Party Winning at t	71.2	79.0
Number of races	747	272

* The officeholding due to the victory at t is not included in calculating % Experienced for the Party Winning at t.

3.2 RD Estimates

We now turn to a more rigorous RD analysis. Following convention, we begin by presenting graphical versions of the analyses for all three contexts. Figures 1, 2, and 3 present the data for the U.S. House, statewide offices, and state senates, respectively. Each figure contains four panels. In the first column, the plots show the change in candidate quality for each party, respectively, as the Democratic party goes from barely losing to barely winning elections. There is almost no discernible "jump" in these graphs, suggesting that there is little scare-off in these close elections. In contrast, the second column presents the results of these same

close Democratic wins and losses on subsequent Democratic vote share (top row) and victory (bottom row). Here, large discontinuities are present.

Figure 1 – The Effect of Incumbency on Challenger Quality and Incumbent Party Vote Share, U.S. House. In the left column, we see little or no "jump" in subsequent candidate quality for each party when the Democratic party switches from barely losing to barely winning the election. In the right column, we see that there is nonetheless a large jump in the electoral fortunes of the Democratic party when they switch from barely losing to barely winning. Lines are from OLS estimated separately on each side of the discontinuity with binned averages overlaid for binary outcome variables.

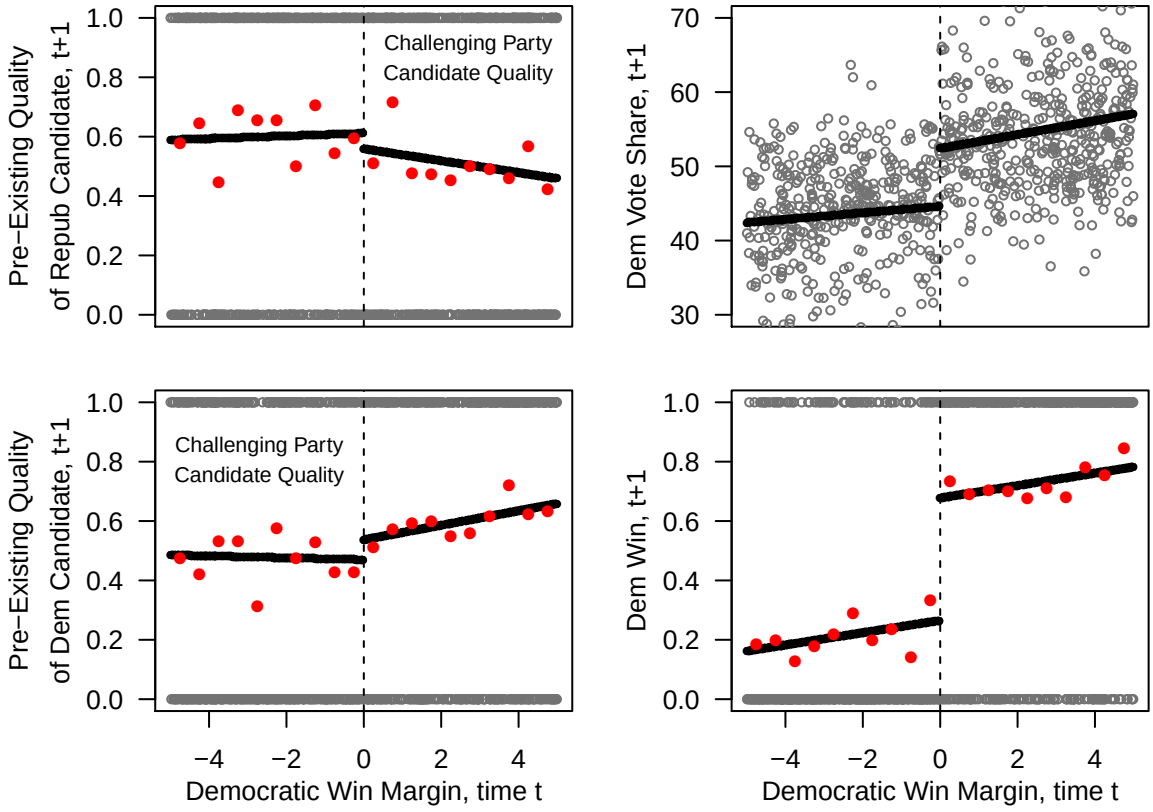

Figure 2 – The Effect of Incumbency on Challenger Quality and Incumbent Party Vote Share, Statewide Offices. In the left column, we see little or no "jump" in subsequent candidate quality for each party when the Democratic party switches from barely losing to barely winning the election. In the right column, we see that there is nonetheless a large jump in the electoral fortunes of the Democratic party when they switch from barely losing to barely winning. Lines are from OLS estimated separately on each side of the discontinuity with binned averages overlaid for binary outcome variables.

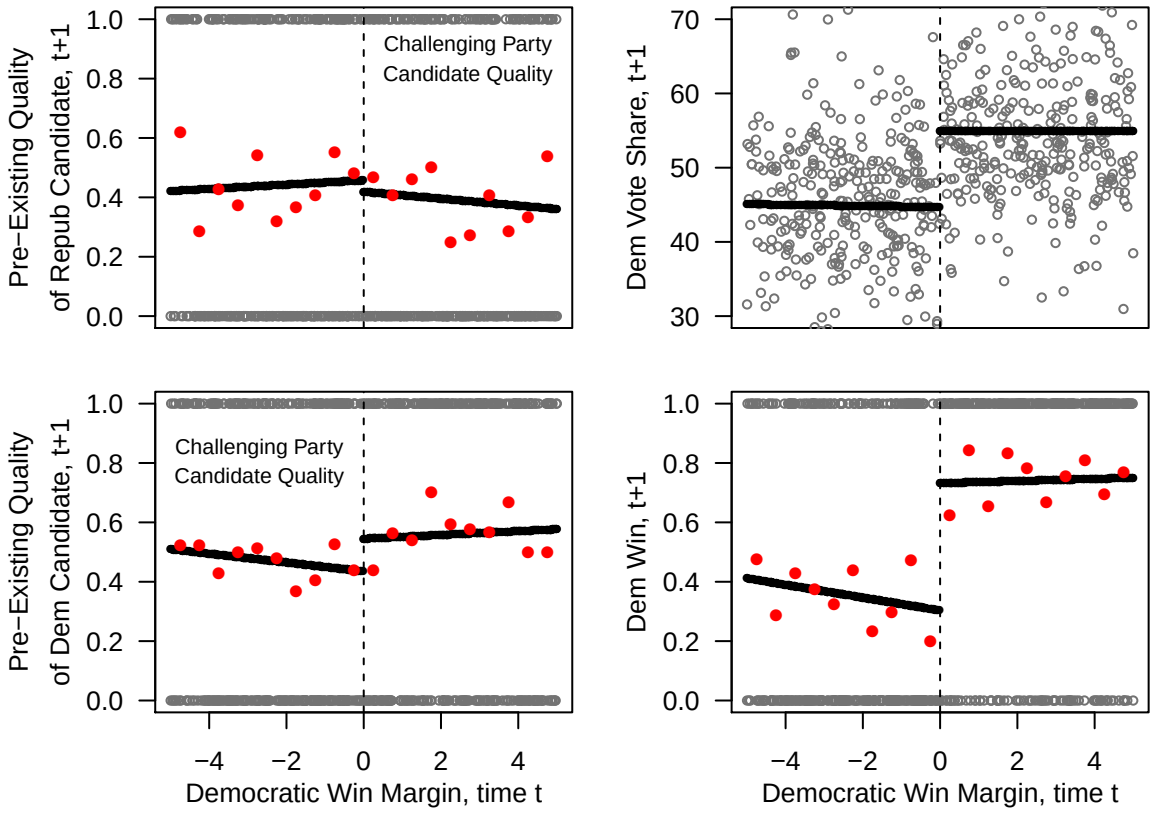

Figure 3 – The Effect of Incumbency on Challenger Quality and Incumbent Party Vote Share, State Legislatures. In the left column, we see little or no "jump" in subsequent candidate quality for each party when the Democratic party switches from barely losing to barely winning the election. In the right column, we see that there is nonetheless a large jump in the electoral fortunes of the Democratic party when they switch from barely losing to barely winning. Lines are from OLS estimated separately on each side of the discontinuity with binned averages overlaid for binary outcome variables.

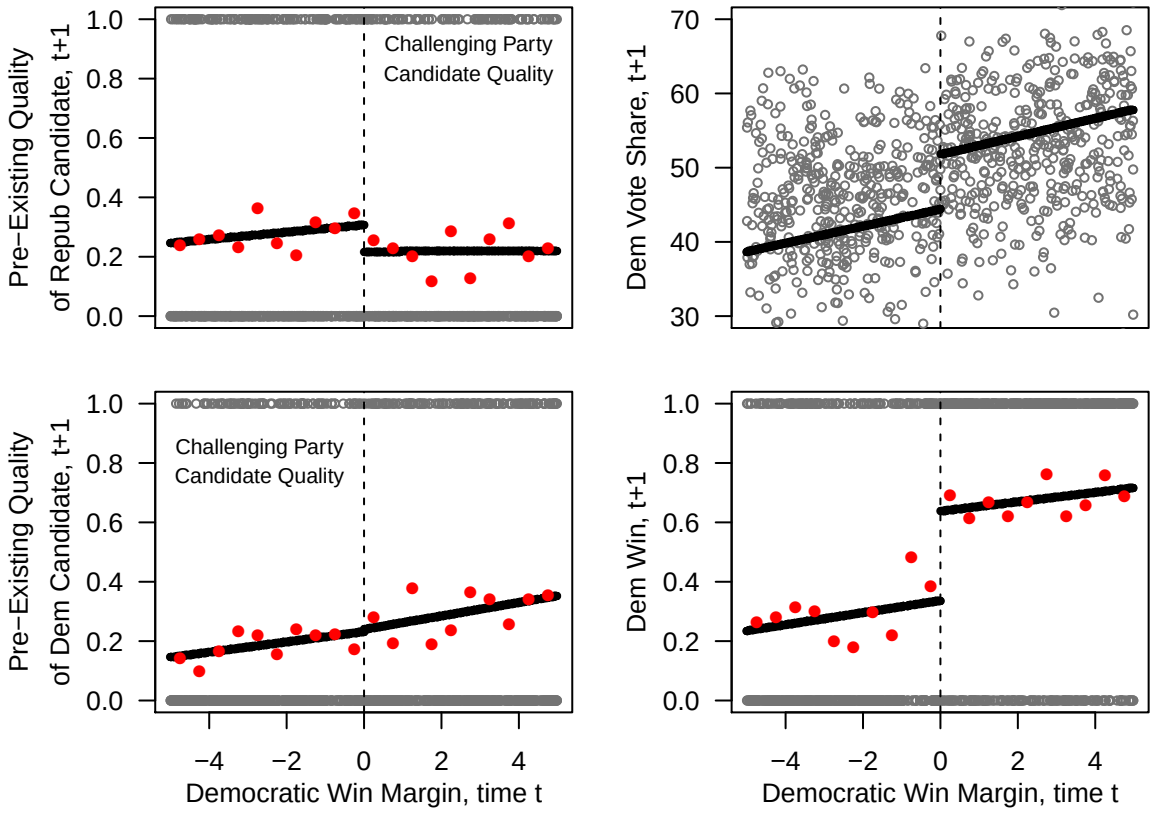

Table 2 shows the estimates for a ±5% bandwidth (winner received between 50% and 55% of the vote) and a local-linear control function. The top panel covers the U.S. House, the middle panel covers statewide offices, and the bottom panel covers state senate seats. The columns treat different dependent variables, all based on equation (1). The quantity of interest is the coefficient on *Dem Win at t*, representing the effect of a close Democratic win at time t on subsequent outcomes at time $t+1$. The first column estimates the party incumbency advantage. The second and third columns show effects on the probability of fielding an experienced candidate in each party at time $t+1$. If scare-off is present, then we should expect the effect of a Democratic win on the probability of a quality Democratic candidate in the subsequent election to be *positive* in column 2, while the effect on the probability of a Republican candidate in the subsequent election should be *negative* in column 3. The last column shows the estimate of the effect of winning or losing at time t on the difference in candidate experience at time $t+1$. Like in the summary tables, we would expect the effect on this difference to be *positive* if scare-off is present.[15] In addition to the point estimates, we show the standard errors in parentheses and the 95% confidence intervals in square brackets.

The estimated party incumbency advantages in column 1 are all large, ranging from 30% to 43% – this is not surprising, of course, since they simply confirm the earlier estimates by Lee (2008), Fowler and Hall (2013), and others for our samples.

More interestingly, none of the point estimates in columns 2-4 are substantively large. Nor are any of these point estimates statistically significant at the usual .05 level, or even the .10 level. Thus, while all of the point estimates have the sign we would expect if scare-off is operating (e.g., if the Democratic candidate wins at time t, then the Republican candidate at time $t+1$ is less likely to be experienced), we cannot reject the null hypothesis that the scare-off effect is zero.

[15]Note also that the estimates in column 4 are roughly equivalent to the negative of the sum of the absolute values of the estimates in columns 2 and 3. The effect on the net quality differential is, essentially, the same thing as summing the effects on Democratic and Republican quality separately.

Table 2 – RDD Estimates, Candidate Experience and Winning

	Dem Win at t+1	Dem Candidate Experience at t+1	Repub Candidate Experience at t+1	Dem - Repub Experience at t+1
U.S. House of Representatives, 1948-2010				
Dem Win at t	0.41	0.07	-0.05	0.12
	(0.06)	(0.07)	(0.07)	(0.10)
	[0.29, 0.53]	[-0.07, 0.20]	[-0.19, 0.08]	[-0.07, 0.31]
# Observations	866	866	866	866
Statewide Offices, 1970-2010				
Dem Win at t	0.43	0.11	-0.04	0.15
	(0.07)	(0.08)	(0.08)	(0.10)
	[0.28, 0.57]	[-0.05, 0.27]	[-0.20, 0.12]	[-0.05, 0.34]
# Observations	607	607	607	607
State Senates, 1978-2010				
Dem Win at t	0.30	0.01	-0.09	0.10
	(0.06)	(0.06)	(0.06)	(0.08)
	[0.18, 0.43]	[-0.10, 0.12]	[-0.21, 0.03]	[-0.06, 0.26]
# Observations	937	937	937	937

The officeholding due to victory at t is not included in calculating experience at $t + 1$. Robust standard errors in parentheses; 95% confidence intervals in brackets. RDD estimates are from Equation 1, using a local linear specification of the running variable with a 5 percentage-point bandwidth.

Table 3 presents some calculations that translate the results in Table 2 into estimates of the percentage of the party incumbency advantage that can possibly be attributed to scare-off. As in Table 2, the top panel covers the U.S. House, the middle panel covers statewide offices, and the bottom panel covers state senate seats.

In order to get a sense of how much of the party incumbency advantage can be plausibly attributed to scare-off, we need estimates of the electoral effect of prior officeholder experience. How much larger is a party's probability of winning a race, or expected vote percentage, if it fields an experienced candidate rather than an inexperienced one? Our RD

approach does not yield such estimates, so we borrow from the literature. Previous estimates indicate that the value of prior officeholder experience is sizable, but probably about half as large as the value of incumbency, or lower.

For example, estimates from Canes-Wrone, Brady and Cogan (2002) imply that experienced U.S. House challengers reduce the incumbents' probability of winning by about 18 percentage points in "marginal" districts.[16] Using data on U.S. House elections from 1946-1986, Jacobson (1989) estimates that having an experienced candidate increases the challenging party's probability of defeating a U.S. House incumbent by 10 to 16 percentage points, depending on the "baseline" probability of winning – i.e. the probability of winning without an experienced challenger.[17] The largest estimate is for the case where the baseline probability of winning is 25%. As we show below in Table 1, the party losing at time t wins at time t+1 only about 25–30% of the time, so the 25% baseline probability is in the relevant range. Jacobson (1989) also estimates that having an experienced candidate increases the challenging party's expected vote percentage by 2.8 percentage points, again studying the U.S. House from 1946-1986.[18]

Cox and Katz (1996) present separate estimates of the "quality effect" for each election year, for U.S. House elections over the period 1946-1990. The average of these estimates implies that having an experienced candidate increases a party's expected vote percentage by 3.0 percentage points.[19] Studying the U.S. Senate, Abramowitz and Segal (1992) estimates that an experienced challenger gains approximately 2 percentage-points of vote share relative to an inexperienced challenger.[20]

We generate two hypothetical estimates of the return to quality. The first, "Hypothetical 1," is based on the estimates of the return to quality from the literature. For each setting,

[16]This is based on the estimate in the third column of Table 4, using the column for the 1956-1996 period, on page 137 of Canes-Wrone, Brady and Cogan (2002).

[17]These are reported in the last four rows and first column of Table 5, page 782 of Jacobson (1989). We ignore the first two rows, which report even smaller estimates based on smaller baseline probabilities of winning.

[18]This is reported in the fourth row and first column of Table 6, page 783 of Jacobson (1989).

[19]These are reported in the third column of Table 1, page 487 of Cox and Katz (1996).

[20]See Table 4.2 on page 109.

we take our estimate of the incumbency advantage (in terms of win probability) and divide by 2. This is, in essence, supposing that candidate quality is "half as good" as incumbency. There are two advantages to distilling the previous literature into this hypothetical estimate. First, it allows us to apply a tailored hypothetical to all three electoral contexts (since we have incumbency advantage estimates for each context), even though published estimates do not perfectly match up to those we study.[21] Second, it ensures that we compare apples-to-apples. Estimates such as those in Jacobson (1989) employ a counterfactual comparison between elections with an incumbent vs. open elections, while the RD estimate compares cases with a Democratic incumbent to those with a Republican incumbent. By using an RD-based estimate for Hypothetical 1, we ensure that we are using our estimate of the scare-off effect in conjunction with an analogous estimate of quality's effect on electoral outcomes.[22]

In the second hypothetical estimate, "Hypothetical 2," we make the even more unlikely assumption that quality is "as good as" incumbency, i.e. that the return to quality is equal to the return to incumbency. This is almost certainly a large overestimate of the value of experience.

With these hypotheticals in hand, we then take the point estimate from row 1, column 4 of Table 2, 0.12, as the expected difference in candidate experience at time $t+1$. Multiplying this by our hypothetical returns to quality gives an estimate of the expected difference in the probability of winning at time $t+1$ that is due to the expected difference in candidate experience at time $t+1$ produced by the election outcome at time t. For Hypothetical 1 this is just 2%, as shown in row 1, column 1 of Table 3.

In the second column we divide this by the estimated party incumbency advantage, from column 1 of Table 2. We see that, given our estimate of the change in the candidate quality differential and the hypothetical estimate of the return to quality, scare-off only explains 6% of the overall incumbency advantage in terms of win probability.

[21] For example, although we are aware of at least one paper that studies the return to candidate quality in state legislative elections (Lublin 1994), it studies a subset of states using both upper and lower chambers.

[22] In the Appendix we show why we can multiply the RD estimates without worrying about the so-called "double-counting" issue (e.g., Erikson and Titiunik 2012).

Table 3 – Estimates of the Scare-Off Effect

Estimator	Estimated Scare-Off Effect On Win Probability	Estimated Share of Incumbency Advantage
U.S. House, 1948-2010		
Hypothetical 1	**0.02**	**0.06**
Hypothetical 2	0.05	0.12
Statewide Offices, 1970-2010		
Hypothetical 1	**0.03**	**0.07**
Hypothetical 2	0.06	0.15
State Senates, 1978-2010		
Hypothetical 1	**0.01**	**0.05**
Hypothetical 2	0.03	0.10

The first column multiplies each hypothetical estimate for the win-probability return to experience by the estimated difference in quality caused by incumbency in the relevant electoral context. The second column divides the first column by the estimated incumbency advantage for the given electoral context.

The calculations for the other two electoral contexts show consistent results. Across the three cases, scare-off is estimated to explain 5–7% of the overall incumbency advantage. Even when using the unrealistic hypothetical ("Hypothetical 2"), we still find that scare-off only explains 10–15% of the advantage.

The difference in the quality differential caused by incumbency is simply not enough to produce the incumbency advantage we observe among these close races, regardless of the return to quality. Consider the U.S. House estimates. Even if we use a more generous estimate for the effect of incumbency on the net quality differential – by taking the right upper bound of the confidence interval for the estimate, which is 0.31, we still find that scare-off only explains 15.5% of the advantage under Hypothetical 1, and only 31% under the unrealistic Hypothetical 2.

In the Appendix, we replicate the analysis using vote share as the dependent variable, finding consistent results. In all three contexts, scare-off is estimated to generate less than a percentage-point of extra vote share using Hypothetical 1. Even under Hypothetical 2, scare-

off is only estimated to bring as much as 1.52 percentage-points in vote share (in statewide offices).

4 Discussion

The sources of the large incumbency advantage in American elections, and the consequences it has for our system of representation, are still obscure. If the very fact that an experienced politician already possesses a seat deters quality candidates from stepping forward and running for office, then the incumbency advantage may provide poor incentives for elected officials, furnishing them with an electoral bonus regardless of their actions in office.

However, in this paper we find that this "scare-off" phenomenon is almost non-existent in U.S. elections, at least in closely-contested seats. Since these same seats exhibit a large advantage to incumbents, we can conclude that scare-off is not a necessary condition for an incumbency advantage. We can also suggest that it plays only a small role in the advantage in other U.S. contexts as well.

There are two main complications to interpreting our RD estimates, but neither is problematic in the present instance. First, as is well-known, the RD focuses on the effect of "party" incumbency, in the sense that the treatment is defined to be the assignment of Democratic incumbency, rather than focused on the individual legislator (who may or may not run again in the subsequent election). We are not overly concerned with this issue because the important effects of scare-off – namely, its role in altering the incentives of politicians – hold regardless of whether the scare-off comes from individual incumbency or party incumbency. Moreover, Fowler and Hall (2013) present evidence that party incumbency status conveys no electoral advantage separate from individual incumbency, at least in state legislatures. As a result it is likely that our estimates capture almost entirely effects related to individual incumbency, anyways.

Second, the RD estimates apply only in close elections and do not speak directly to potential scare-off effects in lopsided districts. In the present setting this issue of external validity is less of a concern, because for many questions we are most interested in competitive districts. Competitive districts are those in which electoral turnover is likely; electoral security from scare-off is thus most consequential in these districts, where there is a real chance for a quality challenger to obtain office in the absence of scare-off. In addition, as we discussed in the Introduction, it is not so obvious that the scare-off effect ought to be larger in safer districts.

This is not to say that potential challengers are not strategic. But we must understand the extent and limits to such strategic behavior. Tables such as the those in Jacobson (1989, 2009) show mainly that underlying district partisanship has a large effect on the probability the challenger is experienced. This reflects both the strategic decisions of candidates about whether or not to run and also the "pool" of available experienced candidates. In a heavily Democratic U.S. House district, most of the lower offices will also be held by Democrats, not Republicans. The tables in Jacobson and Kernell (1983) and Banks and Kiewiet (1989) show large average differences in candidate quality in open-seat races vs. incumbent-contested races, but even these statistics mix incumbency status with district type. On average, incumbents are running in districts that are quite safe for their party, while open-seat races tend to occur more often in competitive districts. It is difficult to know which factor – district competitiveness or incumbency status – is more important. When they control for both factors, Hirano and Snyder (2009) find little evidence that scare-off is produced by incumbency *per se* (at least in state legislative races), especially in competitive districts.

Why is there so little scare-off in these competitive districts with close elections? We can only speculate at present. We suspect that the actual dynamics underlying the decision for a quality candidate to run for higher office are more complicated than a simple scare-off story can capture. Although avoiding an entrenched incumbent might well be a factor weighing against a run for office, a quality candidate must consider other factors as well. If

she runs this year, will she have to give up her current office? If she does not challenge the incumbent this year, can she afford to wait? Elections for many local offices, for example, are in odd-numbered years. For the politicians holding those offices the opportunity cost of challenging an incumbent in a higher office is relatively low. Many lower offices also have term limits, and expiring candidates may have few other appetizing political options besides "moving up." These are just some of the reasons we might expect scare-off to be less "scary" than is often supposed.

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A Appendix

A.1 Vote Share Analysis

In Table A1, we present the RD estimates following the same form as equation (1) with the Democratic percentage of the two-party vote at time $t+1$ as the outcome variable. As expected, we find a large vote-share incumbency advantage across all three contexts. In Table A2, we again calculate the share of the incumbency advantage explained by scare-off, using the same estimates of the quality differential from Table 2.

Table A1 – Incumbency and Vote Share

	U.S. House 1948-2010	**Statewide Offices 1970-2010**	**State Senates 1978-2010**
Dem Win at t	7.80	10.27	7.37
	(1.13)	(1.87)	(2.01)
# Observations	866	607	937

Outcome variable is Democratic vote share at time $t + 1$. Robust standard errors in parentheses; 95% confidence intervals in brackets. RDD estimates are from Equation 1, using a local linear specification of the running variable with a 5 percentage-point bandwidth.

Table A2 – Vote-share Estimates of the Scare-Off Effect

Estimator	Estimated Scare-Off Effect On Vote Percentage	Estimated Share of Incumbency Advantage
U.S. House, 1948-2010		
Hypothetical 1	**0.47**	**0.06**
Hypothetical 2	0.93	0.12
Statewide Offices, 1970-2010		
Hypothetical 1	**0.76**	**0.07**
Hypothetical 2	1.52	0.15
State Senates, 1978-2010		
Hypothetical 1	**0.36**	**0.05**
Hypothetical 2	0.72	0.10

The first column multiplies each hypothetical estimate for the vote-share return to experience by the estimated difference in quality caused by incumbency in the relevant electoral context. The second column divides the first column by the estimated incumbency advantage for the given electoral context.

Again, we generate two hypothetical returns to quality, specific to each electoral context. In "Hypothetical 1" we again suppose that candidate quality is "half as good as" our estimate for the vote-share return to incumbency, and in "Hypothetical 2" we again assume it is "as good as" our estimate for the vote-share return to incumbency. In the first column, we multiply the hypothetical returns to quality by the effect of incumbency on the net quality differential. In all three cases, scare-off is estimated to generate less than a percentage-point of extra vote share using Hypothetical 1. Even under the extreme Hypothetical 2, scare-off is only estimated to bring as much as 1.52 percentage-points in vote share (in statewide offices).

A.2 Calculating the Scare-Off Effect in the RD Framework

Interpreting scare-off in the RD framework is slightly complicated. This appendix justifies the calculations in the text – in particular, it clarifies an apparent "double counting" issue. The derivation is similar to that in Erikson and Titiunik (2012).

First, consider δ_{NQD}, the RD estimator for the effect of incumbency on the net quality differential (NQD) between the two parties. This is defined as

$$\delta_{NQD} = (E[Q^D_{t+1} \,|\, W^D_t = 1] - E[Q^R_{t+1} \,|\, W^D_t = 1]) - (E[Q^D_{t+1} \,|\, W^D_t = 0] - E[Q^R_{t+1} \,|\, W^D_t = 0]),$$

where Q^D_{t+1} and Q^R_{t+1} are dummies for Democratic and Republican quality candidates at $t+1$, and W^D_t is an indicator for Democratic victory in the election at time t. Let $\gamma_D = E[Q^D_{t+1} \,|\, W^D_t = 1] - E[Q^D_{t+1} \,|\, W^D_t = 0]$ and $\gamma_R = E[Q^R_{t+1} \,|\, W^D_t = 1] - E[Q^R_{t+1} \,|\, W^D_t = 0]$ denote party-specific effects of incumbency on the candidate quality differential. We are interested in the overall change in quality caused by incumbency, i.e., the average of the party-specific effects, $\gamma = (\gamma_D + \gamma_R)/2$. Note that we can rewrite the above equation as

$$\begin{aligned}
\delta_{NQD} &= (E[Q^D_{t+1} \,|\, W^D_t = 1] - E[Q^D_{t+1} \,|\, W^D_t = 0]) + (E[Q^R_{t+1} \,|\, W^D_t = 1] - E[Q^R_{t+1} \,|\, W^D_t = 0]) \\
&= \gamma_D + \gamma_R \\
&= 2\gamma.
\end{aligned}$$

Next, consider δ_{WD}, the RD estimator for the effect of incumbency on the probability of winning the next election. This is defined as

$$\delta_{WD} = E[W^D_{t+1} \,|\, W^D_t = 1] - E[W^D_{t+1} \,|\, W^D_t = 0].$$

Although it makes no difference for the actual estimate, it is intuitive to think about these effects as deviations from a 50% win probability. Let $\theta_D = E[W^D_{t+1} - .5 \,|\, W^D_t = 1]$ and $\theta_R = E[W^R_{t+1} - 0.5 \,|\, W^R_t = 1]$ be the party-specific incumbency effects. Again, we are interested in the average, $\theta = (\theta_D + \theta_R)/2$. Note that

$$\begin{aligned}
\delta_{WD} &= E[W^D_{t+1} - 0.5 \,|\, W^D_t = 1] - E[W^D_{t+1} - 0.5 \,|\, W^D_t = 0] \\
&= E[W^D_{t+1} - 0.5 \,|\, W^D_t = 1] - E[0.5 - W^R_{t+1} \,|\, W^D_t = 0] \\
&= E[W^D_{t+1} - 0.5 \,|\, W^D_t = 1] + E[W^R_{t+1} - 0.5 \,|\, W^D_t = 0] \\
&= \theta_D + \theta_R
\end{aligned}$$

$$= 2\theta$$

Thus, both of the RD estimates give us twice the average of the party effects. Define our estimate for the share of the incumbency advantage resulting from scare-off as $\beta = A \cdot \delta_{NQD}/\delta_{WD}$ where A is the return to quality. Then,

$$\beta = \frac{A \cdot 2\gamma}{2\theta} = \frac{A\gamma}{\theta}$$

Thus, given an estimate for the return to quality, A, the "double-counting" phenomenon cancels out in our calculation of the share of the incumbency advantage resulting from the scare-off effect.

A.3 Robustness of RD Estimate

The following three figures show the stability of the RD estimate across bandwidth sizes and specifications of the forcing variable. Each plot shows the estimates from equation (1) using *Net Cand Experience* as the outcome variable.[23] The four lines in the plot represent the estimate using a linear, quadratic, cubic, and quartic specification of the running variable, respectively. The sparsity of data within very small bandwidths makes estimates noisy, so we start the plots at a 4% bandwidth. We end the plots at 25%, already a much larger bandwidth than commonly used in the literature. That said, estimates remain somewhat stable beyond this point, although local linear estimates in particular begin to increase as specification bias grows.

As the plots show, estimates are extremely stable.

[23] Because this variable is the composite of the other quality variables, stability in the estimated effect on it is telling for stability on the other variables, so we do not include them all here. Not surprisingly, results are equally stable for the other outcome variables.

Figure A1: Robustness of RD Estimate, U.S. House. The four lines in the plot represent the RD estimate from Equation 1 using a linear, quadratic, cubic, and quartic specification of the running variable, respectively, across bandwidths.

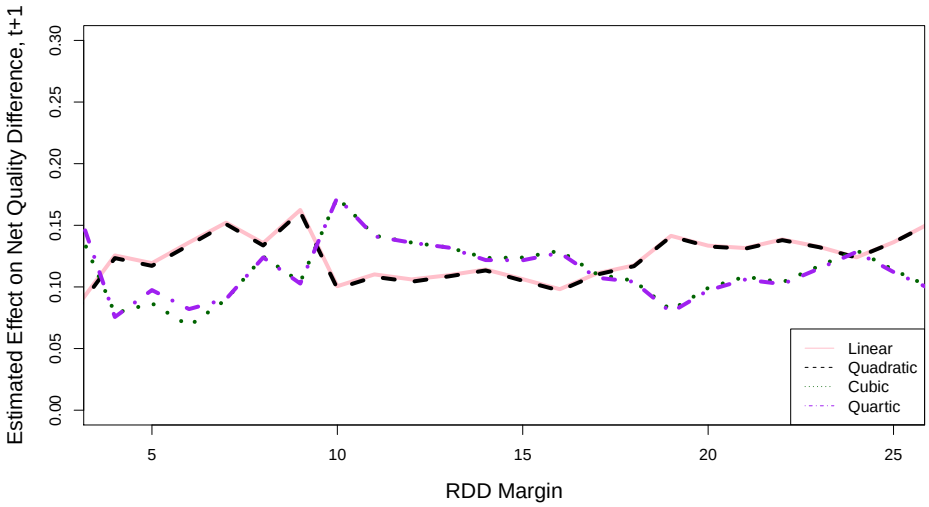


Figure A2: Robustness of RD Estimate, Statewide Offices. The four lines in the plot represent the RD estimate from Equation 1 using a linear, quadratic, cubic, and quartic specification of the running variable, respectively, across bandwidths.

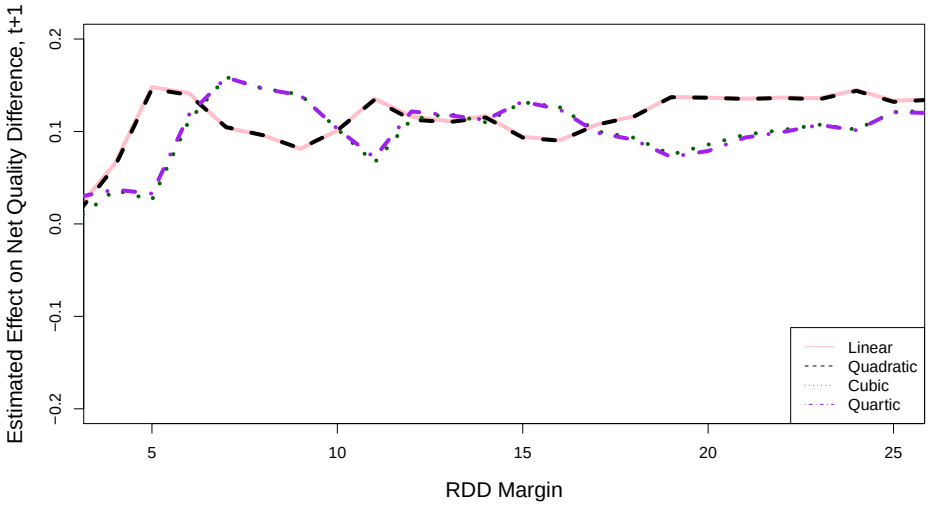
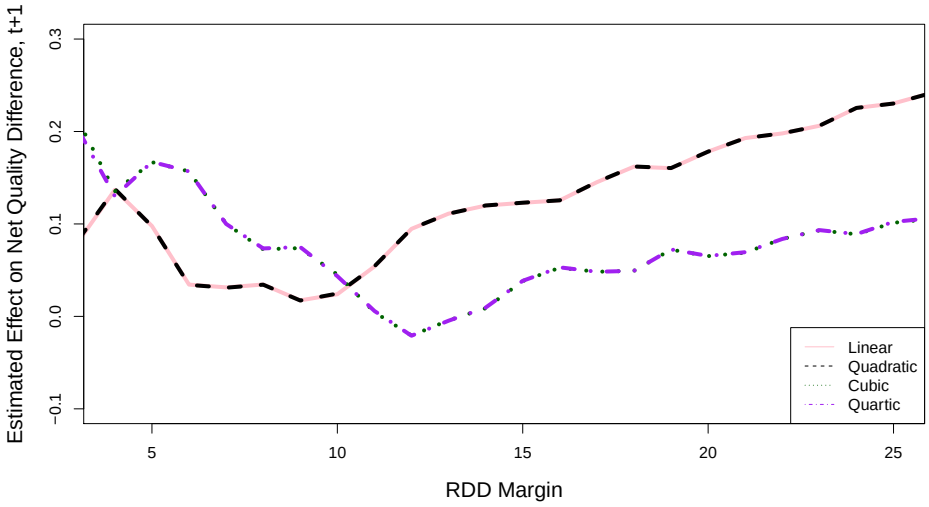


Figure A3: Robustness of RD Estimate, State Senates. The four lines in the plot represent the RD estimate from Equation 1 using a linear, quadratic, cubic, and quartic specification of the running variable, respectively, across bandwidths.



A.4 Balance Tests for RD

The key identifying assumption of the RD design is that candidates at time t cannot "sort" across the discontinuity. This assumption is plausible on substantive grounds because it is almost impossible to predict close elections (making it exceedingly unlikely that candidates could identify when they are in a close election and then differentially exert effort to produce sorting). In this section, we offer supportive evidence for the validity of the RD, following best practices (e.g., Caughey and Sekhon 2011; Eggers et al. 2013).

First, in Table A1 we present balance tests at the exact bandwidth and specifications of the results reported in the paper (5% bandwidth, local linear estimated separately on each side of the equation). The equation to be estimated is

$$Y_{i,t} = \beta\, Democ\ Win_{it} + f(Democ\ Vote\ Pct_{it}) + \epsilon_{it}, \tag{2}$$

which is identical to Equation 1 in the body of the paper, except that the outcome is the already-realized quality of the candidates in the close election at time t. For simplicity, we focus on the net quality differential for the tests below.

Table A3 – Balance Tests for RDD

	U.S. House	Statewide Offices	State Senates
Dem Win at t	0.06	0.05	0.04
	(0.08)	(0.10)	(0.06)
# Observations	1176	674	1510

As we see in Table A1, there is no evidence of imbalances in the net quality differential at time t. That is to say, the net quality differential at time t in elections in which the Democrat barely wins does not appear to differ from the net quality differential in close elections at time t in which the Democrat barely loses. This supports the notion that candidates are not sorting across the discontinuity.

In addition to Table 1, we also present figures showing the balance tests across bandwidths for the three electoral contexts. In each figure, Equation 2 is reestimated at the indicated bandwidths, always using the local linear regression estimated separately on each side of the discontinuity. The graphs plot the resulting estimates across bandwidths, along with 95% confidence intervals from robust standard errors. As can be seen, there is no evidence of sorting in any of the three contexts. In the U.S. House graph, there is a range in which the estimate is positive and statistically significant, but it is well outside the bandwidths reported in the paper and, tellingly, disappears as more data is added (as the bandwidth increases). Note that no standard errors are adjusted for multiple testing, so we would expect to reject the null occasionally (like in that region) by chance.

Figure A4: RDD Balance at Time t: U.S. House. Equation 2 is reestimated at the indicated bandwidths, always using the local linear regression estimated separately on each side of the discontinuity. The graph plots the resulting estimates across bandwidths, along with 95% confidence intervals from robust standard errors.

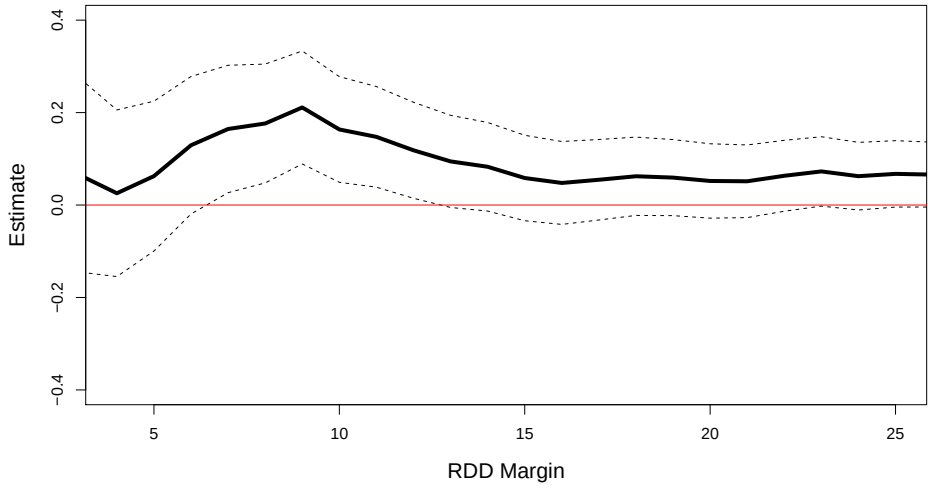


Figure A5: RDD Balance at Time t: Statewide Offices. Equation 2 is reestimated at the indicated bandwidths, always using the local linear regression estimated separately on each side of the discontinuity. The graph plots the resulting estimates across bandwidths, along with 95% confidence intervals from robust standard errors.

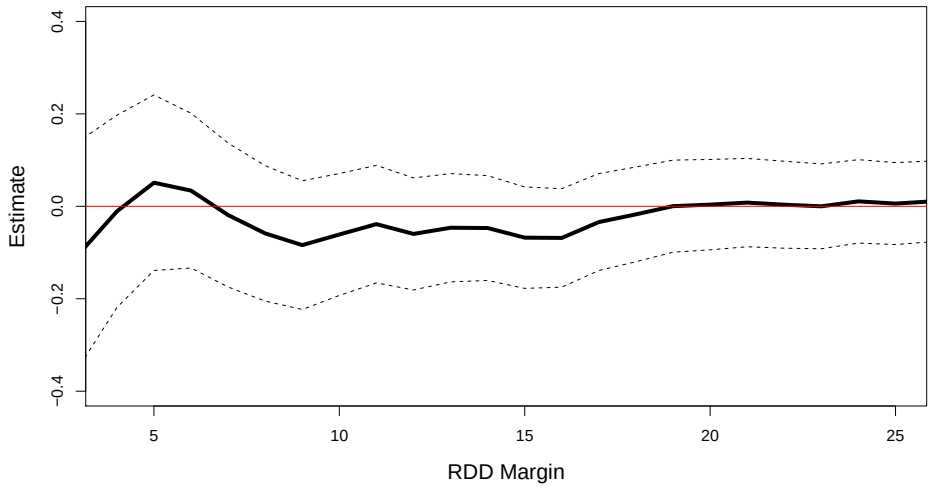


Figure A6: RDD Balance at Time t: State Senates. Equation 2 is reestimated at the indicated bandwidths, always using the local linear regression estimated separately on each side of the discontinuity. The graph plots the resulting estimates across bandwidths, along with 95% confidence intervals from robust standard errors.