WHY REGRESSION DISCONTINUITY DESIGNS HAVE OFTEN UNDERESTIMATED THE INCUMBENCY ADVANTAGE EFFECT

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ABSTRACT. The incumbency advantage, the electoral benefit from holding office, is widely estimated using regression discontinuity designs (RDDs). Existing estimates pool first-term and multiple-term incumbents. We show that this pooling attenuates RDD estimates when candidate characteristics contain persistent shocks, such as quality: a multiple-term incumbent who barely wins has already revealed low quality, fully absorbing the incumbency premium. Using U.S. House (1942-2008) and Portuguese municipal elections (1976-2025), estimates for one-term incumbents are 13.5 and 13.9 percentage points versus 7.8 and 3.6 pp for multiple-term incumbents. Standard pooled RDD estimates understate the incumbency advantage from first-time officeholding by 20–30 percent.

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1. Introduction

There is a broad consensus among social scientists that in many countries, incumbents have electoral advantages (and challengers have disadvantages). Well-known explanations for incumbency advantages include greater visibility than their opponents (Bräuninger et al., 2024), more experience and quality (Ashworth and Bueno de Mesquita, 2008; Eggers, 2017), and better opportunities to secure financial support (Fouirnaies and Hall, 2014). A first indication of incumbency advantages is incumbents' electoral success. For example, re-election rates exceed 90% for US House members and 80% for Portuguese mayors, and both have remained relatively stable over time.

The term incumbency advantage refers to the electoral benefit from being the incumbent. Estimating its size is difficult because of selection effects (Caughey and Sekhon, 2011). For instance, citizens might have voted for a candidate because of her favorable characteristics. If those characteristics are persistent over time, we expect incumbents to be successful in future elections as well.

Since Lee et al. (2004), the regression discontinuity designs (RDDs) have become the standard tool for estimating the incumbency advantage in elections. Google Scholar presents more than a hundred studies using an RDD for estimating this effect. To mention a few examples, RDDs are used to estimate the sizes of incumbency advantages in Germany (Freier, 2015), Ireland (Jankowski and Müller, 2021), and Portugal (Lopes da Fonseca, 2017). Most recently, Dano et al. (2025) employs RDDs to investigate coordination among parties on candidates in France.

RDDs are particularly attractive in two-candidate elections where the winner becomes the incumbent. In those elections, the 50% vote share is a natural threshold. The general idea behind an RDD is that if election outcomes are somewhat uncertain, whether the incumbent or the challenger wins a (very) close election is like flipping a coin. To see how an RDD works, consider a society with many electoral districts in which elections are regularly held between two candidates. Let $V_{i,t}$ denote the vote share of candidate i in election t. $V_{i,t+1}$ is the outcome variable. The treatment variable, $T_{i,t}$ is a dummy equal to one if i won the election, $V_{i,t} > \frac{1}{2}$, and zero if she lost it, $V_{i,t} < \frac{1}{2}$. The following equation is often estimated to determine the incumbency

advantage effect in terms of a candidate's vote share:

$$V_{i,t+1} = \gamma_0 + \beta T_{i,t} + \gamma_1 \left(V_{i,t} - \frac{1}{2} \right) + \gamma_2 T_{i,t} \left(V_{i,t} - \frac{1}{2} \right) + \epsilon_{i,t+1}. \tag{1}$$

Equation (1) means that we estimate two local regressions, one to the left of $V_{i,t} = \frac{1}{2}$ and one to the right of $V_{i,t} = \frac{1}{2}$. The coefficient β corresponds to the difference between the intercepts of the local regressions. It is supposed to give the *local causal* impact of winning the election of i in election t on i's vote share in election $t+1$.

In applications where officeholders do not face a term limit of a maximum of two terms, studies use data on officeholders who have served different numbers of terms. Thus, in some elections, officeholders served one term; in others, officeholders served multiple terms. By analyzing a simple voter model, this paper points out that if (1) is used to estimate the incumbency advantage effect, elections in which officeholders have served more than two terms should not be used.

The following example illustrates the main intuition of our point. Suppose the incumbency advantage is a 10 percentage points (pp) increase in vote share and is stable over time. This means that a candidate who barely won her first election is expected to have a 60% vote share in her second election. Estimating (1) yields this effect. Now, consider an incumbent who also barely won her *second* election with a narrow margin, say she receives a vote share of 50.1%. Notice that this is a low outcome. The incumbent benefited from the incumbency advantage effect after all. Suppose that this low outcome results from voters having learned from the incumbent's performance that she is of low quality. Finally, suppose this candidate participates in her third election and that her quality remains stable over time. Then, her expected vote share in her third election equals 50.1%. In (1), this would count as an incumbency advantage of approximately zero. It is zero because the incumbency advantage in the third election is already baked into the second one. Therefore, this observation should not be included in an RDD.

We formalise this argument with a simple spatial voting model and test its prediction using data from two institutional settings: U.S. House elections (1942-2008, using the dataset of Caughey and Sekhon, 2011) and Portuguese municipal elections (1976-2025). We estimate (1) for all incumbents, and separately for one-term and multiple-term incumbents. In both countries, the one-term estimate is approximately

13.5-13.9 percentage points, while the pooled estimate is 9.4-11.4 pp, a 20-30% understatement of the causal return to first-time officeholding. For multiple-term incumbents, the estimated advantage shrinks to 7.8 pp in the U.S. and is an insignificant 3.6 pp in Portugal. These findings are consistent with our model and imply that standard pooled RDD estimates, including all incumbents running for reelection, lead to an understatement of the true incumbency advantage.

2. THE MODEL

We present a simple model of voter behavior to illustrate how an RDD should be used to estimate the incumbency advantage effect when voters learn about incumbents' characteristics. To increase readability, we use the incumbent's quality as the characteristic. However, any *permanent* characteristic would work (for instance, honesty, corruptness). To make the main point of the paper in the simplest way, we ignore transient shocks.

The model describes a sequence of three elections, $t \in \{1,2,3\}$. In each election, two candidates, L_t and R_t, $I_t \in \{L_t, R_t\}$, compete for the position of mayor.[1] L_1 and R_1 have never been mayors. Each voter i cares about her mayor's quality, θ_{I_t}.[2] A candidate's quality is drawn from a continuous distribution function $f(\theta_{I_t})$. We denote by θ^e the expected quality of a candidate. We make three assumptions. First, $f(\theta_{I_t})$ does not depend on a candidate's ideology, municipality, or on other candidates' qualities. Second, a candidate's quality does not change over time. So, if a candidate runs for office in election t and in election $t+1$, $\theta_{I_t} = \theta_{I_{t+1}}$. Third, a candidate's quality is unknown until she has been in office. *After* I_t has been been mayor, all voters observe θ_{I_t}.

Voter i also cares about how much the mayor's ideology (or bliss point), $P_I = P_{I_t} = P_{I_{t+1}}$, deviates from his own ideology (or bliss point), P_i. We assume that voters' bliss points are uniformly distributed on an interval with length $2h$: $[p_m - h, p_m + h]$ where p_m denotes the median voter's bliss point. To keep the model as simple as possible, we assume that candidates across municipalities are very similar with respect to ideology. The candidates' ideologies are entirely determined by the party

[1] We phrase the model in terms of municipal elections, in which candidates compete for the mayor position. The model can be readily adapted to other settings in which two candidates compete for a single position. To reduce notation, we do not use a subscript that indicates a specific municipality.

[2] In Ashworth and Bueno de Mesquita (2008) and Eggers (2017), quality is the source of the incumbency advantage. In our model, quality exists besides incumbency advantages.

they represent, with $P_L < P_R$. Thus, P_L and P_R do not vary across municipalities or over time. The position of the median voter of a municipality is stable over time. However, p_m may vary across municipalities.

To incorporate the incumbency advantage into the model, we assume that voters benefit from an experienced mayor. We denote by IA_{I_t} the additional utility voters receive from a mayor who was in office before the election.[3] Following most empirical studies on incumbency advantage effects, we assume that $IA_{I_2} = IA_{I_3} > 0$ and that the incumbency advantage effect is the same across municipalities. As L_1 and R_I have no experience, $IA_{I_1} = 0$. Citizen i's preferences are represented by the utility function:

$$u_{i,t} = \theta_{I_t} - \alpha|P_i - P_I| + IA_{I_t}, \tag{2}$$

where α is the weight voters attribute to ideology relative to the mayor's quality and experience.

The first term on the right-hand side of (2) shows that voters care about the mayor's quality. The second term captures voters' preferences for candidates' ideologies. The median voter of a municipality plays an essential role in our model. First, her vote determines the election outcome. Second, the median voter determines the threshold in the regression-discontinuity model. When the median voter is almost indifferent between the two candidates, one of them wins the election by a narrow margin. The last term of (2) represents the incumbency advantage effect.

The crucial features of the model are that voters learn a mayor's quality *after* she has won her first election and that a mayor's quality is persistent. These features cause that a mayor's quality affects the outcomes of future elections. Note that voters receive information only about the incumbent. As a result, a challenger victory does not reveal information relevant to voters.

We assume that all voters vote. Each i votes for the candidate who yields the highest expected utility. We initially assume that all incumbents compete in the next election. As we will show later, this assumption is not innocuous. The following section analyzes three types of elections. In the first, two *new* candidates compete. In the second election, one incumbent who served *one term* competes with a new

[3]Experience is only one possible cause of the incumbency advantage effect. For the purpose of this paper, the cause of the incumbency advantage effect is not relevant.

candidate, and in the third, one incumbent who served *two terms* competes with a new candidate.

3. Analysis of the Model

3.1. **Voter Behavior When Two New Candidates Compete for Office.** In the $t = 1$ elections, two new candidates compete for office. By assumption, voters do not observe differences between the candidates' qualities, $E(\theta_{L_1}) = E(\theta_{R_1}) = \theta^e$. Moreover, an incumbency advantage does not exist by definition. Hence, voting solely depends on how voters evaluate candidates' ideologies. Citizen i votes for L if

$$(P_i - P_L) < (P_R - P_i) \Leftrightarrow P_i < \frac{P_L + P_R}{2}. \tag{3}$$

Candidate L_1 wins election $t = 1$ if (3) holds for the median voter. The share of the electorate voting in election 1 for L_1, σ_{L_t} for $t = 1$, equals

$$\begin{aligned} \sigma_{L_1} &= \frac{1}{2h} \int_{p_m - h}^{\frac{1}{2}(P_L + P_R)} dP_i \\ &= \frac{1}{2} + \frac{\frac{1}{2}(P_R + P_L) - p_m}{2h}. \end{aligned} \tag{4}$$

Equation (4) shows that the $t = 1$ election outcome is solely determined by the position of the median voter. For example, if the median voter leans to the left, $p_m < \frac{1}{2}(P_L + P_R)$, L_1 wins the election. For municipalities where $p_m \simeq \frac{1}{2}(P_L + P_R)$, the $t = 1$ elections are close.

3.2. **Elections Where L_2 Served One Term and R_2 is New.** Now consider election $t = 2$, in which the winner of election $t = 1$ competes against a new candidate. Suppose that the experienced candidate is $L_2 = L_1$. So, voters observe θ_{L_2}. Citizen i votes for L if

$$\begin{aligned} &\theta_{L_2} - \alpha(P_i - P_L) + IA_{L_2} > \theta^e - \alpha(P_R - P_i) \Leftrightarrow \\ &P_i < \frac{P_L + P_R}{2} + \frac{(\theta_{L_2} - \theta^e)}{2\alpha} + \frac{IA_{L_2}}{2\alpha}. \end{aligned} \tag{5}$$

The incumbent L_2 wins the election if (5) holds for $i = m$. The share of voters that votes for L_2 equals:[4]

$$\sigma_{L_2} = \frac{1}{2} + \frac{\frac{1}{2}(P_R + P_L) + \frac{1}{2\alpha}(\theta_{L_2} - \theta^e) + \frac{1}{2\alpha} IA_{L_2} - p_m}{2h}. \tag{6}$$

An RDD focuses on close elections in $t = 1$, $p_m \simeq \frac{1}{2}(P_L + P_R)$. For these municipalities, the difference between the vote share of L_2 in the first and second election is

$$\frac{1}{4h\alpha}(\theta_{L_2} - \theta^e) + \frac{1}{4h\alpha} IA_{L,1}. \tag{7}$$

The $\frac{1}{4h\alpha} IA_{L_1}$ term represents the incumbency advantage effect. Empirical studies on the incumbency advantage effect try to estimate this term. The $\frac{1}{4h\alpha}(\theta_{L_2} - \theta^e)$ term can be positive or negative, depending on the incumbent's quality. The average quality of the mayors who barely won the $t = 1$ election equals θ^e, as it is for all mayors who won election 1. Hence, under this assumption, by comparing (4) with (6), an RDD identifies the incumbency advantage term in (7).

Result 1. *Under the assumptions of the spatial voter model, an RDD that uses data on first-term incumbents and newcomers yields an unbiased estimate of the incumbency advantage effect.*

Note that the estimated incumbency advantage effect depends on how much voters benefit from an experienced mayor, IA_{L_2}, the importance of ideology relative to the importance of an experienced mayor, α, and the sensitivity of the incumbent's vote share, h.

We now return to the assumption that all incumbents go for reelection. One could imagine that especially low-quality incumbents choose not to participate in the next election. In that case, the expected quality of mayors who participate in elections $t = 2$ is higher than θ^e. Consequently, the first term in (7) is higher than zero. An RDD using first-term incumbents yields a too-high estimate of the incumbency advantage effect. Hence, the assumption that all incumbents go for reelection is not innocuous.

3.3. **Elections Where L_3 Served Two Terms and R_3 is New.** We now consider an election between a mayor who has served two terms and a new candidate. As above,

[4]To avoid corner solutions, we assume that h is sufficiently large.

suppose that $L_3 = L_2 = L_1$ is the experienced mayor. Citizen i votes for L_3 if

$$\theta_{L_3} - \alpha(P_i - P_L) + IA_{L_3} > \theta^e - \alpha(P_R - P_i) \Leftrightarrow$$
$$P_i < \frac{P_L + P_R}{2} + \frac{(\theta_{L_3} - \theta^e)}{2\alpha} + \frac{IA_{L_3}}{2\alpha}. \tag{8}$$

L_3 wins the election if (8) holds for $i = m$. The share of the electorate voting for L_3 equals

$$\sigma_{L_3} = \frac{1}{2} + \frac{\frac{1}{2}(P_R + P_L) + \frac{1}{2\alpha}(\theta_{L_3} - \theta^e) + \frac{1}{2\alpha}IA_{L_3} - p_m}{2h}. \tag{9}$$

We now show the main result of the model. A persistent effect on mayors' vote shares leads to a biased estimate of the incumbency advantage effect when including observations in which mayors served two (or more) terms. In our model, persistent effects result from θ_{L_t}.

The regression discontinuity model focuses on observations where L_3 has won the $t = 2$ election by a small margin. For the group of mayors who barely won the second election, we have that [see (6)]

$$\frac{1}{2}(P_R + P_L) + \frac{1}{2\alpha}(\theta_{L_2} - \theta^e) + \frac{1}{2\alpha}IA_{L_2} - p_m = 0. \tag{10}$$

As quality is a persistent characteristic, $\theta_{L_3} = \theta_{L_2}$ and $IA_{L_3} = IA_{L_2}$, it immediately follows that $\sigma_{L_3} = \frac{1}{2}$ for mayors who barely won the $t = 2$ election. Those mayors are, on average, of low quality. How low depends on IA_{L_2}. Hence, mayors who barely won the $t = 2$ elections also barely win (or lose) the $t = 3$ election despite the presence of an incumbency advantage effect. The intuition is clear. By looking at close elections in the presence of a stable incumbency advantage effect, this effect must be absorbed by other terms. As $\theta_{L_3} = \theta_{L_2}$, in the next election, θ_{L_3} still contains the incumbency advantage effect. Hence, an RDD does not reveal it.

Result 2. *Using data on multiple-term incumbents attenuates RDD estimates of incumbency-advantage effects.*

Finally, note that by comparing (4) with (9), an RDD identifies the incumbency advantage term in (7) provided that rerunning for election is independent of a candidate's quality. This RDD should use period t as a reference for the running variable and $t + 2$ for the outcome variable.

4. Empirical Evidence from U.S. House and Portuguese Municipal Elections

In this section, we test the model's central prediction that RDD estimates of the incumbency advantage are attenuated when one-term incumbents are pooled with multiple-term incumbents. We use data from two institutional settings with contrasting term-limit regimes: U.S. House elections, where no term limits apply, and Portuguese municipal elections, where term limits were introduced in 2005 and became binding in 2013. In both settings, we estimate a sharp RDD centered at the candidate's margin of victory.[5]

4.1. **Data and Institutional Setting.**

United States. We use the dataset of Caughey and Sekhon (2011), who extended and corrected Lee (2008)'s data on U.S. House general elections between 1942 and 2008.[6] The running variable is the Democratic margin of victory: the difference between the leading Democrat's vote share and the leading non-Democrat's vote share in election t. Races without a Democrat or with two Democrats among the top finishers are excluded. The outcome variable is the Democratic candidate's vote share in election $t+1$. The sample comprises 8,594 races in which the incumbent ran for reelection: 1,233 involving one-term incumbents and 7,361 involving incumbents who had served two or more terms (descriptive statistics are reported in Table 1 of the Supplemental Appendix).

Portugal. Our electoral data cover municipal elections held between 1976 and 2025 across Portugal's 308 municipalities and were obtained from the Portuguese Ministry of Internal Affairs (MAI, 2026). Data on demographic variables, used in placebo tests, were obtained from Statistics Portugal (INE, 2026). Voters cast their votes for party or independent closed lists in each municipality, and the head of the most-voted list for the Municipal Council becomes the mayor, who has a prominent role in the municipal executive.[7] The Portuguese parliament approved the introduction of mayoral

[5] In a two-candidate setting, this corresponds to estimating (1). However, multiple candidates often contest U.S. House districts, and virtually all Portuguese municipalities feature more than two party lists. Therefore, as done in most incumbency advantage studies, the running variable is defined as the margin of victory against the strongest opponent, rather than the margin relative to a 50% threshold.

[6] See Caughey and Sekhon (2011) for full details on sample construction and variable definitions.

[7] Local elections were held on the same day in all municipalities, every three years from 1976 to 1985, and every four years since then. For additional information on the Portuguese municipal setting, see Lopes da Fonseca (2017) and Veiga et al. (2025).

term limits in 2005, but they only became binding at the 2013 election, when 160 incumbent mayors who had served three consecutive terms (or more) in a municipality were barred from seeking reelection. The Portuguese municipal dataset spans both the unconstrained and constrained regimes (the last four municipal elections). The running variable is the Socialist Party's (PS) margin of victory over the leading non-PS party or independent citizens list in election t. The outcome variable is the PS's vote share in election $t+1$.[8] The sample is restricted to races in which the incumbent sought reelection, yielding 2,783 observations: 1,317 with one-term incumbents and 1,466 with multiple-term incumbents (Table 2 of the Supplemental Appendix reports the descriptive statistics).

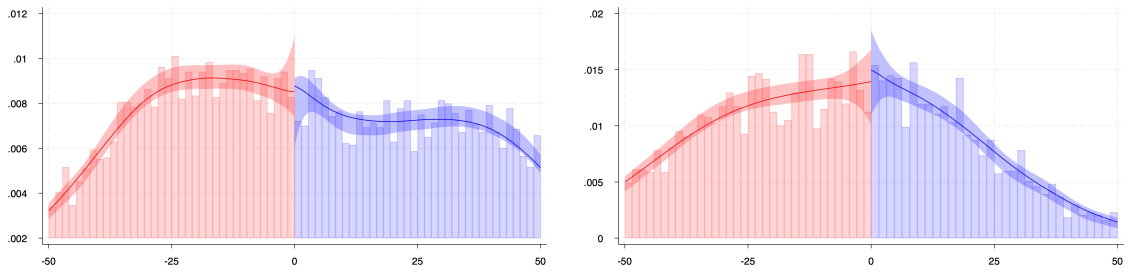
For both countries, we estimate local linear sharp RDDs using the `rdrobust` package (Calonico et al., 2014; Cattaneo et al., 2020) with a cutoff of zero for the running variable (the % win margin), a polynomial of order one, a triangular kernel, and MSE-optimal bandwidth selection. All standard errors are robust and bias-corrected.

A useful attribute of the RDDs applied to the U.S. House and Portuguese municipal elections is that they capture close elections across a wide range of underlying vote shares. For win margins within two percentage points of the cutoff, the vote share for the leading democratic candidate in U.S. House elections ranges from 32.5% to 50.9%, and the Socialist Party (PS) vote share in Portuguese municipal elections ranges from 25.2% to 49.2% (see Figure 1 of the Supplemental Appendix). Thus, in both settings, the RDD treatment effect is representative of a heterogeneous constellation of political circumstances, rather than being specific to a single preference point. According to Meyersson (2014), the heterogeneity in vote shares in close elections has the additional benefit of allowing a core assumption of the RDD, that voter preferences are continuous over the threshold, to be explicitly tested.

4.2. **Validity of the RDD.** The key identifying assumption of the RDD is that candidates cannot precisely manipulate their margin of victory, so that narrow winners and narrow losers are similar in all pre-determined characteristics. We assess this assumption by applying the McCrary (2008) test to the distribution of the running variable in each country. A significant discontinuity in the density at zero would

[8] PS has occasionally formed electoral coalitions with smaller parties in specific municipalities. In those cases, we use the vote share obtained by the PS-led coalition.

indicate sorting around the cutoff and would undermine the local-randomization interpretation of the estimates.



(A) U.S. House (B) Portuguese Municipalities

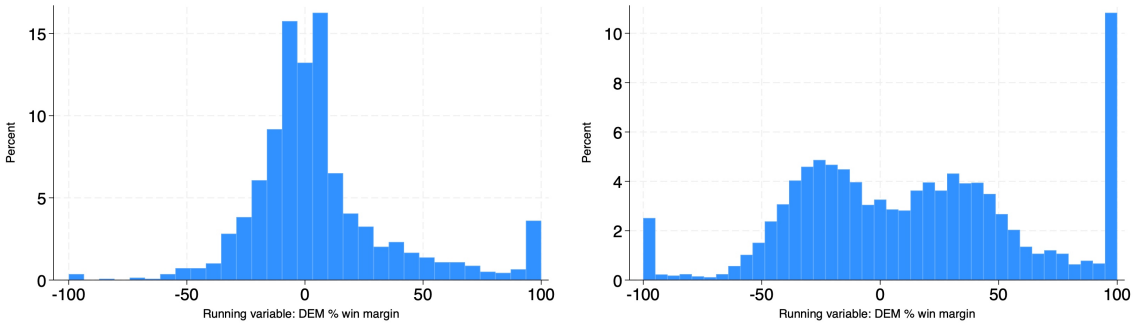
FIGURE 1. McCrary Density Test. Density of the running variable (%win margin) around the cutoff, with 95% confidence bands.

Figure 1 plots the estimated density of the running variable together with 95% confidence bands on each side of the cutoff. In both the U.S. and Portugal, the confidence bands overlap at zero and the point estimate does not jump discontinuously, providing no evidence of sorting around the threshold. Formal McCrary (2008) density tests yield no statistically significant discontinuity at the cutoff in either country (U.S.: robust $T = -1.31$, $p = 0.190$; Portugal: robust $T = 0.491$, $p = 0.624$), supporting the local-randomization assumption underlying the RDD.

Figure 2 displays histograms of the running variable separately for one-term and multiple-term incumbents. One-term races are concentrated near the cutoff, reflecting the competitive uncertainty that the model predicts for first-term reelection bids. Multiple-term races are more bimodal, with mass concentrated away from the cutoff. This pattern is itself consistent with the model: strong incumbents who repeatedly win by comfortable margins rarely face close elections, so identifying variation for multiple-term races is limited and drawn from a restricted sample.

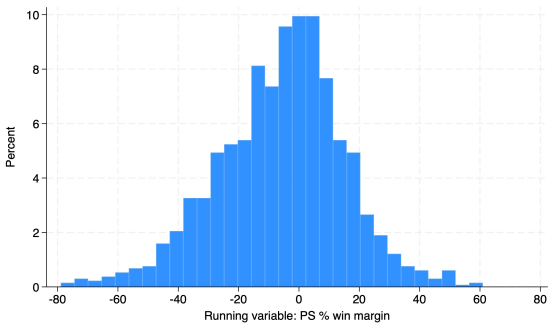
4.3. **Main Results.** Figure 3 shows RDD plots for the pooled sample. In both countries, barely winning in election t produces a visible jump in vote share in election $t + 1$, confirming a positive incumbency advantage in the full sample.

Figure 4 splits the sample by tenure. The discontinuity at the cutoff is substantially larger for one-term incumbents and noticeably smaller (nearly absent in Portugal) for multiple-term incumbents. This gradient in the estimated advantage across tenure groups is the central empirical pattern predicted by the model.

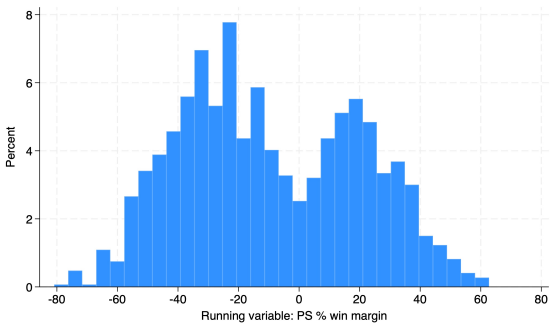


(A) U.S.: One-term incumbents

(B) U.S.: Multiple-term incumbents

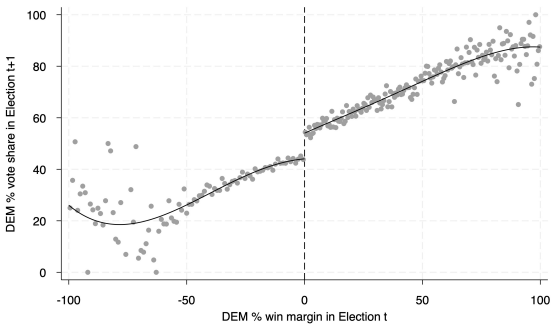


(C) Portugal: One-term incumbents

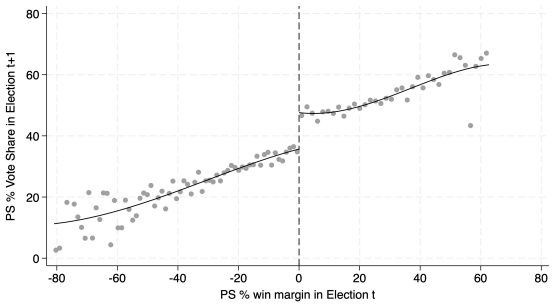


(D) Portugal: Multiple-term incumbents

FIGURE 2. Histograms of the running variable by incumbent tenure



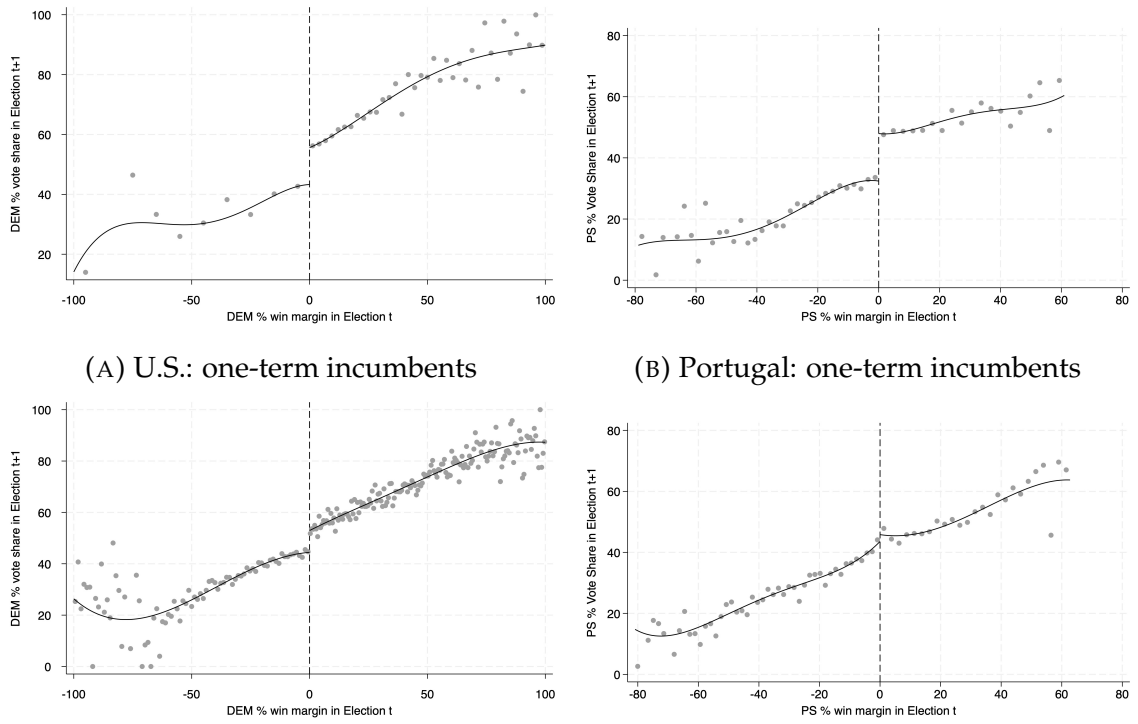
(A) U.S. House



(B) Portuguese Municipalities

FIGURE 3. RDD plots for the full sample (all incumbents)

Table 1 reports the RDD estimates. In the pooled sample, the estimated incumbency advantage is 9.4 pp in the U.S. and 11.4 pp in Portugal, consistent with prior literature. Restricting to one-term incumbents raises the estimated advantage substantially: 13.5 pp in the U.S. and 13.9 pp in Portugal. For multiple-term incumbents, estimates are markedly lower: 7.8 pp in the U.S. and 3.6 pp in Portugal (not statistically significant, *p-value*=0.110). The contrast between one-term and multiple-term estimates is consistent across two countries with very different institutional backgrounds, lending cross-national support to the model's mechanism.



(A) U.S.: one-term incumbents (B) Portugal: one-term incumbents

(C) U.S.: multiple-term incumbents (D) Portugal: multiple-term incumbents

FIGURE 4. RDD plots by incumbent tenure

TABLE 1. RDD Estimates of the Incumbency Advantage Effect on the Vote Share

	U.S. House (1942-2008)			Portuguese Municipalities (1976-2025)		
	All incumbents	One-term incumbents	Multiple-term incumbents	All incumbents	One-term incumbents	Multiple-term incumbents
RDD Estimate	9.389***	13.494***	7.750***	11.380***	13.850***	3.626
	(0.970)	(2.621)	(1.071)	(1.622)	(1.994)	(2.640)
Robust p-value	0.000	0.000	0.000	0.000	0.000	0.110
Observations	8,594	1,233	7,361	2,783	1,317	1,466
Bandwidth	20.78	12.74	22.38	19.34	17.23	13.99

Note: Each column reports the coefficient from a local linear regression estimated using the `rdrobust` package with a triangular kernel, polynomial of order 1, and MSE-optimal bandwidth. Robust bias-corrected standard errors adjusted for clusters (by district and decade in the U.S., and by municipality in Portugal) are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively. Columns 1-3 report results for the leading Democratic candidate's vote share in U.S. House elections. Columns 4-6 report results for the Socialist Party's vote share in Portuguese municipal elections. The sample includes only races in which the incumbent sought reelection.

4.4. **Robustness checks.** A battery of robustness checks, reported in the Supplemental Appendix, confirms these results. First, we re-estimated the three main specifications at nine evenly spaced bandwidths from 2.5 to 22.5 percentage points, as well as

at two alternative optimal bandwidths: the Coverage Error Rate (CER) and the CER for the sum of regression estimates. Second, the specifications were re-estimated for polynomials of order zero to five. The results for both countries are stable across alternative bandwidths and polynomial orders (see Tables 3-6 of the Supplemental Appendix).

Third, predetermined-outcome placebo tests were implemented (see Tables 7-9 of the Supplemental Appendix). Most of these tests generated statistically insignificant treatment effects, as expected. The only exception is the lagged vote share, which was statistically significant for multiple-termed incumbents in U.S. House elections, indicating a residual discontinuity in pre-treatment electoral strength for that subgroup. This occurs because many U.S. House members held very long tenures, often spanning 10 or more consecutive two-year terms, implying that a close victory in a later election may be associated with higher vote margins in earlier elections. This result provides an additional reason for excluding multiple-term incumbents in RDD estimations of incumbency advantage.

Fourth, as an additional falsification check, we conducted a donut-RDD sensitivity analysis, removing observations immediately around the cutoff (within 0.5 or 1.0 pp) to create a "hole" or "donut", in order to test the robustness of the causal estimates to potential data manipulation, sorting, or heaping. Donut-RDD estimates are very close to the baseline estimates in both countries (see Table 10 in the Supplemental Appendix). Finally, election-year dummy variables were added as covariates to the baseline RDD model to control for potential election fixed effects. The results for both countries (see Table 11 in the Supplemental Appendix) are again very similar to those reported in Table 1, further demonstrating their robustness.

5. The Magnitude and Scope of the Attenuation Bias

Our analysis shows that including multiple-term incumbents in an RDD biases estimated incumbency effects downwards. We now discuss the magnitude of this attenuation in our applications, its bounds, and in which settings researchers should be most concerned.

For the U.S. House of Representatives, the full sample estimate of the incumbency advantage (9.4 pp) is 4.1 pp below the one-term estimate (13.5 pp), a 30% understatement of the causal effect of first-time incumbency. For Portugal, the difference is 2.5

pp (11.4 pp in the full sample versus 13.9 pp for one-term incumbents), an understatement of 18%. Although pooled estimates have the correct sign in both cases, the underestimation is econometrically meaningful.

Two features of our institutional settings limit the attenuation. Firstly, the incumbency advantage itself is large, so multiple-term incumbents typically win by comfortable margins. Few of them face close elections, and those that do receive low weight under MSE-optimal bandwidth selection. Figure 2 illustrates this: the density in the running variable declines sharply near the cutoff for multiple-term incumbents in both countries. Secondly, Portugal's binding term limits cap the number of consecutive terms at a maximum of three in the last four elections (since 2013), thereby reducing the share of races with multiple-term incumbents (53% in the full sample).

The United States imposes no term limits for House members, and 86% of races in our sample (7,361 out of 8,594) involve multiple-term incumbents. However, the large incumbency advantage keeps most multiple-term incumbents well above the 50% cutoff, partially attenuating the bias in pooled estimates. Prior estimates for the U.S. House incumbency-advantage in the literature, typically around 8-10 pp (Lee, 2008; Caughey and Sekhon, 2011), should be interpreted as a weighted average of a large first-term effect and a smaller multi-term effect. Our one-term estimate of 13.5 pp provides a closer measure of the causal incumbency effect.

We expect the attenuation to be most pronounced in settings where: (i) the incumbency advantage is small, increasing the frequency and weight of close races among multiple-term incumbents ; (ii) term limits are absent or allow many terms, increasing the share of multiple-term races; and (iii) persistent shocks to incumbent popularity (such as quality revelation, accumulated policy records, or durable local ties) are large relative to transient shocks.

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