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INCUMBENCY ADVANTAGE THROUGH  
AN ELECTORAL REFORM**

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# Identifying the Source of Incumbency Advantage through an Electoral Reform

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## Abstract

This study relies on a constitutional reform introducing term limits at the local elections level in Portugal as a natural experiment to estimate incumbency advantage in mayoral elections. It stresses the distinction between partisan and personal incumbency advantage using data on six local elections in 278 homogenous municipalities from 1993 to 2013. The analysis is based on two quasi-experimental methods, the RD and diff-in-disc designs, that allow for credible inference upon the source and magnitude of the incumbency advantage. Main contributions include one of the first estimates of partisan incumbency advantage in the literature and the use of a novel method in its estimation. Results show that whilst the returns to incumbency accruing to the candidate are positive and significant, there is no evidence of a significant partisan incumbency advantage. In addition, robustness test point to a potential role of term limits in causing political turnover.

**Keywords:** incumbency advantage; local politics; electoral reform

**JEL codes:** D70, D72, D78

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# 1 Introduction

The existence of an incumbency advantage causes interest throughout. Whilst it may simply convey an electorate's satisfaction with the elected representative, it can also pose a threat to equality of opportunities jeopardizing the competitiveness of electoral races and eventually political accountability (Carson et al., 2007). Thus the vast research dedicated to this phenomenon. However, for long scholarly attempts to credibly estimate the causal impact of incumbency status on electoral success ran into issues of selection on observables and endogeneity.

Recently, the paper by Lee (2008) relying on a Regression Discontinuity Design (RDD) served as a stepping stone for the literature on the topic. The methodological breakthrough came however, at the expense of an abstraction from the concept of incumbency advantage as defined in the previously established literature. In fact, following the seminal paper by Erikson (1971) several studies offer a variety of reasons that may justify the existence of positive returns to incumbency, from performing constituency service to attested candidate quality. All having in common one aspect: the emphasis put on the candidate. Lee (2008) on the other hand, focuses on the parties thereby trying to capture a partisan incumbency advantage. Yet, by ignoring the incumbency status of the candidate the provided framework fails to credibly separate partisan from personal incumbency advantage

There are reasons to focus on the candidates though. Only they are able to fulfill or frustrate voters' expectations and thereby foster a positive or negative return to their incumbency status. Also, as a branch of the literature suggests, incumbency may work rather as a voting cue as voters increasingly identify themselves stronger with candidates rather than parties. In addition, only putting the emphasis on the candidate can explain the successful re-election of candidates who 'cross the floor'.<sup>1</sup> These can be found even

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<sup>1</sup> This term originates from the British House of Commons where an MP would have to literally cross the floor in order to join the opposition. The term has two different interpretations. First, it can refer

in the setting at the genesis of the incumbency advantage literature: the U.S. House of Representatives.<sup>2</sup> As such, this paper brings the focus back to the candidate rather than the party by providing conclusive evidence that incumbency advantage hinges on the former and offering one of the first credible estimates of partisan incumbency advantage.<sup>3</sup>

For the purpose, the identification strategy is based on two quasi-experimental methods, the RD and the Difference-in-Discontinuity (diff-in-disc) designs (Grembi et al., 2012), and on a natural experiment, the introduction of mayoral term limits in Portugal in 2013. In Portugal, mayoral elections correspond to the proportional elections for the local council, the municipality's executive organ, with the first name on the winning list becoming the mayor. Since candidates are generally representing a party, there is a need to dissociate the two in order to assess their independent returns to incumbency, an aspect overlooked in Lee (2008). A particular feature of the electoral reform is that term limits only apply to mayors in office for the past three consecutive terms. Hence the exogenous heterogeneity in treatment can and will be used to identify the causal effect of breaking the link between party and candidate.

Personal incumbency advantage is identified relying on a RD design with variables structured at the candidate level as in Uppal (2009). Partisan incumbency advantage in turn, is identified relying on a diff-in-disc design, an extension of the RD design that combines a difference-in-difference methodology. While the RDD aspect of the methodology captures the exogenous variation coming from the focus on close elections, the diff-in-disc side captures the exogenous variation introduced by the fact that only around half the

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to voting against party lines. Second, and of relevance in this context, it may refer to switching parties altogether.

<sup>2</sup>Recent examples include: Philip Gramm, a Texas Congressman, who resigned his seat in the House as a Democrat in 1983 and was re-elected as a Republican a month later; Rodney Alexander, who first won his seat as a Democrat in 2002 and later as a Republican in the following five elections; Virgil Goode, a member of the House from 1979 to 2009, serving as a Democrat until 2000 and as a Republican thereafter.

<sup>3</sup>The paper hence follows a relatively new branch of the literature that acknowledges the shortcomings in Lee (2008) and attempts to causally estimate personal and/or partisan incumbency advantage (Erikson and Titiunik, 2014; Fowler and Hall, 2012).

municipalities had binding term limits, i. e. received treatment. Results support the early focus on the candidate as the driver of incumbency advantage. In fact, partisan incumbency appears to have no significant effect on electoral success.

## 2 Institutional Details

### 2.1 Political Framework

The underlying institutional setting encompasses the 278 municipalities in continental Portugal for increased comparability.<sup>4,5</sup> All municipalities have two local political institutions: the municipal council and the municipal assembly. The former and subject of the analysis is the collegial executive organ accountable to the assembly, the legislative organ with decision-making power. It is composed by the mayor and other four to ten councilmen depending on the municipality's population size.<sup>6</sup> With regards to electoral proceedings and term responsibilities, the mayor may be regarded as a local Prime-Minister and the municipal council as a small parliament. Elections occur simultaneously countrywide every four years. A Proportional Representation system of closed lists is in place with seats being distributed according to the D'Hont Method.<sup>7</sup> The first name on the winning list becomes the mayor.

Local politics are dominated by the four largest national parties that generally run a list in every municipality. From left to right in the political spectrum these are the Communist Party (PCP), the center-left Socialist Party (PS), the center-right Social-Democratic Party (PSD) and the Christian-Democrats (CDS). Winning on average over 100 munici-

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<sup>4</sup>Portugal is comprised of its continental area plus the Autonomous Regions of Azores and Madeira.

<sup>5</sup>In 1998 three new municipalities were created increasing the number of municipalities from 275 to 278.

<sup>6</sup>Two exceptions are the Oporto and Lisbon municipalities with 12 and 16 councilmen, respectively.

<sup>7</sup>As the winning list is responsible for all portfolios and their allocation the executive council may be regarded as majoritarian. It holds weekly meetings to vote on pending issues and manages the municipality on a day-to-day basis.

palties each, the two major parties, PS and PSD, are responsible for over two thirds of the municipal mayorships. Despite the high level of party discipline and centralization the municipal electoral campaigns are locally-oriented featuring the regional branches of the different political parties and led by the mayoral candidate himself.

## 2.2 Constitutional Reform

For decades there were no limits to the number of times local politicians could run for re-election. This changed on January 1st, 2006, upon the entry into force of the 49/2005 Law, dated from August 29th, 2005. The law establishes a three terms limit for incumbent mayors upon which they cannot rerun for the municipal council. It was introduced as means to void unconstrained overstay in office not unusual at the Portuguese local level and was first effective in the 2013 local elections. At the time the law was approved 113 municipalities would have a binding term limit in case the law would enter immediately into force in the 2005 elections. By the time of the 2013 elections, term limits were effective in 150 municipalities.

Re-election rates of parties and candidates are very high at the Portuguese local level rendering a particularly interesting setting to investigate the magnitude and source of incumbency advantage. Before 2013 parties were re-elected on average in 80% of the municipalities. On the other hand, the absence of term limits enabled a rerunning rate of mayoral candidates of over 80%, of which 85% were on average re-elected. In 2013, while only 75% of the municipalities re-elected the incumbent party, 83% out of 91% of the mayors who stood for re-election won.<sup>8</sup> In addition, there is little party loyalty with candidates often changing parties or running as independents with few consequences on

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<sup>8</sup>The incumbent mayor stood for re-election in 117 out of the 128 municipalities where the term limit was not binding, being successful in 97.

their electoral prospects. In fact, 26 municipalities have consecutively re-elected mayors upon their crossing the floor.

## 3 Methodology

### 3.1 Background

All early estimates of incumbency advantage simply oppose vote margins in open seats to vote margins in incumbent-contested seats (Ansolabehere and Snyder, 2004). Most rely on variations of two popular measures of incumbency advantage: the sophomore surge and the retirement slump (Erikson, 1971; Cover and Mayhew, 1977). Yet, these measures restrict the analysis to a small percentage of all electoral races. In addition, difficulties in defining control variables and overcoming the endogeneity inherent to incumbency and electoral success led to recurring selection and omitted variable biases.

New developments brought about more sophisticated methodologies. Challenger quality is explicitly or implicitly addressed following the paper by Jacobson (1978). Later, Gelman and King (1990) and Levitt and Wolfram (1997) control for the normal vote and partisan tides. And in Ansolabehere et al. (2000) and Ansolabehere and Snyder (2004) endogeneity concerns are first tackled using decennial redistricting as a natural experiment and an IV approach aimed at correcting for strategic retirement, respectively. Still, only recently the non-randomness of incumbency advantage was systematically addressed with Lee (2008) applying the RDD framework to the analysis. Under seemingly nonrestrictive assumptions incumbency status is assigned as if randomly allowing for an unbiased estimation of the effect. The paper served as a catalyst in the literature with RDD becoming the primary method in studying incumbency advantage and several authors employing a similar framework (Ferreira and Gyourko, 2009; Titunik, 2011; Freier, 2011).

These and similar studies are however, structured at the party-level ignoring the party nominee. Moreover, there are two sources of measurement error undermining the framework which go unaccounted for. First, not controlling for the incumbency status of the nominee introduces a bias as it undoubtedly has an impact on a party's vote share. Second, the fact that in a bi-partisan system as the U.S., either the Democrats or the Republicans enjoy the incumbency status. As incumbency is always working for one of the parties, the control group is inadequate ultimately resulting in an overestimation of the average treatment effect.<sup>9</sup>

### 3.2 Identification Strategy

Assessing incumbency advantage is a classical example of an attempt of causal estimation with missing data as in the context of a Rubin Causal Model with potential outcomes (Rubin, 1974; Holland, 1986). In an ideal setting one would compare the outcomes of having the same candidate simultaneously running as an incumbent and non-incumbent. In reality only one of these two outcomes is actually observable. Yet, the idea behind the RD design provides the means to overcome this difficulty through the focus on close elections. Characterized by a small vote margin, i. e. difference in vote share between the winner and his best opponent, close elections can be thought of as a mechanism simulating a randomized experiment with treatment and control group having the same baseline characteristics. Candidates with a positive vote margin run as incumbents in the next election whilst candidates with a negative vote margin are non-incumbents. The zero threshold splitting treatment and control group. In a neighborhood of this threshold, comprising bare winners and bare losers, all variables determined prior to the election are independent of the resulting incumbency status.<sup>10</sup> Under such circumstances, any

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<sup>9</sup>Erikson and Titiunik (2014) claim this results in double-counting incumbency advantage in bi-partisan systems.

<sup>10</sup>It is critical that individuals are not able to precisely influence their location around the threshold.



discontinuous jump in the vote share in the neighborhood of the threshold can be entirely attributed to the change in treatment assignment and interpreted as a causal effect of the treatment, i. e. incumbency.

The starting point of this analysis is to estimate incumbency advantage relying on a RD design in the spirit of Lee (2008), i. e. with variables structured at the party-level. Yet, unlike the U.S., in Portugal there are a myriad of parties, which poses a challenge in defining the variables at large.<sup>11</sup> The strategy employed attempts at taking into account regional heterogeneity and relevant political developments. As such, the 18 districts of Portugal are treated as 18 small countries. Upon assessing the strongest party within each district over the entire sample period the outcome and the running variables are constructed in accordance.<sup>12</sup> Whether a specific party is the incumbent at time  $t$  is the treatment denoted in the following by the dummy variable  $d_{i,t}$ . Underlying this dummy variable is the party's vote margin in the preceding election, the running variable  $v_{i,t-1}$ . Treatment deterministically depends on the value of the running variable as follows  $d_{i,t} = 1 [v_{i,t-1} > 0]$ . Inference is based on two estimation methods. First, a local linear regression restricting the sample in intervals  $v_{i,t-1} \in [-h, h]$  to estimate the model:

$$y_{i,t} = \gamma_0 + \gamma_1 v_{i,t-1} + \rho_0 d_{i,t} + \rho_1 d_{i,t} \cdot v_{i,t-1} + \epsilon_{i,t} \quad (1)$$

where  $y_{i,t}$  is the outcome variable and  $\rho_0$  is the average treatment effect with  $i$  and  $t$  indexing municipalities and election years, respectively. Following the literature, vote shares are the primary outcome variable.<sup>13</sup> For transparency, in addition to the use of the

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<sup>11</sup>Over 50 different parties and coalitions ran for local elections during the sample period.

<sup>12</sup>In practice, different regions have a different baseline party against which incumbency is measured.

<sup>13</sup>As a robustness test, a dummy variable indicating whether the party or candidate wins the election in time  $t$  serves as a second outcome variable. It measures the probability of winning conditional on the incumbency status.

optimal bandwidth  $h$  selected as in Imbens and Kalyanaraman (2012), two other intervals are considered:  $[-5, 5]$  and  $[-10, 10]$ .<sup>14</sup>

The second estimation method relies on a spline polynomial approximation of order  $p$  in  $v_{i,t-1}$  and the full sample.

$$y_{i,t} = \sum_{k=0}^p \gamma_k v_{i,t-1}^k + d_{i,t} \sum_{k=0}^p \rho_k v_{i,t-1}^k + \epsilon_{i,t} \quad (2)$$

The reliance on both estimation methods attempts to reinforce the robustness of the results and balance the usual tradeoff between precision and bias. Still, results must be interpreted with caution as observations move away from the zero threshold.

This exercise provides a benchmark against which the estimates for personal and partisan incumbency advantage can be compared. In estimating the former, the same framework is employed but with variables structured at the candidate level. However, as discussed in Uppal (2009) credibly estimating personal incumbency advantage poses further challenges. As rerunning decisions are systematically different between incumbents and non-incumbents the analysis is conditional on candidates rerunning for the election thereby preventing an overestimation of the effect's magnitude. However, conditioning on re-runners may introduce a selection bias if rerunning and non-rerunning losers are systematically different. Table 1 shows this is not the case for a number of politically relevant variables: the candidates' vote share in  $t - 1$ ; whether he is affiliated with one of the two major center-left or -right parties; whether he represents a coalition; and whether the candidate is male or female. As such, validity of the results ultimately hinges on whether treatment and control group are comparable around the threshold which is usually achieved under true randomization. This is tested for the above four pre-determined characteristics. As

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<sup>14</sup>Results are robust to the use of alternative bandwidth selectors proposed in the literature, namely in Ludwig and Miller (2007) and Calonico et al. (2014). Results are also robust for the interval  $[-2.5, 2.5]$  though with a loss in terms of significance due to the smaller sample size.

figure 1 shows there are no systematically significant differences between incumbents and non-incumbents for any of the analyzed variables.

In a second step the introduction of term limits is included in the analysis. As pointed out in Fowler and Hall (2012), partisan and personal incumbency are, often and non-randomly, jointly assigned. Term limits are a reliable instrument in disentangling the two by means of exogenously breaking the link between the incumbent party and its incumbent candidate. Only the former may rerun for the elections by nominating a different candidate, allegedly unknown to the electoral district. Such a setting is ideal to assess partisan incumbency advantage since it is possible to compare incumbent parties that rerun the elections by nominating the incumbent candidate with incumbent parties that rerun the elections but are restrained to do so by nominating a new candidate.

For the purpose, inference is based on an extended version of the RD design known as the diff-in-disc design (Grembi et al., 2012). This approach combines difference-in-difference and RDD methods. It estimates the difference in vote share between incumbent parties that barely won in municipalities with and without a binding term limit. This is only possible due to the heterogeneity in treatment resulting from only roughly half the municipalities being affected by the term limit, defining a treatment and control group. The diff-in-disc design is superior to the RDD as it captures a second source of variation and provides coefficient estimates that are not only robust to potentially omitted variables but also manipulation at the cutoff and co-treatment. As a result, it is possible to causally identify partisan incumbency advantage. Estimation methods are as before. First, a local linear regression relying on the same intervals and the following model:

$$y_{i,t} = \gamma_0 + \gamma_1 v_{i,t-1} + d_{i,t}(\rho_0 + \rho_1 v_{i,t-1}) + b_{i,t}[\alpha_0 + \alpha_1 v_{i,t-1} + d_{i,t}(\beta_0 + \beta_1 v_{i,t-1})] + \epsilon_{i,t} \quad (3)$$

where the additional treatment variable  $b_{i,t}$  indicates whether the term limit is binding and  $\beta_0$  is the disc-in-diff estimator and identifies the treatment effect of exogenously opening a seat. Second, a spline polynomial regression as the following.

$$y_{i,t} = \sum_{k=0}^p \gamma_k v_{i,t-1}^k + d_{i,t} \sum_{k=0}^p \rho_k v_{i,t-1}^k + b_{i,t} \left[ \sum_{k=0}^p \alpha_k v_{i,t-1}^k + d_{i,t} \sum_{k=0}^p \beta_k v_{i,t-1}^k \right] + \epsilon_{i,t} \quad (4)$$

In addition to being useful in evaluating policy interventions this framework can be applied to the study of possible heterogeneous effects. Taking the dummy variable  $b_{i,t}$  to indicate any two different and non-overlapping groups this framework is employed both in the robustness tests and extensions sections.

Finally, as is standard in the literature a first qualitative assessment of the results is based on graphical evidence. All RDD as well as diff-in-disc graphs are constructed using observations averaged within binsizes of 1% and polynomial plots using a triangular kernel, a 40% bandwidth and a quadratic degree of the running variable.

## 4 Empirics

### 4.1 Data

The analysis is based on the electoral results of all 278 municipal councils in mainland Portugal in the past 20 years. Data on all local elections are available at the National Electoral Commission (Comissão Nacional de Eleições) and the General Directorate for Internal Affairs (Direcção Geral da Administração Interna) websites.<sup>15</sup> However, the identity of mayoral candidates, obtained through the Official Map from the National Electoral Commission published in *Diário da República*, is available only for elections from 1993 onwards. As such, the underlying dataset collects complete information on electoral results

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<sup>15</sup><http://www.cne.pt> and <http://www.dgai.mai.gov.pt>

at the party and mayoral candidates level only for the past six elections taking place in 1993, 1997, 2001, 2005, 2009 and 2013.

## 4.2 Personal and Partisan Incumbency Advantage

Subfigures (a) and (b), and subfigures (c) and (d) of Figure 2 present the RDD graphical evidence on the existence of incumbency advantage as defined in Lee (2008) and Uppal (2009), respectively. Plots (a) and (c) depict the vote share in period  $t$  against the vote margin in  $t - 1$ . Both provide evidence of a discontinuity of roughly 6-8 percentage points at the zero cut-off. Subfigures (b) and (d) in turn, plot the probability of winning in time  $t$  against the same running variable. Likewise, they provide evidence of a positive discontinuity at the zero cut-off. Diff-in-disc graphs on the natural experiment at hand are provided in subfigures (e) and (f) using vote shares and probability of winning as dependent variables, respectively. In contrast with the previous results, the diff-in-disc graphs show a significant negative discontinuity at the zero cut-off. These preliminary results suggest a negative or insignificant partisan incumbency advantage and a positive personal incumbency advantage captured also in the framework proposed by Lee (2008).

As aforementioned, term limits exogenously open a seat, with the incumbent party unable to rerun the incumbent mayor. Disc-in-diff graphs thus show the loss suffered by an incumbent party that is kept from running his incumbent mayor compared to an incumbent party that is free to do so. Taking into account the assessed incumbency advantage, what is left is the partisan advantage or disadvantage from running simply as an incumbent party. The antagonist results between this approach and the one by Lee (2008) further suggest that the latter is capturing personal rather than partisan incumbency advantage.

Coefficient estimates in table 2 are in line with the graphical evidence. Moreover, estimates follow a similar pattern across specifications with the ones for the spline polynomial approximation, obtained relying on a cubic specification of the models in equations 2 and 4,

suggesting in general larger treatment effects.<sup>16</sup> Personal incumbency advantage provided by the average treatment effects in panel B accounts for a 5-8 percentage points increase in the candidate’s vote share. A framework based on party-level variables not controlling for the incumbency status of the party nominee however appears to systematically overestimate personal incumbency advantage as evidenced in panel A of the same table. Moreover, it does not accurately measure partisan incumbency advantage as can be seen by comparing panels A and C. The latter provides the diff-in-disc coefficient estimates of the average treatment effect of a binding term limit.

Taking the estimates obtained through the IK bandwidth selector as the baseline, personal incumbency advantage accounts for a 7 percentage points increase in vote share.<sup>17</sup> Subtracting this amount from the assessed 15 percentage points loss in vote share resulting from a binding term limit still leaves another 7 percentage points unaccounted for. Preliminary results thus suggest a 7 percentage points personal incumbency advantage and a 7 percentage points partisan incumbency disadvantage.<sup>18</sup>

### 4.3 Partisan Incumbency Disadvantage Explained

To clarify the assessed results and ascertain that they are not contingent to the constitutional reform or the particular treatment year further empirical exercises are present in panel A of table 3 relying on data before 2013. All coefficient estimates result from estimating equations 3 and 4 relying on different definitions of the dummy variable  $b_{i,t}$ . A first robustness test simply looks at how incumbent parties that run with a new candidate fare against the ones that run with the incumbent mayor for the whole pre-treatment period. The local treatment effect amounts to a decline in the vote share of on average 15 percent-

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<sup>16</sup>Results are robust to different order polynomials.

<sup>17</sup>The focus on the IK derived estimates has its grounds on its relevance in the RDD literature, there are however different reasons to focus on any of the specifications. Nonetheless, all lead to similar interpretations and conclusions.

<sup>18</sup>Using probability of winning as the dependent variable provides evidence of similar dynamics.

age points. Second, the focus is directed to situations where the mayor did not complete the whole term. This may be the case for four different reasons: death, promotion, suspension or personal motives. Whilst the latter may be closely related to strategic retiring the remaining reasons are assumed exogenous. Given that in the whole sample period only two mayors were suspended, estimates are only obtained for the dead and promoted mayors. At this point, incumbent parties whose incumbent mayor died/got promoted are compared with incumbent parties whose mayor survived/did not get promoted. The magnitude of the coefficients is smaller and for the case of promoted mayors erratic and mostly insignificant.

The differences in magnitude and significance between all assessments of partisan incumbency advantage may be explained in a unifying theory. First, in the event of a mayor's death, the loss in vote share is on the same ballpark as the previously assessed personal incumbency advantage. Which suggests the absence of any partisan incumbency advantage or disadvantage. Second, promotions possibly convey quality and good publicity for the respective party, in addition to delivering the mayorship to a fellow party-member-councilman in the middle of the term. The circumstances thus explaining the weakness of the results. Third, note that when incumbent mayors complete their term but do not run for re-election coefficients are closer to baseline estimates. Even though these estimates may be biased due to issues of strategic retirement, they also suggest a general partisan incumbency disadvantage beyond the assessed personal incumbency advantage previously enjoyed by the party.

One explanation for this result lies in the fact that in several of this instances the major opposition party nominee is an 'incumbent' challenger, who was likely part of the municipal council and the closest to the mayor figure in terms of public recognition.<sup>19</sup> Accordingly, in more than half the municipalities with binding term limits where the 'incumbent' challenger

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<sup>19</sup>In all cases a mayor died, no incumbent candidate or challenger reran for the elections.

or a former mayor reran for the elections they actually won the mayorship. This hypothesis is tested on the first line of panel B of the same table. Here the the dummy variable  $b_{i,t}$  divides into treatment and control groups totally open-seat elections, i. e. where none of the candidates ever ran for mayor in the municipality, and elections where either the incumbent mayor or challenger is rerunning. Results do suggest that the assessed larger treatment effects are in part driven by ‘incumbent’ challengers rerunning for the mayor position.

Further explanations for the on average higher treatment effect assessed in the baseline estimates may be ruling costs often suffered by parties in power or the awareness, triggered by the imposition of term limits, of the professionalization of the mayor-career and the long-lasting political representations. The ruling costs hypothesis is tested in the second row of panel B in Table 3. For the purpose, the dummy variable  $b_{i,t}$  identifies mayors that did not rerun after at least three terms in office before 2013. The loss in terms of vote share suffered by the party in these circumstance is only twice significant and of a smaller magnitude. As such, having a binding term limit seems to cause a loss in vote shares for the incumbent party that cannot be explained only by the rerunning status of the challenger and ruling costs. Appears as though parties that would have otherwise no positive nor negative returns from their incumbency status, suffer from the introduction of a binding term limit. On this tone, term limits appear as a desirable change-maker in a representative democracy prompting political turnover.

Taken together, all evidence suggests that incumbency advantage is personal rather than partisan. The relevance of the candidate transpires even through the success of rerunning challengers once the incumbent mayor is excluded from the electoral race. Parties thus appear to play a secondary role which also explains the preferred strategy of nominating incumbent candidates evidenced by their high rerunning rates. These results are in line with Fowler and Hall (2012), who also find no partisan incumbency advantage and possibly



a certain disadvantage for U.S. state legislative elections. Also, term limits appear to have a measurable causal effect in deterring the electorate from voting for the incumbent party.

## 5 Extensions

Having established the source of incumbency advantage and the average effect of incumbency status on electoral success, this section analyzes three possible channels of heterogeneous effects. First, the focus is upon political alignment and thus whether incumbency advantage hinges on the mayor being from the same party as the Prime Minister. Second, whether any of the four previously mentioned national parties enjoys a distinguishing incumbency advantage or disadvantage. Third, the concern is geographical and whether incumbency advantage is specific from any given region in Portugal.

Coefficient estimates in Table 4 were obtained from the estimation of equations 3 and 4 with variables structured at the candidate level. Panel A refers to political alignment and shows that despite being consistently negative, estimates are only once significant. This suggests that incumbency effects are stronger than alignment effects and no further advantage is gained by belonging to the same party ruling at the central government level. Panel B in turn, shows that while the PCP struggles with an incumbency disadvantage, the center-right PSD appears to enjoy comparatively higher returns from incumbency. Finally panel C shows that the North of Portugal is specially attached to its incumbents with the opposite being true for the southern region of the Algarve.

## 6 Conclusion

The aftermath of a constitutional reform introducing term limits at the local level elections is the perfect laboratory to study whether there is in fact a partisan incumbency advantage

as first proposed in Lee (2008). The institutional setting, comprising 278 homogenous municipalities, an exogenous constitutional reform, heterogeneity in treatment resulting from the law ruling the term limits and the verified comparability between bare winners and bare losers, allows for the implementation of both RD and diff-in-disc designs providing coefficient estimates suitable for causal interpretation.

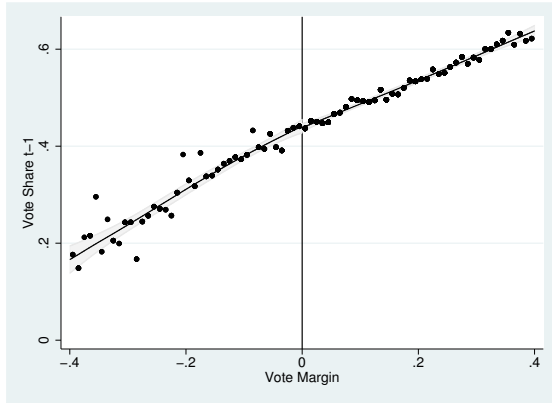
This paper's contribution is twofold. First it provides a credible estimate of personal incumbency advantage relying on the RD methodology. Second, it relies on a natural experiment to causally identify partisan incumbency advantage and infer upon its relevance. Results show that the original definition of incumbency advantage purposely focused on the candidate rather than the party suggesting that the former drives incumbency advantage. Positive returns accrue to the rerunning incumbent with negative returns harming the party once the incumbent candidate does not take part in the electoral race. The negative returns should however not be interpreted as a partisan disadvantage but simply the disadvantage of not rerunning an incumbent candidate. In addition, term limits appear to have the potential to cause political turnover.

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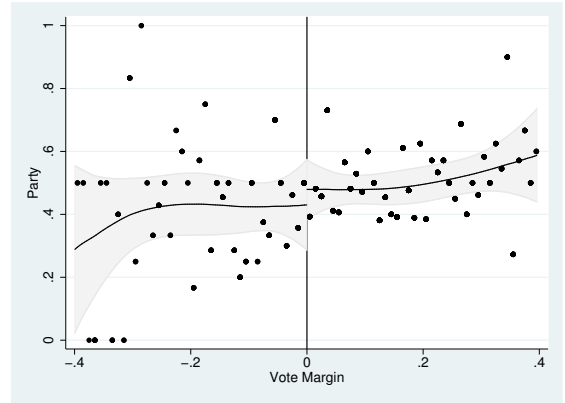
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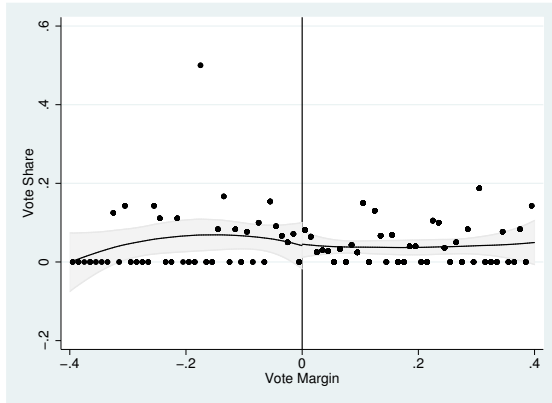
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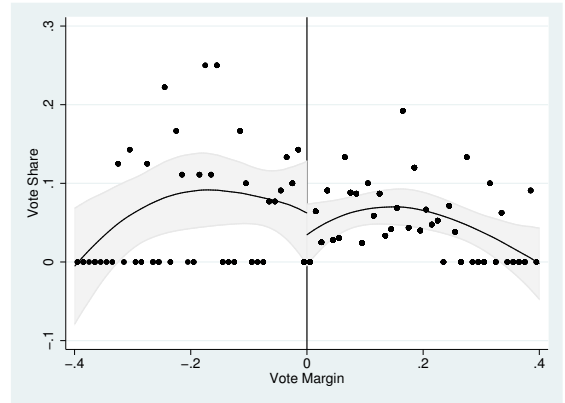
(a) Vote Share  $t - 1$



(b) Party Affiliation



(c) Coalition



(d) Female

**Figure 1: Incumbency and Predetermined Characteristics.** This figure presents the RDD plots comparing pre-determined characteristics between incumbents and non-incumbents. Subfigure (a) shows the distribution of the vote share in period  $t - 1$  against the vote margin in  $t - 1$ . Subfigure (b) shows party affiliation to one of the two major parties against the vote margin in  $t - 1$ . Subfigure (c) shows distribution of coalition representatives against the vote margin in  $t - 1$ . Subfigure (d) shows the distribution of female candidates against the vote margin in  $t - 1$ . Observations are averaged within bins of size 0.01. The polynomial plots are constructed using a triangular kernel, a quadratic degree and a bandwidth of 0.4. 95% confidence intervals are indicated in gray.

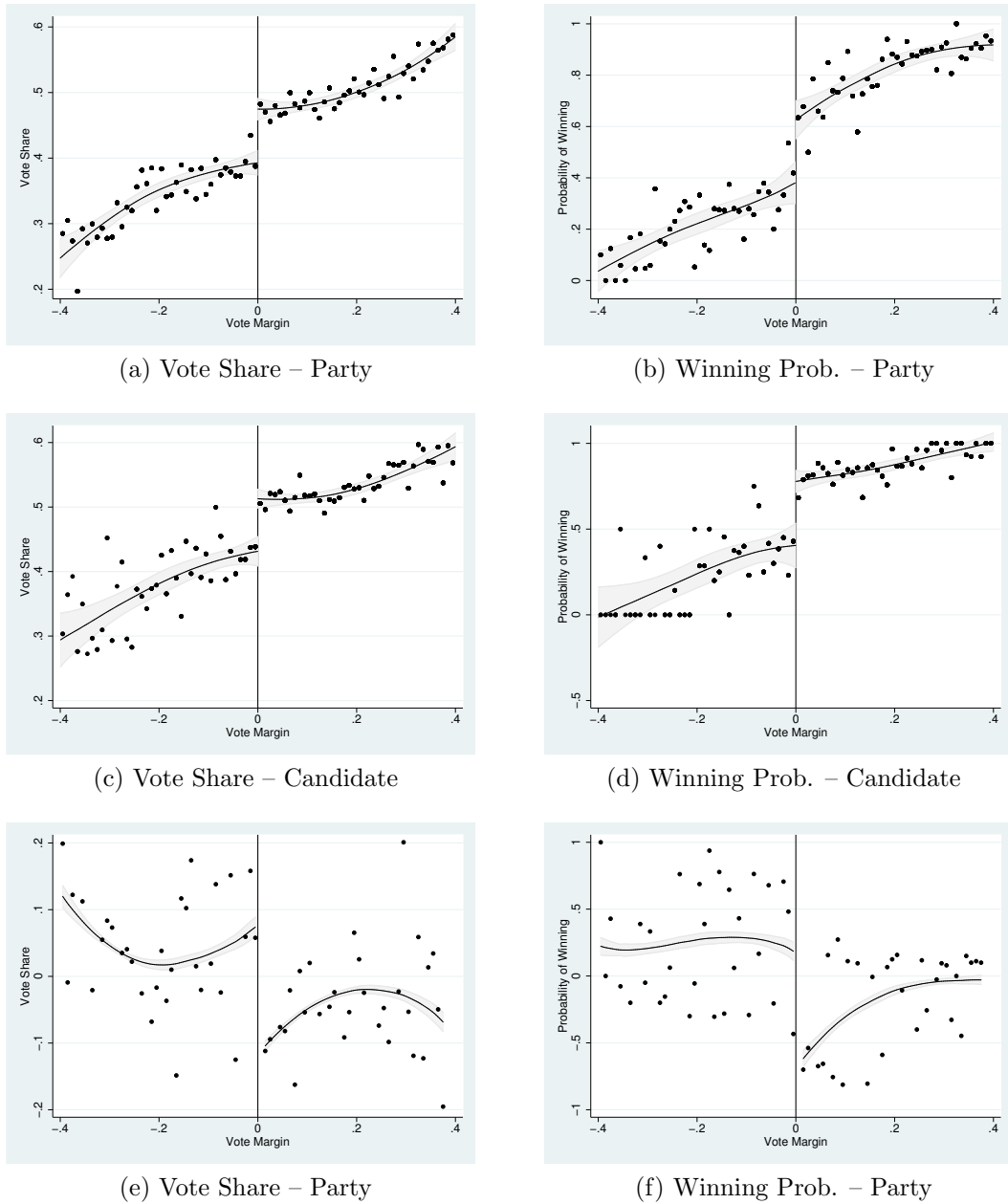


Figure 2: Incumbency Advantage and the Introduction of Term Limits Subfigures (a) and (b), and (c) and (d) present the RDD plots measuring incumbency advantage based on variables structured at the party and candidate level, respectively. Subfigures (e) and (f) present the diff-in-disc plots measuring the change in incumbency advantage from the pre- to the post-treatment period based on variables structured at the party level. Subfigures (a) (c) and (e) show the discontinuous jump in the vote share at time  $t$  at the zero vote margin cutoff from period  $t - 1$ . Subfigures (b) (d) and (f) show the discontinuous change in probability of winning in  $t$  at the zero vote margin cutoff from period  $t - 1$ . Observations are averaged within bins of size 0.01. The polynomial plots are constructed using a triangular kernel, a quadratic degree, and a bandwidth of 0.4. 95% confidence intervals are indicated in gray.

Table 1: LOSERS

	$h = 1\%$	$h = 5\%$	$h = 10\%$	Full Sample
Vote Share $t-1$	-0.014 (0.014)	0.002 (0.007)	0.004 (0.005)	0.001 (0.003)
Affiliation	-0.018 (0.104)	-0.006 (0.060)	-0.002 (0.043)	-0.011 (0.027)
Coalition	0.065 (0.055)	0.001 (0.030)	0.030 (0.024)	0.012 (0.015)
Female	0.032 (0.039)	0.042 (0.032)	0.031 (0.024)	0.021 (0.017)
Obs.	52	238	449	1471

This table depicts differences between rerunning and non-rerunning losers for the variables on the left column. The second column restricts the analysis to a bandwidth of 1% around the threshold and provides a simple difference in means. The third and fourth columns show the regression of all characteristics on a dummy that takes value one if the candidate reruns in the next election and zero otherwise, the running variable and an interaction between these two for the intervals defined on the first line. The last column shows the regression of all characteristics on a dummy that takes value one if the candidate reruns in the next election and zero otherwise, a third-order polynomial of the running variable and an interaction between the polynomial terms and the dummy, using the full sample. Standard errors are robust to heteroscedasticity. Stars indicate significance levels of 10%(\*), 5%(\*\*) and 1%(\*\*\*)

Table 2: BASELINE RESULTS

	Local Linear Regression			Spline
	IK	$h = 5\%$	$h = 10\%$	Polynomial
<i>Panel A. Incumbency Advantage – Party</i>				
Vote Share	0.0842*** (0.0122)	0.066** (0.028)	0.070*** (0.020)	0.096*** (0.016)
Obs.	728	207	397	1384
Winning Prob.	0.388*** (0.0679)	0.223* (0.130)	0.319*** (0.093)	0.393*** (0.072)
Obs.	791	207	397	1384
<i>Panel B. Incumbency Advantage – Candidate</i>				
Vote Share	0.0728*** (0.0115)	0.049** (0.023)	0.069*** (0.017)	0.082*** (0.014)
Obs.	610	253	466	1307
Winning Prob.	0.361*** (0.0866)	0.294** (0.115)	0.376*** (0.087)	0.377*** (0.054)
Obs.	641	254	467	1315
<i>Panel C. Introduction of Term Limits – Party</i>				
Vote Share	-0.154*** (0.051)	-0.204** (0.086)	-0.192*** (0.064)	-0.205*** (0.063)
Obs.	728	207	397	1384
Winning Prob.	-0.855*** (0.229)	-0.765* (0.454)	-1.154*** (0.401)	-1.159*** (0.315)
Obs.	1757	207	397	1384

This table presents the baseline results. The left column lists the dependent variables. Panel A and B provide the coefficient estimates of the average treatment effect of the incumbency status with variables structured at the party and candidate level, respectively. Results are obtained using an RDD in estimating equation 1 and 2. Panel C provides the estimates of the average treatment effect of having a binding term limit. Results are obtained through a diff-in-disc estimation of equation 3 and 4. IK stands for the bandwidth selector proposed by Imbens and Kalyanaraman (2012). The spline polynomial regression estimates are obtained relying on a third-order approximation. Standard errors are robust to heteroscedasticity. Stars indicate significance levels of 10%(\*), 5%(\*\*) and 1%(\*\*\*).



Table 3: NON-RERUNNING INCUMBENTS

	Local Linear Regression			Spline
	IK	$h = 5\%$	$h = 10\%$	Polynomial
<i>Panel A. Robustness Tests</i>				
Open Seat	-0.112*** (0.024)	-0.134 (0.088)	-0.197*** (0.063)	-0.169*** (0.052)
Deceased	-0.063*** (0.015)	-0.055*** (0.019)	-0.047*** (0.015)	-0.034** (0.015)
Promoted	0.030 (0.057)	-0.099*** (0.025)	0.027 (0.085)	-0.042 (0.130)
Obs.	506	170	331	1106
<i>Panel B. Hypothesis</i>				
Challenger	-0.097*** (0.024)	-0.105** (0.041)	-0.118*** (0.023)	-0.114*** (0.029)
Obs.	728	207	397	1384
3 Terms	-0.087** (0.038)	-0.091 (0.062)	-0.073 (0.050)	-0.092** (0.043)
Obs.	506	170	331	1106

This table provides robustness tests of the average treatment effect of binding term limits in panel A, and tests explanatory hypothesis for the effect in panel B. The analysis relies on variables structured at the party level and excludes the year 2013 except in testing the challenger hypothesis that relies on the whole sample. Results are obtained through a diff-in-disc estimation of equation 3 and 4. In panel A, treatments are defined as incumbent not rerunning for re-election at large; incumbent not rerunning for re-election due to death; and as incumbent not rerunning for re-election due to promotion. In panel B, treatments are defined as no incumbent mayor or challenger rerunning and incumbent mayor not rerunning after at least three consecutive terms in office. IK stands for the bandwidth selector proposed by Imbens and Kalyanaraman (2012). The spline polynomial regression estimates are obtained relying on a cubic specification of the model. Standard errors are robust to heteroscedasticity. Stars indicate significance levels of 10%(\*), 5%(\*\*) and 1%(\*\*\*).

Table 4: HETEROGENEOUS EFFECTS

	Local Linear Regression			Spline
	IK	$h = 5\%$	$h = 10\%$	Polynomial
<i>Panel A. Central Government</i>				
Aligned	-0.014 (0.018)	-0.027 (0.044)	-0.004 (0.034)	-0.069** (0.029)
<i>Panel B. Party</i>				
PS	-0.010 (0.018)	-0.021 (0.046)	-0.003 (0.034)	-0.060** (0.030)
PSD	0.039** (0.018)	0.071 (0.047)	0.036 (0.036)	0.069** (0.032)
PCP	-0.054** (0.022)	-0.147** (0.072)	-0.079 (0.064)	-0.129** (0.058)
CDS	-0.062 (0.064)	0.145 (0.101)	0.055 (0.098)	0.083 (0.102)
<i>Panel C. Region</i>				
North	0.044** (0.018)	0.067 (0.047)	0.083** (0.035)	0.053* (0.031)
Center	0.009 (0.018)	0.016 (0.044)	-0.017 (0.034)	-0.011 (0.030)
Alentejo	-0.011 (0.020)	-0.058 (0.056)	-0.057 (0.047)	-0.042 (0.041)
Algarve	-0.090*** (0.035)	-0.147** (0.073)	-0.091* (0.052)	-0.148** (0.061)
Obs.	523	219	402	1127

This table provides results regarding heterogeneous effects of personal incumbency advantage. The analysis relies on variables structured at the candidate level. Results are obtained through a diff-in-disc estimation of equation 3 and 4. Panel A shows the effect of alignment with the central government. Panel B shows the effect of belonging to one of the four national parties. Panel C shows the effect of belonging to a municipality in the different regions of Portugal. IK stands for the bandwidth selector proposed by Imbens and Kalyanaraman (2012). The spline polynomial regression estimates are obtained relying on a third-order approximation. Standard errors are robust to heteroscedasticity. Stars indicate significance levels of 10%(\*), 5%(\*\*) and 1%(\*\*\*).