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The incumbency advantage in second-order PR elections: Evidence from the Irish context, 1942–2019☆,☆☆

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ABSTRACT

Do candidates in local elections benefit from an incumbency advantage? And which factors moderate the strength of this incumbency bonus? Analyzing seven decades of Irish local elections (1942–2019) conducted under proportional representation through the single transferable vote, we reassess and extend the mixed evidence on the incumbency advantage under proportional representation and in second-order elections. By applying the Regression Discontinuity Design, we find that the incumbency advantage is at least as strong in Irish local as in general elections, which are conducted under the identical electoral system. We also show that marginally elected candidates in local elections have much higher reelection probabilities when they do not face a high-quality candidate in their local electoral area after getting elected. The findings point to the importance of name recognition as a major driver of the incumbency advantage in local elections.

1. Introduction

Evidence from democracies all over the world demonstrates that candidates who have held office in the previous legislative cycle perform significantly better in the next election(s) compared to candidates who did not hold office (De la Cuesta and Imai, 2016). This incumbency advantage has been identified in different electoral systems, with the vast majority of studies analyzing the effect of incumbency in plurality settings (e.g., Lee 2008; Eggers et al., 2015). A growing body of work focuses on the impact of incumbency under proportional representation (PR). In contrast to plurality systems, the empirical evidence regarding incumbency effects in PR systems is mixed. While some studies find evidence of an incumbency advantage under PR (e.g., Dahlgaard, 2016; Kotakorpi et al., 2017; Redmond and Regan, 2015; Fiva and Smith, 2018), others do not (e.g., Hyytinen et al., 2018; Golden and Picci, 2015).

This paper makes three contributions to the literature on incumbency effects. First, prior work on the incumbency advantage in PR systems primarily studied national elections. Only few studies consider local elections (notable exceptions are Dahlgaard, 2016; Hyytinen et al., 2018; Kang et al., 2018). These studies provide different theoretical expectations regarding the existence and strength of an incumbency bonus in local elections. Some authors argue that the advantage in local elections should be weaker than in general elections (Dahlgaard, 2016), whilst others argue that it should be stronger (Kang et al., 2018). On the one hand, it can be argued that local elections are of lower salience and candidates receive less media coverage in such elections. These factors might decrease the incumbency advantage. On the other hand, local elections are often characterized by stronger constituency ties, which might be a favorable context for the incumbency advantage. However,

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comparing the strength of the incumbency advantage between different levels of a political system requires similar institutional contexts and electoral systems. We provide a comprehensive analysis of the incumbency advantage in Irish local *and* general elections. Both elections use the identical Single Transferable Vote PR (PR-STV) system allowing for a direct comparison of the incumbency advantage in first-order and less important second-order elections.

Second, previous studies often relied on only few elections. We compiled a novel dataset containing all publicly available election results for all candidates running for elections in Irish local elections since 1942.[1] We also extended existing data on Irish general elections results (Redmond and Regan, 2015) up to the general election in 2020. Together, these datasets allow us to compare local and general elections and enable us to study the incumbency advantage over time.

Finally, the comprehensive data allow for further subgroup analyses to explore potential moderators of the incumbency advantage. Besides comparing the incumbency advantage over time, we test whether the presence of a high-quality competitor in local elections changes the reelection probabilities of marginally elected candidates in the subsequent election. These findings have important implications for refining the theoretical assumptions underlying the incumbency advantage and provide avenues for future research on this topic.

By applying the Regression Discontinuity Design (RDD), our analysis allows for three conclusions. First, pooled over all cases in our data, the incumbency advantage in local elections from 1942 to 2019 amounts to approximately 19 percentage points. This estimate is slightly higher than the incumbency advantage found in general elections from 1937 to 2020. Even under proportional representation and in local elections, possibly one of the least-likely settings for an incumbency advantage, we find strong and consistent effects. These findings provide novel evidence that incumbency matters at the local level in a PR system, where the visibility of incumbents in the media plays a smaller role than in general elections.

Second, we find lower incumbency effects for marginally elected candidates who faced a well-known national-level politician in their constituency during the electoral cycle. Local councillors whose work was not 'overshadowed' by the presence of a prominent politician were more likely to rerun and get reelected. Third, the abolition of the 'dual mandate', the possibility of national-level politicians running in local elections, has increased the incumbency advantage on the local level. Our study points to name recognition through grassroots campaigning as a major driver of the incumbency advantage.

1.1. Incumbency effects under proportional representation

Prior work has extensively examined the incumbency advantage under plurality electoral systems. Few studies address the question of whether candidates benefit from holding office in PR systems (see Table 1 for an overview).[2] However, analyzing the incumbency advantage in a PR context is highly relevant for three reasons.

First, PR electoral systems are more common than plurality systems. Among the world's 35 major, well-established democracies, 22 countries use some form of proportional representation, six countries have a plurality system, and seven countries run general elections under mixed systems.[3] We argue that incumbency effects should be studied in more countries that conduct elections under PR to make generalizable statements.

Second, in contrast to plurality systems, incumbents elected under PR in multi-member districts are not the only incumbent in a constituency. Incumbents often compete against incumbents from other parties or even from their own party. All of these candidates claim to represent their constituency. Thus, it is harder for a single candidate to develop a clear profile as the local incumbent (Dahlgaard, 2016).

Third, from a more technical perspective, it is also important to highlight that the incumbency advantage is usually identified for the marginally elected candidate. Marginally elected incumbents might benefit the least from holding office as they compete with other and more successful incumbents from their party. In this regard, marginally elected incumbents in a PR system with multi-member districts can be described as 'weak'. They do not benefit as strongly from media coverage or name recognition as incumbents in single-member districts. Given these arguments, we would expect a weaker (or even non-existing) incumbency advantage in PR systems than in plurality systems.

Most studies on the incumbency advantage under PR focus on the case of open-list systems. These studies come to different conclusions. For example, Golden and Picci (2015) analyze elections to Italy's lower house and find that incumbents have higher chances of renomination but do not benefit from higher reelection probabilities than non-incumbents. Dahlgaard (2016) studies the Danish local elections of 2009 and 2013 and finds that incumbents had a higher likelihood of

Table 1
Previous studies on the incumbency advantage in PR systems.

Study	Country	Time Period[a]	Type of PR	Level	Inc. Adv.	Effect Size[b]
Dahlgaard (2016)	Denmark	2005–2013	open-list	local	Yes	12
Kotakorpi et al. (2017) [c]	Finland	1970–2007	open-list	national	Yes	18
Hyytinen et al. (2018)	Finland	1996–2012	open-list	local	No	0
Redmond and Regan (2015)	Ireland	1937–2011	STV	national	Yes	17
Golden and Picci (2015)	Italy	1948–1992	open-list	national	No	0
Fiva and Røhr (2018)	Norway	2003–2015	open-list	local	Yes	9
Fiva and Smith (2018)	Norway	1945–2013	closed-list	national	Yes	25
Berg (2020)	Sweden	1991–2006	flexible-list	local	Yes	6

[a] This column describes the time period for all election years that have been used in the analysis. In many cases, the studies use the RDD for estimating the incumbency advantage, and thus the first election year is only used for constructing the forcing variable and the last election year is only used as outcome variable.

[b] Effect size measured in percentage points. Effect sizes must be compared with caution as dependent variable is sometimes defined (slightly) differently.

[c] Kotakorpi et al. (2017) also analyze Finnish local elections and find a very small incumbency advantage. However, Hyytinen et al. (2018) challenge this result and find no incumbency advantage in this context.

[1] The time-spans mentioned in this study refer to all elections. However, as we are using the RDD in this paper, the first election (the local election of 1942) can only be used for constructing the forcing variable, and the last election (the local election of 2019) can only be used for constructing the outcome variable.

[2] We include studies that use a (quasi-)experimental analysis for studying the incumbency advantage, most notably the RDD. Thus, we exclude studies from the literature review that try to identify the incumbency advantage based on a pure 'controlling on observables' strategy because incumbency is likely correlated with candidate traits that are challenging to observe. In addition to the studies mentioned here, which focus on the incumbency advantage, there is other notable work using the RDD in PR, which analyzes different outcomes than re-election probabilities (see, e.g., Fiva et al., 2021; Jankowski et al., 2019).

[3] The statistics refer to the year 2012. See https://www.fairvote.org/research_electoralsystems_world (accessed March 1, 2021).

rerunning and also of rerunning and being reelected. Hyytinen et al. (2018) and Kotakorpi et al. (2017) assess the incumbency advantage in Finnish elections. For general elections, Kotakorpi et al. (2017) find that the probability of winning a seat in the next election is 18 percentage points higher for incumbents. In contrast, Hyytinen et al. (2018) do not find an incumbency advantage in Finnish municipality elections. Focusing on the case of Norwegian local elections, Fiva and Røhr (2018) find that incumbency provides a small benefit for candidates. Berg (2020) reports similar effects of incumbency in Swedish local elections.

Even fewer studies have analyzed the incumbency advantage in PR systems without open-lists. Fiva and Smith (2018) examine the closed-list PR system in Norwegian general elections and find a substantial increase in the reelection probability for incumbents amounting to 25 percentage points (see also Cirone et al., 2021). Finally, Redmond and Regan (2015) study general elections in Ireland conducted under the Single Transferable Vote PR system. They find that incumbency increases the reelection probabilities of candidates.

In Table 1, we summarize these mixed findings in terms of the time period, country, type of electoral system, and level of the political system. At least two studies do not find any evidence of an incumbency advantage. For the studies that observe an incumbency advantage, the strength of the advantage varies from very small to rather large effect sizes. Moreover, existing research has focused on different levels of the political system, with some studies analyzing general elections and others studying local elections.

The patterns from previous research suggest that the incumbency advantage is particularly strong in general (high salience) elections, but weaker at the local level. Indeed, the three largest effect sizes all come from general elections with the case of Italy being the exception.[4] Finland is the only country analyzed so far that employs the same PR system on the local and national level. As the findings by Hyytinen et al. (2018) demonstrate, the incumbency advantage only occurs in 'first-order' general elections. Kotakorpi et al. (2017: 439) suggest that the incumbency advantage is absent in local elections because "there is not much difference between incumbents and challengers in terms of the amount of media coverage, as both get very little of it." In a similar vein, Dahlgaard (2016) argues that local elections provide a 'least likely' context for identifying an incumbency advantage in a PR system. The main argument is that voters are less interested in second-order elections (Reif and Schmitt, 1980). Thus, factors that are assumed to cause the incumbency advantage – such as name recognition or media attention – carry less weight in these contexts. Kang et al. (2018) challenge this argument and claim that local politics provides a better setting for candidates to develop close ties with their constituents. Therefore, they expect a more substantial incumbency advantage in local elections. Their analysis of South Korean elections, which are mainly based on plurality and not PR, supports this view. Incumbency effects are present in local elections but insignificant or negative in national legislative elections (Kang et al., 2018). To sum up, existing findings are heterogeneous, and so are the theoretical arguments to explain this heterogeneity.

Besides the difference between local and general elections, the electoral system could also condition the strength of the incumbency advantage. Existing research mostly focuses on open-list PR systems. Only two studies analyze PR systems without open-lists (Fiva and Røhr, 2018; Redmond and Regan, 2015). Both case studies find strong incumbency effects. In the Norwegian closed-list PR system, Fiva and Røhr (2018) argue that these substantial advantages under closed-list PR are due to the promotion of incumbents to better list positions within parties. They posit that "it may be easier for party elites to orchestrate reelection of current incumbents in (national) closed-list elections, than at (local) open-list elections" (Fiva and Røhr, 2018: 149–150). In contrast, the PR-STV system used in Irish general elections is considered a candidate-centered PR system and differs markedly from closed-list PR systems (Carey and Shugart, 1995; Farrell et al., 2017; Gallagher and Suiter, 2017). In this system, the accumulation of preference votes is crucial since candidates depend less on their party's overall success. As Farrell et al. (2017) argue, STV facilitates strong constituency ties for candidates and incumbents. In this regard, STV is more similar to single-member district (SMD) systems compared to closed- or open-list PR systems (Farrell, 2011: 119–121).[5]

Considering these previous findings, it seems reasonable to assume that we should observe an incumbency advantage in Irish local elections. Incumbents should be able to build close ties with their constituents (Marsh, 2004) and communicate their achievements in the local context. Moreover, the highly personalized nature of the PR-STV electoral system should facilitate favorable conditions for the incumbency advantage.

Expectation 1 Incumbents will have higher chances of rerunning and being reelected than non-incumbents in local elections (incumbency advantage).

1.2. General vs. local elections

Why should we expect differences in the incumbency advantage between local and general elections? On the one hand, the incumbency advantage could be weaker in local elections because politicians may be less vote- and office-seeking than professional politicians at the national level. For instance, part-time politicians on the local level might not seek reelection to the degree of full-time politicians (Trounstine, 2011). Besides, local politicians will not be as well known as politicians in the national legislature who receive much more media attention (Prior, 2006). Politicians from the national legislative assembly are also more likely to be of 'higher quality', meaning that they are better at holding speeches, running professional election campaigns, and communicating with voters more generally. Such abilities can contribute to the incumbency advantage as they are potential 'personal vote-earning attributes' of candidates. Thus, quality-based explanations would suggest that the incumbency advantage is stronger in general elections. Accordingly, Dahlgaard (2016) expects the incumbency advantage to be stronger in national elections, but he also notes that "this is a hypothesis that needs validation through future research" (Dahlgaard, 2016: 327).

On the other hand, the nature of local politics could provide politicians with better opportunities of building 'closer ties' with their constituencies (Kang et al., 2018). In local elections, the constituencies are usually much smaller compared to the constituencies in general elections. Thus, the 'voters to incumbents' ratio is lower in local elections, making it easier for local politicians to remain in contact with their voters. Close ties with voters at least increase the probability of name recognition and visibility. This perspective suggests that the incumbency advantage might be stronger in local elections. The inconclusive evidence results in two competing hypotheses.

Expectation 2a *The incumbency advantage is stronger in local elections than in general elections.*
Expectation 2b *The incumbency advantage is stronger in general elections than in local elections.*

[4] Golden and Picci (2015) estimate the incumbency advantage conditional on rerunning of a candidate, meaning that they exclude candidates who did not rerun in the next election. As shown in De Magalhaes (2015), this definition of the dependent variable is problematic as it leads to post-treatment bias. As the other studies use a different definition of the dependent variable – the probability of rerunning *and* reelection – the effect sizes are not directly comparable.

[5] Other important differences between open-list PR systems and PR-STV are discussed prominently in Carey and Shugart (1995).

1.3. Quality of Co-Competitors

The quality of incumbents compared to their competitors has been brought forward as one of the main explanations for the incumbency advantage. The Regression Discontinuity Design (RDD) is the dominant identification strategy for the incumbency advantage (more details in the sections below). The RDD only guarantees that candidates are of similar quality in election *t*, but candidates might no longer be comparable in quality in election $t+1$ due to different mechanisms (Eggers and Spirling, 2017). The most prominent 'quality-based explanation' is known as 'scare-off'. High-quality challengers may not run for office because they would have to compete against a high-quality incumbent (Hall and Snyder, 2015). From this perspective, the incumbency advantage emerges because incumbents disproportionally often face challengers of 'lower quality'. The 'scare-off' mechanism might be most applicable to two-candidate plurality elections, which heavily focus on individual candidates who compete for one seat. In such a situation, challengers can only be elected when they win against the incumbent. However, when more than one candidate is elected, the 'scare-off' mechanism might be considered less relevant.

Quality-based explanations should also matter under PR. In multi-member districts, the marginally elected incumbent is probably the 'weakest' incumbent (Dahlgaard, 2016). Existing studies assume that incumbents scare off the loser at election *t*, meaning that the loser does not run at $t+1$. Our study defines the scare-off effect in a slightly different way. We assume that an elected, high-quality competitor scares off the person that barely got elected. Prominent party front-runners are usually elected by larger margins and they also possess more financial resources during an election campaign. We assume that under PR the incumbency advantage of marginally elected candidates can depend on the co-competitors' quality. Incumbents who face a prominent high-quality competitor after being elected may not benefit from a strong incumbency advantage. Thus, our final hypothesis reads as follows:

Expectation 3 *The incumbency advantage decreases when an incumbent competes against a high-quality competitor.*

2. The electoral system and local government in Ireland

In this section, we describe the institutional system of local and general elections in Ireland, levels of turnout, the policy-making powers of local councils, candidate selection, and features of election campaigns.

Irish local government builds on a structure of county and city councils. Each council is divided up into so-called local electoral areas (LEAs). County councils and city councils comprise several LEAs. The most recent local election in 2019 consisted of 28 councils and 166 LEAs. The number of LEAs per council varied between 3 and 11 (see Figure A1 for election-specific data). In recent elections, the number of elected councillors ranged between 883 and 949. Since LEAs can be perceived as 'constituencies', we use both terms interchangeably.

Irish local elections and general elections are conducted under proportional representation using the single transferable vote (PR-STV). Voters rank candidates in order of preferences. Voters must indicate a first-preference choice and may or may not indicate further preferences. Evidence from election studies and trials of computer voting in general elections suggest that the average voter expressed between four and five preferences (Laver, 2004; Marsh et al., 2008). PR-STV elections entail a quota that candidates need to pass to get elected. The quota is calculated as follows (see extensively Farrell and Sinnott, 2018):

$$Quota = \frac{Total\ number\ of\ valid\ votes}{Number\ of\ seats + 1} + 1$$

The larger the district magnitude, the lower the quota. For instance, in a three-seat constituency, the quota amounts to 25 percent +1 vote; in a four-seat constituency, the quota is 20 percent +1 vote (Table A1 provides more examples). If a candidate reaches the quota after the first count, her surplus votes are transferred according to these voters' next preference. If no candidate reaches the quota in a given count, the candidate with the fewest votes is eliminated. All transferable votes are distributed according to the next preference to candidates who have not yet been elected or eliminated. This process is repeated until all seats in the constituency are filled. In short, whether a candidate is elected depends on a complex process of (re-)allocating preferences votes.

Turnout in local elections is lower than in general elections but still at reasonable high levels compared with other developed democracies (Figure A2). The officially reported turnout in local elections since 1960 amounts to 57 percent. The average turnout in general elections during the same period is around 13 percentage points higher (70.5 percent). Levels of turnout in local elections never dropped below 49.7 percent.

The responsibilities of local authorities in Ireland mainly concern policies targeted at the community level, such as housing, planning, infrastructure, environmental protection, recreation facilities, and the representation of local communities (Callanan, 2018; Reidy, Forthcoming). Local elections have been driven both by national and local issues, and have been described as a "miniature general election" (Quinlivan, 2015: 136). Yet, the system of local government in Ireland lacks power in terms of spending and raising revenue (Reidy, Forthcoming). Local councils remain very weak, especially in a comparative perspective.

Most elections and constituencies are competitive, with around two candidates running for one seat. Even though the decision-making powers of local councillors are limited, seats are rarely uncontested. Local councillors are part-time politicians. Salaries were only introduced in 2001. As of November 2019, councillors receive a 'representational payment' of around €17,000. In the 1999 local elections, candidates reported an average campaign spending of €2158 (Benoit and Marsh, 2003). In the 2014 Irish Local Election Candidate Study, candidates running in local elections spent, on average, €4095 (Keenan and McElroy, 2017). For comparison, the official average candidate spending in Irish general elections between 2002 and 2016 amounted to around €11,000 (Duggan, 2020: 26).

Door-to-door campaigning and personal contact between candidates and voters are central features of Ireland's election campaigns (Marsh, 2004). Over 50 percent of respondents in the Irish National Election Study (Marsh and Sinnott, 2008) stated that at least one candidate called to the respondent's home. The survey from local and European Parliament elections in 2004 (both elections took place on the same day) allows us to assess the level of door-to-door campaigning in second-order elections. According to the election study, 72 percent of respondents claimed that a candidate for the local or European Parliament election called the respondent's home (Figure A3). Grassroots campaigns clearly define local and general elections in Ireland.

Three reforms altered the basic structure of local elections but did not fundamentally tackle the problems relating to the weakness of local government. First, in a constitutional referendum in 1999, 77 percent of Irish voters approved the constitutional recognition of local government, which made it mandatory to hold local elections every five years on the same day as European Parliament elections. This legal requirement was necessary to improve the legitimacy of Irish elections. Since 1923 local elections have been postponed or held before the actual election date in 15 occasions. Second, the constituency boundaries

underwent a massive reform in 2013. The 114 local councils were replaced with 31 integrated authorities, which reduced the number of councillors by 500.

The third reform relates to the abolition of the 'dual mandate' in 2002. Until the local election in 1999, Teachtaí Dála (TDs) – members of the Dáil Éireann, Ireland's national legislature – could also run in local elections. For cabinet members and junior ministers, the dual mandate was abolished in 1991.[6] Elections conducted under PR-STV require candidates to keep ties to the local constituency. In the 2007 and 2011 Irish Candidate Studies over 90 percent of the candidates running in the general elections claimed that it is very important or fairly important to have a record of bringing local benefits to the constituency (Martin, 2010). Local politics provided an excellent opportunity to keep ties to their voters. Being a local councillor allowed TDs to earn more recognition on the local level and enabled them to allocate national funding on the local level (McGraw, 2008).

While TDs often benefited electorally from being represented in local councils, the dual mandate caused issues for local politics. Murphy (2015: 557) describes the existence of the dual mandate as a "significant problem for local government" since it "blurred the distinction between local and national politics." In our dataset of available local election results, between 30 and 50 percent of all lists included a TD (Figure A4). In 9 percent of the constituencies, two or more TDs ran for office (Figure A6). The participation of TDs in local races was a very prevalent feature of Irish local politics. On average, 96 percent of the TDs running for local office also got elected. Given that TDs from all parties made extensive use of the dual mandate, parties did not face incentives to change the status quo.

2.1. Data and variables

The analysis of the incumbency advantage relies on all publicly available results from Irish local elections between 1942 and 2019.[7] For elections between 1942 and 1979, the coverage is sometimes incomplete or missing entirely (Reidy, Forthcoming). Since the local election of 1985, the results from all counts and all lists are available. Fig. 1 shows the availability of election results for county and city councils in local elections. Our analysis only includes races with data on all counts, as this information is required to determine marginal winners and losers (see section below). We exclude constituencies in which the last count only redistributed votes among already elected candidates.

Overall, the dataset consists of 1645 constituencies (local electoral areas) for which we have information on all vote transfers in a local election, and for which a close winner or loser emerged on the last count.[8] For the comparison of local and general elections, we extend an existing dataset on candidates in general elections (Redmond and Regan, 2015) by adding all general elections until 2020. In sum, our data on local elections covers the time between 1942 and 2019 (with considerable, unavoidable, and unsystematic gaps in the earlier decades) and all results from general elections between 1937 and 2020.

We code a candidate as *Rerunning* if a person with the same name competed in election t and reran in the subsequent election ($t+1$).[9] *Rerunning and reelected* is coded accordingly: if a candidate was running in election t and and got reelected in election $t+1$, we assign the value 1. Candidates who ran in election t and $t+1$, but did not get reelected in $t+1$, are coded as 0.

To understand how a *high-quality competitor* in the constituency affects the incumbency advantage in local elections during the dual mandate period, we collect the names and party affiliations of all TDs elected in general elections or bye-elections between 1937 and 1999. We merge the names of TDs in a given cycle with the candidates' names in the upcoming local election.[10] Having identified the TDs, we create a binary variable indicating whether or not at least one TD was elected in each constituency in election t. We then assess whether marginally elected politicians who competed against an elected TD in election t can benefit from the incumbency bonus in election $t+1$. We expect that these politicians will not benefit equally from name recognition, given that the TD in the same constituency received more attention.[11] Figures A10 and A11 reveal that the party affiliation of the marginal winner and the TD(s) differed in over 70 percent of the cases.

3. Identifying the incumbency advantage: applying the RDD to PR-STV

To estimate the causal effect of incumbency on a candidate's future electoral success, we employ the Regression Discontinuity Design (RDD). The RDD can uncover causal effects when a treatment D is assigned conditional on the value of a continuous variable R under the assumption that the potential outcomes are continuous at the cut-off (Hahn et al., 2001). In our case D is the election to the local council in election t. Whether a candidate receives the treatment of being elected depends on the running variable R, which has a cut-off c at which the election status switches from 0 to 1. Given this setup, the local average treatment effect (LATE; τ) of being elected can be identified as follows:

$$\tau_{RD} = \mathbb{E}(Y_i(1) - Y_i(0)|R_i = c) = \lim_{r \downarrow c} \mathbb{E}(Y_i(1)|R_i = r) - \lim_{r \uparrow c} \mathbb{E}(Y_i(0)|R_i = r)$$

where Y(1) and Y(0) are the potential outcomes (compare De la Cuesta and Imai, 2016: 381–382). τ_{RD} is estimated in a regression framework by running linear regressions on the left and right of the cut-off value within a specific estimation window. To determine this window, we use three common bandwidth selectors. The Imbens and Kalyanaraman (2012) bandwidth selectors are both based on optimizing the mean-squared-error. In addition, we use the coverage error rate (CER) selector developed by Calonico et al. (2017). Following Calonico et al. (2014, 2015), we report bias-corrected estimates and robust p-values. The local-linear regressions use a triangular kernel which gives more weight to observations closer to the cut-off value.

3.1. Running variable

The running variable is of particular importance for the RDD as it assigns the treatment at a certain threshold. In analyses of the

[6] Because salaries were only introduced in 2001 for local councillors and the dual mandate was abolished in 2002, we cannot disentangle the individual influence of each reform on the incumbency advantage. Yet, the relatively low 'representational payment' has been criticized, as it is not sufficient for a living wage in Ireland. For instance, a government-commissioned report in 2019 recommended an additional pay rise of €8000 to pay adequately for the councillors' work (see https://www.rte.ie/news/politics/2019/1127/1095418-council-pay-rise/). Thus, it is rather unlikely that the salaries motivated many incumbents to rerun, and we do not believe that the introduction of payments has an impact on the incumbency advantage.

[7] We retrieved all available election results from the website http://irelandelection.com. Unfortunately, election results for the first four local elections after the Irish War of Independence between 1920 and 1934 are not available.

[8] Figure A9 contrasts the data used for the descriptive statistics and analysis with the available data for the first count in a constituency. While the requirement of a close winner and close loser in the last count reduces the size of the dataset, the differences in observations do not exceed 10 percent for any election.

[9] We do not use the party affiliation as a further restriction as party switches between elections cannot be ruled out. The results remain unchanged if we add the party as an additional variable for merging candidates across elections.

[10] We improve the accuracy of matching politcians' names by removing white spaces and punctuation characters in the names, removing special characters, and changing all letters to lowercase.

[11] As a robustness test, we also check whether the re-election probabilities change when a TD runs in election $t+1$, or in election t *and* $t+1$ (Figure A18).

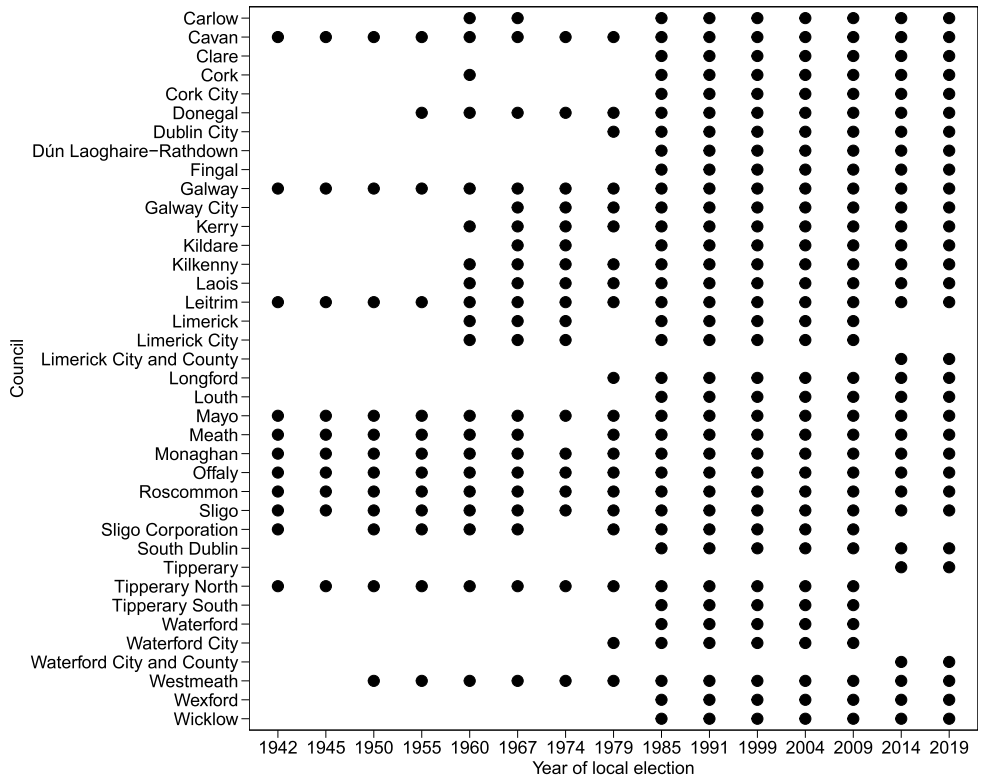

Fig. 1. Available candidate-level election data for city and county councils.

incumbency advantage, the running variable denotes the closeness of the election of a candidate. In plurality systems with only two candidates, it is simple to create such a running variable as candidates are elected if they receive more than 50 percent of the votes. When the marginally elected candidate wins by a few votes, the election was 'as-if' random. The RDD exploits this 'as-if' randomness in treatment assignment around the election threshold (Lee, 2008; Eggers et al., 2015). Put differently, candidates directly around the cut-off are comparable due to this randomness in the treatment assignment and differ only with regard to the election outcome. More generally, the comparison of bare winners and losers avoids the problem of different candidate quality between incumbents and non-incumbents. Candidates who won by a large margin might get reelected because they are more experienced, better qualified or better known. Candidates without any chances of winning a seat might not be competitive or lack experience. Focusing on candidates with very similar vote shares in election t makes it possible to estimate the causal impact of incumbency in election $t+1$. The randomness in the treatment assignment for these candidates guarantees similarities in candidate quality between the close winner and runner-up.

In contrast to plurality electoral systems, there is no obvious running variable that assigns the treatment to *all* candidates under the Irish PR-STV system due to the complex reallocating of votes (see the previous section). However, this reallocation of votes allows us to construct the running variable (R) by focusing on the last count of the vote transfer (see also Redmond and Regan, 2015). After the last count, one candidate will be the last winner of a seat, while another candidate will miss the quota and is the runner-up.[12] For these two candidates, we compute the vote margin as:

$$R_i = \begin{cases} \dfrac{votes_i}{votes_i + votes_{Runner\ Up}}, & \text{if } i \text{ is elected} \\ \dfrac{votes_i}{votes_i + votes_{Marginal\ Winner}}, & \text{if } i \text{ is not elected} \end{cases}$$

This variable has a cut-off at 0.5. Candidates with a vote margin $\geq .5$ are elected; candidates with a smaller vote margin are not elected. Given the complex transfer of votes, candidates cannot anticipate how many votes they will receive (Redmond and Regan, 2015). Thus, sorting into the treatment group (i.e., being elected) or control group can be ruled out.[13]

3.2. Outcome variable(s)

The dependent variable follows recent work on the incumbency advantage and reflects the joint probability of a candidate to rerun *and* being reelected to parliament in the next election. This is the definition of the incumbency advantage as suggested by De Magalhaes (2015) and accounts for the fact that being an incumbent already affects the probability of rerunning. First-count vote shares in the next election in election $t+1$ could be an alternative dependent variable. It seems reasonable to assume that incumbents show a higher probability of receiving more first preference votes in the following election. However,

[12] Figure A12 provides the full counts in one constituency and indicates the last winner of the seat and the runner-up in the last count.

[13] The relationship between the running variable and the probability of being elected is less endogenous compared to the case of FPTP elections. Due to the complex transfer of votes over several rounds, it is already quite random which two candidates will end up as the last elected candidate and runner-up. High-quality candidates who receive more votes have already passed the quota in a previous round. Thus, the difference in quality between these two remaining candidates should, on average, be smaller compared to plurality elections with only two candidates. The RDD and closeness of the last round under PR-STV should account for any remaining differences in candidate quality.

the first count in the next election is affected by the post-treatment bias problem described in De Magalhaes (2015). The first count vote share is only available for candidates who decided to rerun. Incumbents are usually much more likely to rerun for office than non-incumbents. Therefore, the rerunning incumbents and non-incumbents are no longer comparable (see also Cirone et al., 2021: 243).

4. Results

We first identify whether an incumbency advantage exists at the local level in Ireland. Then we compare the estimates with the general elections and over time. Third, we assess whether high-quality competitors moderate the incumbency advantage. Finally, we provide evidence that the assumptions of the RDD hold and conduct several robustness tests.

4.1. The incumbency advantage in Irish local elections

Fig. 2 presents RD plots visualizing the incumbency advantage in Irish local elections in the entire period from 1942 to 2019. Panel a) of Fig. 2 displays the probability of candidates to rerun in the next election. Incumbents are substantially more likely to rerun in the next election. This finding is very much in line with previous work (e.g., Dahlgaard, 2016). Panel b) demonstrates that incumbents have not only higher chances of rerunning but also of rerunning and being reelected. We observe a discontinuity around the cut-off. The visual analysis already strongly points to an incumbency advantage in Irish local elections.

The results of the visual inspection of the RD plots are confirmed by the RDD estimates (Table 2). Regardless of the bandwidth selection method, a positive and substantial incumbency advantage can be observed, which is always significant with $p < .01$. This finding holds for the analysis of rerunning probabilities and, even more importantly, for the analysis of reelection probabilities. For the rerun analysis, the incumbency advantage amounts to almost 0.28 based on the CCT and CER bandwidth selection method. This implies that marginally elected candidates are 28 percentage points more likely to rerun than candidates who failed to reach the quota by a small margin. With effect sizes of around 18 percentage points, the advantage is lower, but still substantive for the rerun and reelected analysis. These findings support our Expectation 1: candidates benefit from incumbency in Irish local elections.

4.2. Comparison over time and with general elections

The identical electoral systems and similar institutional contexts allow for a direct comparison of the incumbency advantage in Irish local and general elections. For this purpose, we first estimate the incumbency advantage for general elections in the period from 1937 to 2020. Confirming the results by Redmond and Regan (2015), we find a statistically significant incumbency advantage at the national level of approximately 15 percentage points based on the CCT and CER bandwidth selector (see Table 3).[14] The observed incumbency advantage in local elections of 18 percentage points appears to be on par with general elections or even slightly larger. Our findings do not suggest that the local incumbency advantage is smaller in local elections than in general elections. If at all, the effect might be larger.

To investigate this finding in more detail, we analyze the incumbency advantage in local and general elections over time. We divide up the two samples into overlapping windows of three elections.[15] The overlaps are required for sufficiently large sample sizes and avoid grouping the data into arbitrarily defined periods. The results of this estimation are displayed in Fig. 3.

For all analyzed periods in local elections, the point estimates are positive but in many of the earlier elections not significant and close to zero. Since the end of the 1990s an increase in the effect size can be observed. The pattern is different in general elections. First, confidence intervals are considerably larger due to the lower number of cases in general elections. Second and more importantly, the pattern of the point estimates is also different. Particularly at the beginning of the 1980s the point estimate was negative, suggesting an incumbency disadvantage. A potential explanation for this pattern could be that Irish politics had been in turmoil in 1981 and 1982 with three general elections held in 18 months. Apart from this period, however, the patterns between local and general elections are roughly comparable. The slightly smaller point estimate for general elections (displayed in Fig. 3 as triangle in red) seems to be caused by the short negative time in the early 1980s.

4.3. The effect of high-quality challengers

Finally, we analyze whether the local incumbency advantage depends on the quality of co-competitors. As explained above, Irish local elections are particularly suitable for such an analysis due to the dual mandate period allowing national politicians to run in local elections. The following analysis splits the sample into three subsets.

The first subset focuses on constituencies without an elected TD during the dual mandate period, i.e., elections until 1999. The second subset includes constituencies in which at least one national-level politician passed the quota in election *t*. Over 70 percent of TDs in the vote margin won their seats (Figures A7 and A8). We expect that marginally elected incumbents who face a TD during their term in office cannot benefit from name recognition because the national-level politician receives more attention. The third subset limits the sample to elections after the abolition of the dual mandate.

Fig. 4 displays the RDD estimates for each of the subsets using the three bandwidth selection methods described above. First, the incumbency advantage during the dual mandate period is positive for constituencies *without* an elected TD in election *t*. The incumbency advantage is non-existent when marginally elected candidates faced a TD during their time in office. What is striking is that the incumbency advantage strongly increased after the dual mandate policy was abolished. These patterns might imply that the presence of a well-known competitor in the constituency reduces the incumbency bonus. In addition, abolishing the dual mandate strengthened the visibility of local councillors. Unfortunately, our data do not allow us to test this potential mechanism directly.

4.4. Validity and robustness

In this section, we test the validity of the RDD for the local elections in Ireland. The most crucial assumption is the continuity of the potential outcomes at the threshold (Hahn et al., 2001). The standard approach for testing this assumption is to estimate RDDs on pre-determined outcomes.[16] We lack detailed information on the candidates (such as age),

[14] When we exclude the newly collected elections, we can replicate the point estimate reported in Redmond and Regan (2015) of 17 percentage points.

[15] More precisely, we arrange the dataset by election year and first analyze the three earliest elections. Then we proceed by removing the first election and adding the fourth election, and re-estimate the RDD. This procedure is repeated until we estimate the RDD for the three most recent elections.

[16] The RDD assumptions for general national elections in Ireland are tested and confirmed in Redmond and Regan (2015).

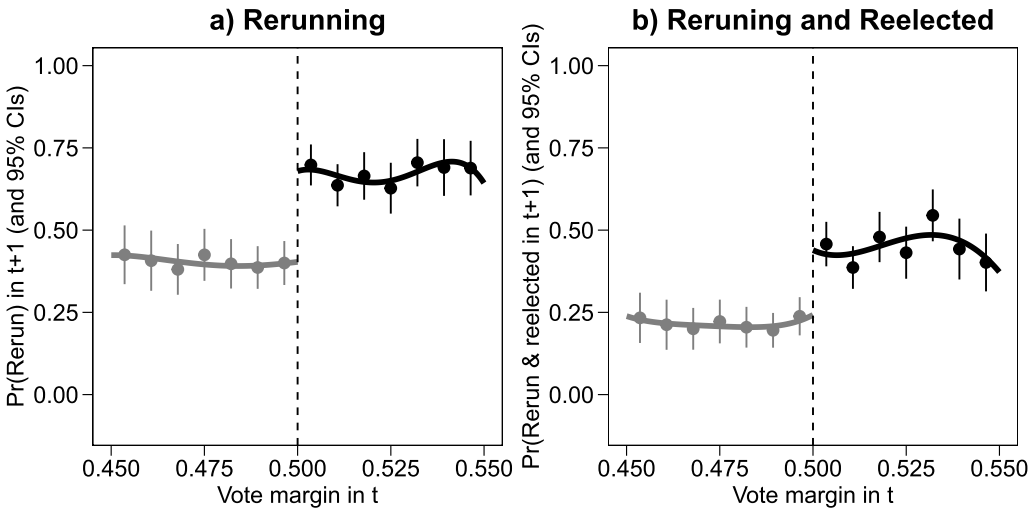

Fig. 2. Incumbency advantage in Irish local elections, 1942–2019.

Table 2
RDD results: Effect of incumbency on the probability of rerunning and reelection in Irish local elections 1942–2019.

	Pr(Rerun)			Pr(Rerun & Reelected)		
	(1)	(2)	(3)	(1)	(2)	(3)
Estimate	0.294	0.269	0.291	0.182	0.176	0.179
Std. Err.	0.057	0.078	0.062	0.052	0.068	0.057
p-value	0.000	0.001	0.000	0.000	0.010	0.002
Bandwidth	0.034	0.029	0.023	0.037	0.024	0.025
BW Selector	CCT	IK	CER	CCT	IK	CER
N Obs.	870/874	756/759	645/648	917/921	668/671	671/674

Note: Estimates are bias-corrected and p-values are robust. All results are based on local linear regressions using a triangular kernel. 'N Obs.' describes the effective number of observations within the estimation window of the RDD.

Table 3
RDD results: The incumbency advantage in Irish general elections, 1937–2020.

	(1)	(2)	(3)
Estimate	0.144	0.285	0.155
Std. Err.	0.069	0.216	0.075
p-value	0.037	0.187	0.040
Bandwidth	0.054	0.070	0.037
BW Selector	CCT	IK	CER
N Obs.	634/634	713/713	475/475

Note: Estimates are bias-corrected and p-values are robust. All results are based on local linear regressions using a triangular kernel. Data from 1937 to 2007 are taken from Redmond and Regan (2015) and we added data for the elections in 2011, 2016, and 2020. 'N Obs.' describes the effective number of observations within the estimation window of the RDD.

but we can control for the continuity of previous incumbency, previous candidacy, party affiliation, and gender.[17] Fig. 5 shows that the effects on pre-determined outcomes are all insignificant and, in many cases, close to zero. This result supports the assumption that the RDD is valid.

Another check for the validity of the RDD is to test for a discontinuity in the density of the running variable (McCrary, 2008). A discontinuity in the running variable would indicate that some candidates might be able to self-select into the treatment condition. Therefore, the McCrary test should find no discontinuity in the running variable for a valid RDD. It is not surprising that we find no discontinuity in the density of our running variable when applied to the full sample (left-hand panel of Figure A13) because the running variable is symmetric.[18] However, even if we restrict our sample only to candidates that have been incumbents in the previous legislative cycle – as done by, for example, Caughey and Sekhon (2011) – the McCrary test is not significant (right-hand panel of Figure A13).

We also test whether our results are robust to the size of the bandwidth. While we have selected the bandwidth based on state-of-the-art bandwidth selectors (Calonico et al., 2014, 2015), the treatment effects should not just occur for these specific sizes of bandwidths. Figures A14 and A15 show the treatment effects based on bandwidths varying from 0.003 to 0.109. Treatment effects are always positive and usually statistically significant. The very narrow bandwidths are statistically insignificant due to the small number of observations that fall within this small window – this is the typical bias-variance-trade-off. The size of the incumbency advantage tends to be slightly higher in local than in general elections, and the effects do not depend on the size of a specific bandwidth.

As the treatment of incumbency is assigned exactly at $c = 0.5$, we should only find strong and significant effects for this cut-off value and not for other cut-off values. Figures A16 and A17 underscore that the treatment indeed appears at the cut-off value at 0.5.

We also assess incumbency effects conditional on the party affiliations of the close winner and loser. Races involving candidates from the same party keep constant – at least to some extent – the partisan effect of the incumbency advantage. Tables A2 and A3 largely underscore that the incumbency advantage exists in both scenarios.[19] We also rerun the RDD analysis with covariates (the party affiliation, gender, the number of candidates running in a constituency, and whether a constituency is rural or urban). Point estimates and confidence intervals are virtually

[17] We identified the gender of a candidate based on full baby name data (1964–2019) for the Republic of Ireland, retrieved from the Central Statistics Office, and applied a dictionary of these names using the quanteda R package (Benoit et al., 2018). Note that some of the constituency results only report the initials of candidates' first names. We cannot use these observations to identify the candidates' gender.

[18] For every marginal winner's vote share x the runner-up vote share is $1 - x$. There are some rare cases in which we have two marginal winners because both winners had the same number of votes.

[19] For the case in which the marginal winner and marginal loser are from the same party, we do not find an effect of incumbency based on the IK bandwidth selector, mainly because of a very narrow bandwidth with few observations. As this is the only substantive deviation from the remaining estimates, we consider this finding potentially caused by chance.

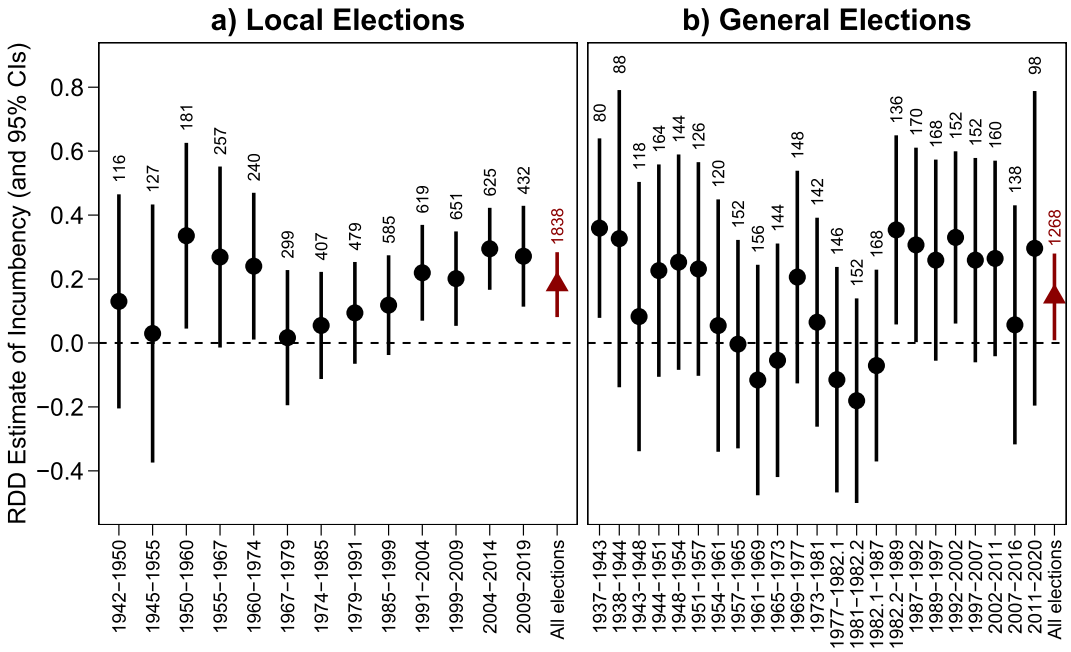

Fig. 3. Incumbency advantage over time for local and general elections.

identical to the models without covariates (Table A5 and Figure A19).

Finally, we run our analysis for four possible scenarios regarding the presence or absence of an elected TD in t and $t+1$ (Figure A18). We observe an incumbency bonus when no TD was elected in t and $t+1$, and in the scenario when a TD was not elected in t, but $t+1$. The presence of a high-quality challenger may decrease the name recognition of the marginal winner in t, which reduces the candidate's reelection probability in $t+1$. We do not find an incumbency bonus when a TD was elected in t, but when the TD was reelected in $t+1$. These results are consistent with our expectations. Against our expectations, we observe an incumbency bonus when a TD was elected in t and $t+1$. The smaller samples size for the third and fourth scenarios might contribute to this unexpected finding. This result is puzzling, given that Fig. 4 suggests a moderating influence when a TD was elected in t. Thus, we recommend to treat our analysis of the four small subsets with caution.

5. Conclusion and outlook

Analyses of the incumbency advantage in systems using proportional representation are still scarce, even though most established democracies employ a variant of PR in general elections. Prior work on incumbency effects under PR has found different effect sizes, with some studies finding no (Golden and Picci, 2015; Hyytinen et al., 2018), small (Fiva and Røhr, 2018; Berg, 2020) or large incumbency advantages

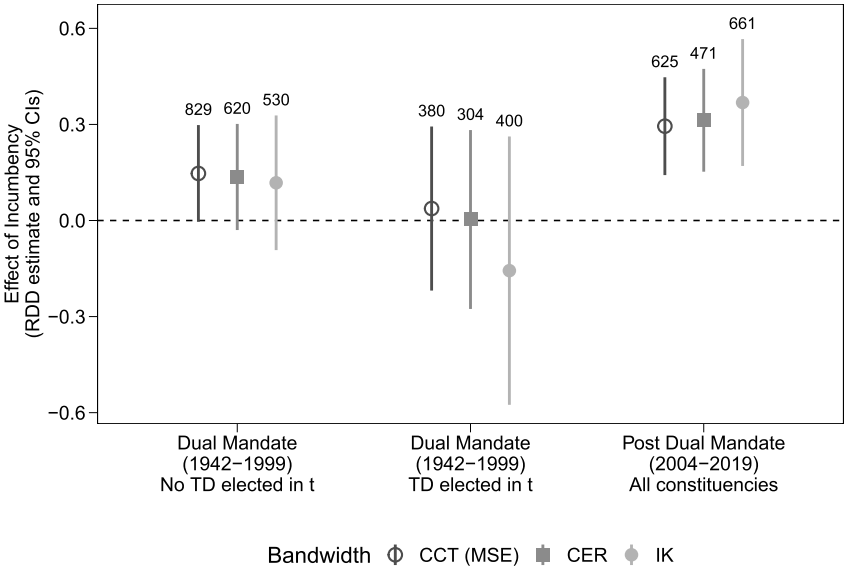

Fig. 4. The incumbency advantage during and after the 'dual mandate' period. Note: Plot displays RDD estimates for the dual mandate period in which no TD was present on the list, in which at least one TD on the list was a TD as well as for the post-dual mandate period. Numbers above the confidence intervals are the effective number of observations. Table A4 reports the full estimates.

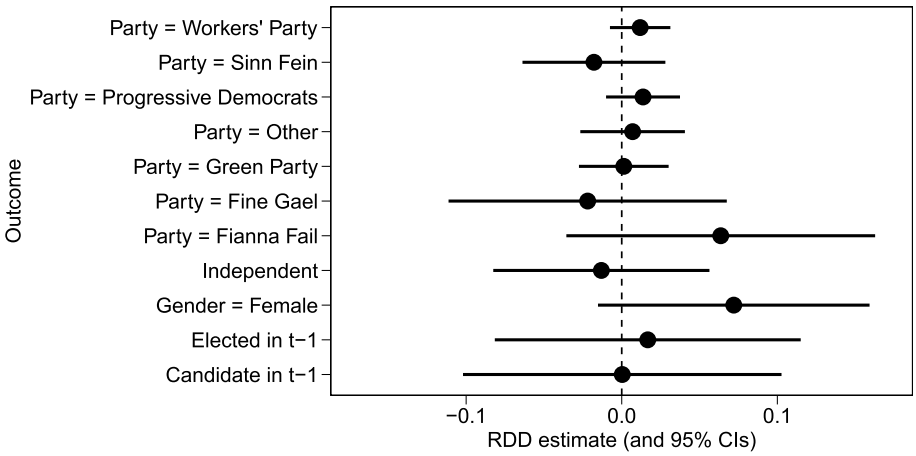

Fig. 5. Effect of incumbency on pre-determined outcomes.

(Kotakorpi et al., 2017; Fiva and Smith, 2018). Given this heterogeneity in existing studies, this paper contributes to the literature on the incumbency advantage by providing the first comprehensive analysis of the incumbency advantage in Irish local elections conducted under PR-STV.

Our analysis uncovers an incumbency advantage in Irish local elections. The effect is not only statistically significant, but also quite strong. The local incumbency advantage appears to be as substantial as the advantage observed at the national level (Redmond and Regan 2015) and increased in recent years. The strong effects in local elections are remarkable given the conflicting evidence of an incumbency advantage in lower-order elections.

These findings have important implications. They obviously demonstrate that holding office does seem to pay off even in a context where much less is at stake compared to general elections. Even in a low salience context of local elections, incumbents continue to pursue a political career at the local level by showing a higher probability of re-rerunning and eventually being reelected. This is an important finding as recent work demonstrates that being successful at lower levels of the political system can initiate a successful political career at the national level (Cirone et al., 2021). The question of how the incumbency advantage translates to other offices has not been addressed sufficiently. The data collected for this paper can provide a starting point for such an analysis by combing the data with results of general elections. Future work could assess whether local incumbents have higher probabilities of being later elected to the national parliament.

Another important implication relates to the necessary conditions for the incumbency advantage. The heterogeneity in existing studies regarding incumbency effects under PR and at the local level has been one of the primary motivations for this paper. Our results indicate that strongly personalized PR systems, such as the Irish PR-STV system, seem to foster incumbency effects. Irish local and general elections build on grassroots campaigning, posters, and close contacts between voters and candidates (Marsh, 2004). In this regard, the close ties between constituents and politicians observed in Irish local politics seem to compensate for the otherwise somewhat unfavorable context of local elections, which has been described as a 'least-likely' case for observing an incumbency advantage (e.g., Dahlgaard, 2016). One might even speculate if local elections with strong personal ties are particularly likely to create strong incumbency effects. As low levels of media coverage provide voters with little information about the election and candidates, voters might be inclined to base their voting behavior on personal contact with candidates. Therefore, at least partly, our results question the assumption that local elections are always least-likely cases for an incumbency advantage (compare Kang et al., 2018). Our study also highlights that future research should study the mechanisms behind the incumbency advantage more systematically.

Data availability

The data and materials required to verify the computational reproducibility of the results are openly available at https://doi.org/10.7910/DVN/LRO7QA.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://10.1016/j.electstud.2021.102331.

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The Incumbency Advantage in Second-Order PR Elections: Evidence from the Irish Context, 1942–2019

Michael Jankowski Stefan Müller

Online Supporting Information

A Descriptive Plots and Statistics Relating to Local Elections

Figure A1 shows the distribution of candidates running and getting elected in constituencies (local electoral areas) separately for all local elections between 1942 and 2019. Across all elections, on average, 11.6 candidates were running in a constituency. These averages range between 10.3 (1999) and 14.9 (2014) candidates. Turning to the right-hand panel, on average 5.4 candidates were elected in each constituencies (with a range from 4 to 17). Table A1 provides examples of the quotas under PR-STV conditional on the district magnitude.

Figure A1: Running and elected candidates in each constituency (local electoral area) in Irish local elections

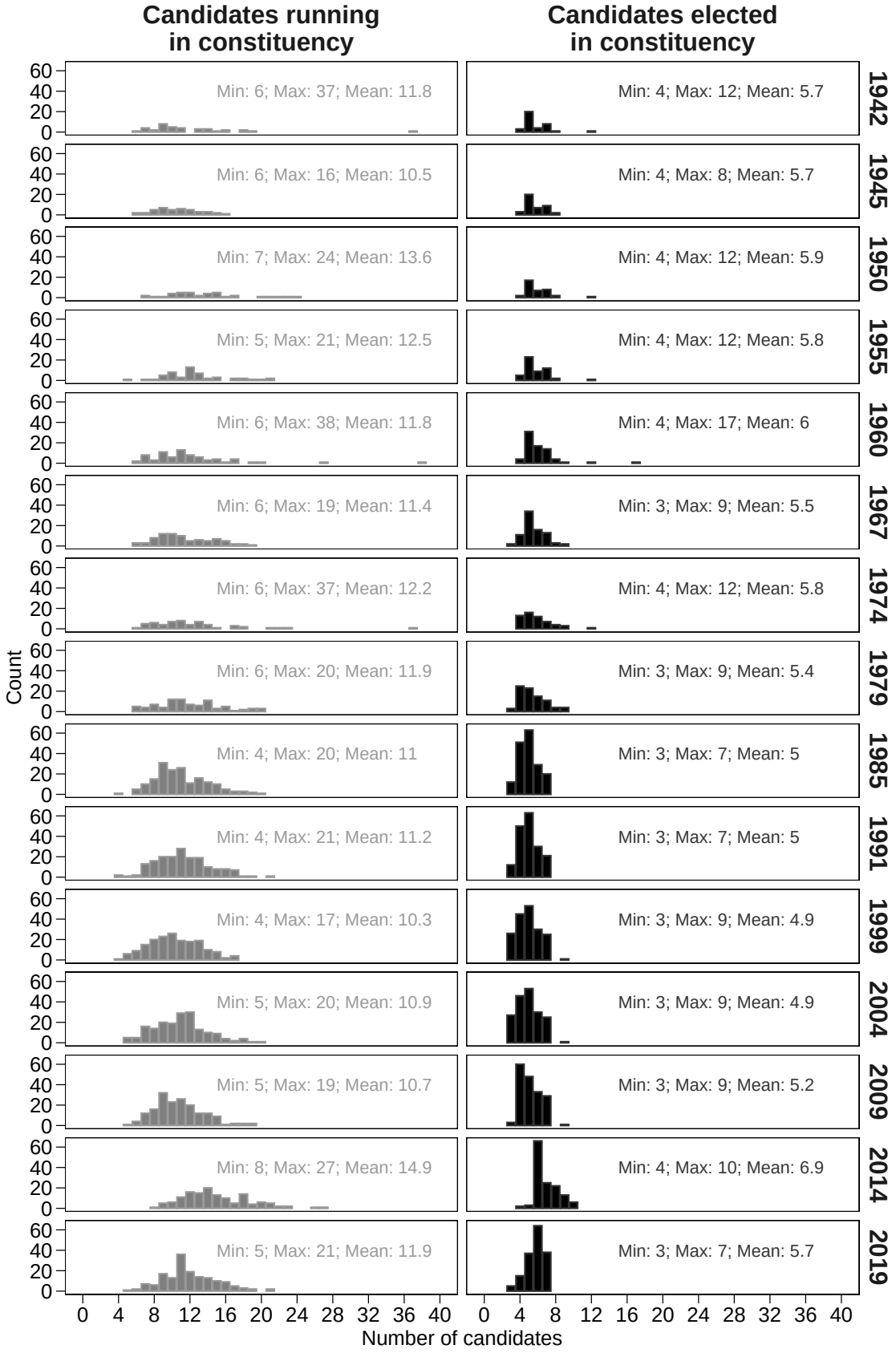


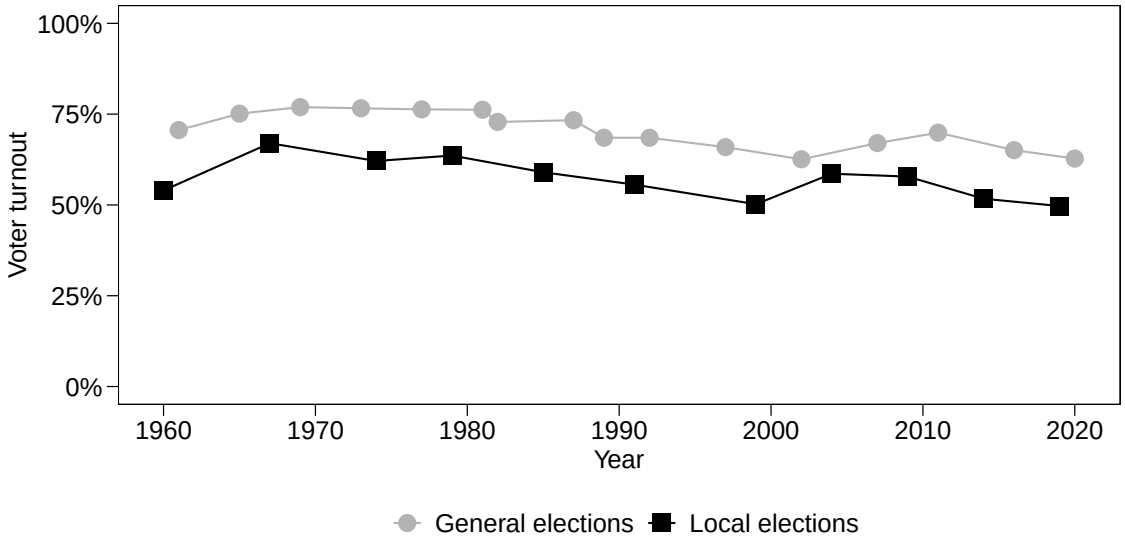
Table A1: Quota by district magnitude in PR-STV

District magnitude	Quota, in percent
1	50.0 + 1 vote
2	33.3 + 1 vote
3	25.0 + 1 vote
4	20.0 + 1 vote
5	16.7 + 1 vote

Note: Example adapted from Farrell and Sinnott (2018: 95).

Figure A2 reports the officially turnout in Irish local and general elections since 1960.

Figure A2: Turnout in Irish general and local elections

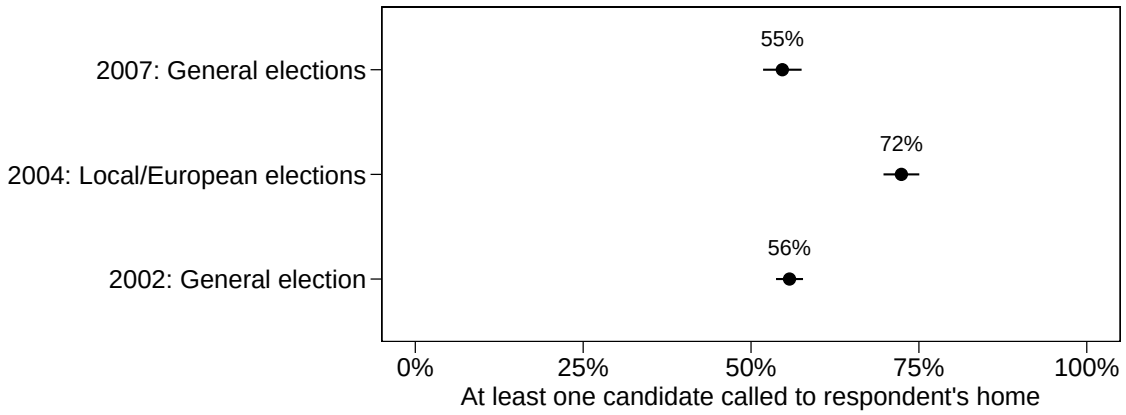


Note: Comparable data on turnout in local elections prior to 1960 are not available.

Figure A3 shows the proportion of respondents in the Irish National Election Study (INES) (Marsh and Sinnott 2008) who reported that at least one candidate called to their home. The INES considers the 2002 and 2007 general elections as well as the local and European Parliament (EP) elections in 2004. The local and EP elections took place on the same day. Unfortunately, the survey item does not ask whether candidates for local or EP elections called to the respondent's home. However, the fact that 72% of respondents reported that a candidate called to their

home in 2004 underscores that door-to-door campaigning is also a defining feature of lower-order elections in Ireland.

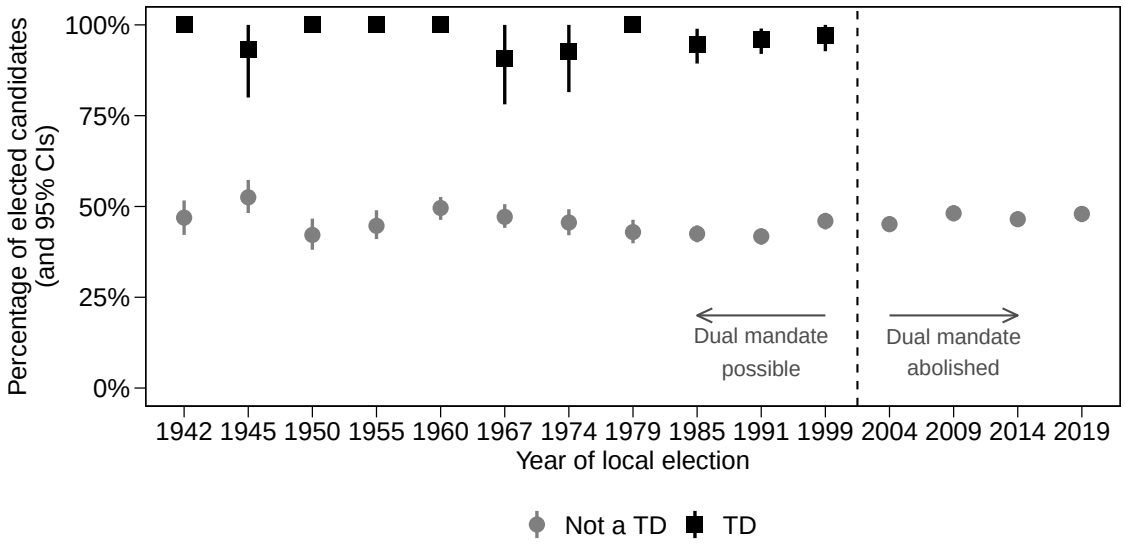
Figure A3: Proportion of respondents who reported that at least one of the candidates called to their home



Note: Own calculations based on the Irish National Election Study (Marsh and Sinnott 2008). Horizontal bars show 95% confidence intervals.

Figure A4 reports the proportion of elected candidates and reveals two important insights. Between 73 and 100 percent of the TDs who ran for local office also got elected to the county or city council. Second, around half of the non-TDs (and candidates running in the post-dual mandate period) were elected.

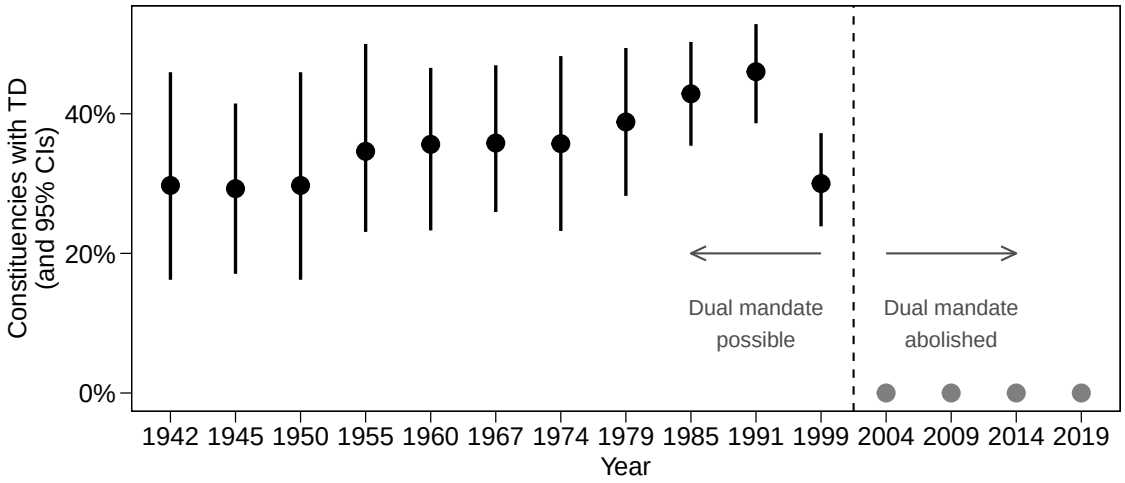
Figure A4: The proportion of elected candidates in Irish local elections



Note: The plot includes bootstrapped confidence intervals based on 1,000 resamples to account for variation in data availability across elections.

Figure A5 shows the percentage of constituencies in which a TD was elected. The percentage of constituencies with an TD running for a local council ranged between 30 and 46 percent.

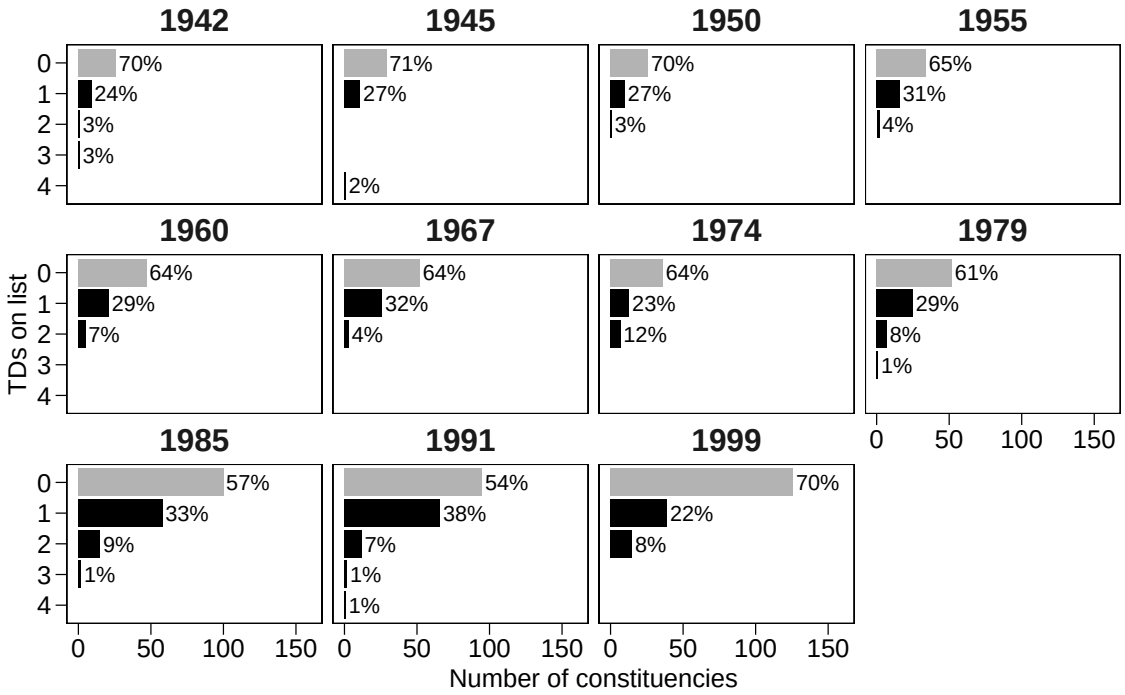
Figure A5: Percentage of constituencies with elected TD



Note: The plot includes bootstrapped confidence intervals based on 1,000 resamples to account for variation in data availability across elections.

Figure A6 plots the number of TDs on lists in local electoral areas. The y-axis plots the number of lists, the x-axis shows the number of TDs.

Figure A6: The number of TDs per list, faceted by election



Note: The numbers beside each bar report the percentages of constituencies within each election that fall into each category. The dual mandate was abolished was abolished after the election in 1999.

The percentages of TDs who were running for local office and also got elected are displayed in Figure A7. On average, 96 percent of the TDs running for local office also got elected. Across all elections between 1942 and 2019, at least 90 percent of the TDs competing in local elections won their seat. However, TDs were only very infrequently in the vote margin (i.e., very close winners or very close losers of the last seat). Between 0 and 9 TDs were either close losers or close winners, and over 75 percent of TDs in the vote margin also won the seat, rather than being the close loser (Figure A8). In seven of the eleven local elections, fewer than three TDs were in competing for the 'last seat' in a constituency.

Figure A7: The percentage of elected TDs across all elections conducted under the dual mandate policy

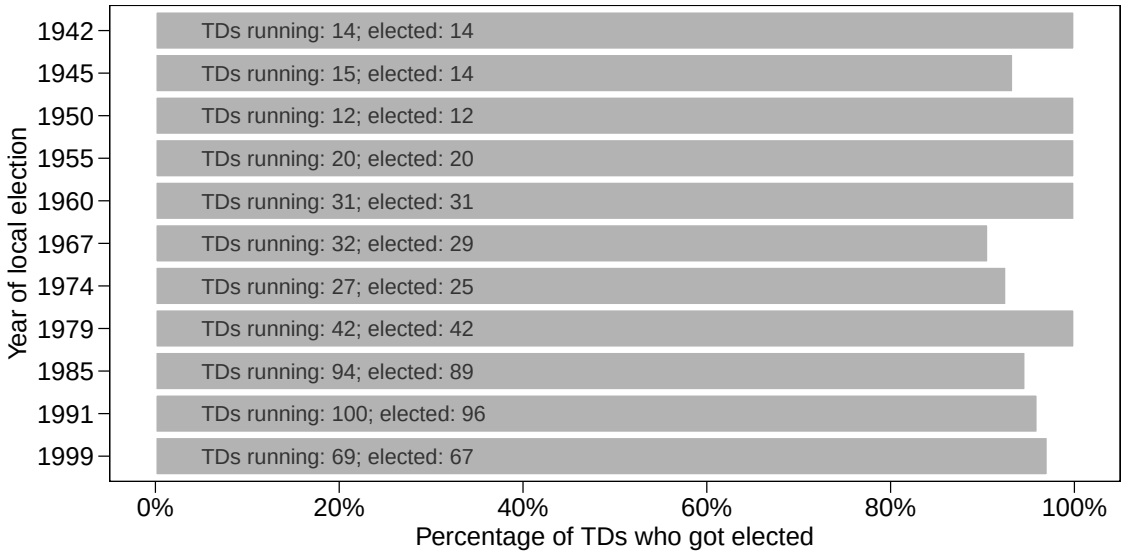


Figure A8: The number of TDs in the vote margin and the percentage of TDs in the vote margin who got elected

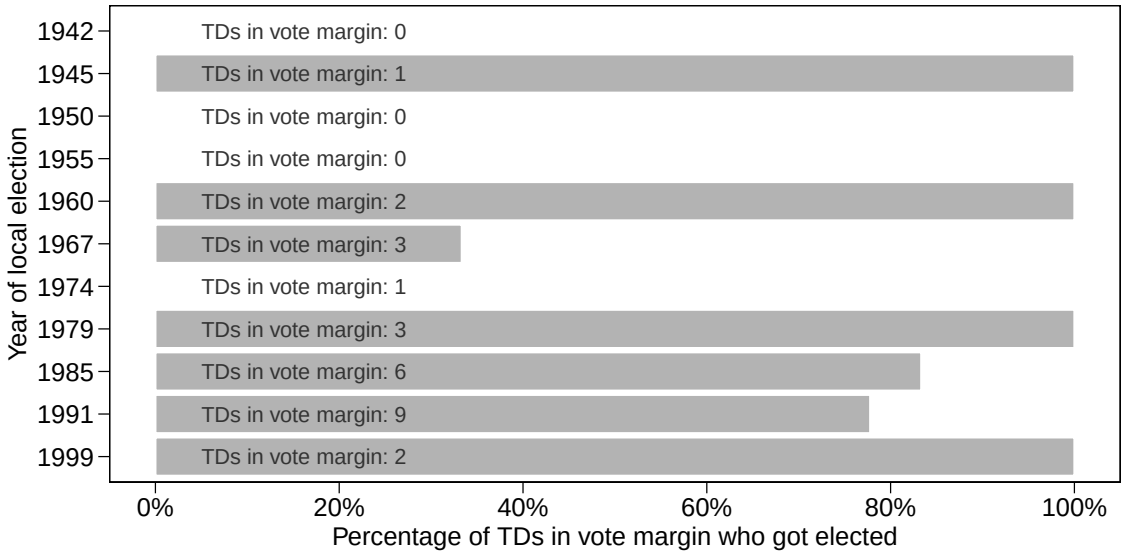
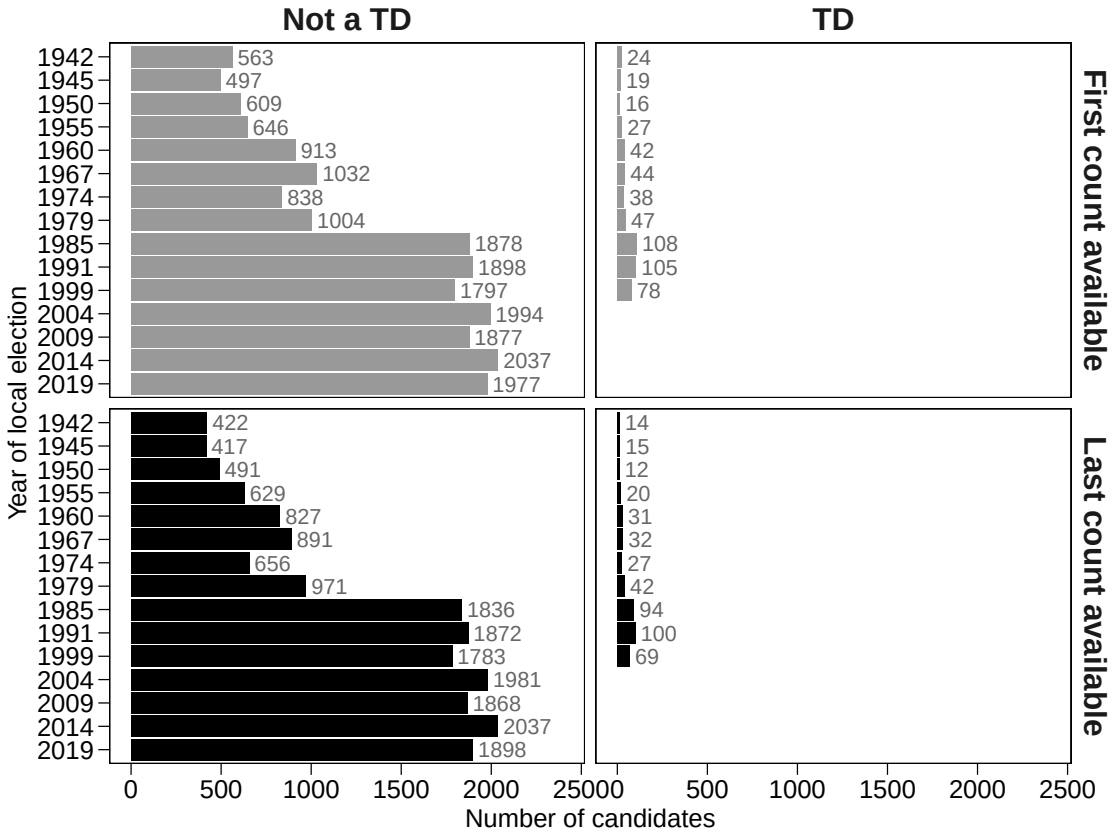


Figure A9 reports the number of observations of candidates running all local elections. The left-hand panel shows the number of candidates that were not classified as TDs, while the right-hand panel shows the number of TDs running in the subsequent local election. The plot clearly underscores that more data are available for more recent elections, as noted in Reidy (Forthcoming). The plot also shows that results of the first counts are available for a slightly larger number of candidates than

the last count. Yet, these differences are usually small (less than 10 percent) and not systematic. For our paper, we can only use the last counts in each constituency in order to identify marginal winners and losers (Redmond and Regan 2015).

Figure A9: Number of available candidate-election observations in local elections



Note: The upper panels show the number of available data for the first count; the lower panels show the number of available data for the last count (which is used for the RDD analysis).

Figure A10 compares the party affiliations of the marginal winner (x-axis) and the TD (or TDs) in a constituency. The points above each circle show the number of candidates falling into each category. Green circles indicate that the party affiliation of a candidate was the same as the affiliation of a TD. We see that most candidates are *not* from the same party as the TD, and we also do not observe any systematic patterns. Given that Fianna Fáil (FF) and Fine Gael (FG) were by far the largest parties under the period of observation, most TDs were affiliated with one of the two parties.

Figure A10: Comparing the party affiliations of marginal winners in election t and the party affiliation of the TD(s) that got elected in the same constituency in election t

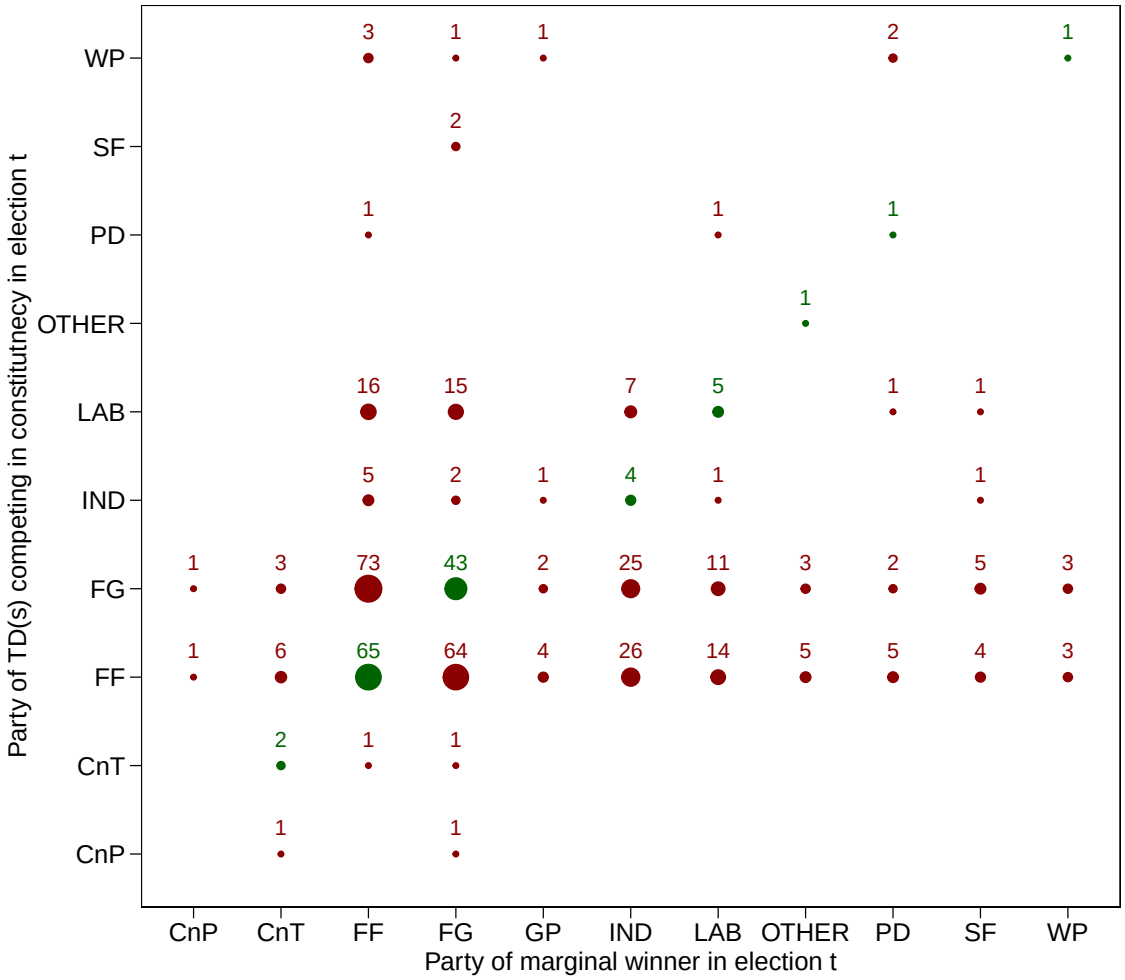


Figure A11 further refines this descriptive analysis by comparing the party affiliations of elected TD(s) and marginally elected candidates. In 73 percent of the constituencies involving one TD, the party affiliations of the TD and the marginally elected candidate differs. Even for scenarios with two TDs in a constituency, this ratio remains the same, and in the majority of constituencies with three or four TDs the party affiliations differ as well. Unfortunately, the small sample of cases with a marginally elected candidate and a TD of the same party does not allow for a separate RDD analysis. However, as described above and in Redmond and Regan (2015), the outcome of marginal winners and losers is often random, given that the

last seat is allocated after several rounds of vote transfers. Thus, we do not expect TDs to run strategically against marginally elected candidates from a certain party.

Figure A11: Comparing the party affiliations of marginal winners in election t and the party affiliation of the TD(s) that got elected in the same constituency in election t

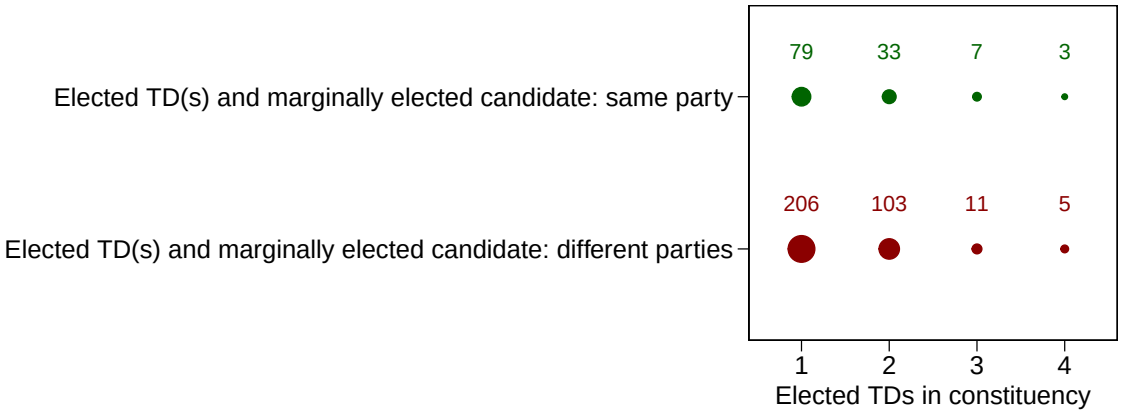


Figure A12: Example of PR-STV vote transfers

					Distribution Kinsella's 190	O'Connell's surplus of 25	Distribution Byrne's 219	Distribution Keogh's 231	Distribution Horsman's 275	Distribution Sweeney's 513	Distribution Wolohan's 847	Ryan's surplus of 66
Seat	Party	Candidate	Share	Count 1	Count 2	Count 3	Count 4	Count 5	Count 6	Count 7	Count 8	Count 9
1		Bill O'Connell (FF)	14.1%	1267	**1311** (44)							
2		Vincent McElheron (IND)	13.4%	1205	1262 (57)	1268 (6)	**1290** (22)					
3		Kevin Ryan (LAB)	12.0%	1079	1084 (5)	1084 (0)	1096 (12)	1138 (42)	1152 (14)	1158 (6)	**1352** (194)	
4		Thomas Keenan (FF)	10.2%	914	921 (7)	923 (2)	945 (22)	972 (27)	986 (14)	1132 (146)	1195 (63)	**1212** (17)
5		Thomas Honan (FG)	7.5%	671	682 (11)	688 (6)	705 (17)	740 (35)	847 (107)	919 (72)	1143 (224)	**1176** (33)
6		Vincent Blake (FG)	11.3%	1020	1022 (2)	1022 (0)	1056 (34)	1076 (20)	1101 (25)	1107 (6)	1127 (20)	**1140** (13)
		Pat Doran (FF)	10.9%	977	978 (1)	978 (0)	1005 (27)	1011 (6)	1016 (5)	1074 (58)	1087 (13)	1090 (3)
		Sean Wolohan (LAB)	6.2%	557	587 (30)	589 (2)	606 (17)	665 (59)	712 (47)	847 (135)		
		Patrick Sweeney (FF)	4.9%	440	449 (9)	457 (8)	477 (20)	488 (11)	513 (25)			
		Michael Horsman (PD)	2.7%	241	248 (7)	248 (0)	265 (17)	275 (10)				
		Michael Keogh (WP)	2.5%	225	227 (2)	227 (0)	231 (4)					
		Catherine Byrne (IND)	2.4%	212	218 (6)	219 (1)						
		Denis Kinsella (IND)	2.1%	190								

Electorate: 13865 **Turnout**: 9092 **Valid**: 8998

Note: The example is the count of the Arklow constituency (part of Wicklow County Council) in the 1991 local election.
URL: http://irelandelection.com/electiondetail.php?elecid=171&constitid=241&electype=5.

B Additional Results and Robustness Checks

B.1 RDD Assumptions and Various Bandwidths

Figure A13 shows the results from the McCrary test. Figures A14 and A15 report the results from a bandwidth sensitivity analysis. More precisely, we show the treatment effects for bandwidths with different sizes for local and general elections. These three plots are discussed extensively in the main paper. Figure A16 and A17 test the validity of the RDDs for local and national elections by using placebo cut-off values in the estimation. As the treatment is assigned exactly at $c = 0.5$, we should only find strong and significant effects for this cut-off value and not for other cut-off values where no treatment is assigned. This is the case in local and national election. For the true cut-off value of 0.5, the treatment effect is strong and significant in both cases. For almost all other cut-off values, the hypothetical effects are close to zero and mainly insignificant, which is the expected pattern.

Figure A13: McCrary test: Density of the running variable on full sample (a) and only for incumbents (b)

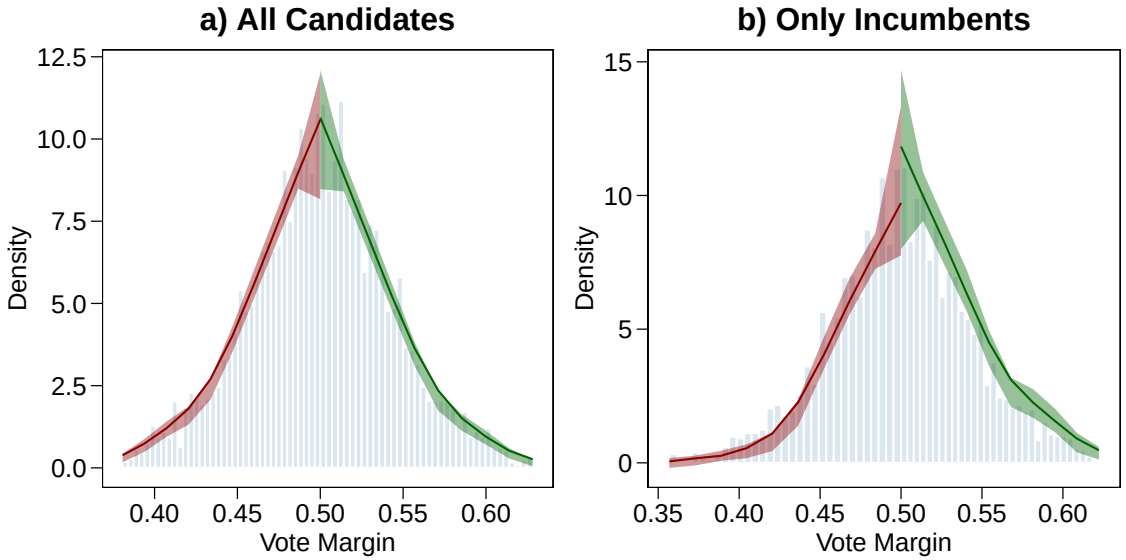


Figure A14: Treatment effects for differently sized bandwidths (local elections)

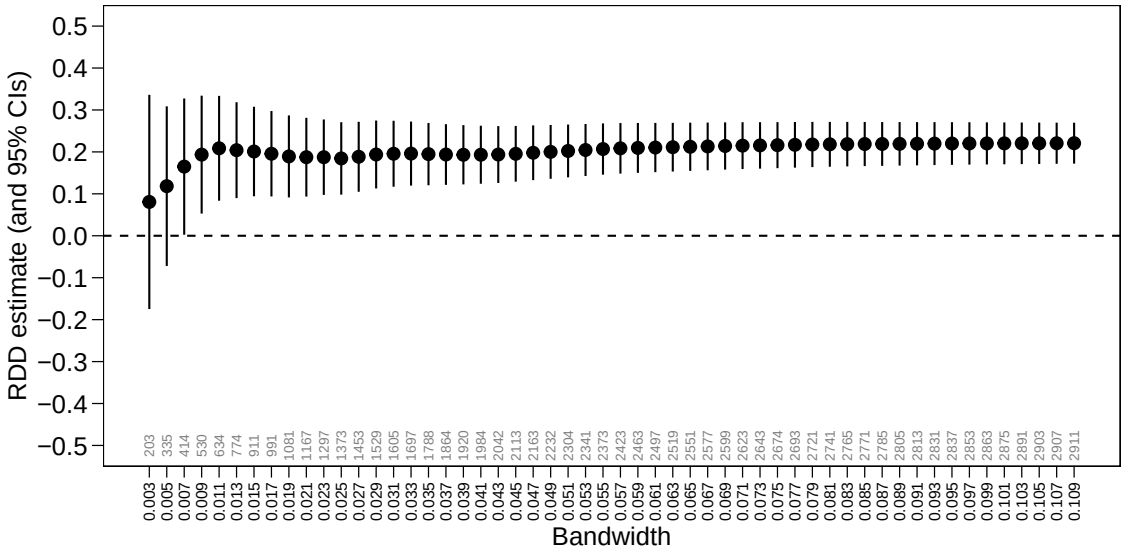


Figure A15: Treatment effects for differently sized bandwidths (general elections)

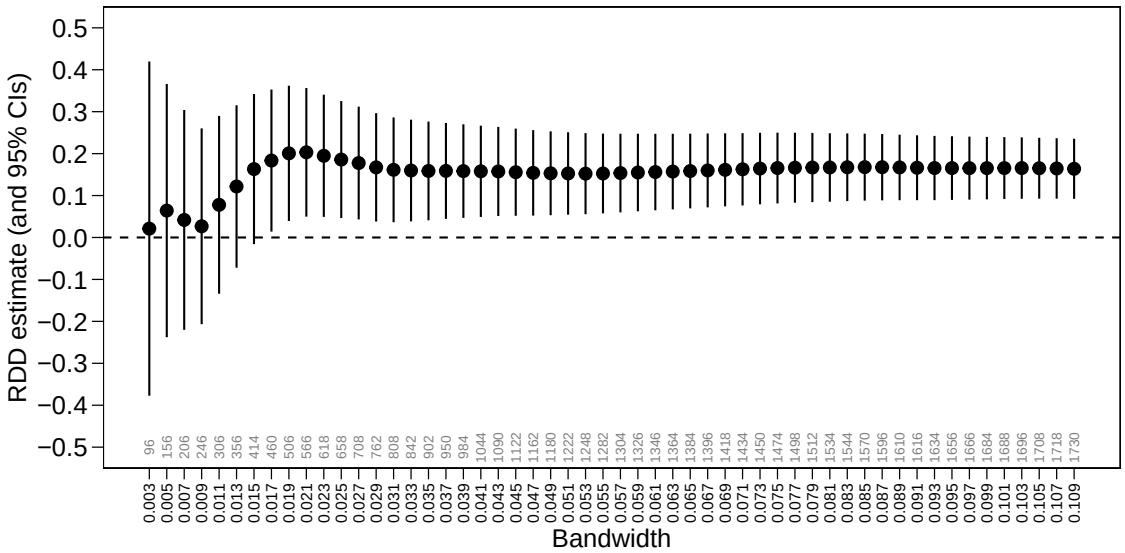


Figure A16: Hypothetical effects using placebo cut-off values (local elections)

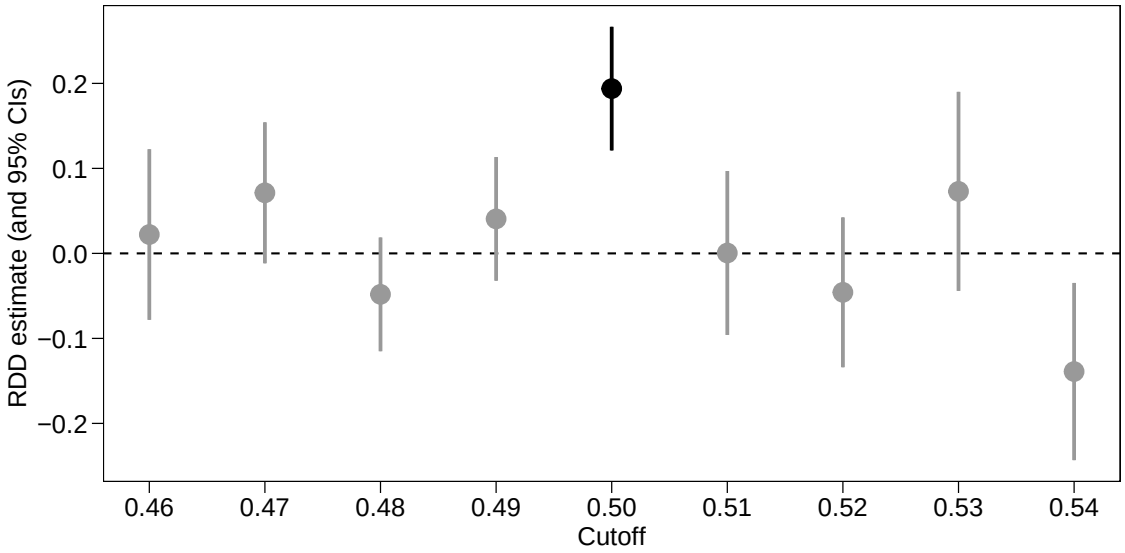


Figure A17: Hypothetical effects using placebo cut-off values (general elections)

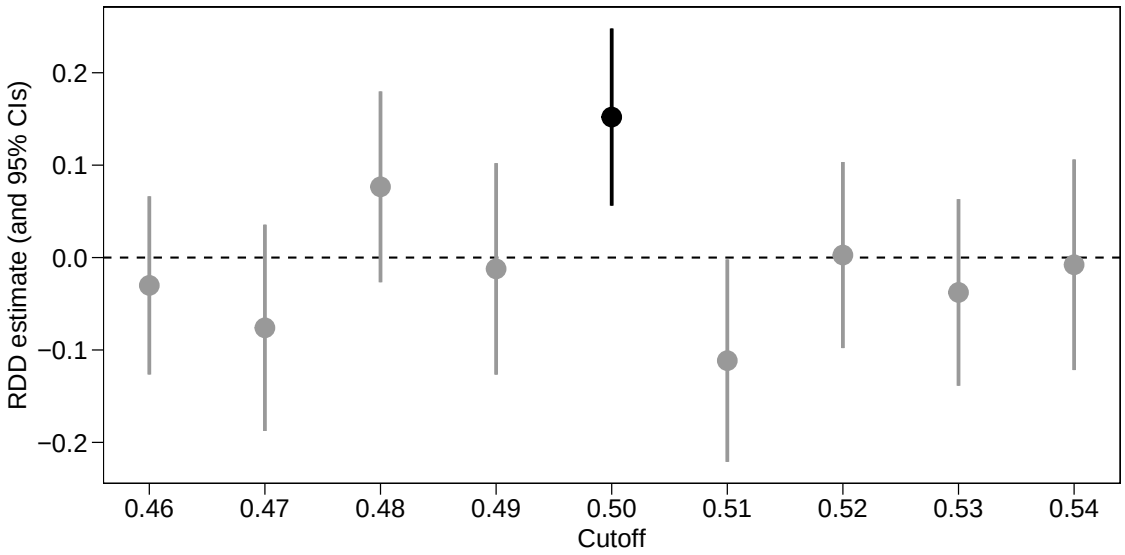


Table A2: RDD results: Effect of incumbency on the probability of rerunning and reelection in Irish local elections 1942-2019 when marginal winner and marginal loser had the same party affiliation

	Pr(Rerun)			Pr(Rerun & Reelected)		
	(1)	(2)	(3)	(1)	(2)	(3)
Estimate	0.348	0.025	0.311	0.248	0.096	0.199
Std. Err.	0.089	0.150	0.096	0.102	0.135	0.109
p-value	0.000	0.865	0.001	0.015	0.480	0.069
Bandwidth	0.043	0.015	0.031	0.035	0.017	0.025
BW Selector	CCT	IK	CER	CCT	IK	CER
N Obs.	311/312	137/138	240/241	272/273	150/151	210/211

Note: Estimates are bias-corrected and p-values are robust. All results are based on local linear regressions using a triangular kernel. 'N Obs.' describes the effective number of observations within the estimation window of the RDD.

Table A3: RDD results: Effect of incumbency on the probability of rerun and reelection in Irish local elections 1942-2019 when marginal winner and marginal loser had different party affiliations

	Pr(Rerun)			Pr(Rerun & Reelected)		
	(1)	(2)	(3)	(1)	(2)	(3)
Estimate	0.295	0.368	0.329	0.165	0.268	0.187
Std. Err.	0.067	0.088	0.074	0.064	0.109	0.069
p-value	0.000	0.000	0.000	0.010	0.014	0.007
Bandwidth	0.032	0.023	0.022	0.034	0.044	0.023
BW Selector	CCT	IK	CER	CCT	IK	CER
N Obs.	575/577	448/450	413/415	601/603	723/727	440/442

Note: Estimates are bias-corrected and p-values are robust. All results are based on local linear regressions using a triangular kernel. 'N Obs.' describes the effective number of observations within the estimation window of the RDD.

Figure A18: RD Plots for different election statuses of TD in t and t+1

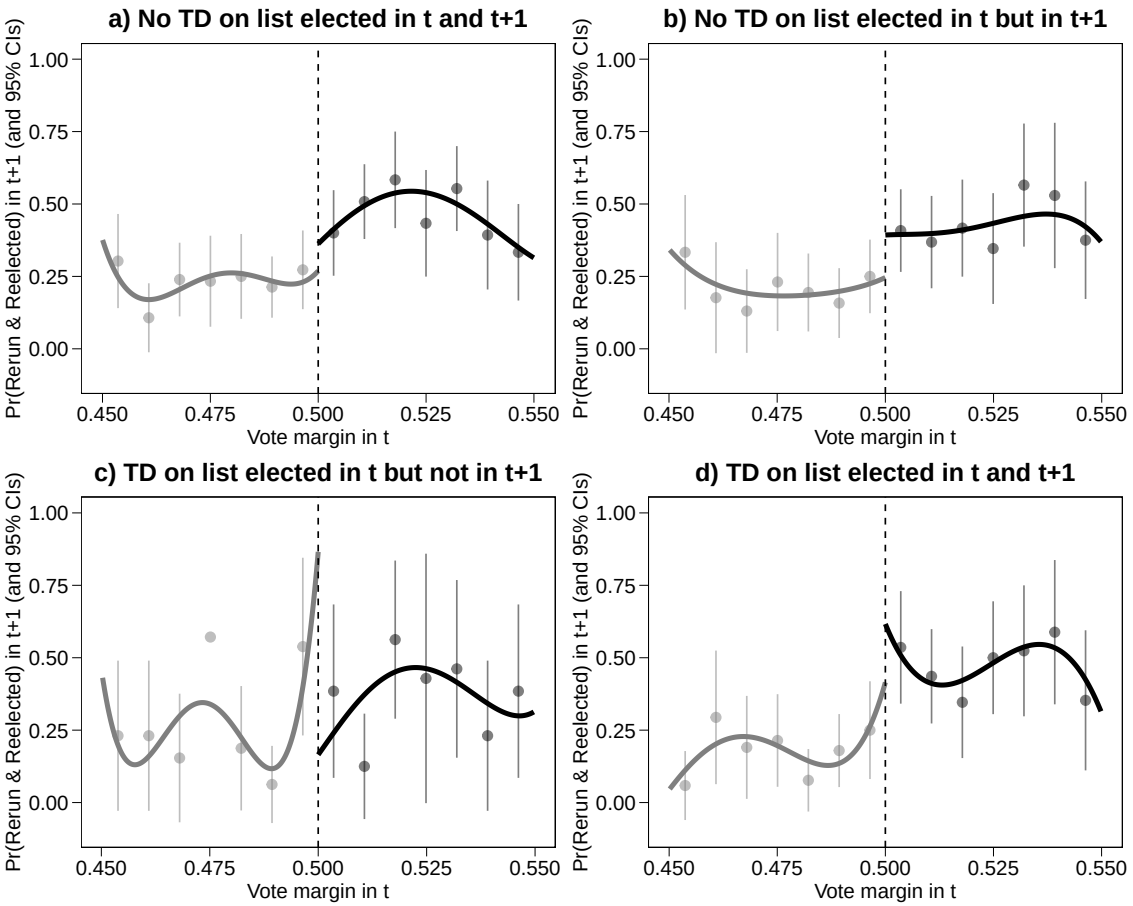


Table A4: RDD estimates (rerun and reelected) for dual mandate period and post dual mandate period

	Dual Mandate Period						Post Dual Mandate		
	No TD elected in t			TD elected in t			No TDs allowed		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Estimate	0.147	0.118	0.136	0.037	-0.157	0.003	0.295	0.368	0.313
Std. Err.	0.077	0.107	0.085	0.131	0.214	0.143	0.078	0.101	0.082
p-value	0.057	0.272	0.108	0.775	0.464	0.982	0.000	0.000	0.000
Bandwidth	0.039	0.022	0.027	0.032	0.035	0.023	0.036	0.040	0.026
BW Selector	CCT	IK	CER	CCT	IK	CER	CCT	IK	CER
N Obs.	413/416	264/266	309/311	190/190	200/200	152/152	312/313	330/331	235/236

Note: Estimates are bias-corrected and p-values are robust. All results are based on local linear regressions using a triangular kernel. 'N Obs.' describes the effective number of observations within the estimation window of the RDD.

B.2 RDD with Covariates

Table A5 shows the estimates for rerunning and rerunning and reelection in local elections when including covariates into the RDD model. We added the party affiliation of candidates, whether a candidate was classified as female, the number of candidates running in the constituency, and whether a constituency is a rural or urban council.

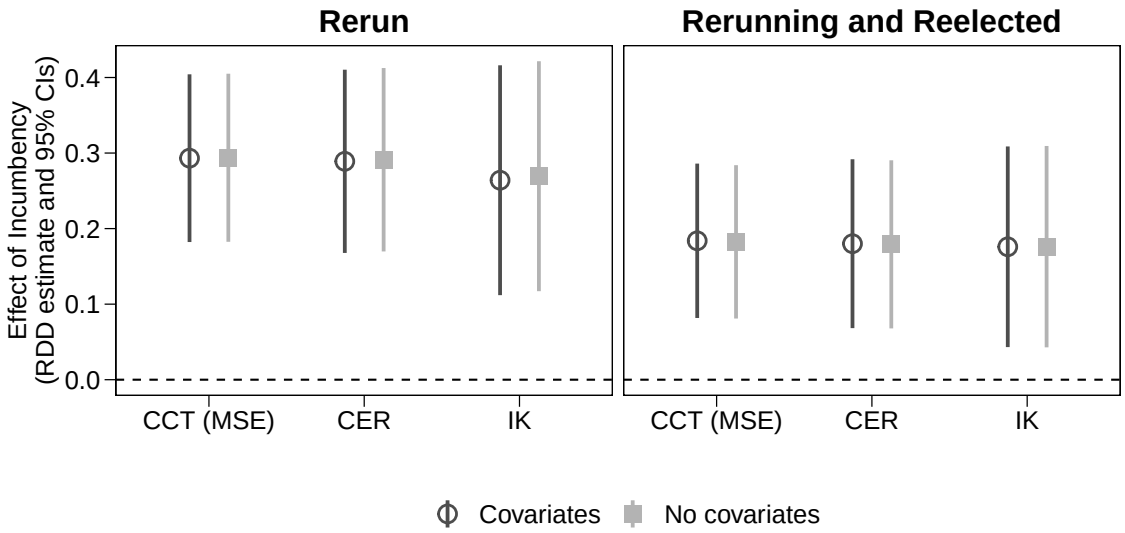
Figure A19 compares the point estimates and 95 percent confidence intervals for the RDDs with and without covariates. The plot underscores that the effect for incumbency is basically identical when adding the covariates, providing further evidence for the robustness of our results.

Table A5: RDD results: Effect of incumbency on the probability of rerun and reelection in Irish local elections 1942–2019 with covariates included

	Pr(Rerun)			Pr(Rerun & Reelected)		
	(1)	(2)	(3)	(1)	(2)	(3)
Estimate	0.293	0.264	0.289	0.184	0.176	0.180
Std. Err.	0.057	0.078	0.062	0.052	0.068	0.057
p-value	0.000	0.001	0.000	0.000	0.009	0.002
Bandwidth	0.034	0.029	0.023	0.036	0.024	0.024
BW Selector	CCT	IK	CER	CCT	IK	CER
N Obs.	868/872	756/759	640/643	911/915	668/671	668/671

Note: Estimates are bias-corrected and p-values are robust. All results are based on local linear regressions using a triangular kernel. 'N Obs.' describes the effective number of observations within the estimation window of the RDD.

Figure A19: Comparing RDD results for models with and without covariates



Note: Plot displays RDD estimates for rerunning (left-hand panel) and rerunning and getting reelected (right-hand panel) for the models that include covariates (Table A5) and the models without covariates (Table 2). The x-axis shows the selected bandwidth used to estimate the RDD.