No sorting, no advantage: Regression discontinuity estimates of incumbency advantage in Japan

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\textbf{Abstract}

While the existing literature has identified a sizable incumbency advantage in single-member district (SMD) races in developed democracies, we argue that some political and institutional contexts of Japan's Lower House elections would undermine the incumbency advantage. Our regression discontinuity (RD) analysis indeed shows little advantage, and further examination suggests this as largely due to the "best-loser" provision in Japan's mixed-member system, which gives a loser of SMD competition a chance to be a "resurrected" incumbent. We also show no evidence of sorting — i.e., systematic difference between bare winners and bare losers — in close SMD races and thus add further evidence to support the methodological argument that the election RD analysis is a viable and promising research design.

\section{1. Introduction}

In this paper, we analyze an incumbency advantage in the single-member district (SMD) tier of the mixed-member electoral system used in Japan's Lower House elections during 1996–2014. In particular, we use a regression discontinuity (RD) design to estimate a party incumbency advantage, the electoral advantage for a political party from holding an incumbent seat in an SMD district, which was first estimated by Lee (2008) for U.S. Congressional elections.

The literature on incumbency advantage has traditionally focused on American elections. Following Lee's proposal, however, a growing number of studies have used an RD design to examine a party incumbency advantage in non-U.S. contexts and revealed an interesting pattern. Specifically, they tend to show a positive treatment effect of party incumbency in developed countries, such as the United States (Lee, 2008), Germany (Hainmueller and Kern, 2008), Australia (Horiuchi and Leigh, 2009), Canada (Kendall and Rekkas, 2012), and the United Kingdom (Eggers and Spirling, 2015), but either little, or even a negative, treatment effect in developing countries, such as Brazil (Klasnja and Titunik, 2016), Zambia (Macdonald, 2014), and the United Kingdom in the 19th Century (Eggers and Spirling, 2014).\textsuperscript{1}

In line with these findings, one may expect a considerable electoral advantage of incumbency in SMD races in Japan as it is one of the most developed countries in the world. We argue, however, that the following three important features of Japan's recent elections would undermine the electoral advantage of incumbency in SMD races. First, the "best-loser" provision gives a loser of SMD competition a chance to be "resurrected" in the proportional representation (PR) tier of Japan's mixed-member electoral system. Second, under the transformation of Japan's party system during the period of investigation, strategic coordination of parties and voters should work against an incumbency advantage of both the Liberal Democratic Party (LDP), the largest political party that has governed the country for most of the postwar period, and the opposition camp.\textsuperscript{2} Third, the rising electoral importance of policy

\textsuperscript{1} Explanations for this variation in the literature include how strong the institutionalization of the party system is, and how much voters discredit incumbents for rampant corruption (Eggers and Spirling, 2014; Klasnja and Titunik, 2016).

\textsuperscript{2} During the period we study, the LDP was not in power from August 1993 to June 1994, as well as from September 2009 to December 2012. During these periods, non-LDP coalitions formed the governments. For simplicity, however, we refer to the LDP as a governing party and other parties as the opposition throughout this paper.
issues and national-level “valence” with respect to parties – discussed in the existing literature with the concepts of “party-centered politics” (Reed et al., 2012; Scheiner, 2012) and “the nationalization of elections” (McElwain, 2012) – would make the district-level incumbency status less relevant in voters’ calculations and their voting decisions.

The results of our RD analysis indeed show that there was little party incumbency advantage in Japan during the period examined. We also empirically explore observable implications of our theoretical arguments about the three features of Japan’s recent elections that would contribute to diminishing a potential advantage of incumbency, and show that it is largely due to the first one, the best-loser provision. We believe that our theoretical arguments and empirical evidence contribute to the growing literature on comparative incumbency advantage by improving our understanding of the political and institutional contexts in which parties have, or do not have, an electoral advantage of incumbency.

We also intend to contribute to the methodological debate on the effectiveness of using an RD design to estimate incumbency advantage and to study other political-economic outcomes. Caughey and Sekhon (2011) and Grimmer et al. (2011) questioned the validity of a key RD assumption that the treatment assignment near the threshold is “as-if” random. In response, Eggers et al. (2015) tested the assumption using more than 40,000 close races in many electoral settings and showed that there is no evidence of sorting – i.e., systematic difference between bare winners and bare losers – in almost all of the cases they examined. Reflecting upon this important debate, we conduct a range of placebo tests using many pre-treatment variables in our data on Japan’s Lower House elections. The results suggest no sorting in close SMD races and thus add further evidence to support the argument of Eggers et al. (2015) that the election RD analysis is a viable and promising research design.

In what follows, we first introduce Japan’s electoral systems and political changes over the past two decades, and present our theoretical arguments. In Section 3, we explain how we estimate a party incumbency advantage. The results of estimation and placebo tests for the sorting problem are presented in Section 4. Section 5 examines empirical implications of our theoretical argument on the three features of Japan’s recent elections. The final section concludes and discusses avenues for future research.

2. Incumbency advantage in Japan?

Japan had long used the multimember district, single non-transferable vote (SNTV) system to elect the representatives to the Lower House of the Diet until the electoral reform in 1994. Under the old SNTV system, three to five representatives were elected in most districts, and a majority-seeking party had to nominate more than one candidate in a district. Without a vote pooling among candidates from the same party, the electoral system spurred intensive intra-party competition among co-partisans, who had to make a personal appeal to their constituents to differentiate between themselves (McCubbins and Rosenbluth, 1995). Since the literature of American politics often associates an incumbency advantage to incumbents’ incentives and efforts to cultivate a personal vote and to perform constituency service (e.g., Cain et al., 1987), scholars of Japanese politics expected an electoral advantage of incumbency in the SNTV system, and provided some empirical evidence (Hayama, 1992; Reed, 1994).

The current mixed-member majoritarian system adopted in 1994 combines 295 SMDs and 180 seats elected from 11 regional, closed-list PR blocks. Under this system, seven Lower House elections have been held in 1996, 2000, 2003, 2005, 2009, 2012, and 2014.4 Each voter casts two ballots, one for a candidate in an SMD and another for a party in a PR block. The candidate-centered nature of elections was expected to change when the new system had removed intra-party competition. Some earlier studies based on the results of the first several post-reform elections, however, suggest that candidates still mobilize votes through their personal network and organizations (Kōenkai), name recognition, constituency service, and pork provision, as they did during the SNTV era (e.g., Krauss and Pekkanen, 2010; McKeen and Scheiner, 2000; Scheiner, 2005).5 This may not be surprising given that SMD is considered one of the electoral systems in which a personal vote is relatively important (Carey and Shugart, 1995). As long as a personal vote matters in SMD races, it would not be unreasonable to expect an incumbency advantage even after the electoral reform. As introduced earlier, given the precedent experience in SMD races in other developed democracies, researchers might also expect a positive electoral effect of incumbency in Japan.

The existing empirical evidence on the recent Lower House elections in Japan, however, is mixed. While Masuyama (2013) and Suzuki (2013) found an incumbency advantage, Umeda (2011) demonstrated little advantage.6 In the following, we argue that three features of post-reform Japanese electoral politics – the best-loser provision, the strategic coordination of opposition parties and voters, and the increasing electoral importance of policies and national-level valence with respect to parties – would diminish an incumbency advantage inherent in SMD races. As a result, we expect, there is a relatively small incumbency advantage, if any, or it could even be non-advantage or a disadvantage.

2.1. Best-loser provision

The first feature that would reduce an incumbency advantage in SMD races in Japan is the so-called “best-loser” provision under the current mixed-member system. A candidate endorsed by a party is able to run in an SMD contest, while being listed on the party’s PR list. This dual candidacy provision has been allowed in many other countries with mixed-member systems, such as Germany and New Zealand. An important additional feature in Japan’s electoral law, however, is mixed. While Masuyama (2013) and Suzuki (2013) found an incumbency advantage, Umeda (2011) demonstrated little advantage.6 In the following, we argue that three features of post-reform Japanese electoral politics – the best-loser provision, the strategic coordination of opposition parties and voters, and the increasing electoral importance of policies and national-level valence with respect to parties – would diminish an incumbency advantage inherent in SMD races. As a result, we expect, there is a relatively small incumbency advantage, if any, or it could even be non-advantage or a disadvantage.

More specifically, this provision functions as follows. When political parties submit a list of candidates for the PR tier, they can

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4 The number of PR seats was 200 in the first election before it decreased to 180. The number of SMD districts has also decreased from 300 to 295 since the most recent election in 2014.

5 As we will introduce later, more recent studies of Japanese politics focus on the growing relevance of policy issues and national-level valence issues in explaining election outcomes.

6 Masuyama (2013, pp. 36–37) estimated the positive incumbency advantage by regressing a candidate’s electoral performance on an incumbency indicator and a battery of control variables. Suzuki (2013) also found the advantage using a version of the Gelman-King estimator, which attempts to redress the endogeneity bias due to strategic retirement. Umeda (2011) found no incumbency advantage using the regression discontinuity analysis similar to ours.

nominate their SMD candidates at the same rank on the list. If these candidates win an SMD seat, they will be eliminated from the PR list. If they lose in an SMD contest but are listed on the PR list, the order of those ranked equally in their party’s PR list is re-arranged according to the “ratio of margin of defeat” (sekairitsu), the number of SMD votes a candidate received divided by the district winner’s SMD votes. Those with higher ratios among equally ranked SMD losers will be given higher priority to win a PR seat. While the best-loser provision is an option chosen at a party’s discretion, major parties have used it and nominated most of their SMD candidates equally at the same rank in the PR list. These SMD best losers, who are selected to assume a PR seat based on their sekairitsu, are said to be “resurrected” in the PR tier (hirei fukkatsu).

Officially elected from the PR tier, these resurrected winners attempt to behave as representatives of respective SMDs. This is because their efforts to be visible in their SMDs would increase their chance to win an SMD seat or a resurrected PR seat again. In essence, the best-loser provision “dulls the distinction between MPs [the Members of the Parliament] elected in SMDs and those elected from PR lists, because the primary incentives for both are to act like SMD specialists” (Bawn and Thies, 2003, p. 22, emphasis added).

As a result, a peculiar situation often emerges in Japan’s Lower House elections. Although there is only one seat per district, there can be two “incumbent MPs” per district—one elected in the SMD and the other resurrected in PR but acting as if he/she were an SMD representative. Due to the best-loser provision, this situation is likely to occur particularly in marginal, competitive electoral districts, where the most important electoral races to win a legislative majority would take place. In these critical districts, any potential electoral advantage of winning an SMD seat may be canceled out because the party that lost in the SMD race would also enjoy electoral benefits from having a resurrected, incumbent MP from the same district.

It is worth noting that the best-loser provision is likely to reduce the so-called “scare-off” effect on quality challengers. In the absence of the best-loser provision (as in the simple plurality voting in single-member districts in the U.S. House elections), the previous studies show that high-quality challengers are less likely to run against an incumbent (e.g., Cox and Katz, 1996; Jacobson, 1989; Hirano and Snyder, 2009). This is because those challengers who are likely to hold some other office would face greater risk of losing their office, if the opponent is an incumbent. This is often regarded as one of the sources of incumbency advantage. Yet, in the case of Japan, quality challengers have little risk because they have greater chance of being resurrected in PR even if they lose an SMD competition against the incumbent (Umeda, 2011). This is another reason why we consider that the best-loser provision would reduce the incumbency advantage.

2.2. Strategic coordination

The second feature that would diminish an incumbency advantage in SMD races is the strategic coordination of opposition parties and voters under the transformation of Japan’s party system during the period of investigation. Since a year before the electoral reform of 1994, there has been a series of significant party realignments. Through a series of mergers and breakups, the opposition camp had gradually consolidated on the Democratic Party of Japan (DPJ), which eventually replaced the LDP as the governing party in 2009, although the DPJ government was short-lived and the LDP came back to power in 2012.

The gradual consolidation of the opposition camp at the district level can be seen in the decline of the average effective number of candidates across electoral districts.9 In the first election after the reform in 1996, there were, on average, 2.95 effective candidates contesting in SMD races. This number had gradually but steadily declined every election until 2009. In this watershed election, the effective number of candidates reached 2.26, which is equivalent to or even smaller than those in the countries with pure-SMD electoral systems (Cox and Schoppa, 2002). In essence, multiparty competition at the district level right after the electoral reform had transformed to almost two party competition by 2009. When the DPJ lost in 2012, the situation reverted to that in 1996 and the effective number of candidates sharply increased to 2.98. The Duvergerian consolidation, however, seems to have resumed in the 2014 election (Scheiner et al., 2015), in which an average of 2.60 effective candidates competed in SMDs.

Behind this decline of the effective number of candidates was the strategic coordination of opposition parties and voters (Cox, 1997), which would be another factor reducing an incumbency advantage in Japan’s SMD races. In the following, we discuss the incentives of parties and voters in turn.

2.2.1. Strategic coordination by parties

Under Japan’s mixed-member system, electoral coordination through a withdrawal from an SMD race is typically costly for any political party, since the local presence of SMD candidates could increase the party’s votes necessary to win seats in the PR tier—the so-called “contamination effect” in the literature of mixed-member electoral systems (Ferrara et al., 2005; Herron and Nishikawa, 2001; Umeda, 2011).10 Nevertheless, non-LDP opposition parties, which originally ran their own party candidates in SMDs, have gradually coordinated to endorse candidates from a single center-left party, the DPJ, and made the DPJ a viable alternative to the center-right LDP. There must be some compelling reasons for the opposition parties to coordinate despite its cost, but their incentives are likely to diverge across different types of districts.

Specifically, the benefit of coordination in the subsequent election t + 1 should be apparent in the districts where the LDP won and the opposition camp was fragmented in election t, as there is little chance of the opposition winning unless they coordinate their endorsement. The benefit is most obvious and immediate especially in the districts where the LDP barely won, as the opposition has the largest chance to win. The expected benefit of coordination (i.e., the opposition victory) is likely to outweigh the cost of withdrawal (i.e., loss of the contamination effect) in these districts. On the other hand, the incentive for coordination should be lower in the districts where one of the non-LDP opposition parties won an SMD seat. For other opposition parties of losing candidates, the benefit to coordinate with the opposition party of a winning candidate is likely to be low, or may not even exist, since the opposition camp already won a seat in these districts. What thus remains for the opposition parties of losing candidates would be the net cost of withdrawal from SMD races.

This expected disparity in opposition parties’ incentives to coordinate between the districts in which the LDP won and those in which the opposition won would diminish a potential incumbency advantage of both the LDP and the opposition camp. For the LDP, its electoral campaign should be more difficult in the former districts

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9 The numbers are based on the authors’ own calculation. We use the standard measure of the effective number of candidates used in the literature (Laakso and Taagepera, 1979).

10 See Maeda (2008) for a dissenting view and contrary evidence.
with the united opposition than in the latter with the fragmented opposition. For the opposition camp, an incumbent SMD candidate from the opposition party in the latter districts should compete not only with a candidate running from the LDP but also with other viable opposition candidates, while the opposition camp in the former districts have a stronger incentive to back up its joint candidate. Accordingly, both the LDP and the opposition camp would face a tougher competition when they won an SMD seat in the previous election than when they did not.

2.2.2. Strategic coordination by voters

A similar difference in incentives is also expected for voters’ strategic coordination. Suppose that non-LDP supporters have the following preference order: (1) a small opposition party, (2) the largest opposition party (in most cases, DPJ), and (3) the LDP. Also suppose that the LDP won in the previous election. If the small opposition party is unlikely to win in any scenario but the largest opposition party has a reasonable chance of winning, these supporters of small opposition parties would have an incentive to cast a strategic vote for the largest opposition party. On the other hand, if these voters are in the districts where the largest opposition party won in the previous election, their incentives for strategic voting in favor of the opposition camp should be lower, as long as the largest opposition party is expected to win again.

To the extent that these expectations hold true, the LDP should face more united opposition voters in the districts in which it won than in those it lost. This disparity in voters’ incentives for strategic voting might also work against a potential incumbency advantage of the LDP.

Similarly, the coordination among the opposition voters to cast a ballot for a viable non-LDP candidate should be more difficult in the districts where the opposition won, while the opposition camp should benefit from the strategic voting by opposition voters in the districts it lost. This would work against an incumbency advantage of the opposition camp.\(^\text{12}\)

Although most supporters of small parties are in the anti-LDP camp, some of them might prefer the LDP to the largest opposition party as the second choice.\(^\text{13}\) The expected impact on the LDP’s incumbency advantage is similar even in this scenario. In the districts where the LDP won in the previous election, these voters would have a weak or null incentive to cast a strategic vote, particularly when the LDP is expected to win again. In the districts where the largest opposition party won in the previous election, they would have a stronger incentive to vote for the LDP, particularly when the LDP has a reasonable chance of winning. This should also reduce the magnitude of the LDP’s incumbency advantage.

To recap, the above theoretical arguments suggest that a greater electoral coordination of the opposition parties and voters may offset both the LDP’s and the opposition’s potential electoral benefits of incumbency in SMDs. While the existing empirical evidence in the literature seems to indicate differences in the realization of an SMD incumbency effect between developed and developing countries, our argument here suggests that the magnitude of an SMD incumbency effect may also vary across developed and developing party systems.

2.3. Rising importance of policies and national-level valence

The third feature that might have diminished an incumbency advantage in SMD races is the rising electoral importance of “party-centered politics” (Reed et al., 2012; Scheiner, 2012) and the growing “nationalization” in recent Japanese elections (McElwain, 2012). As we introduced at the beginning of this section, earlier studies found the persistent importance of candidate-centered politics despite the electoral reform of 1994, highlighting the continuing utility of personal votes, personal network, and organizations (Kōenkai) in SMD races (e.g., Krauss and Pekkanen, 2010; McKean and Scheiner, 2000; Scheiner, 2005). This holds not only among the LDP and other conservative politicians, but also the DPJ politicians, especially those with a background in the LDP. More recent studies, however, have begun to shift their attention to the growing electoral importance of political parties and national-level factors.

In the words of Reed et al. (2012), the fourth post-reform election held in September 2005 “altered the fundamental dynamics of Japanese electoral politics” (p. 354). The main opposition DPJ, which had been predominantly urban parties before 2005, broadened its electoral support to rural areas and thus became a “national” party, a party that can mobilize votes from all segments of Japanese society. As a consequence, policy issues that are not geographically specific but relevant for voters across the nation such as economic growth and better social security programs — and national-level “valence” issues such as trustful and capable party leaders, voter’s perceptions of relative party competence, and “views of the parties as agents of change” — became more important determinants of elections after 2005 (Scheiner, 2012, pp. 355–356, 363–366). An important observable implication is the growing cross-district correlation in electoral performance of parties and the huge national partisan swings (McElwain, 2012), which should explain DPJ’s landslide victory in the 2009 election and a dramatic reversal of fortune in the 2012 election — DPJ’s catastrophic loss and LDP’s overwhelming recovery.

Another important implication, which has not been tested in the existing literature, is the declining importance of local-level valence such as a district incumbency. Presumably, an increasing number of Japanese voters calculate and make their voting decisions on the basis of parties’ policies and leaders’ images, instead of district incumbency status and candidate characteristics. This may contribute to the reduction in the magnitude of incumbency advantage at the level of individual SMDs.

3. Research design

Before discussing our empirical research design, we present the descriptive statistics of incumbent re-election rate during the period of investigation as a background for our analysis.\(^\text{14}\) On average, 66% of SMD incumbents won an SMD seat again, and additional 12% of SMD incumbents won a PR resurrection.\(^\text{15}\) The average re-election rate appears to be relatively low, especially when compared to the overwhelmingly high rate of incumbents’

\(^{11}\) This expectation may not always hold. If the LDP won in election \(t\) and if the largest opposition party is expected to lose anyway in election \(t + 1\), the supporters of small opposition parties may cast a vote for a third party. If the largest opposition party won and the LDP lost, the LDP’s incumbency advantage may be reduced, but voters would have a weak or null incentive to cast a strategic vote, particularly when the LDP is expected to win again. In the districts where the largest opposition party won in the previous election, they would have a stronger incentive to vote for the LDP, particularly when the LDP has a reasonable chance of winning. This should also reduce the magnitude of the LDP’s incumbency advantage.

\(^{12}\) For example, supporters of the Party for Japanese Kokoro (formerly, the Party for Future Generations), a far-right party, should prefer the LDP’s policies than those of the DPJ.

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\(^{14}\) For a more detailed description, see Online Appendix A.

\(^{15}\) The re-election rate here is defined as the number of winners at \(t + 1\) divided by the number of SMD incumbents returned to that race. The average percentage of the SMD incumbents returned to the SMD race in the next election is 92%. Also see Footnote 4 on the number of SMD seats.
It is important to note that while the incumbent re-election rate is informative, it is by no means a valid measure of an incumbency advantage because neither a counterfactual is defined nor confounding factors are controlled (Gelman and Huang, 2008; Lee, 2008). Instead, we should use a concept that employs a counterfactual comparison of districts with and without an incumbent. Here, we use the concept of “party incumbency advantage” (Lee, 2008), defined as:

$$\pi \equiv \mathbb{E}[Y_{t+1}(W_t = 1) - Y_{t+1}(W_t = 0)]$$

where $Y_{t+1}(W_t)$ is a potential election outcome for a reference party at election $t + 1$ in a given SMD, $W_t = 1$ if the party won a seat in this SMD at election $t$, and $W_t = 0$ otherwise. This quantity is the average difference between two potential election outcomes for the reference party with and without an SMD incumbency, or the average treatment effect (ATE) of holding an SMD seat on the reference party’s election outcome.17

Following Lee (2008), we use a regression discontinuity (RD) design to estimate this party incumbency advantage ($\pi$). As long as the RD design’s critical assumption of as-if randomness around the threshold of vote margin is satisfied, we can make a causal interpretation about the effect of party incumbency on subsequent election outcomes.18 It is also important to note that a party incumbency advantage does not suffer from a potential endogeneity bias from strategic retirement of incumbent candidates—a problem that has plagued researchers estimating Gelman and King’s (1990) concept of incumbency advantage, which was popularly estimated before Lee’s proposal (e.g., Gelman and King, 1990; Cox and Katz, 2002).

Specifically, we use the district-level election data of Japan’s Lower House elections across seven elections from 1996 to 2014. Our RD design requires district observations over three consecutive elections at $t - 1$, $t$, and $t + 1$. A treatment and a running variable, which we specify shortly, are an SMD victory and the vote margin at election $t$. Outcome variables are taken from election $t - 1$. For placebo tests, which examine observable implications of the critical as-if random assumption, pre-treatment covariates are taken from elections $t$ and $t - 1$. In terms of election $t + 1$, in which the treatment effect of incumbency should be realized, our analysis takes into account the possibility of winning a seat. This outcome is of particular interest in a multiparty system such as Japan’s, because the same proportion of vote share, say 5% points, could have substantively different meanings across elections with different numbers and types of political parties.

The fourth outcome is whether an LDP’s losing candidate in an SMD is resurrected in the PR tier of election $t + 1$. Given the best-loser provision, which we discussed in Section 2, the electoral performance at the SMD level has the direct impact on whether a candidate of the party lost in an SMD wins a resurrected seat in the PR tier.

We used a non-parametric local linear regression with a triangular kernel and applied Calonico, Catteaneo, and Titiunik’s (hereafter, CCT) optimal bandwidth and robust confidence interval (Calonico, Catteaneo, and Titiunik, 2014b). This data-driven, non-parametric approach avoids the common criticism against traditional regression discontinuity analysis—the arbitrary selection of bandwidth—and automatically searches for the optimal specifications.19

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16 The numbers in parentheses are the incumbent re-election rates between 1979 and 1994 taken from Table 1 of Matland and Studlar (2004, p. 93).
17 As shown formally in recent studies by Erikson and Titiunik (2015) and Fowler and Hall (2014). Lee’s party incumbency advantage is a combination of both the reference and the opponent parties’ electoral advantage from running an incumbent candidate (“partisan incumbency advantage”) and holding an incumbent SMD seat (“partisan incumbency advantage”).
18 More precisely, the critical assumption is the continuity of potential outcomes across the threshold (Hahn et al., 2001; Lee, 2008).
19 For example, when the observations for the outcome variables are from the 2003 election ($t - 1$), the 2000 election is election $t$, in which the treatment of incumbency was assigned, and the observations from the 2000 election ($t$) and the 1996 election ($t - 1$) are used as the placebo outcomes.
20 Since the 2000 Lower House election, the LDP has not nominated its candidates in a small fraction of SMDs and kept them for the coalition partner, Komeito, as part of their electoral alliance. We did not include a small number of these districts for our analysis.
21 There was redistricting in 2002 and 2013, following a decennial census in 2000 and 2010.
22 This is a generalization of the vote share margin in two party elections—the vote share of the reference party minus 50%, which is equivalent to the vote share margin defined in the text if there are only two candidates.
23 See Footnote 2.
24 In Japan, electoral district boundaries almost always respect the boundaries of municipalities. Since election results are published at the level of municipalities, it is possible to aggregate each party’s share of PR votes at the level of SMDs.
25 We use Stata’s rdrobust (Version: February 2, 2015), which Calonico, Catteaneo, and Titiunik (2014b) developed.
26 Imbens and Kalyanaraman (2011) propose another method to address the problem of optimal choice for bandwidth. We applied their method as well, but the results are similar to the results based on CCT’s.
4. Results

In this section, we first show the results of RD estimation, which suggest that there is no party incumbency advantage in the SMD races in Japan’s mixed-member electoral system. We then show the results of our placebo tests, which suggest that there is no sorting around the threshold.

4.1. No advantage

Fig. 1 reports our main findings of the treatment effect of winning an SMD seat in election \( t \) under the current mixed-member electoral system. As is clear from this figure, the causal impact of party incumbency does not seem to exist. The point estimates are close to zero in all four outcomes — only a 0.60% point increase in an SMD vote share, a 0.59% point decrease in a PR vote share, a 0.015 point increase in the proportion of an SMD victory, and a 0.008 point decrease in the proportion of an PR resurrection. All of these estimates are statistically insignificant.

As sensitivity analyses, we also estimated the treatment effects using varying bandwidths and functional forms. Fig. 2 summarizes the results. Panels (a) through (d) show the results for each of the four outcomes, respectively.

Leftmost figures are standard RD plots of an outcome (the vertical axis) and the running variable (the horizontal axis). Each dot represents the mean or the proportion of an outcome variable within each 0.5% point window of the vote share margin. A vertical line represents the threshold of vote margin at zero. We can visually examine whether the data exhibit any discontinuity at the threshold from these plots.

The figures at the center summarize the sensitivity of a bandwidth choice for a local linear regression, following an exemplary presentation of Lee and Lemieux (2010), Eggers et al. (2015), and Eggers and Spirling (2015). The horizontal axis is a bandwidth from 3 through 15% points (on each side of the discontinuity) applied to an LDP’s vote margin at election \( t \). We conducted the RD estimation by changing the bandwidth incrementally in this range. The solid horizontal line connects the point estimates and the dashed horizontal lines are the corresponding 95% confidence intervals. A single dot and a vertical line represent the point estimate under the CCT optimal bandwidth and the robust confidence interval, reported in Fig. 1.

Rightmost figures show the sensitivity analysis of a functional form. The CCT optimal bandwidths computed for the four outcomes are relatively large – for example, 6.9% points for an SMD vote share in election \( t + 1 \). Therefore, it would be appropriate to examine whether the estimation results are robust to the choice of a functional form applied to the same bandwidths. In addition to a local linear regression (i.e., 1st order polynomial regression), we estimated the 2nd to 4th order polynomial regressions fixing the bandwidths at the CCT optimal ones derived for a local linear regression and applying robust confidence intervals.

In all specifications of bandwidths and functional forms presented here, the RD estimates of party incumbency effect on all four outcomes are close to zero and statistically insignificant. Even in the narrower bandwidths than those presented in these figures, we did not find any statistically and substantively significant results. The RD plots for all outcomes do not indicate any clear gap between the left and right sides around the threshold, either. All these sensitivity analyses suggest that there is no electoral advantage of holding an SMD seat in marginal districts under the current mixed-member electoral system.

4.2. No sorting

The validity of an RD design rests on the assumption of continuity of potential outcomes around the threshold (Hahn et al., 2001). Observable implications of the assumption can be examined by undertaking placebo tests — the estimation of treatment effects on the pretreatment covariates (Caughey and Sekhon, 2011; Imbens and Lemieux, 2008; Lee, 2008; Lee and Lemieux, 2010). Specifically, Eggers et al. (2015, p. 275) suggest that we should conduct placebo tests on (1) a lagged running variable, (2) a lagged treatment variable, (3) a lagged outcome variable, and (4) other...
pretreatment variables as much as possible.

In our case, we conducted placebo tests on the following 12 variables. The first is a lagged running variable, an LDP vote margin in the previous election at $t/C_0$. The next four are lagged outcome variables. They include an LDP’s vote share in SMD, vote share in the PR tier, SMD victory, and PR resurrection at election $t/C_0$. Note that the LDP’s SMD victory in $t/C_0$ is also a lagged treatment variable. The rest of the variables are other pretreatment covariates: the

Note: The vertical axes are in percentage for (a) through (b) and in proportion for (c) and (d). A single dot and a vertical line in each figure at the center represent the point estimate under the CCT optimal bandwidth and the robust confidence interval, reported in Figure 1.

Fig. 2. Sensitivity analysis of treatment effect of winning an SMD seat in election $t$. 
number of candidates in a district at elections $t$ and $t - 1$, respectively; the effective number of candidates at $t - 1$; whether there was an incumbent candidate (i.e., either an SMD incumbent or a PR resurrected incumbent) who ran in a district in election $t$ from the LDP and the opposition, respectively; and whether an SMD candidate is listed in a PR list (dual candidacy) for the LDP and the opposition, respectively.

Fig. 3 summarizes the $p$-values from the placebo tests on these 12 variables using CCT optimal bandwidth and robust confidence interval. There is no variable for which the difference at the threshold is statistically distinguishable. We also generated sets of figures (i.e., an RD plot, a bandwidth sensitivity analysis, and a functional form sensitivity analysis) similar to Fig. 2 for each of the 12 placebo outcomes examined in Fig. 3. Looking at all the panels in these figures, we see no pre-treatment variable for which statistically significant differences are consistently found across multiple specifications. Thus, the overall picture found in Fig. 3 is stable across these sensitivity analyses. All these results suggest that there would be no sorting around the threshold of an LDP vote margin under the current mixed-member electoral system between 1996 and 2014.

5. Why no advantage?

In Section 2, we discussed three features of post-reform Lower House elections in Japan that would undermine the incumbency advantage. In this section, we empirically examine observable implications of these arguments. We also discuss other alternative interpretations.

5.1. Best-loser provision

We argued that the best-loser provision of selecting a PR representative would contribute to reducing an incumbency advantage of an SMD seat. This is because most of the competitive districts at election $t$ would become the districts with two MPs — both an SMD winner and a PR resurrected MP — from the LDP and the opposition, respectively. As we discussed earlier, they all “act like SMD specialists” (Bawn and Thies, 2003) between elections $t$ and $t + 1$, and therefore, an incumbency effect of winning an SMD seat at $t$ may be canceled out by an act of a resurrected MP in the same district.

To test the validity of this argument, we examined the extent to which the electoral districts at both sides of the vote margin threshold had these two types of incumbent MPs. The proportion of such electoral districts is equivalent to: the proportion of SMDs where an LDP candidate was resurrected at election $t$ or $t + 1$, and the proportion of SMDs where an opposition candidate was resurrected at election $t$ at right. We estimated this proportion non-parametrically with local linear regression in the CCT optimal bandwidth.

32 More specifically, we apply CCT’s rdrobust in Stata with the LDP’s (or the opposition’s) victory in an SMD at election $t$ as a treatment and an indicator of whether or not the LDP (or the opposition) won an SMD seat or its candidate was resurrected in the same election $t$ as an outcome.
The estimated proportion of SMDs in which an LDP candidate was resurrected at the left of the threshold is 0.72, which suggests that almost three-fourths of the districts that LDP had lost became the districts with both an SMD winner and an PR resurrected MP between elections $t$ and $t + 1$. Similarly, the estimated proportion of SMDs in which an opposition candidate was resurrected at the right of the threshold is 0.90, indicating that most of the districts in which the LDP had won were the districts with the two types of MPs. The empirical evidence here is consistent with our theoretical argument that an electoral advantage of winning an SMD seat would be canceled out by a PR resurrected MP.  

### 5.2. Strategic coordination

We also hypothesized that the party system consolidation at the electoral district level during the period examined would contribute to reducing an incumbency advantage of an SMD seat. As we discussed earlier, if the incentives to coordinate among opposition parties and voters are greater when the LDP won than when one of the opposition won, both the LDP and the opposition should face a more difficult electoral race in election $t + 1$ when they won a seat in election $t$ than when they lost.

An observable implication of this argument is the difference in the number of candidates at election $t + 1$ between two types of districts. If the opposition coordination is more successful in the districts that the LDP won, the number of candidates running in a district should be smaller in those districts in which the LDP has held a seat than those it has not. This can be examined by estimating the treatment effect of the LDP holding an SMD seat on the number of candidates at $t + 1$. We used both the number of candidates and the effective number of candidates at $t + 1$ as outcomes in this estimation.

In both the number of candidates and the effective number of candidates at $t + 1$, the RD estimates of the treatment effect of LDP’s holding an SMD seat are substantively small (0.031 and –0.001, respectively) and statistically insignificant ($p = 0.75$ and $p = 0.93$, respectively). The results suggest that there is little difference in the extent of opposition electoral coordination between the districts in which the LDP won and those in which it did not. Accordingly, the party system change due to strategic coordination of the opposition does not appear to contribute to the lack of incumbency advantage for the LDP and/or the opposition.

### 5.3. Rising importance of policies and national-level valence

The third hypothesis for the weakened effect of district incumbency is the growing electoral importance of policies and national-level valence issues. As introduced earlier, scholars on Japanese electoral politics have found that the policy issues and national-level valence issues related to parties have become more important determinants of the recent Japanese elections. Accordingly, the electoral importance of local-level valence, such as district incumbency, would have diminished.

Reflecting the growing nationalization of elections, there were huge national party swings in the past few elections, which swept a large number of incumbents, particularly in 2009 and 2012. In these elections, the alternation of power, which had been extremely rare in the country, became a salient national issue during the campaigns, and therefore, the national-level valence issues, such as voters’ perceptions of relative party competence and the image of party leaders, were critical. The re-election rate of SMD incumbents in these elections was extremely low. Specifically, in 2009, in which the LDP experienced a historic defeat, only 43% of SMD incumbents were reelected in SMDs. In 2012, in which the LDP came back to power with a landslide victory, the number was even lower at 34%. Even when we include PR resurrection, the reelection rate only rose to 58% and 49%, which were the lowest during the period examined and much lower than other election years. Little incumbency advantage could largely be a result of these huge national swings due to the increased electoral importance of parties, policies, and national-level valence.

To examine this possibility, we reestimated the RD treatment effects of holding an SMD seat, removing the elections in 2009 and 2012 from the analysis. The restricted dataset includes three elections in 2003, 2005, and 2014 in terms of election $t + 1$, in which the treatment effect of incumbency should be realized. The number of district observations in the dataset is 709. None of the treatment effects are statistically significant across four election outcomes in this restricted dataset. The substantive magnitudes of the point estimates are also very small. They are only –0.5% (SMD vote share, $p = 0.75$), 0.3% (PR vote share, $p = 0.77$), –0.08 (SMD victory, $p = 0.47$), and 0.05 (PR resurrection, $p = 0.52$). The results suggest that the salience of national-level valence issues and the huge national swings in 2009 and 2012 are unlikely to have produced our null findings of incumbency advantage.

### 5.4. Alternative explanations

One may argue that our null finding of party incumbency advantage is simply due to the lack of statistical power. We argue that this is unlikely to account for our results, because the numbers of district observations used for estimation are not necessarily small. Specifically, the numbers of observations included in the CCT optimal bandwidths are 616 for the SMD vote share, 568 for the PR vote share, 542 for the SMD victory, and 628 for the PR resurrection. The CCT bandwidths are 6.9, 6.3, 6.0, and 7.1% point vote margins, respectively. Importantly, our results are robust to the different bandwidths used in sensitivity analysis. Furthermore, the estimated confidence intervals (shown in Fig. 1) are not necessarily large. If the effects were almost the same as the one found by Lee (2008) for the U.S. Congress, we should have been able to reject the null hypothesis.

There is another potential alternative explanation, which is...
similar to an explanation offered for the lack of incumbency advantage in developing countries: voters’ anti-incumbency orientation (Klasna and Titiunik, 2016; Eggers and Spirling, 2014). Given Japan’s fluid party system, frequent corruption scandals, and a sequence of policy failures by incumbent governments during the “lost decades” since the bursting of the bubble economy in the early 1990s, Japanese voters may have an orientation to discredit incumbents. We leave the exploration of the empirical implications of this alternative explanation to future research, as we do not have appropriate data with which we can examine them.37

Finally, we would like to remind the readers that our RD estimates of no incumbency advantage are based on competitive districts only. This leaves a possibility that major parties in Japan may enjoy the electoral advantage of incumbency in non-competitive districts. As suggested earlier, a couple of previous studies estimated the positive incumbency effect under Japan’s mixed-member system (Masuyama, 2013; Suzuki, 2013). One potential reason of this difference may be that while we focus on competitive districts, these studies also include non-competitive districts in their analyses.

Nonetheless, we argue that our findings based on competitive districts offer a significant contribution to the understanding of an incumbency advantage in Japan. First, competitive districts are arguably the most important subset of districts in majoritarian systems (Ariga, 2010; Hainmueller and Kern, 2008). Whether a party can win these districts often determines whether the party can hold the majority in the legislature. Hence, majority-seeking political parties normally make a significant effort to win these districts. The findings that there is little incumbency advantage in these critical districts help us understand an important characteristic of Japanese electoral politics. Second, using the RD estimates, the previous studies on developed democracies, such as Australia (Horiiuchi and Leigh, 2009), Canada (Kendall and Rekkas, 2012), Germany (Hainmueller and Kern, 2008), the United Kingdom (Eggers and Spirling, 2015), and the United States (Lee, 2008), demonstrated that major parties in these countries enjoy the electoral benefits of incumbency in competitive electoral districts. Our findings in the same type of districts using the same estimation method clearly illustrate an distinctive characteristic of Japanese elections from the comparative perspectives.

6. Conclusion

This paper has offered a theoretical argument about the three institutional and political features that would reduce a party incumbency advantage in Japan’s Lower House elections under the current mixed-member systems. The RD estimates of the treatment effect of holding an incumbent SMD seat on various election outcomes for the LDP are indeed very small and statistically insignificant. We have also examined empirical implications of the three features and concluded that the lack of incumbency advantage is most likely due to the best-loser provision, which often produces two types of incumbent MPs from opposing parties in the same SMDs — an SMD winner and a PR resurrected MP — particularly when races are competitive. In addition, placebo tests have indicated no strategic sorting around the threshold of the vote margin. In this concluding section, we discuss the contributions of our study and the direction of future research.

First, our paper enriches the emerging literature on comparative incumbency advantage. The finding that the causal impact of party incumbency on election outcomes is nil in the Japanese Lower House elections has broken the pattern in the existing literature that there tends to exist party incumbency advantage in SMD races in developed countries. Given the relative importance of personal votes in SMD elections, it would be reasonable to expect a positive incumbency effect in those races. We theorize, however, that particular features in post-electoral reform Japan would contribute to alter this expectation. The literature on comparative incumbency advantage is still nascent in that there have not been many theories on the variation in the advantage across comparative cases. Our study has offered one such theory and thereby, we hope, contributes to developing comparative theories in this relatively new research agenda.

Second, our finding is related to the literature on the mixed-member electoral systems. Since the mixed-member systems combine two different principles of electoral systems – majoritarian and proportional – through two distinctive tiers, the literature has focused on the interaction between them, such as the mitigating effect of the PR tier on Duvergerian convergence in SMD races (Ferrara et al., 2005), different incentives of MPs elected from different tiers (Pekkanen et al., 2006), and the spillover of SMD incumbency advantage to PR votes (Hainmueller and Kern, 2008). Our finding offers a new insight into the interaction between the SMD and PR tiers of the mixed-member systems; namely, the best-loser provision may suppress the incumbency advantage in SMD races.

Third, more generally, our argument and evidence also agree with the recent development in comparative electoral systems literature, which emphasizes that “the context matters” in the impacts of electoral rules (e.g., Ferree et al., 2014; Moser and Scheiner, 2012). The subfield on comparative electoral studies has produced various theories regarding the impacts of different electoral systems on various outcomes, such as party system, vote choice, and legislator behavior. Scholars have recently started emphasizing that these impacts vary in an important way across different political contexts (Ferree et al., 2014; Moser and Scheiner, 2012). Our study suggests that this also holds true for incumbency advantage.

Fourth, through extensive placebo tests that have indicated little evidence of sorting around the vote margin threshold in Lower House elections in Japan, our study has bolstered the findings of Eggers et al. (2015) that it is appropriate and promising to apply an RD design to election studies in many electoral settings.

Future research on comparative party incumbency advantage should further theorize the cross-national variation in the magnitude of advantage and empirically test these theories based on rigorous methods. Our study has offered one promising line of such theorizing. We have argued that, in the context of the party system development in Japan after the electoral reform in the mid-1990s, the increasing strategic coordination by parties and voters may potentially cause a reduction of incumbency advantage. While this argument has not received empirical support in post-reform Japan, the theory itself may be applicable elsewhere. It should be particularly relevant to emerging democracies with SMDs in which a relatively dominant government party had ruled for long but an alternative opposition party has gradually emerged through the strategic coordination of the opposition camp. While the existing empirical evidence in the literature seems to suggest a difference in the realization of an SMD incumbency effect between developed and developing countries, the theory here suggests that an important distinction may be between developed and developing party systems. A further theorizing and empirical test along this line is one promising research agenda.

37 One approach to test this alternative interpretation is to construct a variable on corruption charges for SMD incumbents, similar to that used in Nyblade and Reed (2008), and examine whether corruption charges affect the magnitude of incumbency advantage.
Acknowledgment

Mansilla appreciates the Department of Government at Dartmouth College for financial support (Rockefeller Memorial Fellowship) to undertake this project, which is based on an independent study supervised by Horiiuchi during Mansilla’s senior year at Dartmouth College. We thank Ko Maeda, Steven Reed and Taku Sugawara for providing their data, Mami Kato and Ayaka Kohno for research assistance, and Dominik Cooreman for proof reading this manuscript.

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.electstud.2016.03.006.

References


Lee, David S., Lemieux, Thomas, 2010. Regression discontinuity designs in eco-

Ner, J. Econ. Liter. 48 (2), 281–351.

Macdonald, Bobbie, 2014. Incumbency Disadvantages in African Politics? Regres-

Horie. 13 (1), 421–439.


