Entrenched Incumbents, Irresponsible Parties?

Comparative Analysis of Incumbency Advantage Across Different Electoral Systems

by

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To my parents, Naoko and Yoshio, and my sister, Michiko

To my wife, Ayako

And to my daughters, Sakura and Yurika

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Abstract

This dissertation presents a comparative analysis of incumbency advantage across developed democracies. In particular, it examines two variants of incumbency advantage: 1) the extra electoral benefits that *political parties* gain from fielding incumbent candidates (incumbency advantage *for political parties*) and 2) the electoral advantage that *individual incumbents* enjoy over non-incumbent candidates of the same party (incumbency advantage *for individual candidates*).

For each type of incumbency advantage, this dissertation offers three distinctive contributions. First, it provides comparable estimates of both types of incumbency advantage across different electoral systems. The existing literature lacks appropriate estimates of either type of incumbency advantage that are *comparable across different electoral systems*. This dissertation furnishes fully comparable estimates — the first of its kind — and makes it possible to conduct a systematic comparative analysis of incumbency advantage.

Second, it develops a theory of electoral systems' impact on the magnitude of incumbency advantage. This theory is partly based on the theory of personal-vote incentives, since the personal vote is one of the critical sources of incumbency advantage. However, the theory developed in this dissertation highlights an important departure from the personal-vote theory, because the personal-vote incentives do not always translate into actual electoral gains from personal-vote building activities. This new theory of comparative incumbency advantage advances our knowledge of the consequences of electoral systems

and illuminates the important distinction between the personal-vote incentives and the actual electoral gains.

Third, it provides an elaborate multiple-country empirical analysis, based on the newly compiled dataset of district- and candidate-level election results in ten developed democracies (Austria, Belgium, Canada, Finland, Ireland, Italy, Japan, New Zealand, Norway, and the United Kingdom). This empirical analysis constitutes by far the most extensive cross-national analysis of incumbency advantage based on the detailed aggregate election data.

The dissertation also presents a few significant implications for the relationship between electoral systems and accountability. In particular, the clear distinction made between incumbency advantage for political parties and incumbency advantage for individual candidates makes it possible to derive specific implications for the *collective* accountability of parties and the *individual* accountability of legislators, respectively.

Chapter 1

Introduction

1.1. Comparative Incumbency Advantage

Do political parties benefit extra electoral gains from fielding incumbent candidates? Do incumbent candidates have an electoral advantage over non-incumbent candidates? These questions on "incumbency advantage" have drawn wide scholarly attention especially for U.S. Congressional elections (e.g., Erikson 1971, Gelman and King 1990). A normative underpinning of these questions is that incumbency advantage may erode the *collective* responsibility of political parties and the *individual* accountability of legislators. For example, poorly performing government parties are punished in subsequent elections (e.g., economic voting), but this *collective* accountability mechanism may be dampened if parties benefit extra electoral gains from fielding incumbent candidates, because these extra gains may offset the decline of the party vote or insulate parties against such decline. Similarly, if individual incumbents have the electoral advantage over non-incumbents, the advantage tends to make it difficult for voters to remove these incumbent candidates, other things being equal. To the extent that *individual* electoral accountability of elected representatives rests on voters' ability to remove incumbents in elections, incumbency advantage tends to weaken such ability and thereby diminish *individual* accountability of legislators.

Given the significance of these normative concerns, it is not surprising that incumbency advantage is one of the most studied features of American politics. Incumbency advantage should also be an equally important subject for other democracies since the normative concerns raised above are applicable to any democracy (Somit et al. 1994). However, there have been relatively few studies of incumbency advantage for countries beyond the United States. Moreover, when incumbency advantage is studied for countries other than the U.S., it is usually for countries that also use single-member-district (SMD) systems such as the United Kingdom (Gains 1998, Katz and King 1999). Studies of incumbency advantage for other electoral systems are rare. Moreover, there has been NO systematic, multiple-country analysis that provides appropriate and comparable estimates of incumbency advantage, a theoretical account for the variation in the magnitude of incumbency advantage, and sound empirical analysis examining hypotheses derived from the theory. A fully comparative analysis of incumbency advantage is long overdue despite the potential significance of its normative implications.

This dissertation offers by far the most comprehensive, comparative analysis of incumbency advantage. Specifically, it distinguishes two types of incumbency advantage, each of which corresponds to each of the opening questions of this chapter. The first type of incumbency advantage is the electoral benefit for political parties of fielding incumbent candidates — which I call "incumbency advantage *for political parties*." The second type is the electoral advantage of individual incumbents over non-incumbent candidates — which I call "incumbency advantage *for individual candidates*." This distinction has drawn little attention in the existing U.S.- or SMD-centered literature since the electoral fates of parties and their candidates largely coincide in the SMD systems. When we shift our attention to comparative perspectives, however, this distinction between the two types of incumbency advantage

becomes crucial since the electoral fates of parties and their candidates often diverge under electoral systems that allow for intra-party electoral competition of candidates, popular types of electoral systems found in approximately one-fourth of democratic countries in the world.[1]

For each type of incumbency advantage, this dissertation provides three distinctive contributions. First, it offers the comparable estimates of incumbency advantage across different electoral systems. The existing literature lacks the appropriate and comparable estimates of either type of incumbency advantage. This dissertation provides the first fully comparable estimates of both types of incumbency advantage. Second, it develops a theory of the impact of electoral systems on the variation in the magnitude of incumbency advantage. The theory is partly based on the existing theory of the cross-system variation in personal-vote incentives, since the personal vote is one of the crucial sources of incumbency advantage. However, the theory developed in this dissertation highlights an important difference from the personal-vote theory for both types of incumbency advantage, because the incentives do not always translate into actual electoral gains. This new theory of comparative incumbency advantage enriches our theoretical knowledge about the consequence of different electoral systems. Third, it provides the multiple-country empirical analysis examining the hypotheses derived from the theory, based on the newly compiled dataset of district- and candidate-level election results in multiple developed democracies.

[1] This is of the democratic countries during 1990-2000 included in Matt Golder's dataset of *Democratic Electoral Systems Around the World, 1946-2000* (Golder 2005). The information of types of party lists used in PR systems or the PR tier of the mixed-member systems was supplemented from *Database on Political Institutions (DPI2004)* (Beck et al. 2001) and Chang and Golden (2006). There are 115 democracies in Golder's dataset but 13 countries are excluded since the information of list types is not available for these countries. Of the remaining 102 democracies in this dataset, 27 countries (26.5%) allow intra-party competition in general elections.

This empirical analysis constitutes the most extensive cross-national analysis of incumbency advantage based on the detailed aggregate election data undertaken to date.

The rest of this introductory chapter is organized as follows. Section 1.2 reviews the previous literature on incumbency advantage and situates this dissertation in the current state of the literature. Section 1.3 discusses the two types of incumbency advantage examined in this dissertation. Section 1.4 details the first two of the contributions of this dissertation — the provision of the comparable estimates of both types of incumbency advantage and the development of the theory of comparative incumbency advantage. Section 1.5 deals with the third contribution — by far the most extensive cross-national analysis of incumbency advantage, based on the detailed aggregate electoral data. Section 1.6 discusses the implications of this study for broader themes of comparative institutions and democratic accountability. Section 1.7 concludes this chapter by introducing the organization of the dissertation.

1.2. Previous Studies on Incumbency Advantage

One prominent feature of U.S. Congressional elections is an extraordinarily high reelection rate of incumbent candidates. Throughout the post-war period, the incumbent reelection rate has been quite high and shown an increasing trend. The unconditional incumbent reelection rate has grown from approximately 70% to 90% since 1950s, and the reelection rate conditional on returning to the race has grown from about 80% to near 100%. Although the reelection of incumbents in itself is not necessarily bad for democratic governance, the extraordinarily high reelection rate in the U.S. legitimately raises concerns about whether incumbents enjoy unfair electoral advantage, thereby undermining the competitiveness, accountability, and healthiness of democratic elections.

These concerns have spawned a huge amount of research on incumbency advantage in U.S. elections in the past four decades (e.g., Erikson 1971, Mayhew 1974b, Fiorina 1977, Gelman and King 1990, Ansolabehere and Snyder 2002, Cox and Katz 2002, Carson et al. 2007). One of the primary objects of these studies is to appropriately estimate incumbency advantage since the high reelection rate of incumbents does not necessarily mean that incumbents enjoy an electoral advantage (Gelman and Huang 2008, Lee 2008). Without controlling for other factors influencing incumbents' reelection, such as a party's baseline electoral strength in a district, the high observed reelection rate may simply reflect those other factors. Most of the recent studies of incumbency advantage in U.S. elections under SMD systems are based on regression models, first proposed by Gelman and King (1990), with some modifications and improvements later forwarded. These regression-based models control for those factors other than incumbent candidates that affect the election results to estimate incumbency advantage.

While there still remain debates and disagreements about the magnitude and sources of advantage, many of the studies on U.S. elections have shown that incumbent candidates or parties running incumbents indeed have enjoyed an electoral advantage. For the U.S. House of Representatives, incumbency advantage in terms of vote share is typically estimated at the range of 6 to 10 percentage points after the 1960s and 1 to 3 percentage points before (e.g., Gelman and King 1991). Skeptics claim that these estimated advantages might be overstated due to potential endogeneity of incumbents' decisions to return to the race (Cox and Katz 2002). However, by focusing on districts where incumbents involuntarily exit and are not susceptible to this endogeneity bias, even one of the strongest critics estimated that incumbency advantage without bias is at 2.9 percentage points in the post-1960s period (Cox and Katz 2002). This is smaller than the usual estimates of 6-10

percentage points but still positive and sizable compared to the advantages estimated for other developed democracies. In addition, using term limits for state elective offices as instrumental variables to redress the endogeneous-retirement issues, Ansolabehere and Snyder (2004) estimated incumbency advantage for state executive and legislative elections at about 7-9 percentage points.

The electoral advantage of incumbents has also been reported for other developed democracies using SMD systems. For the United Kingdom, Gaines (1998) estimated incumbency advantage for the two largest parties at about 1 to 2 percentage points during 1950-1992, and Katz and King (1999) estimated it at approximately 0.5 to 1 percentage points for the Conservatives and Labour and at about 3 percentage points for the Liberals or Alliance during 1959-1992. For Germany, Hainmueller and Kern (2008) estimated incumbency advantage in SMD vote-shares for the two largest parties at about 1.5 to 2.4 percentage points and the spillover effect of incumbency on PR vote shares at about 1.3 to 2.1 percentage points. Overall, these studies consistently find electoral advantages of incumbents under SMD systems in developed democracies.

A few recent studies report negative incumbency advantage for some SMD countries in the developing world, such as India (Linden 2004, Uppal 2009) and Brazil (Titiunik 2008). However, these studies attribute the negative advantage to particular political environments of developing countries, such as weak institutionalization of party systems, high electoral volatility, and higher incentives for rent extraction. When we focus our attention to developed democracies, in which electoral competition is more institutionalized and stabilized, the positive incumbency advantage is a norm in SMD systems.

The most developed literature of incumbency advantage in systems other than SMD can be found for U.S. state legislatures because some states adopted two distinctive types of

multimember district (MMD) systems. The studies in this literature showed that incumbency advantage is smaller in these MMD systems than in SMD systems (e.g., Cox and Morgenstern 1995, Hirano and Snyder 2009). However, these MMD systems are peculiar to U.S. state legislatures and quite different from those adopted by many other countries' national parliaments, such as the closed-list proportional representation (PR) systems and various forms of MMD systems with intra-party electoral competition of candidates, including open-list PR, Single Transferable Vote (STV), and Single Non-Transferable Vote (SNTV) systems.[2] Although the studies of incumbency advantage in MMD systems in U.S. state legislatures are relatively well developed, they are not directly relevant to the studies on MMD systems in other countries.

While incumbency advantage is well studied for SMD countries or the particular MMD systems of some U.S. state legislatures, there are few studies on this subject in the comparative literature beyond SMD systems. There have been a handful of studies focusing on single-country cases of MMD systems, but the number of these studies for any given country is small, and the coverage of countries across these studies is also small. Moreover, systematic comparative study of incumbency advantage across multiple countries with different electoral systems is extremely rare. One of the reasons for little attention to incumbency advantage from comparative perspectives is, perhaps, that individual incumbents' reelection rate, which is so high and prominent and thus has generated the huge

[2] In fact, one of the two MMD systems used in U.S. states — the MMD post system, in which each candidate is slated for one of the seats available in the same district — is effectively the SMD system. In other words, multiple, separate SMD races are taking place in the same district under this system. The other system — the MMD free-for-all system — provides voters with *M* ballots, and the top *M* candidates won in an *M*-member district. This is quite different from the closed-list PR system, in which voters cast a single ballot for a party, the seats are allocated to each party based on the party's vote total, and candidates assume seats according to the predetermined candidate list of each party. It also differs from the MMD systems with intra-party competition since the provision of *M* ballots to voters effectively prevents intra-party competition. For example, each Republican voter has *M* votes, and therefore, Republican candidates do not need to compete with each other to win a vote of the same Republican voter. The Republican voter may simply cast each of his *M* votes to each of *M* Republican candidates, respectively.

literature in the U.S. context, is less conspicuous in other developed democracies. According to Matland and Studlar (2004), between 1979 and 1994, the U.S. recorded the highest average rate of incumbent's reelection (84.9%) among 25 advanced industrial democracies, whose overall average was 67.7%, a much smaller number than that in the U.S.

Relatively lower rates of incumbent reelection, however, do not imply that incumbency advantage is irrelevant in these democracies. As discussed above, the incumbent reelection rate is not equivalent to incumbency advantage. If measured appropriately, a country with a relatively moderate rate or even a very low rate of incumbent return may have a sizable amount of incumbency advantage. For example, Canada recorded the lowest incumbents' returning rate in the 25 democracies surveyed by Matland and Studlar (2004), but the evidence in Chapter 4 of this dissertation reveals that incumbents of major parties in Canada enjoy a greater electoral advantage over non-incumbents than those in Japan, which is ranked at the sixth of the 25 countries in the incumbents' reelection rate by Matland and Studlar.

Besides their very small number, another feature of the existing studies on incumbency advantage in MMD systems is that they are less systematic than their counterparts in SMD systems. Compared to the SMD literature, the studies of MMD use more eclectic, multiple methods to study incumbency advantage. Some of these studies rest their argument of incumbency advantage on the observed rate of reelection (Gallagher 2000, Hayama 1992), which is, as discussed above, regarded as an inappropriate, biased measurement of incumbency advantage in the more-developed SMD literature (Gelman and Huang 2008, Lee 2008). Indeed, the first and foremost obstacle of a truly comparative study of incumbency advantage is that the literature lacks appropriate, comparable estimates of incumbency advantage across SMD and MMD systems. The first task of such a comparative

study should be the development of the appropriate and comparable estimates of incumbency advantage.

Once we overcome the issue of comparable estimation, the next task of the comparative study of incumbency advantage should be explanation. We naturally expect some variation in the magnitude of incumbency advantage across countries. If there is variation in incumbency advantage across countries, a natural question is what factors influence the variation. Given the importance of the normative concerns related to incumbency advantage, learning what factors affect the magnitude of incumbency advantage would be very valuable to deepen our understanding of democratic elections. In the existing literature, there have been only a few studies that attempt to provide a systematic theoretical account and empirical evidence of the cross-country variation of incumbency advantage. Somit et al. (1994) is one of the earliest attempts to analyze incumbency advantage across multiple democracies, but that study did not fully develop a systematic theoretical account for the variation it noted across these cases. Morgenstern et al. (n.d.) constructed a theory for the variation in the reelection rate of incumbents, based on a set of explanatory variables, such as the value of office, the resources available to incumbents, electoral volatility, and the ease of ballot access. Their study did not, however, thoroughly examine the question addressed in this paper — how incumbency advantage varies across electoral systems — and did not provide fully systematic empirical evidence. Moreover, they use incumbents' reelection rates — which is, again, not appropriate for the estimates of incumbency advantage — as their dependent variable. In short, the systematic theory and empirical evidence of incumbency advantage is long overdue, despite the potential importance of the subject.

To summarize, while a large number of studies have been conducted for incumbency advantage in SMD systems, we have only a small number of studies for countries with MMD systems, and these few studies of MMD systems are generally less systematically conducted than are studies on SMD systems. Moreover, there have been few comparative studies of incumbency advantage *across electoral systems*. This dissertation offers the first comprehensive attempt to conduct a theoretically and methodologically systematic study of incumbency advantage across electoral systems. It advances the literature on incumbency advantage by bringing a truly comparative perspective to the literature.

1.3. Two Variants of Incumbency Advantage

In this dissertation, I examine two variants of incumbency advantage, corresponding to the following two questions regarding the electoral advantage of incumbents:

(1) Do political parties benefit from fielding incumbent candidates? (Incumbency advantage *for political parties*)

(2) Do incumbent candidates have an electoral advantage over non-incumbent candidates? (Incumbency advantage *for individual candidates*)

The first variant of incumbency advantage concerns the extra electoral benefits that political parties gain from fielding incumbent candidates — which I call "incumbency advantage *for political parties*." This is the difference in the electoral outcome for a political party between when it fields incumbent candidates and when it does not, controlling for other factors. The idea is that votes that a party received can be separated into two

components: baseline party votes, which the party received based on their collective reputation, and extra votes, based on personal reputation of incumbent candidates. The first component is labeled "normal vote" in the literature on incumbency advantage in U.S. elections. The subject of interest here is the second component, extra votes due to the incumbency status of the party's candidates.

The second variant of incumbency advantage concerns the electoral gains that candidates cultivate while they hold an incumbent seat — which I call "incumbency advantage *for individual candidates*." This is the difference in the electoral outcomes of incumbents and non-incumbents, controlling for other factors, such as their party affiliation, their party's electoral strength in a district, and various individual characteristics (except for incumbency). This can equally be defined as the difference in the *potential* election outcomes of the same candidate when she is an incumbent and when she is not. The idea is that incumbent legislators can take advantage of their privileged access to government and legislative resources to cultivate *personal votes* while they are holding a seat, and these personal votes would provide an extra electoral advantage to incumbent candidates.

The difference between these two types of incumbency advantage has received little attention in the existing literature. This may be because the existing literature has predominantly focused on U.S. House elections, which uses the SMD plurality system. In the SMD system, the electoral fates of parties and their candidates largely coincide, and therefore, the necessity to distinguish the electoral advantage of incumbency for parties and candidates should be small. However, when we move our attention to other democracies, many countries use electoral rules in which the electoral fates of parties and their candidates do not necessarily fully coincide. These are the rules that allow intra-party competition — direct competition of candidates from the same party in the same electoral district. Under

these electoral systems, the incumbency advantage for political parties and individual candidates necessarily diverge. For this reason, it is important to distinguish these two variants of incumbency advantage when we approach this subject from a comparative perspective.

The distinction of these two variants of incumbency advantage is different from the one recently introduced in the literature based on U.S. elections. Lee (2008) introduced what he termed "incumbent party advantage" — the electoral advantage for political parties of holding an incumbent *seat*, regardless of an incumbent candidate returning to the race. This is different from what he called "incumbent candidate advantage" — the electoral advantage for political parties of running an incumbent candidate — the usual definition of incumbency advantage in the literature (e.g. Gelman and King 1990) and the one I call incumbency advantage for political parties. These two types of incumbency advantage distinguished by Lee both regard the electoral advantage enjoyed by *political parties*, and the difference lies in the type of incumbency (candidates or seats) from which parties gain benefits. On the other hand, the two types of advantage distinguished in this dissertation both focus on incumbent candidates (not a party's incumbent seats), and the difference is in the beneficiary of the advantage (either political parties or individual candidates).

When we seriously consider incumbency advantage from a comparative perspective, the variety of electoral rules adopted by different countries necessitates the distinction between incumbency advantage for political parties and for individual candidates. Bringing this distinction into the center place in the comparative analysis of incumbency advantage is one of the contributions of this dissertation. The distinction is important in its own right because each type of incumbency advantage refers to the different substantive concept. It is also important because the distinction clarifies the implications of incumbency advantage for

two different types of electoral accountability — the *collective* electoral accountability of political parties and the *individual* electoral accountability of legislators. If parties enjoy electoral gains from running incumbent candidates beyond the parties' baseline electoral support (incumbency advantage *for political parties*), the *collective* accountability of these parties may be compromised. For example, government parties that have managed economies poorly are known to lose votes in subsequent elections (economic voting), but these collective accountability mechanisms of democratic elections may be dampened if parties benefit from extra electoral gains from fielding their incumbent candidates because these extra gains may offset the decline of the party's votes due to economic voting or insulate parties against such decline. Also, if individual candidates benefit from holding an incumbent seat (incumbency advantage for *individual* candidates), the *individual* accountability of legislators may be compromised since an extra personal electoral advantage tends to shelter these incumbents from the risk of electoral defeat. Given these implications for electoral accountability, this dissertation also contributes to the burgeoning comparative literature on the balance between collective and individual accountability (Carey 2009).

1.4. Electoral Systems and Comparative Incumbency Advantage

This dissertation focuses on the variation in incumbency advantage *across different electoral systems*. This is because electoral systems are one of the most fundamental components of the institutional arrangements of democracy, and the difference in electoral systems is one of the major variations in democratic institutions of developed democracies. Specifically, the dissertation addresses the following two questions concerning the variation in each of the two variants of incumbency advantage:

(a) How can we estimate comparably the magnitude of incumbency advantage across different electoral systems?

(b) How do the electoral systems affect the variation across contexts in the magnitude of incumbency advantage?

Below, I offer a discussion of each question in turn.

1.4.1. Comparable Estimates of Incumbency Advantage across Electoral Systems

The first question concerns the comparable estimation of incumbency advantage. As reviewed in 1.2, while there is the well-developed literature on the methods to estimate incumbency advantage in SMD systems, there have been few studies on the methods applicable to MMD systems and to produce the comparable estimates across SMD and MMD systems. Most existing comparative studies on this subject rely on the crude measure of the incumbents' reelection rate, which is not appropriate as an estimate of incumbency advantage. We need the estimates of both types of incumbency advantage in MMD systems, which are comparable and equally sophisticated as the estimates in SMD systems.

The estimates of incumbency advantage for political parties proposed here can be seen as a generalization of the Gelman-King type regression model of incumbency advantage in the SMD systems with party vote share as the dependent variable (Gelman and King 1990). A particular problem for the estimation is that district magnitude — the number of seats in a district — varies across electoral districts in the MMD systems. This creates two issues. First, the number of incumbents running from a party varies across districts. In the SMD systems, the estimation of the impact of a single incumbent on the

party's election result is simple because there is only one incumbent in each district, but in the MMD systems, we need to measure the impact based on multiple incumbents in the same district, and the number of incumbents varies across districts. Second, the party vote share, a frequently used dependent variable in the analysis of incumbency advantage, has different substantive meaning across districts with varying district magnitudes in the MMD systems. For example, a 5% vote share hardly secure a seat in a single-member district, but the same vote share almost guarantees a seat in a 25-seat district. Hence, if we measure the impact of running a single incumbent in vote share, the same substantive impact of running a single incumbent should be expressed in the varying amount of vote share across districts with different district magnitudes. To address these issues and derive comparable estimates of incumbency advantage for parties across districts with different district magnitudes, I propose a novel specification of interaction between the number-of-incumbents variable and a *reciprocal* of district magnitude in the regression of party vote share. As fully discussed in Chapter 2, this specification provides appropriate and comparable estimates of incumbency advantage for political parties between SMD and MMD systems as well as across electoral districts with different district magnitudes. In addition, this specification allows examining whether the *substantive impact* of running incumbents also varies as district magnitude grows. This enables the direct test of the hypotheses derived from my theory about incumbency advantage for parties.

For the estimates of incumbency advantage for individual candidates, I apply a "potential outcome framework," on which various causal inference methods are based. As discussed in 1.3, incumbency advantage for candidates can be defined as the difference in the potential outcomes of the same candidate when she is an incumbent and when she is not. Since candidate vote share is again not a comparable unit of measurement across districts

with varying district magnitudes, I measure the advantage in terms of three probabilities related to candidates' decision to return to the electoral race and their winning of a seat. More specifically, based on the data of all candidates in election *t-1*, I estimate incumbency advantage in i) the joint probability of returning to the race in election *t* and winning a seat, ii) the marginal probability of returning to the race in *t*, and iii) the probability of winning a seat in *t* conditional on returning to the race. An innovative feature is that, using all candidates in election *t-1* and not dropping non-returning candidates in *t*, these estimates of incumbency advantage for candidates are immune to the potential endogeneity bias, due to strategic retirement of candidates. I use a regression discontinuity (RD) design to estimate the causal impact of holding an incumbent seat on individual candidates' three probabilities regarding returning and winning. This is an appropriate method since the RD estimates provide the causal impact of incumbency for marginal incumbents and non-incumbents, for whom the potential outcomes of incumbency and non-incumbency are well defined and the electoral advantage of incumbency should be most important. The estimates of incumbency advantage for candidates measured in probabilities (not vote share) are also comparable across districts with different district magnitudes.

To summarize, given the lack of appropriate, comparable estimates of incumbency advantage across electoral systems in the existing literature, the first important task of truly comparative analysis of incumbency advantage is to develop such estimates. This dissertation proposes the specification of interaction of the number-of-incumbents variable and the reciprocal of district magnitude in the regression of party vote share as an appropriate model for incumbency advantage for political parties. It also proposes the regression discontinuity estimates of incumbency advantage for individual candidates in terms of three probabilities related to candidates' returning to the race and winning a seat.

The first highlight and contribution of this dissertation is that it proposes these estimates of both types of incumbency advantage comparable across SMD and MMD systems.

1.4.2. Explaining the Variation in Incumbency Advantage across Electoral Systems

The second question concerns a theoretical explanation for the variation in incumbency advantage and empirical evidence supporting it. The existing comparative electoral-system literature provides some guidance in considering the theory of the variation in incumbency advantage across electoral systems. In particular, the literature suggests that electoral systems are known to induce the variation in politicians' incentives to cultivate a personal vote (Carey and Shugart 1995). Since the personal vote is one of the primary sources of incumbency advantage, it is natural to suspect that electoral systems would produce the variation in incumbency advantage similar to that in the personal-vote incentives. However, there are reasons to believe that the existence of strong incentives for personal votes does not guarantee that they directly translate into incumbency advantage either for political parties or for individual candidates.

First, the greater incentives for the personal vote of individual candidates do not necessarily lead to greater vote gains even for these candidates themselves. The literature is silent on whether incentives actually lead to electoral gains (Shugart 2005). Most empirical studies of the personal vote have not assessed election outcomes directly but instead use non-election outcomes of the personal-vote-building activities as dependent variables, such as incidence of corruption (Chang and Golden 2006) and the type of bills initiated by legislators (Crisp et al. 2004). These studies have demonstrated that these outcomes of the personal-vote-building activities increase where personal vote incentives are greater. However, politicians' greater efforts to cultivate a personal vote may not always result in

their electoral gains due to greater competition, for example. As long as some features of electoral systems make it difficult to translate personal-vote incentives into actual electoral gains to incumbents, the variation in incumbency advantage for individual candidates diverge from the variation in personal-vote incentives across electoral systems.

Second, even when the personal-vote-building efforts of individual politicians lead to actual electoral gains for them (incumbency advantage for candidates), these gains do not necessarily translate into *extra gains to their parties* beyond the parties' baseline electoral strength (incumbency advantage for parties). A party can earn extra votes from running its incumbents, only if these incumbents can attract some voters who would otherwise abstain or vote for another party if the party did not field these incumbents. If there are conditions that make it difficult for individual incumbents to reach these voters, the personal-vote gains of individual incumbents do not effectively translate into their party's additional electoral gains. From the party's perspectives, these individual gains would be merely a reshuffle among the party's candidates of the same votes.

These discussions suggest that we need a theory for the relationship between electoral systems and each type of incumbency advantage, which is built on the existing theory of personal-vote incentives, yet is distinct from it. In the chapters that follow, I develop such a theory, whose prediction for both types of incumbency advantage diverges from that for individual politicians' personal-vote incentives in an important way. First, my theory suggests that incumbency advantage for political parties will be greater when electoral systems allow for intra-party competition, which is consistent with the existing theory of the personal-vote incentives. However, it also predicts that, under electoral systems with intra-party competition, incumbency advantage for parties declines as district magnitude grows, which is opposite to the personal-vote incentives, which increase as district magnitude grows.

Second, my theory expects that incumbency advantage for individual candidates will decline as electoral systems facilitate greater intra-party competition. This also contradicts with the existing theory of personal-vote incentives, which predicts that the incentives will be greater as systems allow for more intense intra-party competition. The development of these original theoretical accounts of the impact of electoral systems on both types of incumbency advantage is the second important contribution of this dissertation.

1.5. Empirical Cases and Dataset

The third contribution of this dissertation is that it provides by far the most systematic cross-country empirical analysis of both types of incumbency advantage, which examines the hypotheses derived from my theories. The empirical analysis of incumbency advantage for political parties is conducted, based on district-level party vote data of nine developed democracies — Austria, Belgium, Finland, Ireland, Italy, Japan, New Zealand, Norway, and the United Kingdom. The nine countries are classified into the three major categories of electoral systems: the SMD systems (New Zealand and United Kingdom), the MMD systems with intra-party competition (Finland, Ireland, Italy, and Japan), and the MMD systems with no intra-party competition (Austria, Belgium, and Norway). These country cases are used to examine the hypotheses regarding these three categories of electoral systems.

The empirical analysis of incumbency advantage for individual candidates is conducted, based on candidate-level vote data of five developed democracies — Canada, Finland, Italy, Japan, and the U.K. — which use or had used various candidate-centered electoral rules, such as SMD plurality, open-list PR, and SNTV systems. The winning probability-based incumbency advantage for candidates is estimated for each of the major

parties of these countries to examine the hypotheses regarding the degree of intra-party competition allowed by candidate-centered electoral systems and the magnitude of incumbency advantage for individual candidates.

These empirical analyses show a stark contrast to those of the existing studies of incumbency advantage in terms of its coverage and depth. There has been no study on incumbency advantage that covered as many countries as this dissertation to examine a hypothesis systematically derived from a theory, based on the data of election results as detailed as this one. Indeed, even when we move our attention to comparative election studies in general, cross-country analysis of district-level or candidate-level election results in this scale is still relatively rare. This dissertation is among the first of the fully comparative analyses of election results. It demonstrates that this type of analysis is possible and worthwhile, despite its huge scale and a large amount of efforts required for it.

To carry out these empirical analyses, I have compiled by far the most extensive and detailed dataset of district-level party votes and individual candidate votes in the ten developed democracies. Although I rely on the existing dataset whenever I can, I by myself collected the majority of the dataset from the original sources. The compilation of this huge dataset can also be considered as another major contribution of this dissertation.

1.6. Institutions and Democratic Accountability

This study's main contribution is the theoretical and empirical analysis of the impact of electoral systems on the two types of incumbency advantage. However, as each type of incumbency advantage is closely related to the issue of either collective or individual electoral accountability, the dissertation also has implications for broader themes of institutions and democratic accountability.

For incumbency advantage for political parties, the relevant literature is the one that examines democratic institutions and the collective responsibility of political parties. This literature examines the extent to which elections contribute to maintaining accountability of government parties and delegating mandates to them, and how the effectiveness of elections in these functions varies across institutions and contexts. For example, it was found that "clarity of responsibility" conditions the effectiveness of the accountability role of elections with respect to government performance such as economic management (Powell and Whitten 1993) and the extent of corruption (Tavits 2008). Majoritarian systems perform better than proportional systems in the accountability and mandate-giving roles of elections (Powell 2000). Compared to Parliamentary systems, Presidential regimes facilitate the accountability role while weakening the mandate-giving role of elections (Samuels and Shugart 2003). This dissertation adds the impact of electoral systems on incumbency advantage for political parties to the list of these important factors that condition the effectiveness of the elections' democratic roles based on the collective responsibility of political parties.

The comparative literature on democratic accountability has so far focused on the collective accountability of political parties. This may be because the literature has centered on developed democracies in which the unity and the collective responsibility of political parties are considered as an ideal. In other parts of the world, however, the collective accountability is not necessarily an ideal. For example, in many Latin American countries, too strong party leaders are considered as a problem, and therefore, increasing the individual accountability of legislators, as opposed to the collective accountability of parties, is given a priority (Carey 2009). Even among developed democracies, in which the collective accountability is usually appreciated, some countries have institutions that facilitate disunity

of political parties, such as electoral systems with intra-party competition. A natural question for these countries should be whether the erosion of the collective accountability of parties is matched with the expansion of the individual accountability of legislators. Reflecting these issues, there is the emerging literature that tries to address the balance between the collective accountability of parties and the individual accountability of legislators (Carey 2009). As incumbency advantage for individual candidates has implications for the individual accountability of legislators, together with the implications from incumbency advantage for political parties, this dissertation would provide insights into this issue of the balance between the two versions of electoral accountability.

1.7. Organization of the Dissertation

The rest of the dissertation is divided into four chapters. Chapter 2 explores the incumbency advantage *for political parties*. In this chapter, I propose a theory for the cross-system variation in the electoral benefits that political parties gain from fielding incumbent candidates and test the empirical implications of the theory using aggregate data of district-level party votes in nine developed democracies — Austria, Belgium, Finland, Ireland, Italy, Japan, New Zealand, Norway, and the United Kingdom. These nine countries' electoral systems are classified into three broad categories: 1) single-member district systems (New Zealand, the U.K.), 2) multimember district systems that allow *intra-party competition* (Finland, Ireland, Italy, Japan), and 3) multimember district systems that do not allow intra-party competition (Austria, Belgium, Norway). I find that the parties' gains from running incumbent candidates are greater under electoral systems with intra-party competition than those without it, and that, among the systems with intra-party competition, the parties' gains decline as district magnitude grows.

Chapters 3 and 4 examine the incumbency advantage for individual candidates. Chapter 3 offers an argument that incumbent candidates in multimember district rules with intra-party competition may have little advantage or even a disadvantage, unlike their counterparts in single-member district rules. The chapter empirically demonstrates this argument using electoral data from Japan during 1958-1993 when the country used the Single Non-Transferable Vote (SNTV) system. Applying a regression-discontinuity design, I find that non-incumbent candidates who narrowly lost in the previous election outperformed the marginally-winning incumbents in the following election. The results suggest that there is important variation in the realization of incumbency advantage across electoral systems.

Chapter 4 extends the argument and findings of Chapter 3 to comparative empirical analysis of five developed democracies — Canada, Finland, Italy, Japan, and the U.K. — which use or had used various candidate-centered electoral rules, such as SMD plurality, open-list PR, and SNTV systems. This chapter presents an argument, which extends the one in Chapter 3, that as electoral systems generate greater intra-party competition, the electoral advantage of incumbents will become smaller, since intra-party competition tends to weaken the advantages that incumbents enjoy and strengthen the disadvantages that they may suffer. It also provides supportive empirical evidence for this argument, based on a regression discontinuity analysis of incumbency advantage for individual candidates of the five developed democracies.

Chapter 5 concludes with a summary of the findings and discussion.

Chapter 2

When Do Political Parties Benefit from Incumbents' Personal Vote? Comparative Analysis of Incumbency Advantage for Political Parties

2.1. Introduction

This chapter presents comparative analysis of the electoral benefits that political parties enjoy from fielding incumbent candidates — incumbency advantage *for political parties*. I develop the theory of the variation in this type of incumbency advantage across three major categories of electoral systems, and test the hypotheses derived from the theory, based on the district-level party vote data from the nine developed democracies — Austria, Belgium, Finland, Ireland, Italy, Japan, New Zealand, Norway, and the United Kingdom. I find that there is indeed a substantial amount of electoral gains for parties from running incumbent candidates and these gains vary across electoral systems in consistent with my theory.

The remainder of the chapter is organized as follows. Section 2.2 presents my theoretical argument about how different electoral systems influence the electoral advantage for parties of running incumbent candidates. Section 2.3 describes the data, and Section 2.4 Introduces the empirical models used to examine the hypotheses derived from my theory. Section 2.5 presents my findings in detail. Section 2.6 reports the simulation results, based on the estimated models, the aggregate advantage that parties gain from fielding incumbent candidates to assess the substantive significance of the advantage. Section 2.7 concludes by summarizing the findings of the chapter.

2.2. Theory and Hypotheses

I focus here on the electoral rules governing *general* elections only. The rules governing the selection of candidates might also create different incentives for the personal vote. These rules are left out of the analysis as their impact on general election outcomes, where the electoral benefit to *parties* is realized, is limited given that the electorate in candidate selection is usually much smaller and confined to party elites or members. A possible exception may be open primaries (e.g., in the U.S.), in which the general electorate can also participate in primaries; however, these are not included either since there are not many countries where open primaries are prevalent in legislative elections.

I present my theory in two parts. The first part is laid out in terms of three major categories of electoral systems: 1) single-member district systems (hereafter referred to as "SMD" systems), 2) multimember district systems that allow *intra-party competition* ("MMD-OPN" hereafter) — including open-list proportional representation (PR), single transferable vote (STV), and single non-transferable vote (SNTV) systems — and 3) multimember district systems that do not allow intra-party competition ("MMD-CLD"), such as closed-list PR.

The argument in this part is built on the theory of politicians' incentives to cultivate a personal vote (Carey and Shughart 1995) and voters' demand for candidates' personal reputations (Shugart et al. 2005). In the U.S. Congressional-elections literature, incumbency advantage is disaggregated into several components, most notably the direct benefits from holding a legislative seat, the quality of incumbents, and the average low-quality of challengers in incumbent-running districts (Cox and Katz 1996, Levitt and Wolfram 1997). Of these components, only the direct office-holder benefits are sometimes referred to as

"the personal vote" (Ansolabehere et al. 2000). The personal vote, however, derives not only from the direct benefits of holding office (e.g., constituency services) but also from an incumbent's personal quality (e.g., a reputation for competent performance). In addition, a large number of empirical studies on candidate entry suggest that high-quality challengers are more likely to enter the race when the personal vote of incumbents is either absent or weak — e.g., when incumbents retire, incumbents are unable to spend much on campaigning, incumbents are electorally vulnerable, and district boundaries are redrawn (see Carson 2005 for a review). These findings imply that the average low quality of challengers in incumbent-running-districts is, in large part, a consequence of the deterrence effect of the personal vote cultivated by incumbents on the entry of high quality challengers. Thus, it is not unreasonable to conceptualize the entire incumbency advantage, or at least its major component, as reflecting the personal vote of incumbent candidates and theorize the variation in the electoral advantage of running incumbents across electoral systems primarily in terms of the personal vote.

Particular features of electoral systems determine the importance of a personal reputation of candidates in their election strategy and voters' decisions. When electoral systems put a premium on a personal reputation, incumbents are encouraged to develop a personal vote. Under these systems, incumbents' parties also gain extra votes from fielding incumbents as long as incumbents' efforts to cultivate a personal vote can attract some voters who would otherwise vote for another party or abstain if there were no personal voting. In the first part of the theory, elaborated in 2.2.1. below, I focus on the cases in which personal-vote incentives of individual incumbents lead directly to the electoral benefits for their parties. I will turn to the cases in which they don't necessarily translate so directly in the second part, presented in 2.2.2.

2.2.1. Comparison of Three Electoral Systems

A personal reputation has greater meaning under electoral systems that allow intra-party competition (MMD-OPN) than those that don't (SMD, MMD-CLD). When they face direct competition with other candidates from the same party in their electoral district, candidates cannot rely solely on their party's collective reputation to win elections. Rather, they need to distinguish themselves from other candidates of the same party and provide voters with reasons to vote for them instead of their copartisans. Under these circumstances, incumbent legislators have strong incentives to use their privileges, such as wider name recognition among voters and greater access to government and parliamentary resources, to cultivate a personal reputation. Voters also demand information about individual candidates because they need to cast a vote for an individual candidate. As a result, some fraction of voters chooses incumbents mainly based on their personal reputation and cast a personal vote. In this process, an incumbent can attract voters who would otherwise choose a different party or abstain if no personal-reputation-building efforts were undertaken by that incumbent. Those who vote for an incumbent candidate of one party over candidates from other parties that are ideologically more preferable for them and those who turned out responding to the personal-vote-building effort of the incumbent provide *extra* votes to the incumbent's party beyond its baseline partisan strength in the district. In this way, the personal vote of incumbent candidates can be translated into the electoral advantage for their parties.

When electoral systems do not allow intra-party competition, however, individual candidates' incentives for the personal vote are considerably weaker, because they do not need to distinguish themselves from their copartisans. Likewise, voters' demand for information about individual candidates is weaker since these voters need such information

less when they cast a ballot. Accordingly, the electoral advantage for parties from fielding incumbent candidates should be greater under electoral systems with intra-party competition (MMD-OPN) than those without it (SMD, MMD-CLD).

Of the two systems that do not allow intra-party competition (SMD, MMD-CLD), personal reputation has less importance for both voters and incumbents in MMD-CLD systems. Evaluating individual candidates based on their individual characteristics and personal reputation is a costly process for voters, especially when there are multiple incumbents and non-incumbent candidates of the same party in the same district. Voters are less likely to be engaged with such costly evaluations in MMD-CLD systems since they are unnecessary in these systems in which the rank order of candidates of the same party in a district is predetermined. By the same reasoning, incumbents have less incentive to develop a personal reputation since they do not need to distinguish themselves from their copartisans. As a result, there should be little personal voting under MMD-CLD systems, and therefore, fielding incumbent candidates should also produce little electoral advantage for parties under these systems.

Although not as much as in MMD-OPN systems, a personal reputation still has some importance under SMD systems. Since there is only one incumbent in each district, it is not so burdensome for voters to evaluate the incumbent based on her personal reputation. When an incumbent provides some district services, voters can easily attribute these services to the sole incumbent. In this situation, it is rational for incumbents to cultivate a personal reputation to improve their winning chances. Therefore, we expect a positive gain for parties of running incumbents under SMD systems, which should be greater than under MMD-CLD systems. As discussed above, however, the advantage should be smaller in SMD systems than in MMD-OPN systems because incumbents' incentives for the personal

vote and voters' demand for the information about individual candidates are weaker in SMD than in MMD-OPN.

The argument so far can be summarized in the following hypothesis:

Hypothesis 1: Of the three major categories of electoral systems, SMD, MMD-CLD, and MMD-OPN, the electoral advantage of parties from fielding incumbent candidates is greatest under MMD-OPN systems, followed by SMD systems, and last by MMD-CLD systems.

2.2.2. Variation within MMD systems with Intra-Party Competition

The second part of my theory concerns the variation within MMD-OPN systems. In this part, my theoretical expectation departs from the theory of individual politicians' incentives in an important way. The existing theory predicts that politicians' incentives to cultivate a personal vote become greater when district magnitude is larger under MMD-OPN systems because as district magnitude grows, the number of candidates from the same party also increases, and so does the necessity to distinguish themselves from copartisans. I argue that, contrary to individual politicians' *incentives* for the personal vote, which should relate positively to district magnitude, *the electoral gains of parties* from their incumbents' personal vote *decline* as district magnitude grows. This is because when district magnitude is large, incumbents' personal-vote-building activities do not effectively translate into actual vote gains even for the incumbents themselves for the following two reasons.

First, individual credit-claiming becomes more difficult as district magnitude grows, and therefore, there is likely to be smaller gains from incumbents' personal-vote-earning efforts at high district magnitudes. When there is intra-party competition, it is common for legislators of the same party in the same district to specialize in different policy areas or divide their electoral district into narrow bailiwicks in order to credibly claim credit in these

policy or geographical areas (Hirano 2006, Marsh 2000, McCubbins and Rosenbluth 1995). Credit-claiming in a specific policy area is less credible when district magnitude is large since there is likely to be a greater number of incumbent legislators of the same party than the number of electorally attractive policy areas. Maintaining geographical bailiwicks in districts with high district magnitude is also difficult because there are a larger number of copartisans who try to erode one's bailiwick from multiple directions. For these reasons, while higher district magnitude provides individual legislators with greater pressures to cultivate a personal vote, it is more difficult to turn the personal vote-developing efforts into actual electoral gains.

Second, any tangible gains from the personal vote, if any, should remain in the hands of individual candidates, and these gains are less likely to lead to additional electoral gains for their parties at high district magnitudes due to voters' use of information shortcuts. The realization of the electoral advantage for parties by fielding their incumbents requires some fraction of voters — most likely, less partisan and independent voters — to conduct an evaluation of candidates *across* parties. For example, for party A to gain from the personal vote of its candidate at the expense of party B, a certain fraction of voters must consider candidates of A and B, and choose a candidate of A over other candidates of B based on her personal reputation.[1] This is feasible at low levels of district magnitude since the number of candidates from a single party is also small, and when voters evaluate candidates of multiple parties, the total number of candidates to be evaluated is still reasonably small. If district magnitude is 3, for example, the number of candidates from a single party will be at most 3. If voters compare candidates from two parties, the maximum number of candidates they

[1] The process does not require the majority of voters to do this evaluation of candidates across parties. Rather, the existence of a small minority of voters who conduct this evaluation is sufficient to produce, in the aggregate, the electoral advantage for parties by fielding incumbent candidates.

need to evaluate is only 6.[2] It becomes increasingly costly for voters to conduct such *cross-party* candidate evaluation as district magnitude becomes greater. If district magnitude is 20, voters need to evaluate at most 40 candidates in the same scenario. In this informationally-demanding environment, it is more rational for voters to adopt a two-step information shortcutting strategy: first, they choose a single party list relying on a collective reputation of the party, and then they evaluate only the candidates of this party based on their personal reputation.[3] If voters make electoral choices in this way, personal reputation matters primarily for individual candidates, and there are only small gains for political parties from their incumbents' personal vote when district magnitude is large.

These arguments lead to the following hypothesis.

Hypothesis 2: Within MMD-OPN systems, the electoral advantage for parties from fielding incumbent candidates declines as district magnitude grows. Accordingly, the advantage is greater under MMD-OPN systems whose electoral districts have, on average, low district magnitude (MMD-OPN/Low DM) than MMD-OPN systems whose districts have, on average, high district magnitude (MMD-OPN/High DM).

2.3. Data

I examine the hypotheses derived above by estimating the impact of running incumbent candidates on the district-level party vote shares in the national parliamentary elections (lower house) in nine developed democracies. Table 2.1 lists these countries and

[2] The values of 6 here and 40 in the next example are *the maximum possible number* of candidates to be evaluated. More realistically, voters evaluate some fraction of the candidates of both parties. The point is that as district magnitude grows, the number of candidates to be evaluated also increases.

[3] This voting behavior is also a testable hypothesis that may be examined empirically using survey data of voters. This paper focuses on the hypotheses at the aggregate level and leaves the examination of the hypotheses at the individual-voter level to future research.

summary statistics of the data for each country. These countries include: New Zealand and the United Kingdom for SMD systems, Austria, Belgium and Norway for MMD-CLD systems, [4] Ireland and Japan for MMD-OPN/Low DM systems, and Finland and Italy for MMD-OPN/High DM systems. These countries are selected from developed democracies because they are representatives of each electoral system, and their governments report a list of candidates at district level in their official publications of election results so that the information about incumbents can be collected.

To select country cases, I started with the usual list of 23 developed democracies, often called OECD countries. For SMD systems, I focused on the pure SMD plurality countries; namely, Canada, New Zealand, the U.K., and the U.S. New Zealand and the U.K. were chosen over other two countries because a preliminary analysis suggested potentially biased estimates for Canada (discussed later) and the U.S. uses open primaries. For MMD-CLD systems, of eight countries with closed-list PR, Austria, Belgium and Norway were chosen over others because the Netherlands, Portugal, Spain, and Sweden do not publish a candidate list in their official publications of election results, and Iceland uses open primaries. For MMD-OPN/High DM systems, Finland and Italy were chosen over the other four open-list PR countries (Denmark, Greece, Luxembourg, and Switzerland) because Denmark and Greece use an open-list to only a limited degree; Luxembourg is a small country with a small number of districts, which does not permit a meaningful cross-district analysis; and Switzerland does not publish a list of candidates. For MMD-OPN/Low DM systems, Ireland and Japan are the only available choices. I do not cover Mixed-Member systems in this dissertation.

[4] These countries allow preferential votes for candidates, but those preferential votes are largely ineffective and seldom affect actual election outcomes (Gallagher et al. 2001, Katz 1986). Therefore, it is appropriate to classify the electoral rules of these countries as MMD-CLD.

Each country case includes multiple elections. The time periods covered for some countries are shorter than others because some changed their electoral systems (Italy, Japan, New Zealand) or information about incumbent candidates could not be collected for some elections (Austria, Belgium). The analysis focuses on major parties of each country, defined as those which had held more than a 10% seat share prior to an election. In addition, the observations included in the estimation are those parties that also ran in the previous elections, since the empirical models specified below require lagged variables at the right-hand side. Districts after a major boundary change are also excluded as lagged variables from the previous elections do not exist for these districts. A few single-member districts in MMD countries are excluded to focus on pure multimember districts in these countries. Finally, a very small number of uncompetitive districts, where no candidates ran against the incumbents, are excluded as well. In all, the dataset encompasses 92 elections (average 10.2 elections per country) and 20,573 observations of district-level party votes.

[Table 2.1 about here]

2.4. Empirical Models

Empirical models are estimated separately for the three categories of electoral systems: SMD, MMD-CLD, and MMD-OPN. MMD-OPN/High DM and Low DM systems are estimated in a single model to test whether the variation in district magnitude influences electoral outcomes as stated in Hypothesis 2.

2.4.1. The Model for SMD Systems

First, the model for SMD systems is specified as: [5]

$$V_{cij}^{t} = \alpha_{cj}^{t} + \beta_1 V_{cij}^{t-1} + \beta_2 NumPty_{ci}^{t} + \beta_3 Inc_{cij}^{t} + \beta_4 Seat_{cij}^{t-1} + \mu_{cij}^{t} \quad (1)$$

V_{cij}^{t} is party *j*'s vote share in district *i* at election *t* of country *c*. α_{cj}^{t} is a dummy variable for each party *j* of country *c* in each election *t*, which estimates a national-level partisan swing to party *j* in each election.[6] V_{cij}^{t-1} is a lagged vote share, intended to capture the baseline partisan strength of party *j* in district *i*, as is common in the literature of incumbency advantage. $NumPty_{ci}^{t}$ is the control of the number of parties running in district *i*. Party vote shares tend to be smaller, on average, as the number of parties running in a district is greater. $Inc_{cij}^{t} = 1$ if party *j*'s incumbent runs in district *i* and 0 otherwise. $Seat_{cij}^{t-1} = 1$ if party *j* won the seat in district *i* in election *t-1* and 0 otherwise. The coefficient of Inc (β_3) is the estimate of the electoral gain for parties by fielding an incumbent candidate, controlling for other factors that reflect what parties are expected to earn from their collective party reputation at both national and local levels.[7] If $\beta_3 > 0$, then it supports Hypothesis 1, which expects a positive advantage under SMD systems.

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[5] The model for SMD systems is an adaptation of the regression model of incumbency advantage widely used in the U.S. Congressional elections literature (Gelman and King 1990). Recently, some *causal inference* approaches are proposed to estimate incumbency advantage in the U.S. Congressional elections (Lee 2008, Sekhon and Titiunik 2007), but these specific methods are designed for SMD systems only and are not directly applicable to comparative analyses involving MMDs.

[6] Inclusion of a battery of these party-election-country fixed effects makes other frequently used fixed effects, such as country fixed effects, unnecessary.

[7] To simplify the notation, superscripts and subscripts of variables are often suppressed below.

2.4.2. The Model for MMD Systems

Similarly, the model for MMD systems is specified as:

$$V_{cij}^{t} = \alpha_{cj}^{t} + \beta_1 V_{cij}^{t-1} + \beta_2 NumPty_{ci}^{t} + \beta_3 DM_{ci}^{t}$$
$$+ \beta_4 NumInc_{cij}^{t} + \beta_5 \frac{NumInc_{cij}^{t}}{DM_{ci}^{t}} + \beta_6 NumSeat_{cij}^{t-1} + \beta_7 \frac{NumSeat_{cij}^{t-1}}{DM_{ci}^{t}} + \mu_{cij}^{t} \qquad (2)$$

Since parties may field multiple candidates and hold multiple seats in a district under MMD systems, incumbent and seat variables are now specified as *the number of incumbents* running from party *j* ($NumInc_{cij}^{t}$) and *the number of seats* won by party *j* in election *t-1* ($NumSeat_{cij}^{t-1}$). My theory predicts that the impact of running incumbents declines as district magnitude grows in MMD-OPN systems, which suggests that the model should include an interaction term between $NumInc$ and district magnitude (DM) so that we can examine how the impact of $NumInc$ varies with DM. The most frequently used specification of interaction in our discipline is a linear interaction term ($NumInc \times DM$). A linear interaction term may be chosen as a default specification for interaction if a substantive theoretical consideration does not suggest any specific functional form for interaction (Kam and Franzese 2007). However, given the substantive nature of the problem here — the dependent variable is a vote share and district magnitude varies across districts — a linear interaction term is not appropriate and we should use the interaction of $NumInc$ and the reciprocal of DM ($NumInc / DM$). I explain the rationale for this specification below in terms of incumbency variables, but the same reasoning can be applied to party seat variables,

and therefore, the interaction of $NumSeat$ and the reciprocal of DM ($NumSeat/DM$) is also included in the model.

First, I set aside the hypothesis that the impact of incumbents declines as district magnitude grows and focus on the nature of the problem. That is to say, we first consider how we should model the impact of running incumbents if the substantive impact of running incumbents on their party's electoral fate is *constant* across districts with different magnitude. It is important here to distinguish between the impact of running incumbents on their party's *electoral fate* and the impact on their party's *vote share*, which is modeled in equation (2). Then, we should also note that the impact of a single incumbent on a party's *vote share* must *decline* with district magnitude even when the impact of a single incumbent on *the electoral fate* of a party is *constant* across different district magnitudes. This is because the same proportion vote-share has greater meaning for the party's electoral fate when the number of seats in a district is larger. For example, a 10 percentage point increase in vote share can alter the winning probability of only one seat in a single-seat district, but the same amount of increase is likely to secure a few additional seats for a party in a 20-seat district. Then, if running a single incumbent increases her party's vote share by, say, 10 percentage points in a single-seat district, it is reasonable to expect that running a single incumbent produces a much smaller increase in vote share in a 20-seat district. In general, a certain vote share, V, in a single-member district is comparable to V/DM in a district with district magnitude DM. Therefore, it is reasonable to model the impact of a single incumbent on vote share by $NumInc/DM$ — i.e., the impact on vote share declines *proportionately to district magnitude* — when the impact on the party's electoral fate is constant across different district magnitudes. Under this specification, the impact of one additional incumbent in a 20-seat district in the above example should be a 0.5 percentage-point increase in a party vote share

(10%/20 = 0.5%). The variable $NumInc/DM$ models such a decline (which is proportionate to the district magnitude) of the marginal impact of running incumbents on the party's vote share. This is clearly seen from the fact that, if $NumInc/DM$ is a sole variable in the model to represent the number of incumbents (i.e., the model does not include $NumInc$), the impact of running one additional incumbent is given by β_5/DM.

A decline of the impact of a single incumbent on a party's vote share proportionate to the district magnitude is a reasonable specification for the *constant* impact on the party's *electoral fate*, but this interaction term, $NumInc/DM$, alone cannot model the *varying* impact across different district magnitudes of running incumbents on the *electoral fate* of the party. Furthermore, even when we do not have a clear theoretical expectation of the variation across district magnitudes of a certain variable's impact on the party's electoral fate (e.g., the impact of *the number of seats*), the specification using the interaction with the reciprocal of DM alone may be too restrictive. Including $NumInc$ simultaneously with $NumInc/DM$ introduces flexibility to the variation of the impact of running incumbents across districts with different magnitude. Specifically, the coefficient of $NumInc$ (β_4) estimates the deviation in the declining rate of the impact of a single incumbent from the decline proportionate to district magnitude. More specifically, if the coefficient of $NumInc$ is negative ($\beta_4 < 0$), the impact of a single incumbent on a party's vote share declines *faster* than the decline proportionate to district magnitude. This means that the substantive impact of running an incumbent on the electoral fate of the party *diminishes* as district magnitude increases. If it is positive ($\beta_4 > 0$), the impact on a party vote share declines *more slowly* than the proportionate decline, which indicates that the substantive impact on the party's electoral fate *increases* as district magnitude grows. If it is zero ($\beta_4 = 0$), the impact on a vote share declines *proportionately* to district magnitude, and the substantive impact on the electoral fate

of the party is *constant* across district magnitudes.[8] These discussions suggest that an appropriate specification of the model for MMD systems should include $NumInc$, $NumInc/DM$, $NumSeat$, and $NumSeat/DM$ as independent variables, as in equation (2).

Although I do not expect district magnitude itself to have a particular impact on parties' vote shares, DM is included in equation (2) because it is one of the constitutive terms of the interactions, $NumInc/DM$ and $NumSeat/DM$, and its omission may lead to biased or inconsistent estimates if DM itself indeed has any impact on a party's vote share (Brambor et al. 2005). Even when we do not theoretically expect an impact of a constitutive term itself on a dependent variable, it is advisable to include it and test empirically whether the term has any significant impact (Kam and Franzese 2007).[9]

In the specification of equation (2), the marginal impact of $NumInc$ $(= \beta_4 + \beta_5 / DM)$ is the estimate of the electoral gain for parties by fielding one additional incumbent candidate, controlling for other factors that reflect their collective party reputation at both national and local levels. If this marginal impact is greater than zero ($\beta_4 + \beta_5 / DM > 0$), it indicates that there is indeed an electoral advantage for parties by fielding an incumbent candidate. For MMD-OPN systems, we expect $\beta_4 < 0$ and $\beta_5 > 0$ since Hypothesis 1 suggests a positive advantage for parties from running incumbents, and Hypothesis 2 posits that the electoral advantage from incumbents declines as district magnitude grows. As elaborated above, β_5 / DM represents the decline proportionate to district magnitude in the impact of a single

[8] The discussion here assumes $\beta_5 > 0$, which is consistent with my hypotheses. If $\beta_5 < 0$ and $\beta_4 = 0$, the impact of running a single incumbent is negative, and the impact increases (or the magnitude of the negative impact decreases) proportionately to district magnitude. In this case, $\beta_4 > 0$ or $\beta_4 < 0$ represents the deviation in the increasing rate of the impact from the increase proportionate to district magnitude.

[9] It turns out that DM has neither a substantively nor statistically significant impact in either MMD-OPN or MMD-CLD models (see coefficient estimates in Table 2.2).

incumbent on a vote share, and β_4 indicates the extent to which the decline in the impact of a single incumbent deviates from the proportionate decline. If the impact of a single incumbent on a vote share declines faster than the proportionate decline to district magnitude ($\beta_4 < 0$), we can conclude that the electoral advantage that parties gain from running an additional incumbent decreases as district magnitude increases. For MMD-CLD systems, we expect $\beta_4 \approx 0$ and $\beta_5 \approx 0$, as Hypothesis 1 suggests little advantage.

2.4.3. Potential Endogeneity Bias

If incumbents exit from the race because they expect poor electoral prospects of their party in their district, the incumbent-candidate variable is endogenous and the estimated incumbency advantage is biased upward (Cox and Katz 2002). To assess if this is a serious concern for my dataset, I estimated a probit model of the retirement of incumbent MPs, a key covariate of which is their party's margin of victory in the previous election. Since the party's margin of victory reflects the closeness of the race for their parties, if its coefficient is negative and statistically significant, the results indicate that MPs exit from the race in a district where their party's electoral prospect is poor and suggest a potential endogeneity. The margin of victory variable is computed based on the winning vote margin of the last seat that MPs' party won in their district in the previous election and the specific electoral formula of each country. I used the natural log of the margin of victory variable to reflect the possibility of diminishing impact of vote margin. Other control variables included in the model are seniority (the cumulative number of years MPs had served in the parliament prior to an election) and party dummies. The model is estimated for each country separately. The coefficients of party vote margin are statistically insignificant for all countries except Austria and Finland. For Austria and Finland, the coefficients are positive, rather than

negative, suggesting that the poor electoral prospect of their party is unlikely to be an important determinant of MPs' exit. These results suggest that this sort of endogeneity is not a serious concern for the countries included in the dataset. In addition, I estimated the same model for Canada, which was included in the preliminary analysis. The coefficient of the party vote margin is negative and statistically significant, suggesting a potential endogeneity. Consequently, I excluded Canada from my analysis.

2.5. Results

Table 2.2 presents the estimation results for the three models. Model 1 is the estimation result for SMD systems based on equation (1). Models 2 and 3 are for MMD-OPN and MMD-CLD systems respectively, based on equation (2). Standard errors are clustered in each district and election so that they are robust to stochastic dependence among parties in the same district and heteroschedastic errors across parties and districts. The coefficient estimates of incumbency variables, Inc, $NumInc$, and $NumInc/DM$ are highlighted in gray in Table 2.2.

[Table 2.2 about here]

The coefficient estimate of Inc in Model 1 indicates a positive and statistically significant gain for parties from running an incumbent under SMD systems, which is consistent with Hypothesis 1. When parties field an incumbent candidate, they receive about a 1.01 percentage-point increase in their district vote share. The estimation result of Model 2 for MMD-OPN systems supports both Hypotheses 1 and 2. The coefficient of $NumInc/DM$ has an expected positive sign and is statistically significant. The coefficient on

NumInc is negative as expected and statistically significant, suggesting that the vote gain of parties from one additional incumbent declines faster than the decline proportionate to district magnitude. These coefficient estimates indicate that under MMD-OPN systems, there is an electoral advantage for parties from fielding incumbents, which is consistent with Hypothesis 1, and the electoral advantage declines as district magnitude grows, as in Hypothesis 2. The estimation result of Model 3 for MMD-CLD systems is also consistent with Hypothesis 1. The coefficients of *NumInc* and $NumInc/DM$ are both statistically insignificant, suggesting that there is little electoral advantage for parties by running incumbents.

To compare the magnitude of the electoral gains across electoral systems, Figure 2.1 depicts the estimates of the marginal impact of running an additional incumbent over different district magnitudes for each system. For MMD-OPN and MMD-CLD systems (the left and right panels), these are the estimates of the marginal impact of *NumInc*, based on Models 2 and 3, respectively ($= \beta_4 + \beta_5 / DM$ from equation (2)). This estimated impact is drawn over a range of district magnitudes from 3 to 25, which contains the vast majority of district observations of MMD-OPN and MMD-CLD systems. For SMD systems, the marginal impact of *Inc* is translated into a quantity comparable with those of MMD systems by dividing the estimated coefficient of *Inc* in Model 1 (β_3 in equation (1)) by district magnitude ($= \beta_3 / DM$). This quantity is drawn over a range of district magnitudes from 1 to 25 (the center panel). Black lines in these figures show point estimates of the impact and gray areas represent 90% confidence intervals.

[Figure 2.1 about here]

The left panel for MMD-OPN systems in Figure 2.1 shows that, while it is positive and statistically significant at lower district magnitudes, the gain in party vote share becomes statistically indistinguishable from zero at higher district magnitudes, which is another indication for the decline in the impact of an incumbent on the party's electoral fate with district magnitude. The right panel for MMD-CLD systems shows that while there is a certain range of district magnitude for which the vote gain from an additional incumbent is statistically significant, the point estimates are almost flat over the entire range of district magnitude and statistically insignificant for most values of district magnitude. This also suggests that there are only small electoral gains, if any, from running incumbents under MMD-CLD systems.

In MMD-OPN systems, the increase in the district party vote share due to an additional incumbent candidate is sizable at lower district magnitudes. For example, between the district magnitudes of 3 and 5, in which almost all districts in MMD-OPN/Low DM countries (Ireland and Japan) fall, the estimated increase in party vote share ranges from 2.49 percentage points, when district magnitude is 3, to 1.38 percentage points, when it is 5. The estimated vote gains at the same district magnitudes under MMD-CLD systems are only 0.26 to 0.22 percentage points. The electoral advantage of running an incumbent is clearly greater in MMD-OPN systems than MMD-CLD systems when the number of seats in a district is small. To see this difference formally, I computed the difference between the estimated vote gains from running an additional incumbent between MMD-OPN and MMD-CLD systems; i.e., the difference in the estimated marginal impact of *NumInc* ($= \beta_4 + \beta_5 / DM$) between Models 2 and 3. The estimated difference is drawn over district magnitudes between 3 and 25 in the left panel of Figure 2.2, in which a black line is the estimated difference and a gray area is its 90% confidence interval. Up to a district

magnitude of 11, the difference between the estimated advantage in MMD-OPN and MMD-CLD systems is statistically significant. The advantage in MMD-OPN systems is clearly greater than that in MMD-CLD systems below a district magnitude of 11, but beyond this point, the advantage in MMD-OPN systems is too small to be statistically distinguishable from that in MMD-CLD systems.

[Figure 2.2 about here]

A similar difference can be observed between the estimated advantage of MMD-OPN systems and SMD systems (the left and center panels of Figure 2.1). The estimated vote gain in MMD-OPN systems at low district magnitudes — for example, 2.49 and 1.38 percentage points at district magnitudes of 3 and 5 — is even greater than the gain of 1.01 percentage points estimated for SMD systems for which district magnitude is only 1. When divided by district magnitudes of 3 and 5, the estimated vote advantage of SMD is translated into 0.34 (=1.01/3) and 0.20 (=1.01/5) percentage points respectively, which is much smaller than the 2.49 and 1.38 percentage points estimated for MMD-OPN systems. The difference between these two systems is given formally in the center panel of Figure 2.2, which depicts the marginal impact of $NumInc$ $(\beta_4 + \beta_5 / DM)$ in Model 2 (MMD-OPN) minus the marginal impact of Inc in Model 1 (SMD) divided by district magnitude (β_3 / DM). The difference is statistically significant up to a district magnitude of 18, but beyond that, the advantage in MMD-OPN systems becomes too small to be statistically distinguishable from the advantage in SMD systems.

My hypotheses also suggest that the electoral advantage of running an incumbent is greater in SMD systems than in MMD-CLD systems. As is already discussed, the advantage

is statistically significant for SMD but largely insignificant for MMD-CLD systems, which seems to suggest that the electoral advantage of running incumbents is greater in SMD than in MMD-CLD systems as hypothesized. However, it turned out that the difference in the advantage between these two systems is not statistically significant. This is shown in the right panel of Figure 2.2 that records the marginal impact of *Inc* in Model 1 (SMD) divided by district magnitude (β_3 / DM) minus the marginal impact of *NumInc* ($\beta_4 + \beta_5 / DM$) in Model 3 (MMD-CLD) over varying district magnitudes. As is clear from the figure, the estimated difference is statistically indistinguishable from zero for the entire range of district magnitudes.

In general, the estimation results of the three models in Table 2.2 and the analysis of these results based on Figures 2.1 and 2.2 provide strong support to Hypotheses 1 and 2. Specifically, I found that there is positive and statistically significant electoral advantage for parties from fielding incumbents under MMD-OPN and SMD systems while the advantage under MMD-CLD systems is largely statistically insignificant. The advantage under MMD-OPN systems is greater than that under the other two systems when district magnitude is small, but the difference dissipates as district magnitude grows, since the advantage declines as district magnitude increases under MMD-OPN systems. While the hypothesis suggests that the electoral advantage of running incumbents is greater in SMD than in MMD-CLD systems, it is found that the advantages in these systems are statistically indistinguishable. The results suggest that the main difference in the electoral advantage of incumbents lie between electoral rules *with intra-party competition* and those *without it*, and the difference diminishes as district magnitude increases.

2.6. Substantive Significance

To gauge the substantive significance of the electoral advantage of running incumbent candidates, I simulated, based on the estimated models, the *aggregate* impact of fielding incumbent candidates on *national-level vote shares* of their parties, which I label "aggregate incumbency advantage." We can assess the substantive magnitude of the electoral advantage of running incumbents by comparing the simulated aggregate incumbency advantage with, for example, past findings regarding the magnitude of economic voting, which are also measured in national vote shares.

For each party in each election, this national-level quantity can be derived by simulating vote shares in all districts based on the estimated models and aggregating district-level quantities into the national one. Specifically, for each party *j* of country *c* in each election *t*, we first set up two hypothetical states: in the first state, there is no electoral gain for party *j* from incumbents while in the second state, party *j* enjoys the gains from fielding incumbents. The first state is simulated by setting the number of incumbent variables for party *j* to zero with all other variables held at their actual values. The second state is simulated by changing the number of incumbent variables of party *j* to an appropriate hypothetical value (discussed later). For each of the two hypothetical states, we simulate district-level vote shares of party *j* in all districts and aggregate the district-level votes to calculate a national-level vote share.[10] The aggregate incumbency advantage for party *j* of country *c* in election *t* is computed as the simulated national-level vote share of party *j* under the second hypothetical state, in which the party enjoys the gains from running incumbents,

[10] Simulated district-level party vote shares are multiplied by the valid number of votes cast in each district and aggregated into national-level party votes. Then, national-level party votes are divided by the valid number of votes cast nationwide to derive a national-level party vote share.

minus the same vote share under the first state, in which there is no gain from fielding incumbents.

For the second hypothetical state in which parties enjoy the electoral gains from incumbents, one possibility of a hypothetical number of incumbents used for simulation is the actual number of incumbents in each election. This provides a simulation of the advantage parties actually gained in each election. However, the propensity of fielding incumbent candidates varies across parties and countries. The aggregate incumbency advantage simulated based on the actual number of incumbents reflects this variation in the incumbents' rate of returning to the electoral race. To single out the impact of electoral systems on the electoral advantage of running incumbents, we should fix the returning rate of incumbents across parties and countries so that the simulated advantage represents the variation across electoral systems, controlling for the incumbents' returning rate. I calculated the average returning rate of incumbents of the parties for which a simulation is conducted (78.15%) and applied this returning rate to all parties. That is, I set a hypothetical number of incumbents for each party at 0.7815 times the total number of seats held by this party prior to an election. Since the aggregate incumbency advantage simulated this way varies depending on which incumbents actually returned to the race, I simulated the electoral advantage for each party under a different combination of returning incumbents for 1000 times, with the set of returning incumbents chosen randomly for each simulation, and derived the average of these simulations.

The aggregate incumbency advantage is simulated for each party in each election in the dataset. For Ireland, for example, there are altogether 39 party-election-level results of this quantity: 15 each for Fianna Fáil and Fine Gael, and 9 for Labour (the first two parties held more than a 10% seat share prior to all 15 elections in the dataset while Labour did so

prior to 9 elections only). I computed the average of the multiple simulation results for each country to produce a single quantity summarizing the aggregate impact of running incumbent candidates in each country (*average* aggregate incumbency advantage). For example, the average aggregate incumbency advantage for Ireland was computed by averaging the 39 party-election-level aggregate incumbency advantages.

Figure 2.3 shows the simulation results of the average aggregate incumbency advantage for all countries included in the analysis. The pattern appearing in this figure reflects the findings in the previous section. First, the average aggregate incumbency advantage is the largest for MMD-OPN/Low DM systems: an increase of 2.04 percentage points and 1.93 percentage points in national-level vote share for Japan and Ireland respectively (median district magnitude is 4 for both countries). The advantage under MMD-OPN systems decline as a country's district magnitude increases: a 0.65 percentage-point gain for Finland (median district magnitude is 13) and a 0.20 percentage-point increase for Italy (median district magnitude is 18). The advantages under SMD and MMD-CLD systems are small and largely indistinguishable between these two systems: a gain of 0.40 and 0.39 percentage points for New Zealand and the U.K. (SMD), and an increase of 0.43, 0.36, and 0.23 percentage points for Belgium, Norway, and Austria (MMD-CLD), respectively. These advantages in SMD and MMD-CLD are also of a similar magnitude to the gain in Italy, which has the highest median district magnitude of the MMD-OPN countries included in the analysis.

[Figure 2.3 about here]

The simulated average aggregate impacts in Figure 2.3 are suggestive of a substantive importance of the personal vote of incumbent candidates under these electoral systems. One way to gauge the substantive significance is to compare the simulated average aggregate incumbency advantage to the historical volatility of party vote shares from one election to the next. Parties care about how much their vote shares change from election to election because it affects their standing in the government and the parliament. If the magnitude of the electoral gains from running incumbents is sizable compared to the change in parties' vote shares between elections, we can conclude that the electoral gains from incumbents is substantively significant for these parties. For 92 elections in the nine countries included in the analysis, the average absolute vote swing in terms of national-level vote shares of the parties that held more than a 10% seat share prior to each election is 3.05 percentage points.[11] The magnitude of the simulated average aggregate impact of running incumbents under MMD-OPN/Low DM equals about two-thirds (2.04/3.05 = 66.89% for Japan and 1.93/3.05 = 63.28% for Ireland) of the average absolute vote change from one election to another; the impact under MMD-OPN/High DM is in the range of one-fifth (0.65/3.05 = 21.31% for Finland) to one-fifteenth (0.20/3.05 = 6.56% for Italy); the impacts under SMD are about one-eighth (0.40/3.05 = 13.11% for New Zealand and 0.39/3.05 = 12.79% for the U.K.); and those in MMD-CLD are in the range of one-seventh to one-thirteenth (from 0.43/3.05 = 14.1% for Belgium to 0.23/3.05 = 7.54% for Austria). The comparison demonstrates that the impact of the electoral benefit to parties from their incumbent candidates' personal vote is substantively large under electoral systems with intra-party competition (MMD-OPN), especially when the average district-magnitude is low — the

[11] To derive this quantity, I first compute the absolute value of the difference in the national-level vote share of each party in election *t* and the same vote share in election *t-1*. Then, the quantity is averaged across all parties and elections.

simulated impact is as large as two-thirds of the change in parties' vote shares between elections under MMD-OPN/Low DM systems.

Given our concern that the personal vote of incumbents may undermine some important functions of elections based on the collective responsibility of parties, such as collective accountability and mandate-giving roles, it is informative to compare the simulated aggregate impacts of incumbents to the prior findings in the literature about these functions of elections. Here I make such a comparison to the extent of economic voting in advanced industrial democracies. Powell and Whitten (1993) found that, in their sample of 93 parliamentary elections in 19 developed democracies, single-party majority governments lost, on average, 3.6 percentage points in vote share, and postelection majority coalitions lost 2.5 percentage points. We see that the magnitude of the average aggregate incumbency advantage in MMD-OPN/Low DM countries is more than one-half of the magnitude of voters' penalization of poorly performing single-party majority governments (2.04/3.6 = 56.67% for Japan and 1.93/3.6 = 53.61% for Ireland) and as large as four-fifths of the voters' punishment on coalition parties (2.04/2.5 = 81.60% for Japan and 1.93/2.5 = 77.20% for Ireland), respectively. Similarly, the advantage in Finland under MMD-OPN/High DM equals about one-fifth (0.65/3.6 = 18.06%) of single party government's vote loss and one-fourth (0.65/2.5 = 26.00%) of coalition governments' vote loss. The advantages in Italy, the other country under MMD-OPN/High DM but with greater district magnitude, and countries under SMD and MMD-CLD are about or below one-tenth of the governments' vote loss. In a more recent study, Duch and Stevenson (2008) used 163 public opinion surveys in 18 developed democracies and found that the worsening of economic perceptions of voters lead to, on average, the loss of 5 percentage points in the vote share of a chief executive party. Given this estimate, we see that the average aggregate incumbency

advantage in MMD-OPN/Low DM countries equals about two-fifths (2.04/5.0 = 40.80% for Japan and 1.93/5.0 = 38.60% for Ireland) of the economic vote. The advantage in Finland is slightly greater than one-tenth (0.65/5.0 = 13.00%). The incumbency advantages in Italy and SMD and MMD-CLD countries are much smaller. These comparisons suggest that under electoral systems with intra-party competition, especially when electoral districts in these systems have, on average, low district magnitude, the electoral gains to political parties from fielding incumbent candidates have sizable impacts on election outcomes, and may undermine, to a substantial degree, the accountability and mandate-giving roles of democratic elections based on the collective responsibility of parties.

2.7. Conclusion

This chapter has conducted a comparative analysis of the electoral gains for political parties from fielding incumbent candidates — incumbency advantage *for political parties*. Based on the empirical analyses of district-level party votes in nine developed democracies, this chapter has demonstrated that there is a sizable amount of electoral benefits to parties from fielding incumbent candidates, and the magnitude of advantage varies across electoral systems in a way different from what we naturally expect from the existing theory of individual politicians' incentives for a personal vote. It is found that the incumbency advantage is larger under electoral systems with intra-party competition than those without it, and among systems with intra-party competition, the advantage declines as district magnitude grows. While smaller than in systems with intra-party competition, there is also a statistically significant electoral advantage of running incumbents under SMD systems. On the other hand, the estimated advantage under MMD systems with no intra-party competition is largely statistically insignificant. However, the estimated advantages of SMD

and MMD-CLD systems are not statistically distinguishable. These findings suggest that an important difference in the magnitude of the electoral advantage of running incumbents lies between electoral rules with intra-party competition and those without it, and the difference dissipates as district magnitude grows.

Table 2.1. List of Countries in the District-Level Election Dataset and Summary Statistics

	Electoral Systems	Period Covered [2]	Number of Elections [3]	District Magnitude (DM) Mean	Median	Min.	Max.	Number of District Observations	Number of Observations of District Party Votes
SMD									
New Zealand	SMD-Plurality	1946-1990	7	1	1	1	1	596	1191
United Kingdom	SMD-Plurality	1950-2005	11	1	1	1	1	5685	11353
MMD with NO Intra-Party Competition (MMD-CLD)									
Austria	Closed-List PR	1995-2008	5	4.33	4	3	8	210	630
Belgium	Closed-List PR	1971-1987	6	7.07	5	2	34	180	600
Norway	Closed-List PR	1953-2005	13	7.94	7	3	16	250	889
MMD with Intra-Party Competition & Low District Magnitude (MMD-OPN/Low DM)									
Ireland	STV	1954-2007	15	3.87	4	3	5	540	1338
Japan	SNTV	1958-1993	12	3.97	4	2	6	1480	3182
MMD with Intra-Party Competition & High District Magnitude (MMD-OPN/High DM)									
Finland	Open-List PR	1958-2007	13	14.18	13	6	34	181	681
Italy	Open-List PR	1948-1992	10	20.17	18	3	54	308	709
Total		1946-2008	92					9430	20573

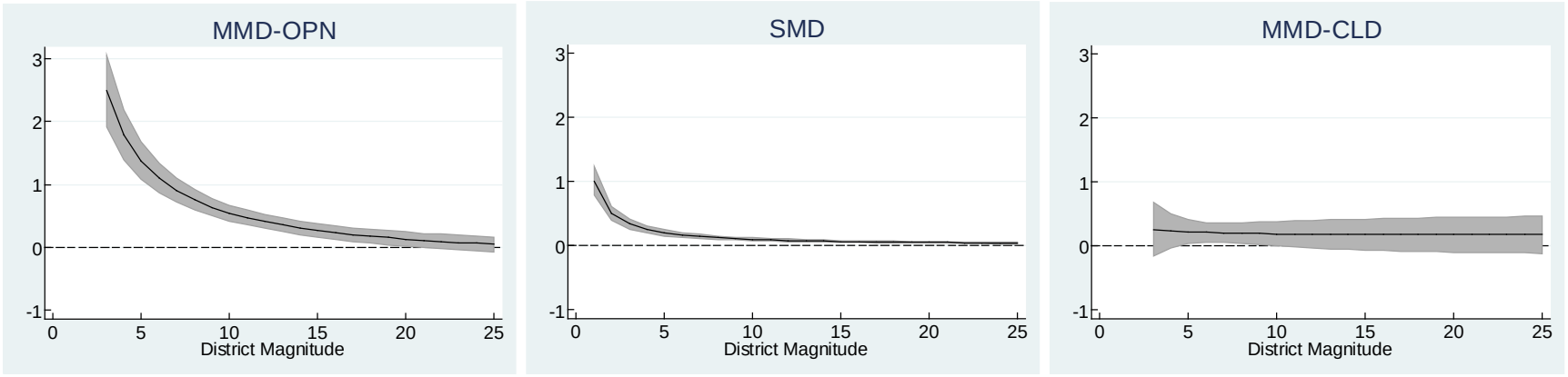
NOTE: The dataset is constructed from the following sources. Austria: Bundesminiterium für Inneres. Various years. *Die Nationalratswahlen.* Belgium: i) Ministère de l'Intérieur. Various years. *Elections Législatives.* ii) *Résultats électoraux* (http://www.ibzdgip.fgov.be/result/fr/main.html). Finland: Tilastokeskus. Various years. *Kansanedustajain Vaalit.* Ireland: i) Stationery Office. Various years. *Election Results and Transfer of Votes.* ii) *ElectionsIreland.org* (http://electionsireland.org/index.cfm). iii) Ted Nealon. 1997. *Nealon's guide to the 28th Dail & Seanad: Election '97.* Italy: i) Ministero dell' Interno. Various years. *Elezioni Politiche.* ii) La Navicella. Various years. *I Deputati e Senatori del nono Parlamento Repubblicano.* Japan: Steven R. Reed. *Japan MMD Data Set* (http://www.fps.chuo-u.ac.jp/~sreed/DataPage.html). New Zealand: i) Electoral Office. Various years. *The General Election.* ii) Clifford Norton. 1988. *New Zealand Parliamentary Election Results 1946-1987.* Norway: Statistisk Sentralbyrå. Various years. *Stortingsvalget.* UK: i) The UK Electoral Commission. *Election Results* (http://www.electoralcommission.gov.uk/election-data/index.cfm). ii) Craig, F.W.S. Various years. *British Parliamentary Election Results.* iii) *UK General Elections since 1832* (http://www.psr.keele.ac.uk/area/uk/edates.htm)

Table 2.2. Incumbency and District-Level Party Vote Share Across Electoral Systems: Estimation Results

Independent Variables	Model 1: SMD	Model 2: MMD-OPN	Model 3: MMD-CLD
V_{cij}^{t-1}	0.9133 (0.0043) ***	0.8302 (0.0125) ***	0.9271 (0.0098) ***
$NumPty_{ci}^{t}$	-0.0082 (0.0004) ***	-0.0050 (0.0005) ***	-0.0002 (0.0004)
Inc_{cij}^{t}	0.0101 (0.0014) ***		
$Seat_{cij}^{t-1}$	0.0112 (0.0016) ***		
DM_{ci}^{t}		-0.0001 (0.0002)	0.0000 (0.0003)
$NumInc_{cij}^{t}$		-0.0028 (0.0011) ***	0.0016 (0.0022)
$NumInc_{cij}^{t} / DM_{ci}^{t}$		0.0831 (0.0126) ***	0.0030 (0.0132)
$NumSeat_{cij}^{t-1}$		0.0042 (0.0011) ***	-0.0008 (0.0023)
$NumSeat_{cij}^{t-1} / DM_{ci}^{t}$		-0.0531 (0.0139) ***	0.0023 (0.0126)
Number of Observations	12544	5910	2119
R squared	0.9941	0.9851	0.9943

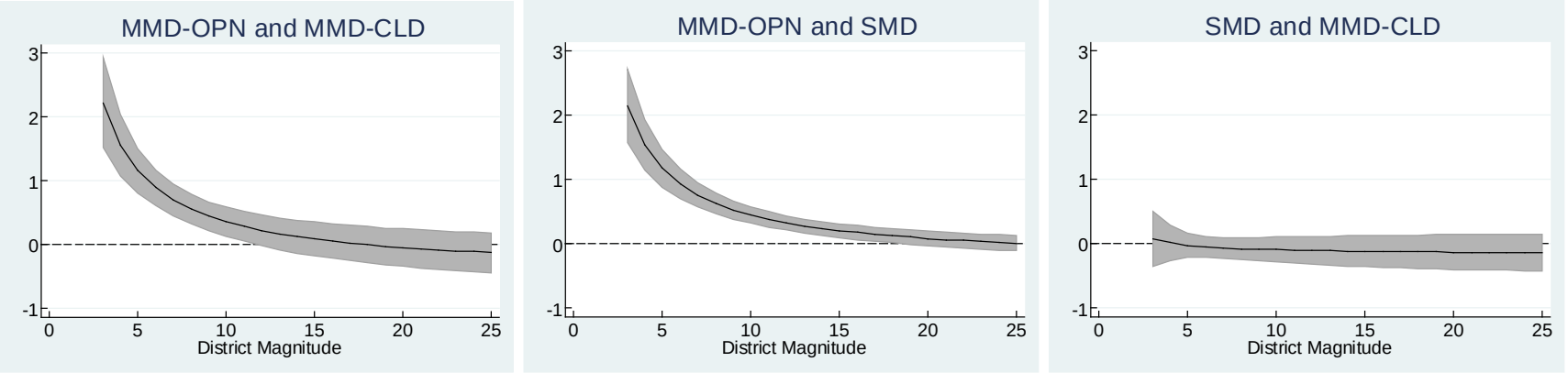
Notes: Dependent variables are district-level party vote shares. Estimates of national swings to each party in each election (α_{cj}^{t}) are not shown. Clustered standard errors in parentheses. *p <0.1, **p<0.05, ***p<0.01.

Figure 2.1. Change in District-Level Party Vote Share (%) by Fielding One Additional Incumbent Candidate



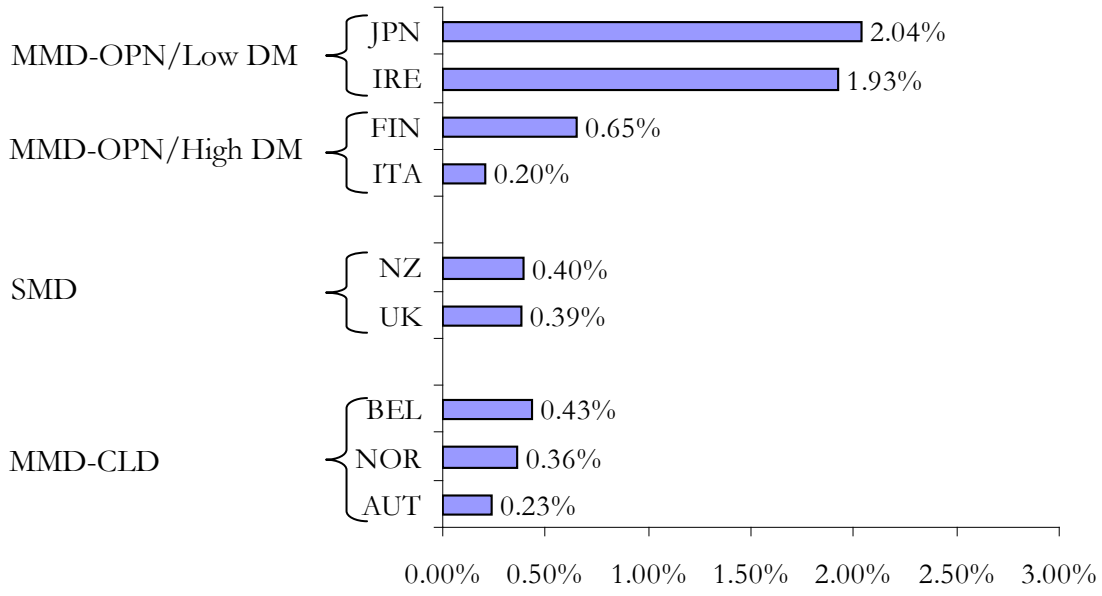
Notes: The figures for MMD-OPN and MMD-CLD draw the estimated marginal impact of *NumInc* ($\beta_4 + \beta_5 / DM$) based on Models 2 and 3 in Table 2.2. The figure for SMD draws the estimated marginal impact of *Inc* divided by district magnitude (β_3 / DM) based on Model 1 in Table 2.2. Black lines indicate point estimates, and gray areas are 90 % confidence intervals.

Figure 2.2. Difference in the Change in District-Level Party Vote Share (%) by Fielding One Additional Incumbent Candidate Between Electoral Systems



Notes: The first figure draws the difference in the estimated marginal impact of $NumInc$ $(\beta_4 + \beta_5 / DM)$ between MMD-OPN and MMD-CLD, based on Models 2 and 3 in Table 2.2. The second figure is the difference between the marginal impact of $NumInc$ $(\beta_4 + \beta_5 / DM)$ of MMD-OPN and the marginal impact of Inc of SMD divided by district magnitude (β_3 / DM), based on Models 1 and 2 in Table 2.2. The third figure is the difference between the marginal impact of Inc of SMD divided by district magnitude (β_3 / DM) and the marginal impact of $NumInc$ $(\beta_4 + \beta_5 / DM)$ of MMD-CLD, based on Models 1 and 3 in Table 2.2. Black lines indicate point estimates, and gray areas are 90 % confidence intervals.

Figure 2.3. Aggregate Electoral Advantage for Parties from Fielding Incumbent Candidates Measured in National-Level Vote Shares ("Average Aggregate Incumbency Advantage")



Notes: The figure draws the simulated "average aggregate incumbency advantage" for each country defined in the text. Simulations are based on Models 1-3 in Table 2.2.

Chapter 3

Incumbency Disadvantage for Individual Candidates under Electoral Rules with Extreme Intra-Party Competition: Evidence from Japan

3.1. Introduction

This chapter extends the analysis to the electoral advantage of holding an incumbent seat for individual candidates — incumbency advantage *for individual candidates*. In particular, it develops the theory of the variation in incumbency advantage for individual candidates between single-member district (SMD) systems and multimember district (MMD) systems with intra-party competition. Although the theory is applicable generally, this chapter focuses on the extreme case of the systems with intra-party competition — Japan under the Single Non-Transferable Vote (SNTV) system during 1958-1993. The theory developed here posits that incumbency advantage for candidates will be smaller in MMD with intra-party competition than SMD, due to the particular competitive environments generated by intra-party competition in multimember districts. Since Japan under SNTV entailed one of the most extreme cases of intra-party electoral competition, it should be in this country case that the difference from SMD can be seen most clearly. In other words, Japan is an appropriate case for the *first* systematic attempt to study of a smaller advantage of incumbents over non-incumbents. Indeed, the empirical analysis reported in this chapter reveals that marginal incumbents suffer disadvantage over marginal non-incumbent candidates in Japan under SNTV.

An important point of this chapter is that the theoretical expectation and empirical findings contradict with the natural expectation derived from the existing literature of electoral systems and personal-vote incentives. When electoral rules allow for intra-party competition, individual politicians' incentives to cultivate a personal vote will also become greater (Carey and Shughart 1995). Given the strong incentives for the personal vote, we naturally expect that incumbents would have greater electoral advantage relative to non-incumbents under MMD systems with intra-party competition than under SMD systems. However, this chapter (and the next chapter) suggests to the contrary that greater intra-party competition diminishes the electoral advantage of incumbents.

The rest of the chapter is organized as follows. Section 3.2 provides a theoretical explanation for why there may be little incumbency advantage or even a disadvantage under MMD rules with intra-party competition. Section 3.3 introduces the case of Japan. Section 3.4 presents a regression-discontinuity analysis of individual-candidate-level election-outcomes. Section 3.5 concludes with the summary of the findings of this chapter.

3.2. Theory of Incumbency Disadvantage

Under SMD systems, incumbents are expected to have an advantage over non-incumbents because they can use their various office privileges as incumbent legislators to cultivate personal votes and deter the entrance of high-quality challengers (Cox and Katz 1996, Levitt and Wolfram 1997). Even under SMD systems, however, it is not unreasonable to point out some potential disadvantages that incumbents may have vis-à-vis non-incumbent candidates although these disadvantages generally do not seem to outweigh the advantages empirically. In the following paragraphs, I list three potential sources of disadvantages, which can equally apply to both SMD systems and MMD systems with intra-

party competition. Then I discuss how the particular features of competitive environments created by MMD systems with intra-party competition may strengthen these potential disadvantages of incumbents, perhaps leaving little net advantage, or even a disadvantage, of incumbents over non-incumbents.

First, between elections, incumbents must spend significant amounts of time in their country's capital to attend the parliamentary sessions and participate in the daily politics of policymaking at the national level. On the other hand, non-incumbents can stay in their district throughout the entire parliamentary session during which incumbents must report to the capital. This provides non-incumbents with a considerable time advantage over incumbents to rebuild and expand their local campaign organizations, attend local social events to sell their name among the electorate, and canvas the electoral district in *de facto*, if not official, campaigning for the next election (Curtis 1992, Inoguchi and Iwai 1987).[1] Of course, non-incumbents also need to spend some time in earning their living and thus cannot spend the entire time between elections in campaigning efforts. But, incumbents' full-time jobs are worse in this regard, being out of district (as a national legislator at the capital). The need to travel between a district and the capital is the primary disadvantage that incumbents have over non-incumbents.

Second, some incumbents may not be able to provide their supporters with promised policies and services due to an insufficiency of their bargaining power in the legislature or to unfavorable economic or political environments that hinder the fulfillment

[1] In Japan, the empirical case for this paper, electoral campaigning is prohibited by law between elections except for a short official campaigning period before an election (McElwain 2008). However, candidates can conduct a wide range of *de facto* campaigning activities throughout the entire period between elections, so long as they do not explicitly ask voters to vote for them, and most candidates, whether incumbents or not, actually spend significant amounts of time in those *de facto* campaign activities. See Curtis (1971) for detailed examples of these *de facto* campaign activities.

of those promises. Non-incumbents can criticize those incumbents who failed to fulfill their promises and persuade some voters who had cast a ballot for the incumbents to turn their support to non-incumbents. This strategy may involve some credibility problems, because it is not necessarily clear if non-incumbents who criticize incumbents are competent enough to deliver on their own promises. The credibility problems can be mitigated if non-incumbents have some prior experience in elected office or other important positions that influence the local economy and society. Some non-incumbents may be former national representatives in the district prior to the previous election but failed to get reelected in that election. Others may have prior experience in local executive or legislative offices in that district. Prior experience in elective office is regarded as an important signal of candidate quality both in the U.S. (Jacobson 1980) and other developed democracies (Shugart et al. 2005). Yet others may be business managers, non-elected government officers, and leaders of unions or other local organizations, whose accomplishments are well-known among the electorate. These non-incumbents with no experience in elective office may still be able to convince a sufficient number of voters that they are as competent as, or more so than, incumbent legislators to fulfill their policy promises based on their past accomplishments outside of politics.

Third, in service of partisan goals and reputation, incumbents are sometimes placed in a position to vote for the policies that deviate from the preferences of their supporters in their district. Non-incumbents can blame those incumbents and may attract some of the incumbents' previous voters who are now disgruntled with the incumbents' support for bills that are against their interests. There is some evidence that this type of strategy should work for non-incumbent candidates to defeat incumbents of the opponent party in the U.S. Congress. For example, Canes-Wrone et al. (2002) showed that, controlling for district

partisanship, members of Congress who had voted more consistently along their party line in the Capitol chambers lost votes in their electoral district in the subsequent election. This evidence indicates that non-incumbents were successful to a certain degree in attracting some voters by criticizing these incumbents for making a legislative choice away from the median voter's preference in their district. This type of disadvantage to incumbents, however, does not seem to outweigh the overall advantage that incumbents enjoy in the U.S. Congressional elections, as evidenced in the considerable net advantage estimated for incumbent candidates. This may be because, in the U.S. Congress, a party's legislative voting unity is usually low in the first place and incumbents often vote against their party's proposals to appeal to voters in their districts. This potential disadvantage for incumbents should be more problematic for members of parliament (MPs) in parliamentary democracies, in which legislative voting cohesion is necessary for the survival of the cabinet, and most MPs in fact vote along the party line (Carey 2007).

Whether these disadvantages outweigh the advantages incumbents enjoy is an empirical question. The positive findings of incumbency advantage in the existing studies on SMD systems in developed democracies imply that these disadvantages do not outweigh the advantages of incumbents under these systems. Under MMD systems with intra-party competition, however, the particular nature of intra-party competition is likely to make these disadvantages more pronounced. Incumbents' advantages may not necessarily outweigh these enhanced disadvantages and consequently, there may be little incumbency advantage, or even a disadvantage, under these systems. I discuss below four such natures of intra-party competition.

First, to attract voters who had previously voted for incumbents is a relatively easier task for non-incumbents in MMD systems with intra-party competition than non-

incumbents in SMD systems. To win under SMD systems, a non-incumbent candidate must attract some fraction of voters who had voted for an incumbent of *an opponent party*. This implies that non-incumbents will typically need to appeal to voters who are ideologically distant from themselves. However, when there are multiple candidates from one party in the same district, non-incumbents can attract voters who had voted previously for other candidates of *their own party*. In this case, non-incumbents can appeal mainly to voters who are closer to their own ideological position. For non-incumbents, the latter task — attracting voters who are ideologically closer to non-incumbents but had voted for other candidates of the same party — is easier than the former — attracting voters who are ideologically distant from non-incumbents and therefore had voted for an opponent party's candidates.

Second, under SMD systems, non-incumbents have a real chance of ousting incumbents only in a relatively small number of marginal districts where a good number of independent and less-partisan voters, to whom non-incumbents can realistically appeal, reside. Under MMD systems with intra-party competition, however, non-incumbents can in general find marginal incumbents in a much greater number of districts. This is because there are multiple incumbents in every district, making some incumbents more marginal than others within each district, and these relatively more marginal incumbents tend to have smaller vote margins. For example, in the U.K. under SMD during 1945-2005, representatives won within a 5% vote-share margin in 13.55% of all districts, but in Japan under SNTV during 1958-1993, there were legislators who won within an equivalent $5/M$ % vote-share margin in 84.38% of all districts (M refers to district magnitude, the number of

seats in a district).[2] With a greater fraction of districts with marginal incumbents, MMD with intra-party competition provides non-incumbent candidates with a greater chance of winning than SMD.

Third, the existence of multiple incumbents in the same district also makes credit claiming of individual incumbents less plausible or less effective in MMD systems with intra-party competition than in SMD systems because any and all incumbents in the same district can claim credit for their party's achievement. To avoid this credibility or effectiveness problem of credit claiming, incumbents of the same party usually specialize in different policy areas or divide their electoral district into narrow bailiwicks and claim credit in these policy or geographical areas (Hirano 2006, Marsh 2000, McCubbins and Rosenbluth 1995). This policy- or geographical-demarcation strategy should be an excellent insurance for incumbents, if it works well, but they are by no means perfect. To the extent that a certain policy area is appealing to a given district (e.g., agricultural policy in a rural district, small business policy in an urban district), multiple incumbents are tempted to claim credit for the achievements in that policy area, which makes these incumbents' credit claiming less convincing. Geographical bailiwicks are also always subject to encroachment by other candidates, either incumbents or non-incumbents. These problems do not exist under SMD systems since there is only one incumbent in each district. This incumbent can claim sole credit for policy achievements of her party.

Fourth, given the relative ease of defeating incumbents for the reasons discussed above, high-quality challengers are more likely to enter the race or remain in the race — if they had also run in the previous election — in MMD systems with intra-party competition

[2] In general, a vote share, V, in a single-member district is comparable to V/M in a multimember district. Therefore, I treat a 5% vote-share margin under SMD as equivalent to a $5/M$% vote-share margin under SNTV.

than in SMD systems. One important factor for incumbency advantage, identified for SMD systems in the literature, is that the quality of non-incumbent challengers is low in districts in which incumbent candidates return to the race (Cox and Katz 1996, Levitt and Wolfram 1997). This is because high-quality challengers are deterred from entering or remaining in the race due to the strength of personal reputation developed by incumbents. Compared to SMD systems, however, high-quality non-incumbent challengers should have fewer reasons to be deterred from running because of the relative ease of defeating incumbents as discussed above.

These considerations of the particular natures of competitive environments created by MMD systems with intra-party competition suggest that the disadvantages incumbents face are stronger and more likely to be evident under these rules than SMD systems. The advantages of incumbency, on the other hand, gain no commensurate enhancement in MMD as opposed to SMD systems. It is, therefore, more likely under MMD systems with intra-party competition than SMD systems that the disadvantages outweigh the advantages that incumbents enjoy. In other words, incumbents under MMD systems with intra-party competition are more likely to have little advantage or even a disadvantage over non-incumbents of the same party.

In addition, there should also be important variation in the disadvantage of incumbents over non-incumbents depending on their *electoral marginality*. As we have seen in the examples from the U.K. and Japan, while marginal incumbents and non-incumbents are concentrated in a small number of districts under SMD systems, they are more commonly observed in many districts under MMD systems with intra-party competition. This makes the electoral marginality of candidates a particularly important variation under MMD systems with intra-party competition. On average, incumbents who had marginally won in the

previous election should be most vulnerable to the challenge of non-incumbent candidates since these incumbents have the least votes to spare before facing defeat by non-incumbents. Similarly, non-incumbents who had marginally lost in the previous election should be, on average, the greatest beneficiary from the disadvantages of incumbents since they need the least additional number of votes to get elected. For these reasons, it is further expected that incumbency disadvantage is likely to be materialized for incumbents who had won a seat marginally in the previous election over non-incumbents who had lost a seat marginally. It is this hypothesis that I examine empirically based on the electoral data from Japan.

3.3. The Case of Japan

To examine the hypothesis posed above, this paper uses the electoral data from Japan during 1958-1993 when the country used the SNTV system for the House of Representatives (*Shugiin*), the lower house of the national parliament (the Diet or *Kokkai*), which had consisted of 467 to 512 representatives in the period covered. SNTV uses multimember districts and allows voters to cast a single vote for a single candidate. Each district has multiple seats except for a sole single-member district that existed until the 1990 election. There were 118 to 130 districts in each election and most districts (92 to 99% of all districts) had 3 to 5 seats. For districts with M seats, the top M candidates are elected, and there is no vote-pooling for candidates of the same party. It is this last feature that distinguishes SNTV from other popular systems with intra-party competition such as open-list PR and STV, under which votes are pooled across candidates of the same party to determine the seat allocation. Due to this feature, SNTV is ranked among the top of the various theoretically possible electoral formulas and the highest of the electoral rules used for national parliaments in developed democracies in terms of its propensity to encourage

intra-party competition and a personal vote (Carey and Shugart 1995). It is also well documented in the Japanese-politics literature that SNTV led to highly intensive intra-party competition among candidates of the same party in the same electoral district (e.g., Curtis 1970, Richardson 1998). Moreover, intra-party electoral competition in a district took the form of *institutionalized factional competition* for the ruling LDP. That is, each candidate of the LDP in a district was usually backed up by a different faction of the LDP. This institutionalized nature of intra-party competition may be understood as the extreme form of intra-party competition — the very end of the continuum between the non-existence and the greatest degree of intra-party competition. Given this high intensity and the extreme form of intra-party competition, if an incumbent would have a disadvantage under MMD rules with intra-party competition, then the disadvantage should be most pronounced under systems like SNTV in Japan.

The particular nature of the institutionalization of LDP factions — which was heavily influenced by intra-party competition under SNTV (Cox and Rosenbluth 1993, Fukui 1978, Thayer 1969) — should have also made incumbency non-advantage or disadvantage more likely. To compete with their copartisans, LDP candidates needed electoral resources beyond the party label and party funding. Internal factions of the LDP, led by aspirants of party presidency (and premiership), provided those resources, such as cabinet or committee posts and campaign moneys, which helped individual candidates to cultivate their personal support bases.[3] In return, LDP candidates voted for their faction leaders (or voted as directed by faction leaders) in the party's leadership elections and also acted upon faction leaders' directions in other various important occasions. These

[3] Individual LDP candidates also raised their campaign funds but the money raised and distributed by factional bosses played a significant role in financing their campaigns (Cox and Rosenbluth 1993).

exchanges between faction leaders and followers developed into stable, institutionalized factions of the LDP (Cox and Rosenbluth 1993, Thayer 1969). Factions' support to non-incumbents' election campaigns should have made non-incumbents' challenge to incumbents more effective by giving non-incumbent candidates otherwise unavailable campaign funds and also providing additional credibility to these candidates' pre-electoral promises of policies and favors to their supporters.

For these reasons, the possibility of the disadvantages of incumbents outweighing their advantages, as discussed in the previous section, should have been greatest in Japan among developed democracies during its SNTV era. Therefore, Japan is an appropriate case for the *first* systematic attempt to investigate incumbency non-advantage or disadvantage under MMD systems with intra-party competition.

An illustrative example would provide a clear idea about the possibility of incumbency non-advantage or disadvantage under the SNTV system in Japan. The example is Iwate 1st district in the 1960 and 1963 elections. In both elections, the LDP won three of the four seats in this district. The party nominated the same four candidates, but the winning candidates were different between these two elections. Yamamoto Takeo, an incumbent who had won a seat marginally in the 1960 election with a 1.27 percentage-point vote share margin, lost in the subsequent election after serving four terms in the Japanese Diet. Isurugi Michiyuki, who had lost marginally in his first attempt to be elected into the Japanese parliament in the 1960 election, won the seat held by Yamamoto in the 1963 election. Yamamoto recorded a decline in his vote share from 14.78% to 11.64% between these two elections, the largest loss among the three LDP incumbents (the loss of a 3.14 percentage-point vote share). The other two incumbents, Suzuki Zenkou, who later became the prime minister in 1980, and Nohara Masakatsu also decreased their vote shares from

19.25% to 17.56% (the loss of a 1.69 percentage-point vote share) and from 17.98% to 16.33% (the loss of a 1.65 percentage-point vote share), respectively. On the other hand, Isurugi increased his vote share from 13.51% to 19.25%. His gain of a 6.12 percentage-point vote share was almost equivalent to the total loss of vote shares by other three LDP incumbents (6.48 percentage points). In this example, while all LDP incumbents suffered some vote loss — especially Yamamoto, who had won a seat marginally in the previous election, suffered the greatest vote loss and thus lost his seat — the non-incumbent who had lost marginally in the previous election increased his votes and won.[4]

The above example of Iwate 1st district illustrates incumbency disadvantage, especially for those who won the previous election marginally. The question is whether this phenomenon can be found systematically in Japanese elections under SNTV. Simple descriptive statistics provide a favorable answer. Of the total 1632 district observations during 1958-1993 (13 elections, 118-130 district observations per election), the number of electoral districts in which at least one LDP incumbent lost a seat but, at the same time, at least one LDP non-incumbent won is 305.[5]

That is, LDP incumbents lost to non-incumbents of the same party in about one-fifth (18.69%) of all districts. If we restrict observations to districts in which there was intra-party competition between incumbents and non-incumbents of the LDP (1052 district observations in which at least one incumbent and one non-incumbent ran from the LDP), the proportion increases from one-fifth (18.69%) to approximately one-third (28.99%) — 305 of 1052 district observations. In these appreciable portions of electoral races found in Japan during the period covered, LDP incumbents were replaced by LDP non-incumbents,

[4] A phenomenon like this is known as *jiten-bane* ("a re-bounce of a runner-up") in Japan.

[5] LDP candidates here include conservative independents. See the next section for justification.

suggesting that many incumbents might be little advantaged or even be disadvantaged. To examine incumbency non-advantage or disadvantage more systematically, the next section turns to a regression-discontinuity analysis of the LDP candidates' election outcomes.

3.4. Regression Discontinuity Analysis

3.4.1. Data and Estimation Sample

Due to the LDP being the only party that regularly fielded multiple candidates per district in the majority of electoral districts under the SNTV system, the estimation focuses solely on the candidates of the LDP. The dataset covers elections that occurred between 1958, when the first election was held after the LDP was established through the merger of smaller conservative parties, and 1993, when the last election was held under SNTV. I use the Japan MMD Data Set collected by Steven R. Reed (Reed 2007). I include the conservative independents that are coded as "LDP-related independents" by Reed (2007) in this analysis of LDP candidates. In Japan under SNTV, conservative candidates who had failed to win an official nomination from the LDP usually stood for election as conservative independents, often backed by one of the main factions of the LDP, and joined the LDP after they were elected to the national parliament (Browne and Kim 2003, Reed 1994). These conservative independents should be regarded as *de facto* LDP candidates, and "LDP candidates" hereafter refers to both official LDP candidates and LDP-related independents. In total, there are 4638 LDP candidate observations in 1514 districts in the dataset.[6]

The analysis is restricted to districts where intra-party competition between incumbent and non-incumbent candidates took place. Specifically, only districts in which at

[6] There are 1632 district observations during 1958-1993. However, 118 district observations in the 1958 election are excluded from this count because these observations are used only as lagged variables for the observations of the following election.

least one incumbent and one non-incumbent candidate ran from the LDP are included in the analysis. As a result, 578 district observations (38.2% of the entire district observations) were excluded from the estimation sample. This restriction of observations is necessary as these districts do not provide any information about intra-party competition between incumbents and non-incumbents. In addition, a small number of redrawn or reapportioned districts were excluded. In Japan under SNTV, redistricting and reapportionment were extremely rare. There are only 36 district observations (2.4% of the entire district observations) that are excluded solely for this reason. This exclusion should accordingly have little effect on the estimation results. After these restrictions, the number of district observations included in the analysis becomes 900 districts, which cover close to two-thirds of the entire district observations in the dataset.

Since the model, more fully explained below, requires lagged observations of candidates, only candidates who also ran in election *t-1* are included in the analysis. After this restriction, the estimation sample consists of 2418 LDP candidates. This number is more than three-quarters of all LDP candidates (3179) in the 900 districts included in the analysis. These restrictions of the observations could potentially cause a bias in estimation. I will discuss why this sample-selection issue is not a problem for the current purpose after I introduce the research design adopted for estimation.

3.4.2. Regression Discontinuity Design

I apply a regression-discontinuity (RD) design to the present analysis. The RD is one approach to a *causal inference* of observational data, which is increasingly gaining popularity (Thistlethwaite and Campbell 1960, Imbens and Lemieux 2008). It has also been applied recently to incumbency advantage in the SMD literature (Lee 2008, Hainmueller and Kern

2008). The RD design's primary advantage over usual regression models is that, if its key assumptions are met, it is free from a potential bias due to unobserved omitted variables. In usual regression models, our estimate is always subject to a potential bias due to omitted variables, especially unobserved ones. The estimate from the RD analysis is insensitive to this possibility if its key assumptions hold.

There are three main variables in the RD analysis. In the jargon of causal inference, they are called *outcome*, *treatment*, and *assignment* variables. An *outcome* is a dependent variable in the usual regression terminology, which is, in the present application, the election outcome of LDP candidates. A *treatment* is a key independent variable which causes the difference in the outcome. The treatment here is incumbency — whether a candidate won a seat in the previous election. The estimand of interest is the *average treatment effect (ATE)* of incumbency, the average causal impact of incumbency on the election outcomes of individual candidates. The *assignment* variable plays an important role in the RD analysis. This is an underlying variable that determines whether an observation receives a treatment. The treatment is assigned to an individual only if an assignment variable is greater than a certain threshold. The assignment variable for the analysis here is the vote-share margin of victory of the candidate in election *t-1* (*VM*). For an incumbent, *VM* is calculated as her vote share minus the runner-up's vote share (the vote share of the candidate who finished in the *M+1*-th place, where *M* refers to the number of seats in a district). For a non-incumbent, it is his vote share minus the last winner's vote share (the vote share of the candidate who finished in the *M*-th place). *VM* is negative for non-incumbents, zero at the threshold, and positive for incumbents. Incumbency, or a victory in election *t-1*, is assigned only if *VM* crosses the threshold value of zero.

The key idea of the RD design is that at the threshold, assignment to a treatment is random. In the present application, in very close elections in *t-1*, winning a parliamentary seat — an assignment of incumbency — is as good as random. So long as the assignment is random, there is, on average, no other difference between incumbents and non-incumbents, except for whether they hold a seat (whether individuals receive a treatment). Consequently, we can identify the average causal effect of incumbency as the difference in election outcomes in *t* between incumbents and non-incumbents at the threshold of the vote-share margin of victory in *t-1*, which is insensitive to either observed or unobserved omitted variables. If we find a discontinuous positive jump in election outcomes at the threshold, it suggests an electoral advantage of holding an incumbent seat. If we find a discontinuous negative jump, it suggests an incumbency disadvantage. If there is no clear difference at the threshold, it suggests non-advantage.

A limitation of the RD design is that the estimate of a treatment effect is valid only at the threshold of an assignment variable. The RD design does not identify the treatment effect for the entire population (all LDP candidates) because the assignment of incumbency is not considered as random except for the near neighborhood of the threshold of the previous vote-share margin. Therefore, it identifies the causal impact of incumbency only for the local population around the threshold (for marginal incumbents and non-incumbents only). However, this is not really a limitation for the present analysis. Since my hypothesis is concerned specifically with *marginal* incumbents and non-incumbents, the treatment effect estimated from the RD design is an appropriate quantity to test the hypothesis. In other words, the RD design is especially suitable for the current analysis of incumbency non-advantage or disadvantage of marginal candidates.

I analyze two election outcomes of LDP candidates at election *t*: one is a candidate's vote share (a candidate's votes divided by total number of valid votes cast in her district) and the other is a candidate's winning probability (a binary indicator of the victory of a candidate). Following one of the standard approaches of the RD analysis (Hainmueller and Kern 2008, Lee et al. 2004, Lee 2008), an outcome variable is regressed on a fourth-order polynomial of the margin of victory variable and its interaction with an incumbency indicator (*I*). Specifically, the outcome variable is regressed on VM, VM^2, VM^3, VM^4, I, $(I \times VM)$, $(I \times VM^2)$, $(I \times VM^3)$, and $(I \times VM^4)$.[7] The idea is that the only thing that a flexible-enough polynomial could not reflect is a discontinuous break, which should be all what is left for the dummy variable, *I*, to pick up. The estimated coefficient of *I* should reflect the magnitude of this discontinuous break in an election outcome at the threshold where VM is zero. It identifies the average causal effect of incumbency on individual LDP candidates at the margin. Standard errors are clustered in districts and elections to reflect stochastic dependence among candidates in the same district.

3.4.3. Sample-Selection Issues

The research design adopted here, which focuses on the candidates who ran in both the previous and current elections, has two sample-selection issues which might introduce potential sources of bias on the estimate of the treatment effect of incumbency. First, if only *non-incumbent candidates* who expect better election results in their next run return to the race, the estimate of the incumbency effect may be biased downward. Second, if only *incumbents*

[7] In a standard regression framework, a binary dependent variable is usually modeled by a probit or logit model since a linear probability model fails to reflect non-linearity of the relationship between a binary variable and covariates and often produces logically impossible values of the predicted probability. Here, the use of a high-order polynomial prevents these problems.

who expect good electoral prospects return to the race, the estimated treatment effect may be biased upward. As explained below, however, these two issues do not cause a serious problem for the research question and estimation purpose of this paper.

The first issue of the strategic exit of non-incumbents does not pose a significant problem given our interest in the electoral *disadvantage* that incumbents suffer over non-incumbents. If our theoretical interest lay in the electoral gain of *average non-incumbents*, the strategic retirement of non-incumbents would certainly bias our estimate of such a gain. However, the concern here is *incumbents' disadvantage — how negative the incumbents' electoral fates could be* — under intra-party competition. An appropriate comparison here should be made between incumbents and *electorally viable non-incumbents* who can potentially defeat incumbents. The current research design is suitable for this purpose as the treatment effect, *I*, compares the performance of marginal incumbents with the performance of marginal, returning non-incumbents who have self-selected into the costly race and spent a significant amount of time and energy in outpacing incumbent candidates. In other words, for our purpose, the self selection of non-incumbents into the race is an important feature that we want our estimate of the treatment effect, *I*, to reflect, rather than a bias we want to eliminate.

The second issue of the strategic exit of incumbents, if it exists, would bias the estimate of the desired treatment effect, but it would do so *against* my hypothesis. That is, I expect a negative or a small and statistically insignificant positive estimate of the effect of *I*, and the potential upward bias, if present, would make it more difficult to find supportive evidence for my hypothesis. If the incumbency non-advantage or disadvantage is nonetheless found as hypothesized, this will provide stronger evidence for the hypothesis since it is found despite a potential upward bias from incumbents' strategic exit.

3.4.4. Estimation Results

Panel (a) of Table 3.1 reports the estimated treatment effects of incumbency on an LDP candidate's vote share and winning probability, and panels (a) and (b) of Figure 3.1 present these results graphically. In panel (a) of Figure 3.1, LDP candidates' vote shares at election *t* are plotted against their vote-share margin of victory at election *t-1*. Panel (b) of Figure 3.1 similarly plots LDP candidates' winning probability at election *t* against their vote-share margin at *t-1*. For graphical purpose, each point shown in both panels represents a *local average* of LDP candidates' vote shares or winning probability (y-axes) at an interval of 0.005 along the vote-share margin of victory (x-axes).[8] The thick curve draws a fitted value from the fourth-order polynomial fit and dashed curves show the 90% confidence intervals at each side of the threshold. The dashed vertical line is the treatment threshold.

[Table 3.1 and Figure 3.1 about here.]

Both panels of Figure 3.1 demonstrate the disadvantage of marginal incumbents relative to marginal non-incumbents by clearly depicting a downward discontinuous jump at the treatment threshold. In terms of vote share, it is estimated that, at the threshold, marginal incumbents won 15.87% of district votes while marginal non-incumbents won 19.30%. As summarized in Table 3.1-(a), this gives an estimated 3.43 percentage point disadvantage for marginal incumbents, which is statistically significant at the 1% significance level. The winning probability of marginal incumbents is estimated to be 69.24% while that of marginal non-incumbents is estimated at 85.91%. As in Table 3.1-(a), marginal

[8] Specifically, I took the average of the vote shares of all LDP candidates or that of the 0-1 indicators of the victory of individual LDP candidates for each 0.005 interval of the previous vote-share margin. It is this average that is plotted in Figures 3.1-(a) and 3.1-(b).

incumbents have a 16.67 percentage-point lower winning-probability than marginal non-incumbents at the threshold, which is also statistically significant at the 1% level. These results indicate a both statistically and substantively significant incumbency *disadvantage* of marginal LDP candidates and provide supportive evidence to the hypothesis.

3.4.5. Validity Tests

The validity of the RD estimates of the treatment effects of incumbency rest on the assumption that the victory at election *t-1* is randomly assigned at the vote-share margin threshold. If this assumption holds true, *pre-determined* characteristics of LDP candidates (their characteristics before election *t*) should be balanced, i.e., distributed equally, in the neighborhood of the discontinuity threshold. Following Lee (2008), I estimated the treatment effects of incumbency on pre-determined characteristics of LDP candidates to see whether there is evidence for the violation of the assumption. If the pre-determined variables are well balanced at both sides of the threshold, there should not be a clear discontinuity in these variables at the threshold. The pre-determined variables examined here are the number of past victories of each candidate as of election *t-1* and the number of past times running for this office in this district as of election *t-1*. Table 3.1-(b) reports the statistically insignificant treatment effects of incumbency on both variables, suggesting that these pre-determined variables are well balanced at both sides of the threshold. These results support the validity of the identification strategy of incumbency effects employed in this paper.

3.4.6. Alternative Explanations

The above estimation results have demonstrated that there was a negative effect of incumbency on marginal LDP incumbents' vote share and winning probability under SNTV. I argued that this is a manifestation of marginal incumbents' electoral *disadvantage* over marginal non-incumbents under intra-party competition. However, the estimated negative effect of incumbency can be consistent with some other alternative explanations. To see whether these alternative explanations, rather than incumbents' disadvantage due to intra-party competition, drive the results, I reestimated the models, restricting to district observations to which these alternative explanations do *not* apply. If the estimated negative effect of incumbency is considerably smaller in this subset of district observations, it suggests that these alternative explanations primarily account for the electoral loss of incumbents. If the negative incumbency effect in this subset is still estimated at the similar level to the estimates in the full estimation sample, it suggests that the estimated negative incumbency effect are explained primarily by incumbents' disadvantage over non-incumbents rather than the alternative explanations.

The first alternative explanation is that the negative incumbency effect may be the result of a reallocation of votes from retiring incumbents to non-incumbent candidates. When some LDP incumbents retired before election *t*, voters for these incumbents in election *t-1* may choose other LDP non-incumbents in election *t*, so long as they still want to vote for someone of their favorite party. These vote gains of non-incumbents do not represent a disadvantage of incumbents relative to non-incumbents. The analysis focusing on districts in which *all incumbents returned* to the race is robust to this concern.[9] Excluding

[9] When long served LDP politicians retire, they oftentimes designate their electoral heir (frequently their child(-in-law), relative, or secretary), who succeed the individual electoral support base (*Jiban*) from the retiring politicians. These inheriting candidates are new candidates in election *t* and there are no

the districts where at least one LDP incumbent retired, the number of district observations is reduced to 641 and the number of candidates becomes 1845, which are 71.2% and 76.3% of these observations, respectively, in the full estimation sample.

Table 3.1-(c) reports the results of this subsample estimation. For the districts in which all incumbents returned, the negative incumbency effect is estimated at 3.26 percentage points in vote share and 15.57 percentage points in winning probability. Both estimates are statistically significant at the 1% level and almost equal in their magnitudes to the estimates for the full estimation sample. The results indicate that the reallocation of votes from retiring incumbents to non-incumbents is not the primary cause of the estimated negative incumbency effect.

The second alternative explanation is that the estimated negative incumbency effect may be the consequence of the strategic response by the party (LDP), candidates, and voters to suboptimal vote-division among LDP candidates in the previous election. The absence of pooling of votes across the same party's candidates, an inherent characteristic of SNTV, creates what is known in the literature as a "vote-division problem" — a coordination problem for parties, candidates, and voters in optimally distributing electoral support to a party among the candidates of this party (Browne and Patterson 1999, Cox and Niou 1994, McCubbins and Rosenbluth 1995). When a party fails in the vote-division problem, the party loses a seat which it could have won if the party's votes had been distributed optimally among its candidates. After experiencing such a loss, the party, candidates, and voters are

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observations of lagged variables for them. Therefore, these candidates are not included in the analysis and cannot be the main cause of the estimated negative incumbency effect. One possible explanation for the estimated negative effect in this line is that retiring incumbents' votes were not completely inherited by their heir, and some of these votes were spilled over to other non-incumbents who also ran in *t-1* more than to other returning incumbents. This possibility is also ruled out in the subsample estimation of the districts in which all incumbents returned.

likely to adjust their strategies to avoid the same problem in the subsequent election. The vote distributions resulting from their response may produce an ostensibly negative impact of incumbency on candidates' electoral performance.

There are three well-known types of the failure in the vote-division problem in SNTV (Cox and Niou 1994). The first one is *overnomination* of candidates — a party nominates candidates more than the number of seats it could have won. For example, the LDP fielded three candidates but won only one of the three seats in Tokyo 8th district in 1979. The vote share total of the two losing LDP candidates in this race (29.94%) was greater than the vote share of either of the two winning candidates of the opposition parties (19.70% and 19.69%), suggesting that if the LDP had run two candidates instead of three, it could have won two seats instead of only one. In the next election in 1980, the LDP reduced its candidates to two. Most votes freed up by the exiting non-incumbent were absorbed by the remaining non-incumbent, whose vote share was almost doubled from 14.05% in 1979 to 27.81% in 1980. On the other hand, the returning LDP incumbent increased his vote share by much smaller margin from 24.32% to 29.92%. If we simply compare the change in vote shares of the remaining LDP non-incumbent and the returning LDP incumbent, it looks as if the incumbent was disadvantaged relative to the non-incumbent although the primary cause of the change was the reduction of the number of candidates.

The second type of the failure in the vote-division problem is *undernomination* of candidates — a party nominates candidates smaller than the number of seats it could have won. An example is Yamanashi district in the 1972 election. In this five-seat district, the LDP fielded three candidates and won three seats. However, if we divide the party's total vote share, 61.35%, by four, we have 15.34%, which is greater than the vote share of either

of the two winners of an opponent party (14.00% and 13.26%). If the LDP had fielded one more candidate and distributed its votes evenly among the four candidates, it could have won one more seat in this district. In the following election in 1976, the LDP indeed fielded four candidates in Yamanashi district and won four seats with its party votes distributed almost evenly among the candidates (14.29%, 14.19%, 13.91% and 12.91%). In this case, vote shares of all three LDP incumbents declined from those in the 1972 election, since some of these votes were distributed to the newly-entering LDP candidate. If we simply look at the vote change in this district between the two elections, it also looks as if there was a disadvantage in holding an incumbent seat, although the main reason of the change was the increase in the number of candidates.

To rule out the possibility that the estimated negative incumbency effect is a by-product of the adjustment of the number of candidates, responding to overnomination or undernomination, I restricted the sample to the districts in which the number of LDP candidates did not change from the previous election. In this subsample, the number of district observations is 413 and the number of candidate observations is 1115 (45.89% and 46.11%, respectively, of the full estimation sample). The results are presented in Table 3.1-(d). It shows the statistically significant estimates of the negative incumbency effect — 3.36 percentage points in vote share and 16.54 percentage points in winning probability (statistically significant at the 1% and 5% levels, respectively). The magnitude of disadvantage is again almost equal to the full estimation sample. These results suggest that the strategic response to overnomination or undernomination is not primarily driving the estimated negative impact of incumbency.

The seat loss due to suboptimal vote-division may occur, even when neither overnomination nor undernomination is present — i.e., even when a party runs the optimal

number of candidates (the third type of the failure in the vote-division problem). This is possible if votes are too *unevenly* distributed among candidates of the same party. For example, the LDP ran three candidates and won 77.72% of district votes in Kagoshima 3rd district in 1963. The LDP won only two of the three seats in this district, although it could have won all three if its votes had been evenly distributed among the three candidates. The two winning LDP candidates gained more than necessary (29.44% and 27.84% vote shares), and the losing LDP candidate won the slightly lower vote share (20.44%) than the other winning candidate from an opponent party (21.37%). In the subsequent election in 1967, the LDP votes were more evenly distributed among the same three candidates (28.12%, 25.61%, and 24.89%), and all of them won a seat. Compared to the previous election, the two incumbent LDP candidates decreased their votes by 1.32 and 2.94 percentage points, respectively, while the other LDP non-incumbent increased his votes by 5.17 percentage points. In this case, it is ambiguous whether the negative impact of incumbency is driven primarily by incumbents' disadvantage over non-incumbents or it is chiefly a by-product of the strategic response by the party, candidates, and voters to maximize the LDP seats.

A conservative test of the case of incumbency disadvantage is to exclude all districts that potentially provide the LDP, candidates, and voters with incentives to adjust their actions to redress uneven vote distribution. I identified such districts by determining whether LDP could have won an additional seat in the previous election if it had run the optimal number of candidates and distributed their votes evenly among these candidates in each district. For this purpose, I summed up all LDP candidate votes in each district in election $t\text{-}1$ and divide the vote total by $S+1$, where S is the number of seats LDP won in $t\text{-}1$ — I call the resulting number of votes "optimal average votes." If the optimal average votes exceed the votes of the last-winning non-LDP candidate in $t\text{-}1$ (the one finished last of all

the winning non-LDP candidates), it indicates that the LDP could have won one more seat in this district, if it had fielded *S+1* candidates and distributed its votes among these candidates evenly. These are the districts which potentially induce the party, candidates, and voters to adjust their strategies to maximize the LDP seats.

Excluding these districts, the remaining observations are 420 districts and 1036 candidates, which are 46.67% and 42.85% of the full estimation sample, respectively. Table 3.1-(e) reports the estimation results. The negative incumbency effect in vote share is estimated at 3.35 percentage points and statistically significant at the 1% level. This estimation result is once again almost equivalent to the estimate for the full sample. On the other hand, the incumbency effect in winning probability is statistically insignificant. However, its sign is still negative and its magnitude (11.61 percentage points) is only slightly lower than the estimate for the full sample. Taken together, the estimation results in vote share and winning probability still point to a sizable negative impact of holding an incumbent seat. It suggests that the strategic reaction of parties, candidates, and voters to the vote-division problem does not primarily explain the estimated negative incumbency effect.

Finally, I also estimated the model, imposing all the three restrictions discussed above simultaneously. That is, the analysis includes only districts i) with all LDP incumbents returned, ii) with the same number of LDP candidates as in the previous election, and iii) with no suboptimal vote-division in the previous election. The number of observations in this subsample is 128 districts and 369 candidates, 14.22% and 15.26% of the full estimation sample, respectively. Although this dataset consists of a relatively small part of the full estimation sample, if the negative incumbency effect is still found, it will provide all the stronger evidence of the electoral disadvantage of incumbents over non-incumbents, because

neither alternative explanation considered above is applicable to this subsample. The results presented in Table 3.1-(f) indeed provide such strong evidence. The estimated negative incumbency effect is 5.20 percentage points in vote share and 26.36 percentage points in winning probability, which are statistically significant at the 1% and 5% levels, respectively. Not only do the results indicate the negative incumbency effect, but also the magnitude of the negative effect is greater than in the full estimation sample. Since the alternative explanations cannot account for the negative incumbency effect found here, this is strong supportive evidence to the argument that marginal incumbent candidates are disadvantaged over marginal non-incumbents of the LDP in Japan under SNTV.

3.5. Conclusion

This chapter focused on MMD rules with intra-party competition, under which the personal vote, argued to be one of the primary sources of incumbency advantage, is more important than under SMD rules. While greater incumbency advantage may be naturally expected from the primacy of the personal vote in these MMD systems with intra-party competition, I argued to the contrary that incumbents may rather have little advantage, or even a disadvantage, relative to non-incumbents of the same party due to the particular nature of competitive environments generated by intra-party competition. I examined this argument empirically using the election data of Japan during 1958-1993 when SNTV was used to elect national representatives. Applying a regression discontinuity analysis to the election outcomes of LDP candidates, I found that incumbents who had marginally won their seats in the previous election lose a 3.4 percentage-point vote-share and have an approximately 16.7 percentage-point lower winning-probability than non-incumbents who had closely lost in the last election. I also conducted a series of subsample estimations to

rule out alternative explanations to the estimated negative incumbency effect. The negative impact of incumbency has been consistently found in each subsample to which each or all of alternative explanations do not apply. These results constitute strong evidence of incumbency *disadvantage* under SNTV in Japan.

While this chapter focused on Japan, the theory developed here applicable more generally. In particular, the degree to which electoral disadvantages outweighing advantages of incumbents, and the magnitude of the resulting net advantage of incumbents, may also vary depending on the extent of intra-party competition generated by these institutional differences. Extending the analysis of this chapter, the next chapter explores such a systematic variation through cross-country comparative analysis.

Table 3.1. Regression Discontinuity Estimation Results: Incumbency Effect on the Marginal LDP Candidates' Election Outcomes

(a) Full Estimation Sample

Outcome Variable	ATE	N
Vote Share	-0.0343 (0.0067) ***	2418
Winning Probability	-0.1667 (0.0474) ***	2418

(b) Balance Tests for Pre-determined Variables

Outcome Variable	ATE	N
No. of Past Victories (t-1)	-0.3848 (0.3490)	2418
No. of Electoral Attempts (t-1)	-0.2339 (0.4031)	2418

(c) Districts with All Incumbents Returned

Outcome Variable	ATE	N
Vote Share	-0.0326 (0.0084) ***	1845
Winning Probability	-0.1557 (0.0568) ***	1845

(d) Districts with Same Number of Candidates in Elections *t* and *t-1*

Outcome Variable	ATE	N
Vote Share	-0.0336 (0.0097) ***	1115
Winning Probability	-0.1654 (0.0655) **	1115

(e) Districts with No Suboptimal Vote Division in Election *t-1*

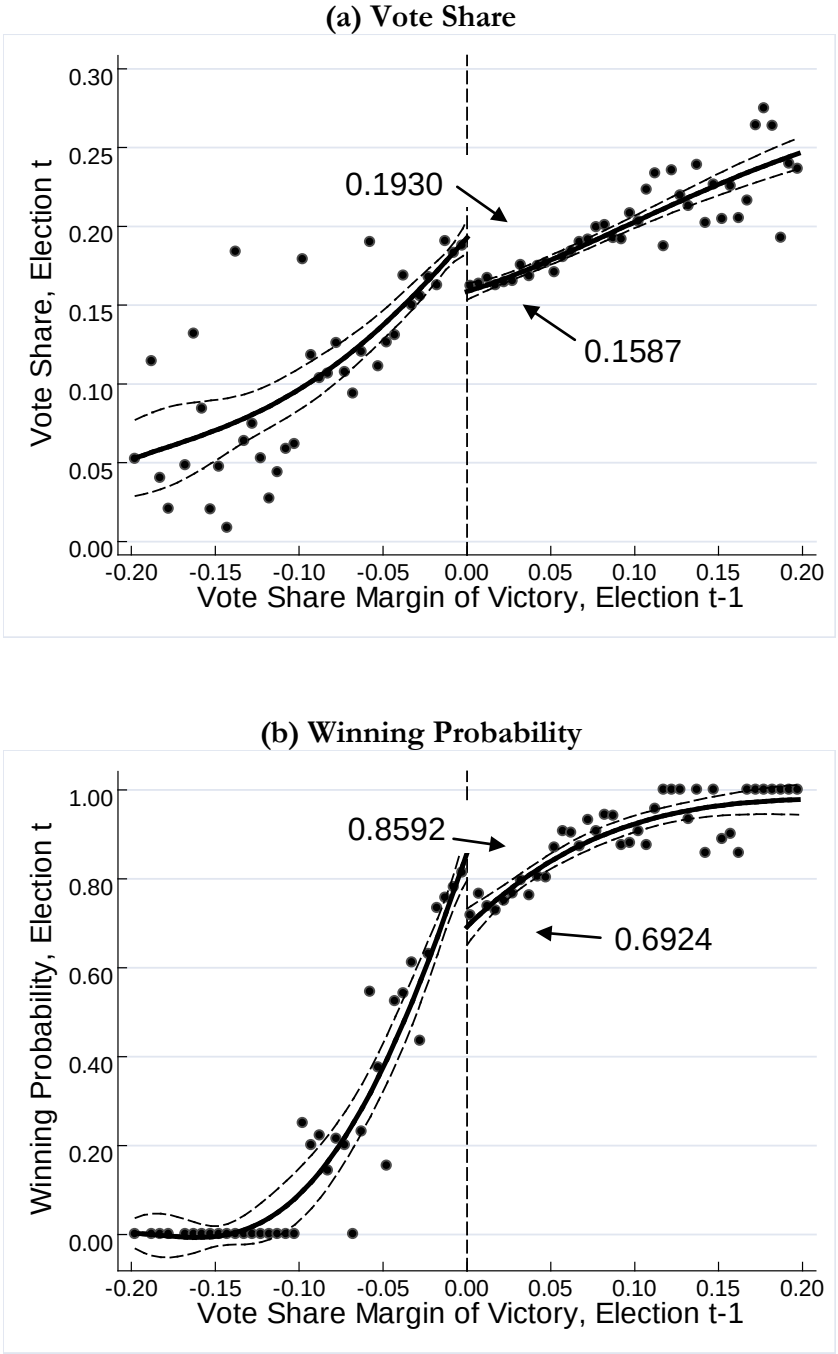
Outcome Variable	ATE	N
Vote Share	-0.0335 (0.0114) ***	1036
Winning Probability	-0.1161 (0.0872)	1036

(f) Districts with All Incumbents Returned, Same Number of Candidates in Elections *t* and *t-1*, and No Suboptimal Vote Division in Election *t-1*

Outcome Variable	ATE	N
Vote Share	-0.0520 (0.0146) ***	369
Winning Probability	-0.2636 (0.1256) **	369

NOTE: All estimates are based on the regression of an outcome variable on an incumbency indicator (I), a fourth-order polynomial of the previous vote-share margin of victory (VM), and its interaction with an incumbency indicator (I). Specifically, an outcome variable is regressed on VM, VM^2, VM^3, VM^4, I, $(I \times VM)$, $(I \times VM^2)$, $(I \times VM^3)$, and $(I \times VM^4)$. Only the treatment estimates (the coefficient estimates of I) are shown in "ATE" (Average Treatment Effect) column. Clustered standard errors are shown in parentheses. *p <0.1, **p<0.05, ***p<0.01. "N" column lists the number of observations.

Figure 3.1. Incumbency Effect at the Threshold on the LDP Candidates' Election Outcomes



NOTE: Each point represents a local average of an outcome variable in election *t* (y-axis) at an interval of 0.005 along the vote share margin of victory in election *t-1* (y-axis). A thick curve draws a fitted value from the fourth-order polynomial fit. Dashed curves are the 90% confidence intervals of the fitted value. A dashed vertical line is the treatment threshold. The numbers in the figure show the estimated values of an outcome variable at each side of the threshold (i.e., the estimated values of an outcome variable for marginal incumbents and non-incumbents).

Chapter 4

Electoral Rules, Intra-Party Competition, and Incumbency Advantage for Individual Candidates: Comparative Analysis of Five Developed Democracies

4.1. Introduction

This chapter extends the analysis of incumbency advantage *for individual candidates* in Chapter 3, by broadening the scope of analysis to five developed democracies — Canada, Finland, Italy, Japan, and the U.K. — which use or had used various kinds of candidate-centered electoral systems, such as SMD plurality, open-list PR, and SNTV systems. The chapter extends the theoretical argument of Chapter 3 and provides the multiple-country empirical evidence of the relationship between electoral systems and incumbency advantage for individual candidates.

Section 4.2 lays out the theoretical argument, built on the theory developed in Chapter 3. Section 4.3 introduces the empirical cases of the five developed democracies and derives specific hypotheses for these countries. Section 4.4 describes data and methods. Section 4.5 presents the results. Section 4.6 explores the validity of the estimation methodology. Section 4.7 considers an important alternative explanation. Section 4.8 concludes with the summary.

4.2. Intra-Party Competition and Varying Incumbency Advantage

4.2.1. Overview

Since this paper concerns the electoral advantage of holding an incumbent seat for individual candidates, it focuses on *candidate-centered* electoral rules — the rules under which voters cast a ballot for individual candidates and these votes for candidates are a decisive factor of whether candidates win a seat. These rules include the SMD system, whether voters actually cast a ballot for an individual candidate or a party. With a single candidate from each party, votes for a party are equivalent to votes for the party's candidate in this system, and therefore, all SMD systems can be effectively considered as candidate-centered rules. Other candidate-centered electoral rules are multimember district (MMD) systems with intra-party competition, such as open-list PR, SNTV and the single-transferable vote (STV) system.[1] SMD is an example in which intra-party competition is not allowed, but the other MMD systems allow intra-party competition in varying degrees.[2]

When we compare the electoral environments of incumbents and non-incumbent candidates in these electoral rules, we can think of both potential *advantages* and *disadvantages* of incumbents over non-incumbents. If those advantages outweigh the disadvantages, incumbents will enjoy a net advantage in election outcomes. If the advantages and disadvantages cancel each other, there will be no net electoral advantage for incumbents. If the disadvantages overwhelm the advantages, incumbents will have a net electoral disadvantage over non-incumbents. As detailed below, when electoral rules allow for more

[1] Some closed-list PR countries allow preferential votes for candidates (e.g., Austria, Belgium), but these systems are not included here, because those votes are not a decisive factor of candidates' electoral fate (hence, these countries' system is still effectively classified as *closed-list* PR).

[2] Throughout this paper, I focus on intra-party competition in *general elections only*. Intra-party competition can also take place in the candidate nomination stage of each party (e.g., primaries), but the impact of candidate nomination rules on incumbents' electoral advantage is left out for future research.

intense intra-party competition, incumbents' advantages are more likely to diminish and their disadvantages are more likely to mount. Consequently, the net electoral advantage of incumbents is more likely to shrink as intra-party competition becomes more intense.

4.2.2. Advantages of Incumbents

The literature has identified various advantages of incumbents. First, incumbents enjoy greater visibility and wider name recognition among electorate than non-incumbent candidates. In candidate-centered electoral systems, name recognition and name recall are one of the important factors determining the electoral fate of candidates (Mann 1978, Mann and Wolfinger 1980). A particular advantage of incumbents is that they tend to gain some visibility for free, which is not possible for non-incumbent candidates. As a legislator representing the locality, an incumbent usually enjoys plentiful, free opportunities of being covered by local media. To the extent that free information about incumbents is available through popular media, incumbents can gain name recognition with less direct and less costly contact with electorate than non-incumbent candidates (Parker 1981).

Second, incumbents can use their privileged access to government and legislative resources to improve their electoral fortunes. Incumbents use those resources for various constituency services to develop their personal reputation and to insulate their personal electoral fate from their party's collective electoral fate (Cain et al. 1987, Heitshusen et al. 2005, King 1991). Incumbents can also allocate pork-barrel projects and other targeted benefits to their supporters to enhance their reelection chance (Bickers and Stein 1996, Levitt and Snyder 1997, Stein and Bickers 1994). Incumbents' ability to influence legislation also makes easier, compared to non-incumbents, their campaign fund raising from private companies, business associations, and other sectoral or professional organizations, which

may also contribute to incumbents' advantage (Benoit and Marsh 2008, Box-Steffensmeier 1996, Gerber 1998, Moon 2006).

Third, these advantages and whatever other advantages may accrue to incumbents discourage high quality challengers from entering or remaining in the race. If incumbents take advantage of their visibility and office-holding benefits to develop a personal support base, it is increasingly costly for high quality challengers to enter the electoral race and compete with those entrenched incumbents. This deterrence of the entry of high quality challengers further boosts the advantage of incumbents (Cox and Katz 1996, Levitt and Wolfram 1997).

4.2.3. Potential Disadvantages of Incumbents

While the literature is replete with the description of the advantages of incumbents, it is also possible to note several potential disadvantages of incumbents (Ariga 2010a). First, incumbents must stay away from their electoral districts and spend significant amounts of time in the country's capital while the legislature is in session. On the other hand, non-incumbents can stay in their district throughout the entire legislative session. This provides non-incumbents with a considerable time advantage in canvassing their district in campaigning for the next election (Curtis 1992).

Second, not all incumbents can fulfill their pre-electoral promises because of the insufficiency of their legislative capability, lack of bargaining power, or unfavorable political and economic circumstances. If incumbents can successfully deliver on their promised goods, such as pork-barrel spending, they can increase their votes in the following election, but those who failed cannot receive such an electoral gain (Bickers and Stein 1996, Levitt and Snyder 1997, Stein and Bickers 1994). Moreover, non-incumbents can blame those

incumbents who failed to fulfill their promises and attract some previous voters for the incumbents.

Third, to advance their party's collective goal, individual incumbents must sometimes support legislation that deviates from the preferences of voters in their district. Non-incumbent candidates can also blame those incumbents for that and might thereby attract some previous voters for the incumbents. Those incumbents who support their party's policy by deviating from voters' preference in their district are likely to lose votes in the subsequent election (Canes-Wrone et al. 2002).

4.2.4. The Net Electoral Advantage of Incumbents

The potential disadvantages suggested above are, in effect, mirror images of the advantages of incumbents. While incumbents enjoy an advantage of greater visibility through free media coverage, they are disadvantaged compared to non-incumbents in the time available for direct contact with electorate in their district. Incumbents can take advantage of their access to parliamentary resources in credit claiming, but they could be disadvantaged if they fail to deliver on their promises or they have to vote for their party's policy, which deviates from the median voter preference of their district. The question is what the net electoral (dis)advantage of these considerations would be. In general, incumbents are expected to behave so as to enhance their advantages and mitigate their disadvantages, so that they can enjoy the net electoral advantage of incumbency. For example, U.S. congressmen use franking privileges to reach out to voters via mass mail using public money, and thereby reduce the time disadvantage compared to non-incumbents who can stay in their districts (Cover 1980, Cover and Brumberg 1982). A net electoral advantage of incumbency is likely in SMD systems that do not allow direct competition of candidates

of the same party in general elections. I argue that this is not necessarily so, however, if we move our attention to MMD rules that allow for intra-party competition because incumbents' efforts to increase the advantages but mitigate the disadvantages are constrained by particular natures of intra-party competition.

4.2.5. Weakened Advantages and Strengthened Disadvantages under Intra-Party Competition

There are several reasons why we may expect that intra-party competition in multimember districts diminishes incumbents' advantages but increase their disadvantages (Ariga 2010a). First, non-incumbents need to attract some previous voters of incumbents to win a seat, but this task is easier when intra-party competition takes place in multimember districts. If direct competition of candidates of the same party occurs in the same district, non-incumbent candidates can attract previous voters for incumbents of the *same* party. But, when there is no intra-party competition, as in SMD rules, non-incumbents must attract previous voters for incumbents of an *opposing* party. Since voters who voted for incumbents of the same party presumably tend to be ideologically closer to non-incumbents than those who voted for incumbents of an opposing party, it should be easier for non-incumbents to attract previous voters of incumbents in MMD rules with intra-party competition than in SMD rules.

Second, a greater percentage of districts will have marginal incumbents in MMD rules than in SMD systems. Non-incumbents may be able to defeat incumbents only if these incumbents are electorally marginal. Under SMD rules, marginal incumbents concentrate in a relatively small share of districts. Under MMD rules, however, marginal incumbents can be found in a greater share of districts simply because there are multiple incumbents in each district and some incumbents are always more marginal than others within each district.

Third, there are multiple incumbents in the same district under MMD rules, which hinders effective credit claiming of each incumbent candidate because any incumbents in the same district can claim credit for benefits delivered to that district. Incumbents in SMD do not face this problem, because there is only one incumbent in each district and that incumbent can claim sole credit for the benefits received by her district.

Fourth, given the relatively greater ease of defeating incumbents as discussed so far, high-quality non-incumbents are more likely to remain in or enter the race in MMD with intra-party competition than in SMD.

These considerations suggest that when electoral rules allow for intra-party competition, the advantages of incumbents tend to be weakened and the disadvantages of incumbents tend to be strengthened, resulting in the decline of the net electoral advantage. Furthermore, as electoral rules facilitate greater intra-party competition, incumbents' efforts to increase the advantages but mitigate the disadvantages will be increasingly constrained. Therefore, we should expect that the net incumbency advantage for individual candidates diminishes as electoral rules encourage more intense intra-party competition.

4.3. Empirical Cases and Hypotheses

Empirical cases covered in the current analysis are Canada, Finland, Italy, Japan, and the United Kingdom, which use or had used various candidate-centered electoral systems. These countries are chosen because they share important non-electoral system features — in particular, they are all advanced industrial democracies with parliamentary systems — but exhibit important difference in electoral rules used for their national parliament. Both Canada and the U.K. use the SMD plurality system to elect the representatives to the House of Commons. Finland uses open-list PR for its unicameral national parliament, *Eduskunta*.

Italy had also used open-list PR (a different version from that of Finland) for elections to the lower chamber, *Camera dei Deputati*, until 1992. Japan had used the SNTV rule for the lower house of its national parliament, *Shugiin*, until 1993. The first two SMD countries represent a candidate-centered rule that do not allow for direct competition of candidates of the same party. The latter three countries all use or had used MMD rules that allow for intra-party competition, and they exhibit important variation in the expected degree of intra-party competition.

A critical difference in the three MMD countries, which affects the extent of intra-party competition, is the way votes are cast for individual candidates. In Finland, all voters cast one vote for one candidate from the candidate list of their district, which consists of the candidate lists of all parties running in that district. The votes for the same party's candidates are pooled to determine the seat allocation to that party, but specific winning candidates of the party are determined by the number of votes obtained by individual candidates. In Italy, voters cast a ballot for a party but could optionally indicate their preferred candidate of that party, up to three until the 1987 election or only one in the last election under open-list PR in 1992. The seat allocation is determined by party votes, but winning candidates of each party are determined solely by the number of preferential votes won by individual candidates. In Japan under SNTV, voters cast one vote for one candidate and there was no vote pooling among candidates of the same party. The top M candidates (from any party), in terms of individual votes gained, won a seat in a district with M seats.

While Finland and Italy both use (or had used) open-list PR, they differ in the extent to which preferential votes for individual candidates are utilized. In Finland, all voters need to choose an individual candidate, but in Italy, voters merely had an option to indicate their preference for an individual candidate. In fact, the majority of Italian voters did not use

preferential votes. It is reported that "only about 30 percent of Italian voters used any of their available preference votes." (Golden n.d.) This difference should lead to varying intensity of intra-party competition between the two countries. To get reelected, incumbent legislators in Italy need to appeal to a much smaller segment of their district than their counterparts in Finland. Italian legislators could carve out a small segment of their district, ether geographical or sectoral, and develop it into their personal support base by providing targeted benefits to this group. As long as they can satisfy this small group in the district, Italian legislators can secure their seat, since the majority of voters, who are outside the small groups of personal followers of individual candidates, would cast party votes only. On the other hand, as every voter is required to choose an individual candidate in Finland, Finish legislators must appeal to a larger segment of their electoral district compared to Italian legislators. Since it is more difficult to maintain larger groups of personal followers, Finish legislators should face greater competitive pressure from their peers in the same party than Italian legislators. Therefore, intra-party competition is expected to be greater in Finish open-list PR than in Italian open-list PR.

In Japan under SNTV, every voter was also required to cast a ballot for individual candidates, but the main difference from Finland is that there was no vote-pooling among candidates of the same party. Absence of vote-pooling is expected to intensify intra-party competition in Japan under SNTV compared to Finland under open-list PR. This is because, without vote pooling, candidates cannot rely on votes of copartisans to win a seat, and therefore, they must expand their personal support base until the personal votes for themselves alone are enough to secure a victory.

A simple example may help understand this point more clearly. Table 4.1 shows two hypothetical distributions of individual candidates' votes of the otherwise same electoral

district. There are four parties, *A* to *D*, running in this hypothetical district with four seats. Party *A* fields two candidates but all other parties nominate one candidate. In two hypothetical vote distributions, only party *A*'s candidates' individual vote shares are different, while all parties' vote shares remain the same. In the first hypothetical scenario, party *A*'s votes are divided equally between its candidates at 0.20, respectively, indicating two candidates are equally competitive. In the second scenario, party A's votes are divided unevenly between the two, with candidate *a1* winning 0.30 and *a2* gaining 0.10, indicating the latter candidate *a2* is uncompetitive. If the d'Hondt PR formula (used in Finland) is applied, both candidates of party *A* win a seat in either scenario. If SNTV is used, however, although both candidates of party *A* win in the first scenario, only candidate *a1* wins a seat in the second scenario. This is because uncompetitive candidate *a2* in the second scenario can rely on the votes won by candidate *a1*, if the PR formula is used to allocate seats to the parties. If SNTV is used, candidate *a2* can no longer rely on candidate *a1*, and candidate *a2* must attract voters for *a1* until he can win a seat with his votes only. In principle, candidate *a2* can also attract voters for other parties, but realistically, new votes for candidate *a2* are likely to come mostly from voters for his copartisan, candidate *a1*. This implies that intra-party competition should be more intense in Japan under SNTV than in Finland under open-list PR.

[Table 4.1 about here]

These arguments suggest that, among the three MMD countries, intra-party competition is most intense in Japan (SNTV), followed by Finland and Italy (both open-list

PR) in this order. All these considerations lead to the following specific hypotheses examined in subsequent sections.

Hypothesis 1: The electoral advantage of incumbents over non-incumbents is greater in SMD countries (Canada, the U.K.) than in MMD countries with intra-party competition (Finland, Italy, Japan).

Hypothesis 2: Among MMD countries with intra-party competition, the electoral advantage of incumbents over non-incumbents is greatest in Italy, followed by Finland and Japan in this order.

4.4. Data and Methods

4.4.1. Dataset

The empirical analysis uses a dataset of candidate-level election results of major parties in the five developed democracies, the majority of whose data were compiled by the author.[3] Table 4.1 lists those parties included in the analysis. There are two parties each from Canada, Japan, and the U.K., and four parties each from Finland and Italy. The analysis focuses on the district elections which did not experience a redrawing of district boundaries prior to the election, since the districts after redistricting should have different competitive environments from the previous ones. The analysis of the parties in the MMD countries also focuses on districts in which intra-party competition between incumbents and non-incumbents actually took place — i.e., the districts in which at least one incumbent and

[3] I also rely on the datasets compiled by other scholars whenever I can. For example, I use the datasets compiled by Miriam Golden (2007) on the Christian Democrats (DC) and Socialists (PSI) in Italy and Steven Reed (2007) on the Liberal Democratic Party (LDP) and Socialists (JSP) in Japan. See the note to Table 4.2 for a full description of the sources of the data.

one non-incumbent of the same party competed — since the theoretical argument of a smaller incumbency advantage under intra-party competition rests on the competition between incumbents and non-incumbents of the same party. In total, the analysis covers 43,009 candidate observations of 14 political parties (see Table 4.2 for breakdown).

[Table 4.2 about here]

4.4.2. Definition of Incumbency Advantage

For each party, I estimate the electoral advantage of incumbents over non-incumbent candidates, defined here as "the difference in the electoral outcomes of incumbents and non-incumbents under (hypothetically) the same situation" (Ariga 2010a). That is, I estimate the impact of holding an incumbent seat on individual candidates' election outcomes controlling for other factors, such as candidates' party affiliation, their party's electoral strength in an electoral district, and various individual characteristics (except for incumbency). An election outcome which is frequently the subject of analysis of incumbency advantage is a vote share, but it is not used here because the same proportion of vote share has a quite different substantive meaning between single-member and multimember districts, and across multimember districts with different district magnitudes. I focus instead on the three probabilities concerning individual candidates' election outcomes listed and explained below. These probabilities for individual candidates are comparable across districts with different district magnitudes, and therefore, appropriate for the current comparative analysis.

The estimates of incumbency advantage here are based on the observations of all candidates who ran in election *t-1*. Of these candidates, those who won in election *t-1* are

incumbents in election *t*, and those who lost in *t-1* are non-incumbent candidates in *t*. Three election outcome probabilities, by which incumbency advantage is measured, all concern whether these candidates in election *t-1* returned to the race in election *t* and winning a seat. The first estimate of incumbency advantage is the difference between incumbents and non-incumbent candidates in *the joint probability of returning to the race in election t and winning a seat*, denoted by $Pr(R \cap W)$, where *R* refers to the returning to the race and *W* refers to the winning of a seat. I also decompose this probability into two probabilities (a marginal probability and a conditional probability), and estimate incumbency advantage as expressed in each of these two probabilities, individually. That is, the second estimate of incumbency advantage is the difference between incumbents and non-incumbents in *the probability of returning to the race in election t*, $Pr(R)$, and the third estimate of incumbency advantage is in *the probability of winning a seat in election t conditional on returning to the race*, $Pr(W \mid R)$. To restate, the relationship between these three measures is that the first probability of returning and winning is a product of the latter two probabilities; i.e., $Pr(R \cap W) = Pr(R) \times Pr(W \mid R)$.

Most existing studies on incumbency advantage that concern candidates' winning probability have focused on the third probability of winning a seat conditional on returning, $Pr(W \mid R)$ (Carey et al. 2000, Gallagher 2000, Hayama 1992). That is, the electoral advantage has been conceptualized in terms of winning a seat in election *t* only. However, if incumbency confers candidates an advantage in winning a seat in election *t*, those who won a seat in *t-1* (incumbents in *t*) should also be more likely to return to the race than those who lost in *t-1* (non-incumbents in *t*) because they presumably base their decisions to return on their expectation of whether they could win a seat in election *t*. In other words, the electoral advantage of incumbents is also manifested in candidates' decisions to return to the race.

Therefore, it is appropriate to extend the definition of incumbency advantage to include the advantage in the two other probabilities, *Pr(R∩W)* and *Pr(R)*.

4.4.3. Methods of Estimation

For estimation, I apply a potential outcome framework for causal inference from observational data. This framework concerns the *causal* effect of a *treatment* variable assigned to observations on a certain *outcome* variable.[4] In the present application, a treatment is incumbency, or winning a seat in the previous election, and an outcome is one of the three probabilities related to candidates' election outcomes. Of a particular interest here is the average causal impact, or *average treatment effect (ATE)* in causal inference terminology, of holding an incumbent seat on candidates' election outcome. If victory in the previous election is randomly assigned to candidates, we can compute the ATE of incumbency by simply taking the average difference in election outcomes of incumbents and non-incumbents. Unlike a controlled experiment, however, incumbency is not randomly assigned. Hence, a quasi-experimental approach is needed to implement a causal inference.

Specifically, a regression discontinuity (RD) design is applied to the present estimation (Thistlethwaite and Campbell 1960, Imbens and Lemieux 2008). The RD design can be used if there is an *assignment* variable, which determines an assignment of a treatment, or increases the probability of the assignment, discontinuously, when the value of the assignment variable passes a particular threshold. In the current case of incumbency advantage, the assignment variable is the winning or losing vote margin of each candidate in the previous election (Hainmueller and Kern 2008, Lee et al. 2004, Lee 2008). The previous

[4] *Treatment* and *outcome* variables are the jargon of causal inference. They should be understood as a *key independent variable* and a *dependent variable*, respectively, in usual regression terminology.

winning vote margin for incumbents (the previous winners) is calculated by subtracting the votes of the marginal loser (a candidate who lost in a district with the greatest number of votes) in the previous election from the votes of the incumbents in the same election. Similarly, the previous vote margin for non-incumbents is computed by subtracting the votes of the marginal winner (a candidate who won in a district with the smallest number of votes) in the previous election from the votes of non-incumbents in the same election. The previous vote margin of incumbents is always positive while that of non-incumbents is negative. From this formulation, we can regard that incumbency, or a victory of a seat, is assigned to a candidate, when the value of the previous vote margin exceeds zero.

The underlying rationale of the RD design, as a quasi-experimental approach to causal inference, is that, at the neighborhood around the threshold of the assignment variable, the assignment of a treatment is random, due to whatever random component there may be in the assignment process. In the current application, the previous victory near the vote margin can be considered as good as random. Therefore, incumbents (previous winners) and non-incumbents (previous losers) near the threshold should have, on average, the same characteristics except for incumbency because only or mostly random chance determined on which side of the threshold they fell. Hence, we can estimate the causal impact of incumbency by taking the difference in election outcomes between incumbents and non-incumbents very near the threshold of the previous vote margin. A primary advantage of the RD design compared to a usual regression analysis is that the RD estimate is insensitive to bias due to omitted variables, including in particular unobserved ones.

On the other hand, the limitation of the RD design is that it provides a valid estimate of the ATE around the neighborhood of the threshold only. That is, the RD estimate of incumbency advantage is valid only for *marginal* incumbents and non-incumbents. This may

not be a serious limitation to the current analysis, however, because the electoral advantage of incumbents are most important for marginal, electorally vulnerable incumbents (Hainmueller and Kern 2008, Lee 2008). The RD analysis of incumbency advantage, presented here, provides causal inference for this important subset of candidates. In addition, when we conceptualize incumbency advantage *for individual candidates*, reasonable counterfactuals can be defined only for marginal candidates. That is, it is unreasonable to consider the counterfactual of non-incumbency (a defeat in *t-1*) for an incumbent who won a large margin in *t-1* because the large margin implies that this incumbent was too strong to be defeated in *t-1*.[5] This counterfactual is entirely reasonable for an incumbent who won marginally in *t-1* because she could have lost in *t-1* with a reasonable chance (that is why she is marginal). Thus, the RD analysis provides the estimate of incumbency advantage for individual candidates for an appropriate group of candidates for this concept.

The present RD analysis of incumbency advantage is conducted in two steps. In the first step, incumbency advantage in $Pr(R \cap W)$ and $Pr(R)$ is estimated directly from the data of all candidates who ran in *t-1*. Then, in the second step, incumbency advantage in $Pr(W|R)$ is derived from the estimates of $Pr(R \cap W)$ and $Pr(R)$ produced in the first step. This indirect estimation of incumbency advantage in $Pr(W|R)$ is used to avoid potential endogeneity bias due to strategic exit of candidates, which might arise if the advantage is directly estimated from the data (more on this later).

For incumbency advantage in the first two outcomes, $Pr(R \cap W)$ and $Pr(R)$, I estimate a regression of each election outcome in *t* on a polynomial of the vote margin in *t-1* with a break at the incumbency (treatment) threshold, which is one of the standard approaches to RD analysis (Lee et al. 2004, Lee 2008, Hainmueller and Kern 2008). More specifically, an

[5] A similar reasoning can be applied to a non-incumbent who lost with a large margin in t-1.

outcome variable is regressed on the third-order polynomial of the previous-vote-margin variable (VM) and its interaction with an incumbency indicator (I) — i.e., VM, VM^2, VM^3, I, ($I \times VM$), ($I \times VM^2$), and ($I \times VM^3$).[6] For the first outcome variable, $Pr(R \cap W)$, I use an indicator of whether a candidate returned to the race and won a seat in election t (the variable equals to one if a candidate returned and won, and zero otherwise). For the second outcome, $Pr(R)$, I use an indicator of whether a candidate returned to the race in election t (the variable is one if a candidate returned, and zero otherwise).

For the assignment variable, the winning or losing vote margin in election *t-1*, measured in *vote counts* (the raw number of votes), is used. I measure the vote margin in terms of vote counts, because a more commonly used measure of *vote share* in the SMD context is not comparable across multimember districts with different district magnitudes. This is because the same proportion of vote share represents the different degree of electoral closeness for individual candidates across these districts. For example, suppose there is a candidate whose (either winning or losing) margin was a Y% vote share in a single-member district, which corresponds to 10,000 votes. The same Y% vote margin in a district with, say, 15 seats corresponds to 150,000 votes, if a strict one-person-one-vote rule applies in drawing district boundaries.[7] It is a lot harder for an individual incumbent to win extra 150,000 votes than extra 10,000 votes. Rather, it is more reasonable to assume that winning the same extra number of votes would be equally difficult (or easy). Therefore, the same amount of vote counts better represents the same degree of closeness for individual candidates across these districts.

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[6] As a robustness check, I also estimated the same model with higher order polynomials, namely, the forth, fifth, and sixth orders. Results did not change appreciably from the ones reported here.

[7] More realistically, the rule applies only approximately, but the logic of the argument here still holds.

To accommodate stochastic dependence among candidates in the same district under MMD systems, standard errors are clustered in districts and elections.

Figure 4.1 presents graphically how the estimation procedure works. Panel (a) shows the estimation result of incumbency advantage in the joint probability of returning to the race and winning a seat, $Pr(R \cap W)$, for the Conservatives of the U.K. A thick line represents a polynomial fit from the regression model and the dashed lines surrounding it show its 90% confidence interval. For graphical-presentation purposes, each dot represents a local average of an outcome variable in the 400-vote interval of the previous vote margin. That is, an average of an indicator of returning and winning of the candidates in each of the 400-vote interval of the vote margin is computed and plotted in the figure (the polynomial regression is estimated using non-averaged raw values of the indicator). A polynomial flexibly fits a nonlinear relationship between the probability of returning and winning and the previous vote share margin on either side of the threshold. A discontinuous break in these flexible polynomials at the threshold represents the causal impact of incumbency. The positive gap presented here indicates an advantage of marginal incumbents over marginal non-incumbents in the probability of candidates' returning and winning. Just to the left of the discontinuous break, marginal non-incumbents' probability of returning and winning is estimated at 11.12%. Just to the right of the break, marginal incumbents' probability of returning and winning is estimated at 58.74%. The estimated incumbency advantage is the difference between these two probabilities: 58.74% − 11.12% = 47.62%. Marginal incumbents of the Conservatives enjoy, on average, a 47.62 percentage-point advantage in the probability of returning and winning compared to marginal non-incumbents. Panel (b) similarly depicts the estimation result of incumbency advantage in the probability of returning to the race, $Pr(R)$, for the Conservatives of the U.K. As shown in the panel, the

probability of returning to the race is estimated at 89.77% for marginal incumbents and 30.57% for marginal non-incumbents. Incumbency advantage in this probability is computed as: 89.77% − 30.57% = 59.20%.

[Figure 4.1 about here]

The last measure of incumbency advantage in terms of the probability of winning a seat conditional on returning to the race, $Pr(W|R)$, is computed based on the two previous RD estimates of the advantage. It is not impossible to estimate this third advantage in the same way as the two previous ones, dropping the observations of candidates who did not return to the race and using an indicator of whether they won a seat as an outcome variable. However, deleting all observations of non-returning candidates may introduce a potential bias and inconsistency into the estimation, due to potential strategic exit from the race by candidates. If incumbents who expect a poor electoral performance tend to exit from the race, this may bias the estimate of the advantage upward. Similarly, if non-incumbents who expect a poor electoral performance tend not to reenter the race, this may bias the estimate of the advantage downward.

To avoid this potential endogeneity problem due to strategic exit, I compute the incumbency advantage in the conditional probability of winning from the estimates of the joint probability of winning and returning and the marginal probability of returning to the race, based on the following relationship among these probabilities: $Pr(W|R) = Pr(R \cap W) / Pr(R)$. Specifically, incumbency advantage in $Pr(W|R)$ at the threshold is computed by $Pr(R \cap W)^{I} / Pr(R)^{I} - Pr(R \cap W)^{NI} / Pr(R)^{NI}$, where superscripts I and NI denote marginal incumbents and non-incumbents, respectively. That is, $Pr(R \cap W)^{I}$ is the estimate of the joint

probability of returning and winning for incumbents at the threshold, which is 58.74% in the example of the U.K. Conservatives. $Pr(R \cap W)^{NI}$ is the estimate of the same probability for non-incumbents at the threshold, which is 11.12%. Similarly, $Pr(R)^{I}$ is the estimate of the marginal probability of returning to the race for incumbents at the threshold, and $Pr(R)^{NI}$ is the estimate of the same probability for non-incumbents at the threshold (89.77% and 30.57%, respectively, for the Conservatives). Accordingly, incumbency advantage in the conditional probability of winning can be computed for the Conservatives as: 58.74% / 89.77% − 11.12% / 30.57% = 29.05%. Its standard error and confidence interval are computed via simulation, similar to the method proposed by King et al. (2000).[8] Incumbency advantage in the conditional probability of winning, $Pr(W|R)$, estimated in this way is immune to potential endogenuity bias due to strategic exit.

4.5. Results

Incumbency advantage in the three probabilities is estimated for 14 political parties in the five developed democracies. Table 4.3 and Figure 4.2 present the results. For each of the three probabilities, $Pr(R \cap W)$, $Pr(R)$, and $Pr(W|R)$, Table 4.3 shows the estimated probability for marginal incumbents at the threshold ("Inc." column), that for non-incumbents at the threshold ("Non-Inc." column), and their difference, i.e., the incumbency advantage in that probability at the threshold ("Inc. Adv." column). The numbers in parentheses are standard errors clustered by districts and elections. The two SMD countries appear at the top of the table, followed by the three MMD countries in the hypothesized

[8] Specifically, 1000 simulations of a set of coefficients were drawn from the estimated asymptotic distribution of the parameters of the polynomial regression model. For each draw of coefficients, incumbency advantage in $Pr(W|R)$ was computed. Standard error and confidence interval were computed from the distribution of these simulated advantages.

order of the magnitude of incumbency advantage (Italy, Finland, and Japan). Within each country, parties are listed in the order of the magnitude of the estimated incumbency advantage in the joint probability of returning and winning, $Pr(R \cap W)$.

[Table 4.3 and Figure 4.2 about here]

Of the above three quantities for each probability, Figure 4.2 graphically shows incumbency advantage. Panel (a) of Figure 4.2 draws incumbency advantage in the probability of returning to the race and winning a seat, $Pr(R \cap W)$. Panel (b) is incumbency advantage in the probability of returning to the race, $Pr(R)$. Panel (c) shows incumbency advantage in the probability of winning a seat conditional on returning to the race, $Pr(W|R)$. Black dots for each party represent the point estimates of the advantage — the difference in a particular probability of incumbents and non-incumbents at the threshold. Gray bars are the 90% confidence intervals of the estimates. As in Table 4.3, the two SMD countries appear at the top of each panel, followed by the three MMD countries in the hypothesized order of the magnitude of incumbency advantage. Within each country, parties are listed in the order of the magnitude of this estimated advantage in each panel (as a result, the order of the parties within each country varies slightly between panels).

In terms of the probability of returning to the race and winning a seat, $Pr(R \cap W)$, the estimation results of incumbency advantage are consistent with the hypotheses. This can be seen easily in panel (a) of Figure 4.2, in which the estimated probability declines smoothly when we move down from the U.K. at the top of the panel to Japan at the bottom of the panel. In the two SMD countries, the estimated advantages range from 29.83% (the Progressive Conservatives in Canada) to 47.62% (the Conservatives in the U.K.). The

average of the estimated advantages in SMD countries is 40.11%. On the other hand, in the three MMD countries, the estimated advantages are in the range of −16.24% (the Japan Socialist Party) to 45.31% (the Italian Social Movement in Italy), and the average over all MMD parties is 18.19%. This indicates that, on average, the candidates in the SMD countries enjoy greater incumbency advantage in this probability than those in the MMD countries with intra-party competition. Within the three MMD countries, the advantage declines as we move down in Figure 4.2-(a) from Italy to Finland, and then, from Finland to Japan. The average of the estimated advantage of Italian parties in $Pr(R \cap W)$ is 35.27%. The same average of Finnish parties is 15.46%, and that of Japanese parties is −9.04%. These results indicate that the estimated advantage declines as electoral rules spur more intense intra-party competition, as hypothesized.

A similar comparative pattern is found, when we move to incumbency advantage in the probability of returning to the race, $Pr(R)$. Panel (b) of Figure 4.2 shows a smooth declining pattern of the advantage in this probability, similar to panel (a), from the U.K. parties at the top of the panel to the Japanese parties at the bottom, although the difference between the SMD and MMD countries has widened and the difference between Finland and Japan has shrunk, compared to panel (a). The average of the estimated advantage in $Pr(R)$ is 52.87% for the SMD countries and 22.84% for the MMD countries with intra-party competition. Within the latter MMD countries, the average for each country is 37.29% for Italy, 13.52% for Finland, and 12.61% for Japan. This comparative pattern is again consistent with the hypotheses.

The estimated incumbency advantages in the probability of winning a seat conditional on returning to the race, $Pr(W|R)$, are also by and large consistent with the hypotheses. The pattern shown in panel (c) of Figure 4.2 is largely similar to those in panels

(a) and (b), although the difference between the SMD countries and the MMD countries has further diminished. The average estimated advantage in $Pr(W|R)$ is 23.06% for the SMD countries and 10.42% for the MMD countries with intra-party competition. Of the latter MMD countries, the average for each country is 27.59% for Italy, 10.35% for Finland, and −23.80% for Japan.

All in all, the estimation results of incumbency advantage in the three probabilities provide empirical support to the hypotheses. The results demonstrate that, in the five developed democracies covered here, marginal incumbent candidates enjoy greater electoral advantage over marginal non-incumbents in SMD rules than in MMD rules with intra-party competition, and within MMD countries, marginal incumbents' advantage declines as electoral rules facilitate more intense intra-party competition.

4.6. Validity Tests

The validity of a RD analysis rests on the assumption that treatment assignment is random around the neighborhood of the threshold of an assignment variable. Given the importance of this assumption, it is customary to check if there is evidence to suggest a violation of this assumption in the data used for the RD analysis. This is usually done by investigating whether there is any significant difference in the pre-determined variables, variables whose values were determined prior to the treatment assignment, on either side of the threshold. If there is a significant difference in these variables across the threshold, it indicates a violation of the random-assignment assumption around the threshold and suggests that the estimated ATE does not solely represent a causal impact of a treatment but reflect, at least partially, the difference in the pre-determined variables.

Two pre-determined variables of candidates are examined here. The first one is the number of past victories of each candidate prior to election *t-1*, and the second is the number of past attempts to run for election prior to election *t-1*. I regressed these two pre-determined variables on the third-order polynomial and its interaction with an incumbency indicator, as is done for the three probabilities related to individual candidates' election outcomes (Hainmueller and Kern 2008, Lee et al. 2004, Lee 2008). Table 4.4 reports the results. For each of the two pre-determined variables, the first column ("Inc." column) reports the estimates of the average number of past victories or past attempts of marginal incumbents, while the second column ("Non-Inc.") shows the estimates of the same average number of marginal non-incumbents. The third column ("Diff.") gives the estimates of their difference. For the ease of interpretation, Figure 4.3 graphically presents the last information, the difference in these pre-determined variables between marginal incumbents and non-incumbents.

[Table 4.4 and Figure 4.3 about here]

For the number of past victories, most parties' results indicate both statistically and substantively insignificant difference between incumbents and non-incumbents at the threshold. There are only three parties, for which the difference is statistically significant. Of these three, the difference in two parties, the Labour in the U.K. and the Communists (PCI) in Italy, are substantively small, 0.31 and 0.23, respectively. On the other hand, the difference for the remaining party, the MSI in Italy, is substantively significant as well — on average, marginal incumbents of the MSI had an experience of winning a seat prior to the

previous election approximately one more time (estimated at 1.05 times) than marginal non-incumbents.

A similar pattern is found for the number of past attempts to run for election. There are again only three parties — two of them are the same as in the number of past victories — for which the difference is statistically significant. For two of these three parties, the Socialists (PSI) and the Communists (PCI) in Italy, the difference is substantively small, 0.41 and 0.31, respectively. For the remaining party, the MSI in Italy, however, the difference is again substantively significant — on average, marginal incumbents of the MSI had an experience of running for election prior to the previous one about 1.63 times more than marginal non-incumbents.

These results suggest that the estimation results of incumbency advantage for the MSI may not be appropriate to be considered as a causal impact of incumbency on this party's candidates. Part of the estimates for this party may reflect a pre-election difference in the quality of marginal incumbents and non-incumbents. For other parties, however, the results show that there is no significant difference in these pre-determined variables, suggesting that the RD estimates of incumbency advantage for these parties are valid.

4.7. Alternative Explanation

The above empirical results for five developed democracies have shown variation in incumbency advantage of individual candidates across electoral institutions, consistent with the hypotheses. A remaining question is whether an alternative explanation may be offered for the pattern found here. In particular, I consider the argument presented by Morgenstern et al. (n.d.) in their discussion of the factors that might shape the variation across democracies in incumbents' reelection rate. Although the incumbents' reelection rate is not

equivalent to incumbents' electoral advantage, the factors affecting the former might also shape the latter. Morgenstern et al. identified four such factors: the value of office, the resources available for incumbents, electoral volatility, and the ease of ballot access. Of these, I consider the first three because the last factor, the ease of ballot access, is similar to the key institutional variable in this paper — the electoral-system features that affect intra-party competition.

Of the remaining three factors, the value of office and electoral volatility are unlikely to be the primary determinants of variation in incumbents' advantage over non-incumbents because they are expected to affect both incumbents and non-incumbents in a similar way. First, when the office of the national parliament provides legislators with high prestige, salary, benefits and a great potential of affecting public policy and the society, incumbents should have greater incentives for reelection, but non-incumbents should also have greater incentives to work hard for getting elected. As a result, the reelection rates of incumbents and non-incumbents should vary in a similar way across countries with different value of office, leaving little difference in the net electoral advantage of incumbents over non-incumbents. Second, Morgenstern et al. argue that highly volatile electoral competition would decrease incumbents' reelection since it increases the electoral vulnerability of any incumbents and also discourages incumbents from returning to the race. However, the volatility in party votes should affect the electoral fate of both incumbents and non-incumbents of the same party in the same way, thereby leaving no difference in the advantage of incumbents over non-incumbents, holding their partisan affiliation constant.

The remaining factor, the resources available for incumbents, is likely to affect variation in incumbency advantage. If the legislature provides their members with a better access to the resources deployable for their reelectioneering efforts, such as strong

committees, budgetary pork, franking privileges, and the roll-call voting records, incumbents should also be more likely to succeed these efforts. While the greater legislative resources increase incumbents' reelection probability, they should either decrease non-incumbents' winning probability or not affect it. As a result, the greater resources will increase the net electoral advantage of incumbents. The existing empirical studies of U.S. state legislatures bolster this expectation. Multiple studies confirmed that the greater operating budget of U.S. state legislatures lead to the increase of both incumbents' reelection rate (Berry et al. 2000, Carey et al. 2000) and incumbency advantage (Cox and Morgenstern 1993, 1995, Hirano and Snyder 2009, King 1991). These prior studies suggest that the variation in legislative resources is a viable alternative explanation for varying incumbency advantage.

To assess the relative plausibility of this alternative explanation and the electoral-rule based theory of this paper, I focus on the estimated returning and winning probability of marginal incumbents and that of non-marginal incumbents (the estimated incumbency advantage is the difference between them), and explore how the variation in each component relates to the variation in the net advantage. The variation in legislative resources primarily affects the reelection rate of incumbents and may or may not affect the winning rate of non-incumbents. On the other hand, the greater degrees of intra-party competition, induced by electoral rules, necessarily influence non-incumbents' returning and winning probability because more intense intra-party competition reduces competitive advantage of incumbents and therefore invites a greater challenge by high-quality non-incumbent candidates. If we find the variation in the estimated incumbency advantage is equally influenced by both incumbents' and non-incumbents' returning and winning probability, we cannot conclude either explanation is more plausible. However, if the variation in the estimated incumbency advantage is produced mainly by the variation in the

estimated returning and winning probability of non-incumbents and little affected by that of incumbents, it provides evidence favoring the theoretical argument of this paper rather than the alternative explanation based on legislative resources. On the other hand, if the variation in the estimated advantage is produced chiefly by the variation in the estimated returning and winning probability of incumbents and little influenced by that of non-incumbents, legislative resources rather than electoral rules may be the primary determinant of the variation in the estimated advantage.

Figure 4.4 depicts the estimated three probabilities for both marginal incumbents and non-incumbents, reported in Table 4.3. Panels (a) to (c) in Figure 4.4 correspond to panels (a) to (c) in Figure 4.2, respectively. The order of countries and the order of parties within each country are also the same as in Figure 4.2. Black dots and gray bars represent the point estimates and the 90% confidence intervals of the three probabilities for incumbents at the threshold of the previous vote margin. Gray dots and black bars show the point estimates and the 90% confidence intervals of the three probabilities for non-incumbents at the threshold. The differences between these two quantities in Figure 4.4 are the estimated incumbency advantages shown in Figure 4.2.

[Figure 4.4 about here]

All three panels in Figure 4.4 reveal a strikingly similar pattern. First, there is not much variation in the estimated probabilities of marginal incumbents. From the U.K. at the top of the panels to Japan at the end, there is neither increasing nor decreasing trend. Rather, the estimated probabilities hover around a similar range, 40-60% in $Pr(R \cap W)$, 70-90% in $Pr(R)$, 60-80% in $Pr(W \mid R)$, with a few occasional outliers. This pattern of the estimated

probabilities for incumbents in Figure 4.4 indicates that the resources available for incumbents are not large factors of the variation found in the estimated advantages of incumbents in Figure 4.2. Second, the estimated probabilities for marginal non-incumbents increase as electoral rules allow for greater intra-party competition. In the joint probability of returning and winning, $Pr(R \cap W)$, the estimated probabilities for non-incumbents are about 10-15% in SMD countries, but they grow to approximately 10-25% in Italy, 30-40% in Finland, and 60% in Japan. Similarly, the estimates of other two probabilities, $Pr(R)$ and $Pr(W|R)$, increase as we move down the countries listed in panels (b) and (c).

These findings suggest an important elaboration and clarification of the results from the main analysis: namely, the critical source of the pattern found for incumbency advantage in Figure 4.2 is the variation in each of the three probabilities of marginal *non-incumbents*. While there is little cross-country variation in the marginal incumbents' propensity to run for reelection and win a seat, marginal non-incumbents are more likely to return to the race and win a seat as electoral rules allow for more intense intra-party competition. These patterns are consistent with the theoretical argument of this paper that more intense intra-party competition reduces the competitive advantage of incumbents and therefore invites a greater challenge by high-quality non-incumbent candidates, which results in a reduced net electoral advantage for incumbents.

4.8. Conclusion

This chapter estimated incumbency advantage for individual candidates in three probabilities related to candidates' election outcomes — the joint probability of returning to the race and winning a seat, the marginal probability of returning to the race, and the probability of winning a seat conditional on returning to the race — in the five developed

democracies which use or had used various kinds of candidate-centered electoral rules (Canada, Finland, Italy, Japan and the United Kingdom). The results showed that incumbency advantage for individual candidates is greater in SMD systems, in which intra-party competition is not allowed in general elections, than in MMD systems that do allow for intra-party competition in general elections. The results also demonstrated that as MMD rules facilitate more intense intra-party competition, incumbency advantage for individual candidates will become smaller.

The results of this chapter extend those of Chapter 3, which focused on the empirical case of Japan under SNTV. The existing literature on the intra-party aspect of electoral rules has shown that when electoral rules facilitate greater intra-party competition, they also provide individual politicians with greater incentives to cultivate a personal vote. A natural expectation from this literature is that incumbency advantage would be greater as electoral rules allow for more intra-party competition. Following Chapter 3, however, this chapter has provided empirical evidence for an argument contrary to this expectation. According to the findings, although intra-party competition induces personal-vote-building efforts of legislators, these efforts do not necessarily translate into actual electoral gains for incumbents, especially for those who marginally won in the previous election and therefore most need an electoral boost by an advantage of holding an office.

Table 4.1. Comparison of Hypothetical Election Results in SNTV and Open-List PR

Party	Candidate	Hypothetical Vote Distribution 1	Results		Hypothetical Vote Distribution 2	Results	
			SNTV	Open-list PR		SNTV	Open-list PR
A	*a1*	0.20	Win	Win	0.30	Win	Win
	a2	0.20	Win	Win	0.10	Lose	Win
B	*b*	0.15	Lose	Lose	0.15	Win	Lose
C	*c*	0.20	Win	Win	0.20	Win	Win
D	*d*	0.25	Win	Win	0.25	Win	Win

Table 4.2. Candidate-Level Electoral Dataset of the Five Developed Democracies

Countries	Political Parties	Period Covered	Number of Elections Covered	Number of Observations
SMD plurality				
Canada	Liberal Party	1953-2008	13	3593
	Progressive Conservatives	1953-2000	11	2965
United Kingdom	Conservative Party	1945-2005	11	6878
	Labour Party	1945-2005	11	6851
Open-list PR				
Finland	Social Democratic Party (SDP)	1958-2007	13	1712
	National Coalition Party (KOK)	1958-2007	13	1559
	Agrarian League (ML), Center Party (KESK)	1958-2007	13	1480
	Finnish People's Democratic League (SKDL), Left Alliance (VAS)	1958-2007	13	1351
Italy	Christian Democrats (DC)	1948-1992	10	4407
	Italian Socialist Party (PSI)	1953-1992	7	2763
	Italian Communist Party (PCI)	1953-1987	8	3550
	Italian Social Movement (MSI)	1948-1992	8	2220
SNTV				
Japan	Liberal Democratic Party (LDP)	1958-1993	12	3107
	Japan Socialist Party (JSP)	1958-1993	12	573
Total			155	43009

NOTE: The dataset is constructed from the following sources. Canada: Parliament of Canada. *History of Federal Ridings since 1867* (http://www2.parl.gc.ca/Sites/LOP/HFER/HFER.asp). Finland: Tilastokeskus. Various years. *Kansanedustajain Vaalit.* Italy: i) Miriam A. Golden. "Dataset on DC and PSI candidates and preference votes, Chamber of Deputies, Republic of Italy, Legislatures I-XI (1948-94)" (http://www.golden.polisci.ucla.edu/italy). Version posted 03/21/2007. ii) Ministero dell' Interno. Various years. *Elezioni Politiche.* iii) La Navicella. Various years. *I Deputati e Senatori del nono Parlamento Repubblicano.* Japan: Steven R. Reed. *Japan MMD Data Set* (http://www.fps.chuo-u.ac.jp/~sreed/DataPage.html). UK: i) The UK Electoral Commission. *Election Results* (http://www.electoralcommission.gov.uk/election-data/index.cfm). ii) Craig, F.W.S. Various years. *British Parliamentary Election Results.* iii) *UK General Elections since 1832* (http://www.psr.keele.ac.uk/area/uk/edates.htm)

Table 4.3. Regression Discontinuity Estimates of Incumbency Advantage

	Pr(R∩W)			*Pr(R)*			*Pr(W|R)*		
	Inc.	Non-Inc.	Inc. Adv.	Inc.	Non-Inc.	Inc. Adv.	Inc.	Non-Inc.	Inc. Adv.
U.K.									
Con	0.5874	0.1112	0.4762	0.8978	0.3057	0.5920	0.6542	0.3636	0.2906
	(0.0241)	(0.0144)	(0.0280)	(0.0168)	(0.0234)	(0.0288)	(0.0176)	(0.0287)	(0.0283)
Lab	0.6050	0.1325	0.4724	0.9050	0.3252	0.5798	0.6684	0.4076	0.2609
	(0.0252)	(0.0167)	(0.0303)	(0.0168)	(0.0246)	(0.0298)	(0.0186)	(0.0305)	(0.0296)
Canada									
Libera	0.4612	0.1037	0.3575	0.8334	0.3112	0.5222	0.5534	0.3332	0.2202
l	(0.0286)	(0.0143)	(0.0319)	(0.0216)	(0.0234)	(0.0319)	(0.0224)	(0.0275)	(0.0311)
PC	0.4551	0.1568	0.2983	0.7883	0.3676	0.4207	0.5773	0.4266	0.1507
	(0.0338)	(0.0196)	(0.0391)	(0.0272)	(0.0271)	(0.0384)	(0.0254)	(0.0278)	(0.0330)
Italy									
MSI	0.5567	0.1036	0.4531	0.8384	0.3765	0.4619	0.6640	0.2752	0.3888
	(0.0636)	(0.0321)	(0.0758)	(0.0430)	(0.0538)	(0.0635)	(0.0522)	(0.0551)	(0.0842)
PSI	0.4876	0.0741	0.4134	0.6948	0.3157	0.3792	0.7017	0.2348	0.4669
	(0.0404)	(0.0173)	(0.0442)	(0.0352)	(0.0319)	(0.0500)	(0.0275)	(0.0371)	(0.0472)
DC	0.5308	0.2410	0.2898	0.7903	0.3981	0.3922	0.6716	0.6053	0.0663
	(0.0198)	(0.0207)	(0.0307)	(0.0174)	(0.0252)	(0.0330)	(0.0116)	(0.0175)	(0.0185)
PCI	0.4175	0.1632	0.2544	0.5230	0.2646	0.2584	0.7983	0.6166	0.1817
	(0.0251)	(0.0361)	(0.0473)	(0.0266)	(0.0481)	(0.0543)	(0.0167)	(0.0344)	(0.0397)
Finland									
KOK	0.5303	0.3046	0.2257	0.8381	0.6248	0.2133	0.6327	0.4875	0.1452
	(0.0621)	(0.0625)	(0.0922)	(0.0395)	(0.0784)	(0.0932)	(0.0485)	(0.0510)	(0.0612)
KESK	0.5664	0.3826	0.1838	0.8561	0.7775	0.0786	0.6617	0.4921	0.1695
	(0.0496)	(0.0546)	(0.0760)	(0.0405)	(0.0593)	(0.0737)	(0.0313)	(0.0366)	(0.0452)
SKDL	0.4682	0.3173	0.1508	0.8355	0.6330	0.2025	0.5603	0.5013	0.0590
	(0.0699)	(0.0554)	(0.1089)	(0.0470)	(0.0611)	(0.0741)	(0.0598)	(0.0422)	(0.0941)
SDP	0.4824	0.4241	0.0582	0.7769	0.7306	0.0463	0.6209	0.5805	0.0404
	(0.0518)	(0.0601)	(0.0822)	(0.0413)	(0.0670)	(0.0820)	(0.0407)	(0.0380)	(0.0453)
Japan									
LDP	0.5973	0.6157	−0.0184	0.8522	0.7418	0.1104	0.7009	0.8300	−0.1291
	(0.0228)	(0.0290)	(0.0397)	(0.0173)	(0.0283)	(0.0331)	(0.0148)	(0.0107)	(0.0164)
JSP	0.4398	0.6022	−0.1624	0.8272	0.6855	0.1418	0.5317	0.8785	−0.3468
	(0.0563)	(0.0662)	(0.0946)	(0.0397)	(0.0633)	(0.0763)	(0.0455)	(0.0271)	(0.0459)

NOTE: All estimates are based on the regression of an outcome variable on an incumbency indicator (I), a third-order polynomial of the previous vote margin of victory (VM), and its interaction with an incumbency indicator (I). Specifically, an outcome variable is regressed on VM, VM^2, VM^3, I, ($I \times VM$), ($I \times VM^2$), and ($I \times VM^3$). "Inc." column presents the estimated values of an outcome variable for incumbent candidates at the threshold. "Non-Inc." column shows the estimated values of an outcome variable for non-incumbent candidates at the threshold. "Inc. Adv." presents the estimated incumbency advantage at the threshold. Clustered standard errors are shown in parentheses.

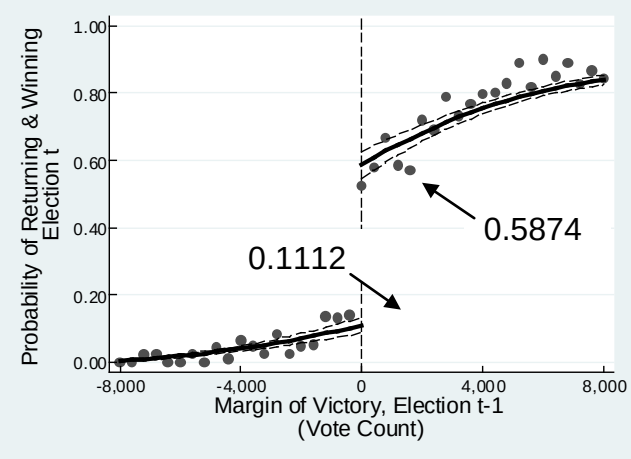
Table 4.4. Balance Tests of the Pre-Determined Variables

	No. of Past Victories, Before Election *t-1*			No. of Past Attempts, Before Election *t-1*		
	Inc.	Non-Inc.	Diff.	Inc.	Non-Inc.	Diff.
U.K.						
Con	1.24	1.13	0.11	1.64	1.73	−0.09
	(0.09)	(0.08)	(0.12)	(0.10)	(0.09)	(0.14)
Lab	1.06	0.75	0.31	1.55	1.44	0.11
	(0.09)	(0.07)	(0.11)	(0.10)	(0.08)	(0.13)
Canada						
Liberal	0.73	0.67	0.06	0.90	0.87	0.03
	(0.08)	(0.05)	(0.10)	(0.09)	(0.06)	(0.11)
PC	0.92	0.81	0.11	1.22	1.13	0.10
	(0.12)	(0.07)	(0.14)	(0.13)	(0.08)	(0.15)
Italy						
MSI	1.22	0.18	1.05	2.69	1.06	1.63
	(0.19)	(0.06)	(0.18)	(0.28)	(0.18)	(0.30)
PSI	0.27	0.24	0.03	0.90	0.49	0.41
	(0.10)	(0.06)	(0.12)	(0.13)	(0.08)	(0.14)
DC	0.89	0.82	0.07	1.16	1.12	0.04
	(0.08)	(0.07)	(0.09)	(0.08)	(0.09)	(0.09)
PCI	0.44	0.21	0.23	0.79	0.48	0.31
	(0.06)	(0.04)	(0.07)	(0.06)	(0.07)	(0.10)
Finland						
KOK	0.72	0.91	−0.20	1.49	1.70	−0.21
	(0.14)	(0.15)	(0.19)	(0.19)	(0.22)	(0.26)
KESK	1.00	0.94	0.06	1.53	1.70	−0.17
	(0.15)	(0.16)	(0.21)	(0.19)	(0.22)	(0.22)
SKDL	0.96	0.81	0.15	1.73	1.42	0.31
	(0.23)	(0.21)	(0.27)	(0.29)	(0.27)	(0.29)
SDP	0.95	1.06	−0.11	1.88	1.92	−0.03
	(0.17)	(0.18)	(0.25)	(0.21)	(0.23)	(0.30)
Japan						
LDP	3.55	3.81	−0.26	4.83	5.16	−0.34
	(0.17)	(0.18)	(0.25)	(0.19)	(0.23)	(0.29)
JSP	3.03	3.35	−0.32	4.01	4.21	−0.21
	(0.31)	(0.41)	(0.52)	(0.38)	(0.49)	(0.59)

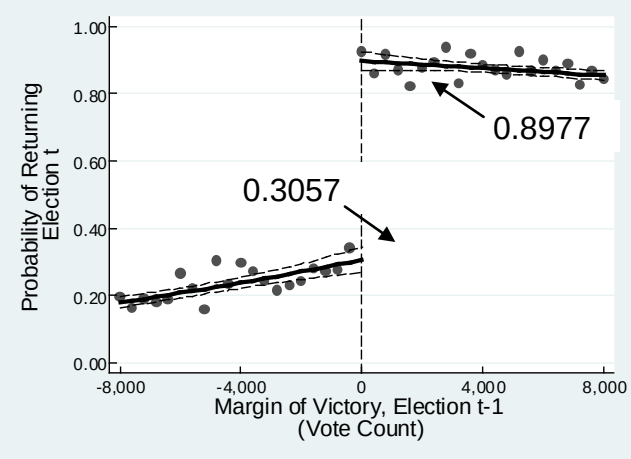
NOTE: All estimates are based on the regression of a pre-determined variable on an incumbency indicator (I), a third-order polynomial of the previous vote margin of victory (VM), and its interaction with an incumbency indicator (I). Specifically, a pre-determined variable is regressed on VM, VM^2, VM^3, I, ($I \times VM$), ($I \times VM^2$), and ($I \times VM^3$). "Inc." column presents the estimated values of a pre-determined variable for incumbent candidates at the threshold. "Non-Inc." column shows the estimated values of a pre-determined variable for non-incumbent candidates at the threshold. "Diff." presents the estimated difference of a pre-determined variable between incumbents and non-incumbents at the threshold. Clustered standard errors are shown in parentheses.

Figure 4.1. Examples of the Regression Discontinuity Estimation of Incumbency Advantage for Individual Candidates

(a) Incumbency Advantage in the Joint Probability of Returning to the Race and Winning a Seat in Election *t*



(b) Incumbency Advantage in the Probability of Returning to the Race in Election *t*



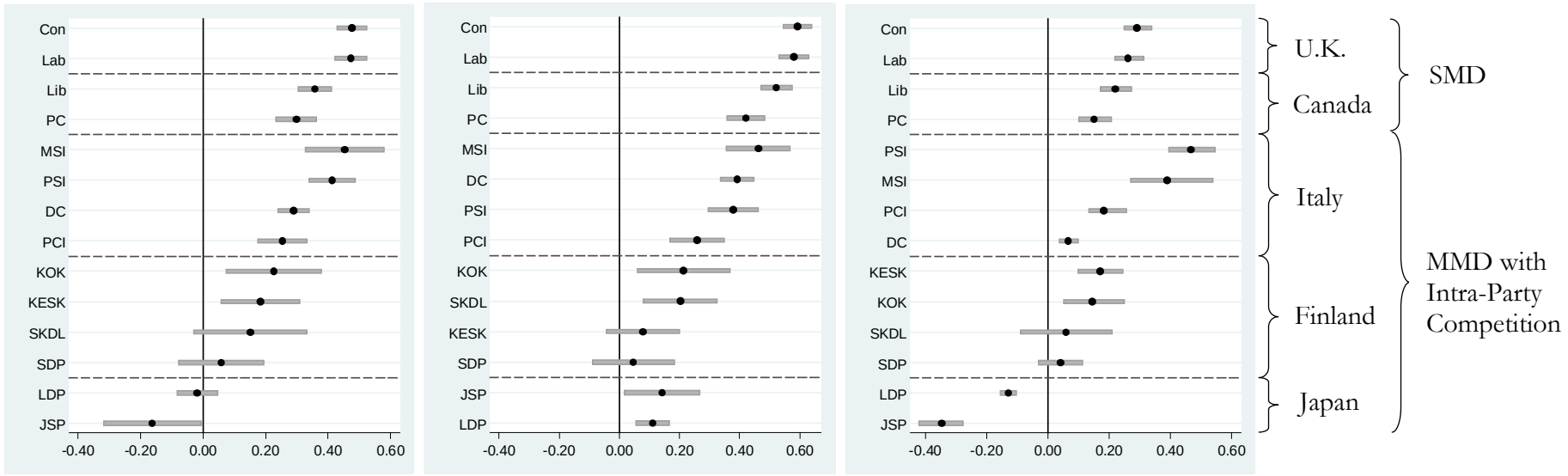
NOTE: Each point represents a local average of an outcome variable in election *t* (y-axis) at an interval of 400 votes along the vote margin of victory in election *t-1* (y-axis). A thick curve draws a fitted value from the third-order polynomial fit. Dashed curves are the 90% confidence intervals of the fitted value. A dashed vertical line is the treatment threshold. The numbers in the figure show the estimated values of an outcome variable at each side of the threshold (i.e., the estimated values of an outcome variable for marginal incumbents and non-incumbents).

Figure 4.2. Regression Discontinuity Estimates of Incumbency Advantage

(a) Incumbency Advantage in the Probability of Returning to the Race and Winning, *Pr(R∩W)*, in Election *t*

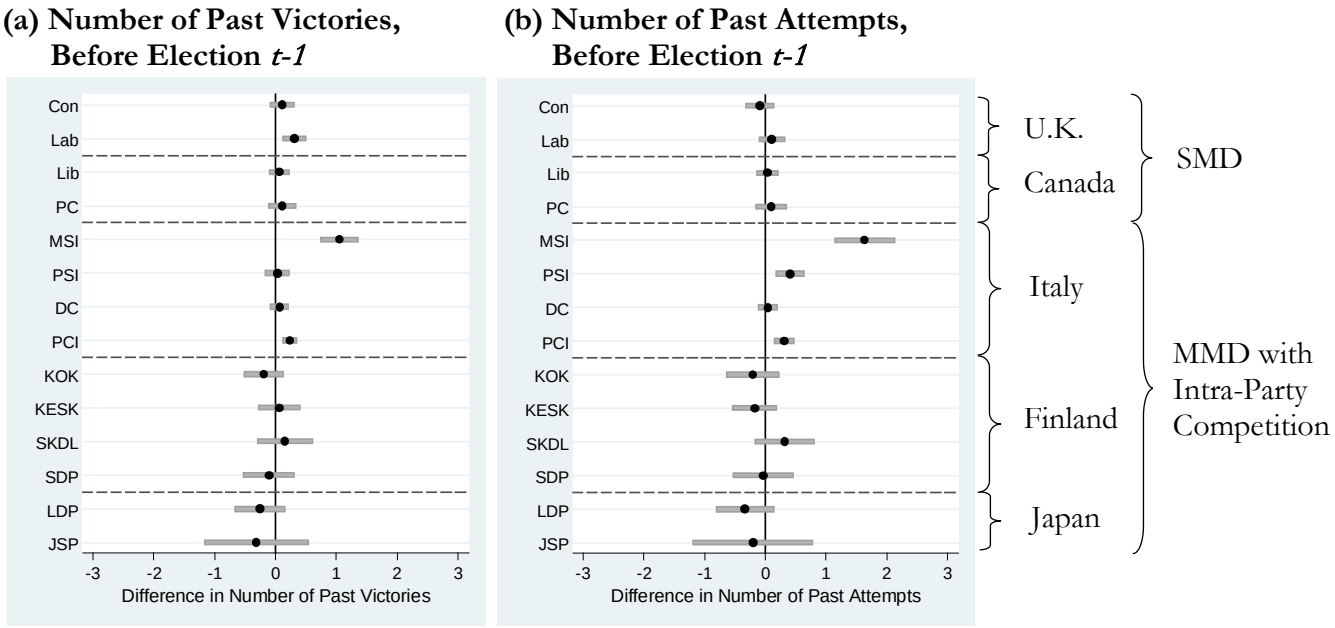
(b) Incumbency Advantage in the Probability of Returning to the Race, *Pr(R)*, in Election *t*

(c) Incumbency Advantage in the Probability of Winning Conditional on Returning to the Race, *Pr(W|R)*, in Election *t*



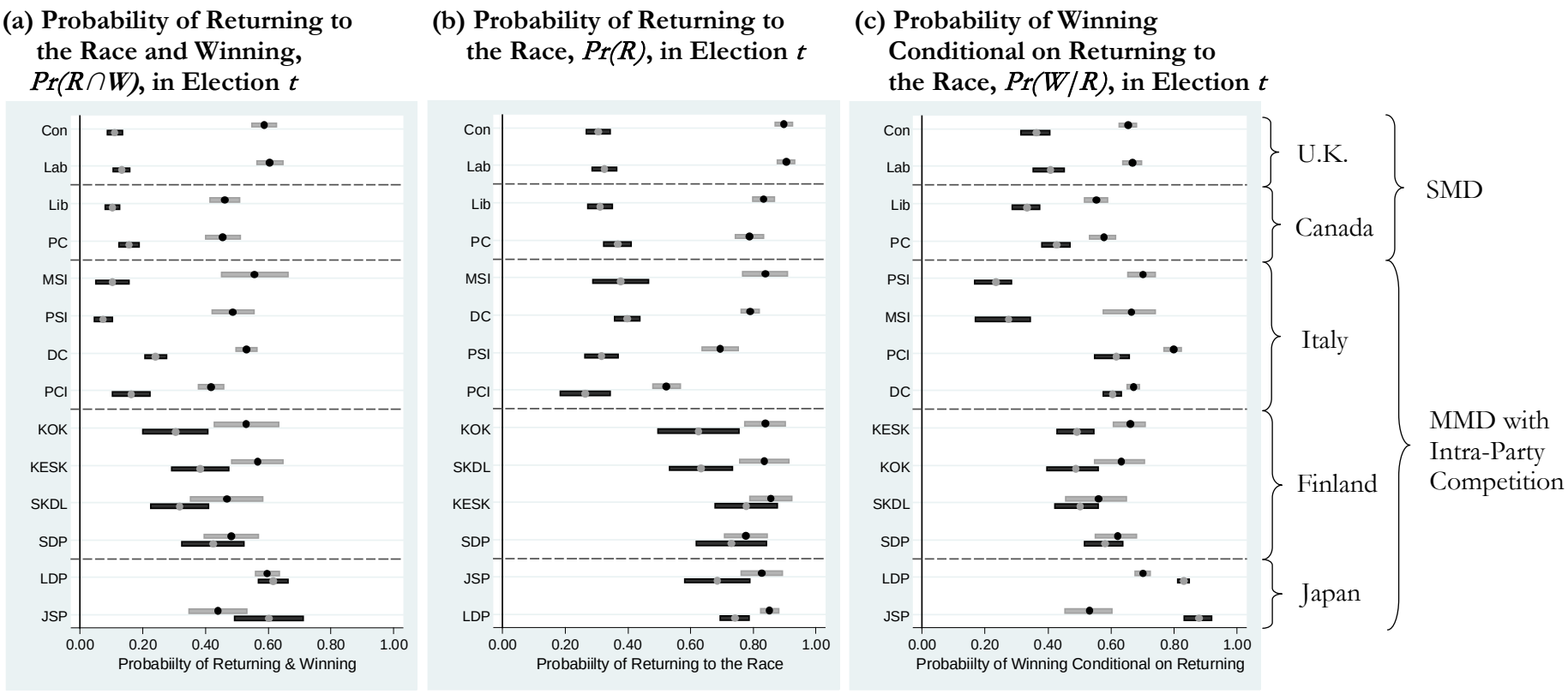
NOTE: Each point represents a point estimate of incumbency advantage for each party, at the threshold of the previous vote margin, in terms of each probability related to candidates' election outcomes. A gray bar represents the 90% confidence interval for the estimate of incumbency advantage for each party. A dashed horizontal line separates the parties for each country. A vertical line represents no electoral advantage of incumbents at the threshold.

Figure 4.3. Balance Tests of the Pre-Determined Variables



NOTE: Each point represents a point estimate of the difference in each pre-determined variable for each party between incumbents and non-incumbents, at the threshold of the previous vote margin. A gray bar represents the 90% confidence interval for the estimate of the difference for each party. A dashed horizontal line separates the parties for each country. A vertical line represents no difference in the pre-determined variables at the threshold.

Figure 4.4. Estimated Probabilities for Incumbents and Non-Incumbents at the Threshold of the Previous Vote Margin



NOTE: Each black point represents a point estimate of one of the three probabilities related to candidates' election outcomes for incumbents, at the threshold of the previous vote margin, for each party. A gray bar represents the 90% confidence interval for the estimate for incumbents. Each gray point represents a point estimate for non-incumbents and a black bar is its 90% confidence interval. A dashed horizontal line separates the parties for each country.

Chapter 5

Conclusion

5.1. Introduction

This dissertation has explored how the electoral advantage of incumbents varies across different electoral systems. In particular, it has examined two types of incumbency advantage. The first one is the electoral benefits that political parties gain from fielding incumbent candidates — which I call incumbency advantage *for political parties*. The second one is the electoral advantage that incumbent candidates enjoy over non-incumbent candidates — incumbency advantage *for individual candidates*. The main explanatory variable for both sorts of incumbency advantage is electoral systems, since they represent one of the fundamental differences in institutional frameworks of democratic polity, and they are known to influence the incentives for a personal vote, one of the primary sources of incumbency advantage. For both types of incumbency advantage, the dissertation provides the first appropriate and comparable estimates across different electoral systems. Moreover, it offers a theory of the impact of electoral systems on the variation in the magnitude of each type of incumbency advantage, which is built on the existing theory of the personal-vote incentive yet distinctive from it. As more elaborated below, the predictions of the theory for each type of incumbency advantage show a stark contrast to the variation in the personal-vote incentives across electoral systems. The hypotheses derived from the theory are

examined and supported based on the most extensive and systematic cross-country comparative analysis, based on the district-level and candidate-level aggregate electoral data in ten developed democracies.

In this chapter, I summarize the findings of the previous chapters and provide concluding discussions by highlighting various contributions of this dissertation. The first two sections briefly review the findings of the dissertation. Section 5.2 covers the findings of Chapter 2 on incumbency advantage *for political parties*. Section 5.3 summarizes the findings of Chapters 3 and 4 on incumbency advantage *for individual candidates*. The rest of the chapter devotes itself to the discussion of various contributions that this dissertation makes. In particular, I discuss the contributions related to the three distinctive literatures: incumbency advantage (Section 5.4), comparative electoral systems (5.5), and institutions and democratic accountability (5.6). Then, I conclude with a brief discussion of the direction of future research in Section 5.7.

5.2. Incumbency Advantage for Political Parties

Chapter 2 examined incumbency advantage for political parties. Based on the empirical analysis of district-level party votes in nine developed democracies — Austria, Belgium, Finland, Ireland, Italy, Japan, New Zealand, Norway, and the United Kingdom — this chapter demonstrated that there is a sizable amount of electoral benefits to parties from fielding incumbent candidates, and the magnitude of advantage varies across electoral systems in a way previously unnoticed. It was found that the incumbency advantage is larger under electoral systems with intra-party competition than those without it, and among systems with intra-party competition, the advantage declines as district magnitude grows. While smaller than in systems with intra-party competition, there is also a statistically

significant electoral advantage of running incumbents under single-member district (SMD) systems. On the other hand, the estimated advantage under multimember district (MMD) systems with no intra-party competition is largely statistically insignificant. However, the estimated advantages of SMD and MMD systems with no intra-party competition are not statistically distinguishable. These findings suggest that an important difference in the magnitude of the electoral advantage of running incumbents lies between electoral rules with intra-party competition and those without it, and the difference dissipates as district magnitude grows.

5.3. Incumbency Advantage for Individual Candidates

Chapters 3 and 4 both analyzed incumbency advantage for individual candidates. In particular, Chapter 3 focused on MMD systems with intra-party competition, under which the personal vote, one of the primary sources of incumbency advantage, is more important than under SMD systems. While greater incumbency advantage may be naturally expected from the primacy of the personal vote in these MMD systems with intra-party competition, I presented a contrary argument that incumbents may have little advantage, or even a disadvantage, relative to non-incumbents of the same party, due to the particular nature of the competitive environments generated by intra-party competition. I examined this argument empirically using electoral data from Japan during the 1958-1993 period when the Single Non-Transferable Vote (SNTV) system was used to elect national representatives. Applying a regression-discontinuity analysis to the election outcomes of the candidates of the Liberal Democratic Party (LDP), it was found that incumbents who had marginally won their seats in the previous election have an electoral disadvantage, measured both in vote

share and winning probability, compared to non-incumbents who had closely lost in the last election.

Chapter 4 extended the theoretical argument of incumbency advantage for candidates and the empirical analysis of the Japanese case in Chapter 3 to comparative analysis of five developed democracies — Canada, Finland, Italy, Japan, and the United Kingdom — which use or had used various candidate-centered electoral sytems, such as SMD plurality, SNTV, and open-list proportional representation (PR). Specifically, I estimated incumbency advantage for individual candidates in the three probabilities related to candidates' election outcomes — the joint probability of returning to the race and winning a seat, the marginal probability of returning to the race, and the probability of winning a seat conditional on returning to the race — in the five developed democracies. The results have shown that incumbency advantage for individual candidates is greater in SMD systems (SMD plurality in Canada and the U.K.), in which intra-party competition is not allowed in general elections, than in MMD systems that allow for intra-party competition (SNTV and open-list PR in Finland, Italy, and Japan). The results have also demonstrated that as MMD rules facilitate more intense intra-party competition, incumbency advantage for individual candidates will become smaller. In particular, in the three MMD countries covered by the analysis, incumbents' advantage is the greatest in Italy, followed by Finland and Japan in this order.

5.4. Comparative Incumbency Advantage

Given the potential significance of its normative implications, incumbency advantage is regarded as an important subject to study. Indeed, it is one of the most studied subjects in American politics. While the normative concerns related to incumbency advantage are

applicable to any democracy, there have not been many studies on this subject for other democracies. The existing literature on incumbency advantage has predominantly focused on U.S. elections, and if incumbency advantage is analyzed in other countries, it is conducted mostly for the countries using SMD electoral systems. The analysis on incumbency advantage for other electoral systems is rare, and moreover, there is little systematic comparative study of this subject across multiple countries. The first contribution of this dissertation to the literature on incumbency advantage is that it brings in a fully comparative perspective, by offering the most systematic and extensive comparative study of incumbency advantage to date.

When we shift our attention to comparative analysis of incumbency advantage, the distinction of the two types of incumbency advantage — incumbency advantage *for political parties* and *for individual candidates* — becomes crucial. This is because a sizable share of democracies uses electoral systems that allow for intra-party electoral competition of candidates, in which the electoral fates of political parties and their candidates potentially diverge. In the existing SMD-focused or U.S.-centered literature, the distinction between these two types of incumbency advantage is little emphasized, perhaps because the electoral fates of parties and candidates largely coincide. The distinction is important in its own right as each type of incumbency advantage represents a different substantive concept. It is important also because each type of incumbency advantage has implications for different sort of electoral accountability. Incumbency advantage for parties represents the extra advantage of parties from running incumbent candidates beyond their normal partisan electoral strength. As long as the extra advantage insulates the parties from voters' negative evaluation and the consequent electoral punishment on their collective performance, the advantage may diminish the *collective* electoral accountability of the parties. Incumbency

advantage for candidates is the extra advantage of candidates from holding an incumbent seat beyond their normal electoral strength. Insofar as the advantage makes difficult for voters to remove incumbents, the advantage may erode the *individual* electoral accountability of legislators. The distinction of the two types of incumbency advantage also highlights the potential conflict of electoral interests between party leaders and individual incumbents. Bringing this distinction to the center place is the second important contribution of this dissertation to the literature of incumbency advantage.

The third contribution of this dissertation is that it developed appropriate and comparable estimates of both types of incumbency advantage. While the estimation of incumbency advantage in the SMD systems is well studied and developed, the estimation in the MMD systems is less sophisticated and less systematically conducted. As a consequence, there have been no appropriate and comparable estimates of incumbency advantage across SMD and MMD systems in the literature. This dissertation proposed novel estimates of both types of incumbency advantage, which are appropriate to their concepts and comparable across electoral systems. This makes it possible to conduct, for the first time, fully comparative, cross-system analysis of incumbency advantage.

The fourth contribution of this dissertation is that it provided a theoretical account for the variation in the magnitude of both types of incumbency advantage across electoral systems. The literature has so far lacked a coherent theory for the cross-system variation in incumbency advantage. There are a few studies on incumbency advantage which cover multiple countries (Somit et al. 1994, Morgenstern et al. n.d.); however, none of them have ever developed a fully systematic theoretical account for the variation in incumbency advantage across electoral systems. This dissertation is indeed the first to develop an

extensive, comparative theory of the impact of electoral systems on the magnitude of both types of incumbency advantage.

The fifth contribution of this dissertation is that it provided the most extensive and detailed cross-national empirical analysis of incumbency advantage for both types of incumbency advantage to date. The empirical analysis of incumbency advantage for political parties was conducted based on the district-level party vote data in nine developed democracies — Austria, Belgium, Finland, Ireland, Italy, Japan, New Zealand, Norway, and the United Kingdom. The empirical analysis of incumbency advantage for individual candidates was carried out based on the candidate-level vote data in five developed democracies — Canada, Finland, Italy, Japan, and the United Kingdom. In the past literature, there has been no single study which examined incumbency advantage in multiple countries across different electoral systems based on the district-level or candidate-level vote data. This dissertation contributes to the literature by providing by far the most extensive and detailed cross-national empirical analysis.

5.5. Comparative Electoral Systems

This dissertation has focused on electoral systems as a key explanatory variable for the variation in incumbency advantage, and therefore it is also relevant for the broader literature on comparative electoral systems. Electoral systems are primary suspects of the factors influencing the variation in incumbency advantage because the literature on comparative electoral systems suggests that the difference in electoral rules affects the variation in politicians' incentives to cultivate a personal vote, which is one of the main sources of incumbency advantage (Carey and Shugart 1995). This dissertation's link to the

comparative literature on electoral systems is through its relationship to the literature on electoral systems and personal-vote incentives.

The majority of the past studies in the literature on comparative electoral systems have focused on party competition or the *inter*-party aspect of electoral competition (Shugart 2005). These studies have examined, for example, and especially, the impact of electoral rules on party systems and vote-seat proportionality (e.g., Cox 1997, Taagepera and Shugart 1989). More recently, a newer generation of studies has emerged to extend the scope of analysis to the *intra*-party aspect of electoral competition (Shugart 2005). The workhorse theory in this new generation of research is the theory of the impact of electoral rules on the incentives for cultivating a personal vote (Carey and Shugart 1995). A number of empirical studies have appeared and examined the relationship between electoral systems and personal-vote incentives. However, there is little systematic cross-country evidence of the impact of electoral systems on *election outcomes* that reflect personal votes cultivated by candidates (Shugart 2005). Most empirical analyses in this literature have not assessed election outcomes directly but instead used various proxies of personal-vote incentives as dependent variables, such as the type of bills initiated by legislators (Cirsp et al. 2004), incidence of corruption (Chang and Golden 2006), and legislators' local attributes (Shugart et al. 2005). These dependent variables used in the past studies have been "at least once removed from the proximal effect of the electoral system" that should be found in *actual election outcomes* (Shugart 2005). The first contribution of this dissertation to the literature on comparative electoral systems is that it provides the cross-country, direct evidence of the impact of electoral systems on election outcomes that reflect personal votes cultivated by candidates.

The literature on comparative electoral systems suggests that electoral systems influence politicians' incentives to cultivate a personal vote, and the past literature on incumbency advantage indicates that the personal vote constitutes one of the main components of incumbency advantage. One natural expectation from this line of reasoning is that incumbency advantage for either parties or candidates may vary across electoral systems in the same way as the personal-vote incentives. However, there are reasons to believe that this may not be necessarily so. First, greater incentives for the personal vote of individual candidates do not necessarily translate into greater vote gains even for these candidates themselves. Insofar as some features of electoral systems prevent the effective translation of personal-vote incentives into actual electoral gains to incumbents, the variation in incumbency advantage for individual candidates across electoral systems diverge from the variation in personal-vote incentives. Second, even when the personal-vote-building efforts of individual incumbents lead to actual electoral gains for them (incumbency advantage for candidates), these gains do not necessarily lead to *extra gains to their parties* beyond the parties' baseline electoral strength (incumbency advantage for parties).

Careful theoretical considerations in Chapters 2 to 4 suggest that the relationship between incumbency advantage and individual politicians' incentives for the personal vote is not simple. Indeed, the theoretically expected variation in both types of incumbency advantage is different from the variation in the personal-vote incentives in an important way. While the theory of incumbency advantage for parties predicts that the variation across three major categories of electoral systems — SMD, MMD with intra-party competition, and MMD with no intra-party competition — coincides with the variation in the personal-vote incentives, it also suggests that the variation across districts with different district magnitudes in MMD systems with intra-party competition diverges from the theory of personal-vote

incentives. Under systems with intra-party competition, incumbency advantage for parties declines as district magnitude grows, opposed to the personal-vote incentives, which increase as district magnitude grows. Similarly, the theory of incumbency advantage for individual candidates predicts that the advantage declines as electoral rules permit greater degree of intra-party competition. This also contradicts with the personal-vote incentives, which increase as electoral systems facilitate more intense intra-party competition.

These theoretical expectations are supported by empirical evidence based on the cross-national analysis. The development and empirical verification of these new theories on the relationship between electoral systems and the two types of incumbency advantage is the second important contribution of this dissertation to the literature on comparative electoral systems. It also demonstrated that personal-vote incentives do not always translate into actual personal *votes*, which should be an important distinction when we consider the relationship among electoral institutions, politicians' electoral incentives, and actual election outcomes.

5.6. Institutions and Democratic Accountability

Although the main contribution of this dissertation is the theoretical and empirical demonstration of the variation in the two sorts of incumbency advantage across electoral systems, the results also have profound implications for broader themes of democratic institutions and electoral accountability. The analysis of incumbency advantage for political parties in Chapter 2 offers implications for the erosion of the collective accountability of political parties. The collective accountability of parties can be maintained as long as the poorly performing parties — for example, those which failed to deliver their promises or were engaged in corruptions — lose their votes in the subsequent elections. However, the

extra votes that parties earn from fielding incumbent candidates, beyond what they could earn from their collective reputation, could offset such vote loss of the poorly performing parties. For this reason, if the electoral advantage for parties of running incumbent candidates is large, the collective accountability of political parties may be eroded. The analysis in Chapter 2 reveals that electoral systems affect the variation in the magnitude of incumbency advantage for parties. From this result, we can draw implications for the relationship between electoral systems and the erosion of the collective accountability of political parties.

Similarly, the analysis of incumbency advantage for individual candidates in Chapters 3 and 4 offers implications for the individual accountability of legislators. Insofar as individual candidates can earn a large extra electoral advantage from holding an incumbent seat, they are less likely to lose in elections, other things being equal. This means that the electoral advantage of incumbents reduces the effectiveness of voters' punishment on incumbent legislators, suggesting that the individual accountability of legislators may be eroded if the advantage is large. The analysis in Chapters 3 and 4 shows an important variation in the magnitude of incumbency advantage for candidates across electoral systems. These results offer implications for the relationship between the electoral systems and the individual accountability of legislators.

Furthermore, if we consider the analysis of both types of incumbency advantage together, we can also draw implications for the relationship between electoral systems and the balance between the collective and individual accountability.

In the rest of this section, I first discuss the implications from the analysis of incumbency advantage *for political parties* for the *collective* electoral accountability of parties (5.6.1). Then, I discuss the implications from the analysis of incumbency advantage *for*

individual candidates for the *individual* electoral accountability of legislators (5.6.2). Finally, I also deal with the implications for the balance between these two types of electoral accountability (5.6.3).

5.6.1. Incumbency Advantage for Political Parties and the Collective Electoral Accountability

The findings of Chapter 2 on incumbency advantage for political parties have important implications for our understanding of democratic elections and the collective responsibility of parties. Through casting a ballot in elections, voters delegate collective mandates to incoming government parties such as remedying an economic malaise and enacting important policies that solve pressing issues in the society. Voters also try to hold their government accountable by voting against governing parties that managed economies poorly, were involved in corruption scandals or deviated heavily from their policy promises. However, to the extent that parties earn extra electoral gains from fielding incumbent candidates, these functions of democratic elections based on the collective responsibility of political parties may be compromised. The findings of Chapter 2 have shown that this concern is indeed real. For electoral systems with intra-party competition and low district magnitude, such as STV and SNTV, under which the greatest incumbency advantage is found, the aggregate advantage for parties of running incumbents is simulated, based on the estimated models, to be as large as two-fifths to four-fifths of the average vote loss of government parties due to the economic vote. The sheer magnitude of the gains of parties implies that the collective accountability and mandate-giving mechanisms of democratic elections may be substantially undermined by incumbency advantage under these electoral systems.

This research also indicates an important variation across electoral systems in the erosion of the collective accountability and mandate-giving roles of elections. The problem becomes small if we move our attention to electoral systems without intra-party competition. Even within electoral systems with intra-party competition, the problem is less acute if district magnitude in a country is, on average, large. An important point here is that the cross-system variation found in Chapter 2 is different from the previously established relationship between electoral systems and individual politicians' incentives for a personal vote. If we drew institutional implications for the collective mandate and accountability of parties from the theory of the personal-vote incentives, we would wrongly conclude that the collective mandate and accountability are less eroded under low-district-magnitude systems than high-district-magnitude systems when electoral systems allow intra-party competition, since individual politicians' incentives for the personal vote increase as district magnitude grows. As this study has shown, however, individual incumbents' incentives for the personal vote are not directly translated into the electoral benefits for their parties. It is under low-district-magnitude systems, rather than high-magnitude systems, that political parties most benefit from incumbents' personal vote, and therefore, the collective mandate and accountability of the parties are most negatively affected. This previously unnoticed variation across electoral systems improves our knowledge about the electoral rules' impacts on the effectiveness of democratic elections.

The findings of Chapter 2 also inform real-world practitioners, such as reformers who try to change the existing electoral rules in established democracies and policy experts who advise the crafting of electoral institutions in newly democratizing countries, of important implications for a choice of electoral systems. To the extent that citizens and drafters of electoral rules value the collective mandate and accountability of governing

parties or the collective responsibility of political parties more generally, they should avoid electoral systems with intra-party competition. Of course, those who draft or reform electoral rules may have other concerns and do not want to completely avoid intra-party competition, if it may well serve these concerns. For example, in a country using a closed-list PR system, citizens may demand more direct linkage between them and individual representatives. In response, reformers may consider introducing preferential votes for individual candidates or increasing the usability of these votes, if these votes are already in place but ineffective, which lead to the introduction or intensification of intra-party competition. A recommendation for these reformers derived from this study is that they should also consider increasing district magnitude, if it is small, to avoid the collective responsibility of political parties from eroding too much.

Another example of implications of this study for electoral-system design concerns a recent proposal of an optimal electoral system by Carey and Hix (2009). Much of the literature has focused on two central but conflicting objectives of electoral systems: a highly representative parliament and an accountable government (e.g., Lijphart 1994, Powell 2000). PR systems produce a parliament that closely reflects diverse interests in the society while generating a fragmented, unstable coalition government, which is difficult to be made accountable to voters. On the other hand, majoritarian systems tend to create a unified, stable government, which can more easily be made accountable, while producing a parliament in which a winning part of the society may be disproportionately represented. The literature has so far depicted the design of electoral institutions as a choice between these two systems, each of which serves one objective while sacrificing the other. On the contrary, Carey and Hix (2009) argue that the *low-district-magnitude* electoral systems are the best to balance these two conflicting objectives, by remedying high disproportionality of

majoritarian systems yet fostering relatively less-fragmented, less-complex coalition governments. From the findings of this study, however, we can see that government accountability will still be substantially compromised if the low-district-magnitude systems allow intra-party competition. Creating low-district-magnitude districts may be a necessary condition, but not sufficient to strike the best balance between representativeness and government accountability. If designers of electoral systems follow the advice of Carey and Hix, the present study suggests that they should not introduce intra-party competition to prevent the benefit in government accountability from being eroded by the personal vote of incumbents.

5.6.2. Incumbency Advantage for Individual Candidates and the Individual Electoral Accountability of Legislators

This subsection offers a discussion of the implications of the findings of Chapters 3 and 4 on "incumbency advantage *for individual candidates*" for the individual electoral accountability across different electoral systems. In the traditional, SMD-centered literature, mostly based on U.S. elections, incumbency advantage is a subject of concern since it is taken to diminish electoral accountability. When incumbents have a certain advantage, it insulates them from any negative national vote swing to their party, making it more difficult for voters to remove those incumbents. On the other hand, in MMD countries, which allow for intra-party competition, marginal incumbents gain a smaller advantage than in SMD countries or some of them even suffer a disadvantage. These marginal incumbents are less protected from negative swings to their parties than their counterparts in SMD countries. Furthermore, even when there is no negative swing to their parties, incumbents in MMD

systems with intra-party competition are still vulnerable to the challenge of non-incumbents from the same party.

This may be interpreted that electoral systems with intra-party competition exhibit greater *individual* electoral accountability, in the sense that holding an incumbent seat and taking advantage of the resources available for incumbents do not necessarily insulate these incumbents from the competitive electoral pressures. Allowing for a larger degree of intra-party competition means the increase of *candidate-centeredness* of electoral rules. Therefore, we may infer from the greater *individual* electoral accountability, manifested in a smaller electoral advantage of marginal incumbents, that the primary purpose of the design of the rules with intra-party competition is fulfilled.

Normative implications of this kind of greater *individual* electoral accountability are mixed, however. Incumbents in MMD with intra-party competition have a smaller advantage, *despite* their greater efforts to take advantage of the resources available for them in cultivating a personal vote (these greater efforts are evidenced in many previous studies such as Chang and Golden 2006 and Crisp et al. 2004). To win a reelection bid, these vulnerable incumbents may have no choice but further boost their efforts to cater to their personal supporters. This could lead to "*excessive* accountability" of individual incumbents to their personal followers in the electorate, which might result in various negative consequences. For example, vulnerable incumbents in candidate-centered systems with intra-party competition may irresponsibly distribute pork-barrel projects to their constituents to greater extent, leaving inefficient resource allocation or enormous fiscal burden on the government (Ramseyer and Rosenbluth 1993, Scheiner 2006). They may also tend to commit to corruption more frequently in order to benefit their personal supporters (Chang and Golden 2006) or to survive the severe electoral competition (Nyblade and Reed 2008). In addition,

incumbents' "excessive accountability" to their personal followers would also erode the coherence and discipline of their party, thereby degrading the *collective* accountability of political parties.

These considerations suggest that when we expand our scope of analysis on incumbency advantage from a traditional SMD focus to comparative analysis across electoral systems, the normative implications of incumbency advantage become multifaceted. In the SMD systems, the normative implications of incumbency advantage and accountability are relatively straightforward. A greater incumbency advantage raises concerns about both collective and individual electoral accountability and smaller advantages would diminish symmetrically both concerns. In the MMD systems that allow for intra-party competition, however, not only does a greater incumbency advantage raise the concerns about both types of electoral accountability, as in SMD systems, but also little advantage or a disadvantage may lead to the concerns about *excessive* individual accountability, which may result in various negative consequences also including the degradation of the collective party accountability. Among the three MMD countries covered in Chapter 4, Italy may have exemplified the former case, in which a relatively large, positive incumbency advantage raises the concerns of the erosion of both collective and individual accountability. Japan may have exemplified the latter case, in which little advantage or a disadvantage might have resulted in excessive individual accountability.

Although these considerations complicate normative justification for electoral systems with intra-party competition, it would be premature to abandon these systems altogether on the grounds that they could lead to both the erosion of electoral accountability and excessive individual accountability. There may be a situation in which it is desirable to introduce intra-party competition and increase individual electoral accountability. For

example, in many Latin American countries that use the closed-list PR system, the perceived problem is too strong party leaders, and many political reforms considered to date include measures to increase individual collective accountability, which necessarily include the introduction of some form of intra-party competition (Carey 2009). A relevant question here is whether it is possible, by engineering either electoral or non-electoral institutional arrangements, to achieve some appealing middle ground, at which *individual* electoral accountability is effectively maintained while *excessive* accountability is relatively avoided. In the three MMD countries covered in Chapter 4, Finland seems to have achieved a modest level of incumbency advantage, but whether this translates into an ideal middle ground in terms of electoral accountability is unknown. To explore a way to achieve this goal would be one of the important future agenda in the comparative electoral-systems research.

5.6.3. Balance between the Collective and Individual Accountability

Taken together, the analyses on incumbency advantage *for political parties* and *for individual candidates* have implications for the balance between the collective and individual electoral accountability. In the modern democratic polity, we can conceive of two types of electoral accountability — the collective accountability of political parties and the individual accountability of legislators. Particular institutional arrangements of democracy may emphasize either one of collective or individual accountability or may strike an ideal balance between them. How these two types of accountability are weighted or balanced under specific institutions is an important question for understanding how democracy works and for designing and assessing democratic institutions.

If we consider the results of Chapters 2 to 4 together, the electoral systems in the countries covered in this dissertation seem to generally satisfy the purpose of their particular

designs. The analysis in Chapter 2 showed that incumbency advantage for political parties will be greater and therefore, the collective accountability of parties may be more compromised when electoral rules allow for intra-party competition. Similarly, incumbency advantage for parties will be smaller and thus, the collective accountability may be more effectively maintained when electoral rules do not allow for intra-party competition. The purpose of introducing intra-party competition can be understood as shifting the emphasis of accountability from the collective accountability of parties to the individual accountability of legislators. Therefore, the cross-system variation found in incumbency advantage for parties and its implications for the collective accountability of parties are consistent with the purpose of these electoral systems.

The analysis in Chapters 3 and 4 revealed that incumbency advantage for individual candidates will be smaller as electoral systems allow more intense intra-party competition. As already discussed above, this can be interpreted that the individual accountability of legislators may be more effectively maintained, exactly when voters are more encouraged to evaluate individual candidates and individual candidates have greater incentives to compete on their personal appeal. Again, this suggests that the cross-system variation found in incumbency advantage for candidates and its implication for the individual accountability of legislators are consistent with the purpose of these electoral systems. As detailed in the previous subsection, however, a caveat here is that little or negative incumbency advantage in electoral systems with high intra-party competitiveness may indicate the *excessive* individual accountability of legislators to their personal supporters.

With these implications, this dissertation also contributes to the emerging literature on the balance between collective and individual accountability (Carey 2009).

5.7. Direction of Future Research

As a final remark, I offer a brief discussion of the potential direction of future research on comparative incumbency advantage. This dissertation provides the most comprehensive, systematic, comparative analysis of incumbency advantage to date and proves that the topic is worthy of study from a comparative perspective. However, this dissertation may simply be the first step of systematic comparative analysis of incumbency advantage. There are many other important questions related to this issue, which still await further scholarly attention. I list the four possible directions of future research below.

First, the comparison of incumbency advantage may be extended to other major categories of electoral systems — most importantly, to Mixed-Member systems that have both SMD- and PR-tiers and allow voters to cast a ballot for each of them. This dissertation covered the three major categories of electoral systems — SMD systems, MMD systems with intra-party competition, and MMD systems with no intra-party competition. While these three categories cover a large share of the electoral systems used in democratic countries, they by no means cover all the existing electoral systems. The most important omission is the Mixed-Member systems, which are an increasingly popular electoral-system type these days. One variant of the Mixed-Member systems has been used in Germany for the entire postwar period, and other types of the Mixed-Member systems have been adopted recently in many other countries. For example, three developed democracies covered in this dissertation, Italy, Japan, and New Zealand, changed their electoral systems to a version of the Mixed-Member systems during the 1990s. The extension of the analysis to this important electoral-system type further will enrich our knowledge on the electoral systems, incumbency advantage, and electoral accountability.

Second, the source of *cross-country* variation can be explored beyond the electoral systems. There are many other factors, which may potentially influence either incumbency advantage for political parties or incumbency advantage for individual candidates, including the presidential-parliamentary difference in democratic regimes, the professionalization of legislatures, and the parliamentary resources available for incumbent legislators for reelectioneering. The influence of some of these factors was examined and rejected as alternative explanations for the variation reported in this dissertation (e.g., the potential impact of the resources available for incumbents on incumbency advantage for individual candidates in Chapter 4). However, more comprehensive inquiry into these potential determinants of the cross-country variation in incumbency advantage, perhaps with the expansion of country cases, should be one of the promising directions of future research.

Third, contextual factors which may create the *within-country* (or *within-system*) variation in the magnitude of incumbency advantage can also be explored. This dissertation focuses on the variation across electoral systems, and therefore, focused on the *average* incumbency advantage under each system. However, there may be important within-country or within-system variation in the magnitude of incumbency advantage for political parties or for individual candidates. For example, the advantage may be greater when a party is part of the governing coalition prior to an election due to better access to government resources than among the opposition. It may also be greater for senior incumbents than junior incumbents because senior incumbents' greater bargaining power in the legislature may allow them to exploit a greater share of resources deployable for reelectioneering activities. Institutional structures, such as candidate selection rules, or other characteristics of parties may also affect the variation in the advantage across political parties.

Fourth, the coverage of countries may be expanded to include more diverse cases. This dissertation has focused on developed democracies, but the same topic can also be pursued in democracies in the developing world. A limited set of analyses on incumbency advantage in developing countries showed that incumbents do not necessarily enjoy an electoral advantage even in SMD systems, in which their counterparts can expect an advantage in developed democracies (Linden 2004, Titiunik 2008, Uppal 2010). In these existing studies, the difference is attributed to the peculiarities of electoral environments in developing countries, such as the weak institutionalization of party systems, electoral volatility, and higher incentives for rent extraction. Extending comparative analysis to a greater number of developing countries would introduce many interesting factors for the cross-system variation and also may alter the substantive meaning and the implications of incumbency advantage, due to the particular nature of political environments in developing world.

The extension of the current study to these questions will further enrich our understanding of the relationship among political institutions and contexts, the electoral advantage of incumbency, and the effectiveness of democratic elections. Of course, there may be many other ways to extend comparative analysis of incumbency advantage. Given the importance of normative implications of incumbency advantage for democratic governance, a further investigation into this subject from comparative perspectives merits greater scholarly attention.

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