

Too Small to Win, Too Important to Fail?

The paradox of small party support in mixed-member systems

Abstract

Strategic voting theories largely predict that restrictive electoral rules will result in the winnowing of political competition through mechanical and psychological effects. Recent research suggests that these theories may not be empirically robust in all situations. Scholars of mixed member electoral arrangements have been at the forefront of this research. In this piece, we demonstrate that under mixed-member electoral arrangements in South Korea and New Zealand, small parties not only survive in the more restrictive single-member electoral districts, but in fact gain electoral support in these settings relative to their performance in the proportional representation tier. In contrast, more competitive parties, those that we label 'coalition-makers', either suffer electoral losses between tiers (New Zealand) or gain voters at a lower rate than their smaller competitors as competition diminishes between the tiers (Korea). After presenting these findings, we conclude with a discussion of potential organizational, group and individual level explanations of the observations, as well as thoughts on implications for our general understanding of electoral politics.

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1. Introduction

The relationship between electoral system restrictiveness and party system size is one of the oldest and most widely studied phenomena in political science. As William Riker points out in his 1982 piece *The Two-Party System and Duverger's Law: An Essay on the History of Political Science*, several prominent social and political thinkers of the 19th century had proposed that more restrictive political systems would lead to a narrower field of political competition. Duverger (1951) did much to formalize and popularize the idea, and prominent addendums from generations of scholars, notable among them Cox's M+1 hypothesis (1997), have further developed the idea into what Riker identifies as a social scientific law.

Several studies published in the last twenty years have cast doubt upon the universality of this law. Madrid (2005), Stoll (2008), Singer and Stephenson (2009), Moser and Scheiner (2012) and others have identified numerous conditions under which the expectation of a strategic response to electoral system restrictiveness does not hold. Moser and Scheiner (2012), in particular, focus on the oft-neglected role of political context, and how social, historical and demographic characteristics of states impact how their voters respond to institutional effects.

Studies of mixed-member electoral systems have proven to be a uniquely strong test-bed for understanding the impact of electoral system restrictiveness. Even taking into account the potential impacts of contamination effects on the generalizability of findings in mixed-member systems (Ferrara, Herron and Nishikawa 2005), scholars have continued to study strategic voting in mixed-member systems. Cox and Schoppa (2002) and Karp et. al. (2002) find that voters in mixed-member systems largely behave in a manner predictable by traditional strategic voting

theories, if not at the same rate as we see in pure plurality systems. Gschwend, Johnson and Pattie (2003) find evidence that voters respond to strategic incentives largely as theoretically predicted in Germany, with voters supporting those parties that performed particularly well at the constituency level at a higher level than those that did not. In contrast, Gschwend (2007) finds that voters in Germany tend to behave strategically, but are not fully constrained to casting votes for large parties.

In this paper, we set out to further this field of research by comparing rates of strategic voting in compensatory and parallel mixed-member systems, as part of a broader project. We took as a point of departure the findings of Karp et. al.'s (2002) finding that strategic voting patterns in New Zealand largely follow predictable patterns that fit Duvergerian expectations. In evaluating electoral returns at the district level from elections in 2011 and 2014, however, we note that the pattern of behavior does not actually fit that of traditional strategic expectations. Traditional Duvergerian expectations, as Cox and Schoppa (2002) identify, predict a winnowing of political competition in single-member district plurality situations. In New Zealand, we observe that winnowing is not occurring; in fact, small parties actually tend to outperform their vote total in the PR tier in districts in which they nominate a candidate. This is especially true when you draw a distinction between New Zealand's coalition-viable parties, the Greens and New Zealand First; and small parties such as the Aotearoa Legalize Cannabis Party and United Future, who are widely known to be non-competitive even in the PR tier. In order to test the generalizability of this finding, we run a similar test in Korea; while the results are not as strong, they largely point in the same direction. We conclude the paper with a discussion of what could be driving this result.

2. A Very Brief Overview of Strategic Voting in Mixed Member Systems

The study of mixed-member electoral systems was something of a research backwater prior to the 1990s, due to the relative rarity of the arrangement (Shugart and Wattenberg, 2001). It was not until the adoption of mixed member systems in various countries around the world starting in the late 1980s that researchers really began to apply traditional theories of electoral systems and voting behavior to mixed member systems. One of the first of these studies, Bawn (1999), concretely established that voters respond strategically to electoral system incentives, even in complex electoral arrangements like mixed-member systems.

Following the lead of Bawn and others, three pieces from 2002 established the many of the core theories and empirical findings that inform the literature today. Cox and Schoppa (2002) find that while Duvergerian winnowing effects do take place in the SMD tier of mixed member electoral systems, this winnowing effect is small compared to pure plurality systems. Karp et. al. (2002) come to a similar conclusion, finding no support for the idea that voters engage in ticket-splitting due to confusion; instead, they identify partisan attachment, candidate competitiveness and candidate effects, as well as political sophistication, as strong predictors of ticket splitting behavior. Finally, Johnston and Pattie (2002) find that when voters have more information about candidate strength, they are more likely to split their ticket in an attempt to vote strategically. These three pieces all established that strategic voting is happening in mixed member systems, even if it is somewhat reduced.

Choi (2006) and Kostadinova (2006) provide some of the first tests of these findings on developing democracies. Choi finds that in Korea, strategic voting still strongly informs voting

patterns in the SMD tier, and that small parties in particular seem to be punished for their lack of competitiveness. Kostadinova (2006) finds that in Eastern European developing democracies, strategic voting decisions are made in reflection of the perceived ability of parties/candidates to cross thresholds. At the same time, she finds evidence that supporters of small parties, at least to some degree, abandon their parties in the face of strategic pressures.

Moser and Scheiner (2012) forced a consideration among scholars of mixed-member systems of when and where voters will not behave strategically. For Moser and Scheiner, context matters: social, political, economic. They focus less on pinpointing very specific instances of non-strategic behavior, and instead focus on providing generalizable hypotheses that can be tested by others. In one such test, Allen (2015) finds that small ethnic minority parties face little defection between the PR and SMD tiers, implying that perhaps minority voters are less likely to defect in the face of strategic pressures than other types of voters.

Two recent studies have forced us to reconsider to some degree how we study split-ticket and strategic voting in mixed member systems. Plescia (2017) forces scholars to reconsider the very label of strategic voting for all split-ticket voting behavior in mixed-member systems. As she correctly points out, significant amounts of split-ticket votes are cast for reasons that are non-strategic, but these non-strategic decision-making processes are lost with observational studies that cannot account for individual-level motivations. Riera and Bol (2017), meanwhile, find that split-ticket voting does respond to the small institutional differences between compensatory and parallel mixed-member systems. Voters in parallel systems, they argue, engage in more split-ticket voting as a direct response to their understanding of how the electoral system works.

What does this literature tell us? On the whole, scholars have found that strategic voting occurs to some extent in mixed member systems, particularly in the SMD tier. There are exceptions to this, particularly for supporters of parties that fulfill a specific social-cultural niche, but for the most part voters understand the implications of electoral systems and respond to them. Voters do not seem to respond solely to higher level factors, but are able to understand and respond to minute differences in institutional structure, such as those that separate parallel and compensatory mixed-member systems, and respond accordingly. And finally, not all split-ticket voting behavior can or should be labeled as strategic, as it can have non-rational origins that are lost in observational analysis.

3. Data and Data Structure

The literature on strategic voting in mixed member systems faces three challenges. The first is a challenge of data availability, and is one faced by almost all studies of electoral behavior: our observations are not at the individual level, while our theories largely are. This creates an ecological inference problem, which is particularly notable in studies of mixed-member systems, which often rely on observational data (Johnston and Pattie 2002). Finally, studies of mixed member systems must deal with the issue of contamination between the tiers, which should cast doubt on many findings about the strategic behavior of voters or groups of voters.

In this study, we utilize a unique approach to study patterns of support for political parties at the district level. This approach focuses on the party-in-district as the unit of observation and analysis. Findings, then, bypass the difficulty of talking about individual level theories with aggregate level data by focusing instead on parties, and the implications of strategic voting theories for parties themselves.

This approach will analyze how well parties are able to maintain their votes between the PR and SMD tiers in mixed member systems. A fundamental assumption we make is that the PR tier represents the first preference party of voters. This assumption sets a baseline, from which we can identify divergence. While it is undeniable that this assumption is not universal, we know that a) voters have reduced incentive to make strategic calculations of how to vote in less restrictive electoral settings (Cox 1997), and b) coalitional ticket-splitting behavior, while not unheard of, is not particularly common (Gschwend 2007).

The main analysis of this paper will focus on electoral results from New Zealand in the two most recent elections, 2011¹ and 2014². We break the parties in New Zealand into three families: small parties (those who fall nationally far below the 5% threshold in the PR tier), medium parties (those near or over the 5% threshold but not the two largest parties in the system) and large parties (the two dominant parties in political competition)³. We include control variables in the dataset to indicate various conceptualizations of party competitiveness, district competitiveness (number of candidates, distance from 1st and 2nd place finishers in the PR tier) and candidate competitiveness (placement on party list), as well as a control for district size.

For the Korean analysis, we collected original precinct-level electoral returns and matched them into the appropriate single-member districts to construct our dataset. We track the same core

¹ Data collected from: http://archive.electionresults.govt.nz/electionresults_2011/index.html

² Data collected from: http://archive.electionresults.govt.nz/electionresults_2014/index.html

³ Small Parties: Aetorea Legalize Cannabis Party, United Future, Maori, Mana, Internet Mana, ACT; Medium Parties: Conservative, New Zealand First, Green; Large Parties: Labour, National

variables (SMD and PR tier votes), as well as most of the same controls, but given that Korean law forbids candidates from running for a district seat and appearing on party lists, we are not able to control for candidate strength in the Korean data.

4. Expectations and Hypotheses

We entered this study with a handful of hypotheses, derived largely from previous theoretical and empirical studies, about strategic voting in mixed-member systems. Given that we are focusing largely on New Zealand in this study, we take as a point of departure the findings of Karp et. al. (2002), who largely find that voters in New Zealand follow Duvergerian voting predictions in the SMD tier. As, in this study, we are focused on parties-in-district as the unit of observation and analysis, we can restate traditional Duvergerian hypotheses as such:

H1) As party size decreases, parties will face more defection from the PR tier to the SMD tier.

Here, party size serves as something of a proxy for the overall competitiveness of the party. If we want to break these hypotheses down into more manageable bits, we can further state:

H1a) For large parties, each vote for the party in the PR tier will result in more than one vote in the SMD tier.

H1b) For medium parties, each vote for the party in the PR tier will result in approximately one vote in the SMD tier.

H1c) For small parties, each vote in the PR tier will result in less than one vote in the SMD tier.

This restatement simply implies that as parties become nationally less competitive, they should face greater winnowing pressures, consistent with the findings of Cox and Schoppa (2002), among others.

We know that there are instances and contexts where strategic responses to electoral systems are unlikely to manifest. Allen (2015) identifies that parties that compete based on ethnic appeals do not seem to face the same strategic defection pressures as other small parties. As New Zealand also has ethnic parties competing in elections, we can attempt to confirm Allen's findings, and thus we will test the following hypothesis:

H2) Ethnic parties will not face the same strategic pressures as non-ethnic small and medium parties, even when competing in non-ethnic districts.

To confirm Allen's finding, we would expect to be able to show that ethnic parties have small differences, if any, between their PR and SMD votes shares, particularly when compared to other small- and medium-sized parties in the system.

Finally, we include several control variables to account for competitiveness, conceptualized in many ways. First, we include a control for candidate strength, operationalized as candidate rank on the PR list. We should expect candidate rank to be correlated with a parties performance in the SMD tier, and as such we can expect:

H3) Increasing a candidate's rank on the PR list will improve that candidate's vote total in the SMD tier relative to the performance of the party in the same district in the PR tier.

We should also generally expect competitiveness in a district to impact how well parties maintain their support in a district, though competing findings in the literature lead us to be relatively agnostic to the direction of this relationship. Likewise, the competitiveness of a party in a district should impact how well it retains voters, but there are reasons to believe it could pull in either direction. These hypotheses could be formalized as:

H4) The level of competitiveness in a given district will impact how well parties maintain voters between tiers.

H5) The competitiveness of a party in a given district will impact how well it maintains its voters between tiers.

Finally, previous research suggests that parallel and compensatory mixed member systems induce different types of behavior among voters. These studies pull in opposite directions, but generally agree that differences exist; as such, we believe:

H6) Parallel electoral systems will exhibit different patterns of strategic voting than compensatory systems.

5. **Results**

Figures 1, 2 and 3 below provide a first cut analysis of the relationship between party size and strategic voting, using notch plots to visualize the relationship⁴. If traditional Duvergerian equilibria hold, we should expect there to be a linear relationship between party size and the ratio of SMD votes for a party-in-district and PR votes for a party-in-district, with small parties have a ratio below 1, medium parties a ratio near 1 and large parties a ratio above 1. What we actually

⁴ The notches in these plots represent the 95% confidence interval of the median value for the population. If the notches do not overlap between two populations, we can with 95% certainty say that the median for the populations is different. See Chambers et. al. (1983) for more information.

observe in the data, however, is a non-linear relationship, with small parties slightly outperforming their PR tier performance in the SMD tier, while coalition-making parties suffer losses between the PR tier and the SMD tier, and large parties make small gains. Similar patterns hold if we break down the data and look specifically at the elections of 2011 and 2014, as we do in Figures 2 and 3. Given these results, we can say with some certainty that, on average, small and large parties maintain their voters at a higher rate than coalition-making parties. This finding runs counter to the expectations we set in Hypothesis 1.

[INSERT FIGURES 1, 2, 3 HERE]

To dive a little deeper into this relationship, we can evaluate the distribution of the SMD to PR ratio for the different parties in New Zealand, as summarized in Table 1. For this table, we pool the election years for each party⁵. In the first grouping, of small parties, we notice that the mean and median values for the SMD to PR ratio are consistently above 1, apart from the Internet Mana party. In the next grouping, the ACT⁶ and Conservative parties both fall slightly below 1; we believe this is tied to the changing status of these parties, as we will discuss more later in the paper. Next, among the coalition-making parties, both the Green and New Zealand First parties fall quite a bit below 1, with New Zealand First candidates only managing to maintain half of the votes the party earning in the PR tier on average. Finally, both the Labour Party and the National Party fall near or at the 1 point, indicating that they are gaining voters (Labour) or largely maintaining their voters (National). Everything told, what we see in this data is similar patterns to what we observe with the notch plots in Figure 1, 2 and 3.

⁵ In one exception, we separate out for the analysis the Mana party, which contested the 2014 election, and the Internet Mana party, an electoral alliance between the Mana party and the Internet Party of Kim Dotcom.

⁶ For this and subsequent analyses, we have eliminated from analysis the single member district seats won by the ACT and UF party leaders in 2011 and 2014. Given the small sample size and massive outlier status of these observations, they were having an undue influence on the substantive scope of the results. Removing them had no impact on the sign and significance of the findings.

[INSERT TABLE 1]

In a more robust test, in Table 2 we present a regression analysis of the relationship between SMD votes and PR votes for each population of parties. For small parties, the first column, we note that after controlling for district level factors each PR vote translates to .84 votes in the SMD tier. Both candidate strength and the number of candidates nominated in the district come back negative and significant; for every spot down the party list a candidate falls, she loses 5 votes, while for each additional candidate nominated in a district, a small party's candidate loses 35 votes. All other controls are insignificant. For the coalition-making parties (Green, NZF and Conservative), we note a much smaller substantive impact for PR votes, with each PR vote translating to just .39 votes in the SMD tier. We have similar results for the candidate strength and number of candidates control variables; however, we note that district competitiveness has an impact for coalition viable parties, as when the district becomes less competitive (as the variable value increases), the coalition-forming parties actually gain SMD votes. Finally, for large parties we note that each PR vote translates into just over 1 vote in the SMD tier. Candidate strength continues to be a statistically significant variable, with weaker candidate receiving fewer votes in the SMD tier, but the number of candidates nominated in the district has a non-significant impact for large parties. District competitiveness has the opposite effect for large parties as it does for coalition-forming parties: as the party falls farther behind in the PR tier, it loses votes in the SMD tier. These results more significantly confirm the results from Figures 1, 2 and 3. They indicate that even if small, non-coalition viable parties are not gaining votes in the SMD tier when other factors are accounted for, they are generally behaving differently than their larger, coalition-forming competitors.

[INSERT TABLE 2]

In a final test of the relationship between PR votes, SMD votes and party size, we run a pair of interaction models that measure the impact of PR votes on SMD votes for parties-in-district interacted with a dummy variable for party size. In the first model, we compare small parties with larger, coalition-forming parties (Green, NZF, Conservative), while in the second we compare coalition-forming parties with the largest parties in the system. The results are presented in Table 3. In the first model, we can see that there is a statistically significant difference in the relationship between PR votes and SMD votes for small parties as opposed to coalition-forming medium parties; the smaller parties tend to have a substantively larger relationship⁷. Similarly, in the second model we not a statistically significant and positive impact of the interaction term, indicating that large parties have a substantively and significantly different relationship between PR and SMD votes than their smaller counterparts. While we would caution against over analyzing these findings given the small sample size, it is important to note that these findings largely fall in line with the other analyses presented.

[INSERT TABLE 3]

One potential explanation for these findings could be that they are largely being driven by the presence of two ethnic parties in the dataset: the Maori party and the Mana (2011) party. Allen (2015) finds evidence that, in the German land of Schleswig-Holstein, parties representing the ethnic Danish minority faced little-to-no defection between the PR and SMD tiers, despite their lack of competitiveness. We duplicate Allen's approach here, looking at whether the relationship between PR votes and SMD votes is tied to the ethnic status of a party. The results are presented in Table 4. It is important to note that we exclude New Zealand's reserved Maori constituencies

⁷ We are intentionally vague here. Given the small number of observations and the complicating nature of the interaction effect, outliers are having a large impact on the estimation of the coefficient. These results reflect the full data, including known outliers, so as to reflect the full population of cases, but as a result we have reason to believe that the coefficient estimates are unreliable.

from this analysis, as there is strong reason to believe that the dynamics of competition in these districts is different than in non-reserved districts, and largely non-comparable. Relatedly, we consider the Internet Mana coalition party of 2014 a non-ethnic party, largely because the coalition arrangement involved the Internet Party being responsible for most of the campaigning outside of the reserved districts. The results in Table 4 are instructive. We see no statistically significant difference between ethnic and non-ethnic parties in the relationship between PR votes and SMD votes in either model, though we should note that if the limit the analysis to just small parties the result is not far from significance, and would be substantively large. Given the very small sample sizes at play here, it is too much to say that ethnic parties are no different than other parties in New Zealand in their ability to maintain voters despite a lack of competitiveness in SMD competition. We simply want to point out that ethnic parties are not driving the overall result.

[INSERT TABLE 4]

The findings presented above largely contradict the expectations of Hypothesis 1 and 2, the core hypotheses of interest. As part of our broader interest in the differences between parallel and compensatory mixed-member systems, and as a broader test of the generalizability of the patterns found in New Zealand, we conducted a similar series of analyses on the 2016 legislative elections in Korea. Figure 4 represents the change in the ratio between SMD and PR votes and party size in Korea. While it should be highly visible that the results are impacted by outliers, we see pattern in the data from Korea similar to that found in the New Zealand data. Table 5 presents descriptive statistics of the ratio of SMD to PR votes in Korea. Again, what we notice is a particularly similar pattern between the families of parties in Korea and New Zealand, with

small parties gaining in the SMD tier, coalition-forming parties losing in the SMD tier, and large parties gaining or staying relatively stable.

[INSERT FIGURE 4]

[INSERT TABLE 5]

When duplicating the party specific models with the data from Korea (Table 6 below), we find, again, a relatively similar result to what we found in New Zealand. For small parties, each PR vote is worth nearly 2 votes in the SMD tier; for medium, coalition-forming parties, PR votes produce less than 1/3rd of an SMD tier vote, and the result is not quite statistically significant; while for large parties, each PR vote is worth just over 1 SMD tier vote. District size has a similar effect across all three models, with larger districts resulting in more votes in the SMD tier for all parties. The number of candidates nominated in the district has a consistently negative impact on the SMD vote total of parties, as predicted. The results presented in Table 6 point strongly in the same direction as the results found in the analysis of New Zealand.

[INSERT TABLE 6]

Finally, Table 7 shows the results of interaction model tests of the relationship between PR votes and SMD votes, using an interaction between PR votes and party size to see if different populations of parties have different relationships between PR votes and SMD votes. As the table shows, there is no statistically significant difference in the relationship between PR votes and SMD votes between small, medium and large parties. In the first column, we see that the interaction term is negative, indicating that relative to small parties, medium-sized parties have a substantively smaller relationship between PR votes and SMD votes. In the second, we see that the difference between medium and large parties is much more substantively modest, and again insignificant.

[INSERT TABLE 7]

In sum, while the data from Korea does not paint as strong a picture, it largely points in the same direction. Small parties seem to outperform their PR tier performance in the SMD tier. Medium-sized, coalition-forming parties tend to lose a slight amount of support between the tiers. Meanwhile, large parties seem to gain slightly or maintain their voters.

6. Analysis and Potential Causal Pathways

The analyses presented above pose a conundrum. Most of the studies of strategic voting in mixed-member electoral systems tend to find that strategic voting tends to follow rather predictable, Duvergerian patterns in the SMD tier. These patterns might be diminished, and winnowing effects might not occur fully, but they still occur. These findings imply that the winnowing effect tied to the restrictiveness of the single member plurality elections has differential impacts on parties with different characteristics. Small parties, nationally distant from the PR threshold and thus generally uncompetitive in elections, consistently perform better in the SMD tier, where their general lack competitiveness should lead rational voters to abandon them. These findings are not being driven solely by strong candidates, as we both control for candidate strength (in New Zealand) and eliminate in some analyses observations where small party candidates massively outperform their party's PR vote total in a district.

All of this leaves us with a series of questions. Why would very small parties not face the same impact of electoral system restrictiveness of medium-sized parties? Why would voters in a mixed-member system choose to vote for a non-competitive party in the SMD tier, but not for the same party in the PR tier, where their vote has a much higher chance of not being wasted? As

far as we are aware, these questions have not been asked before this study. Previous studies have not treated party differences as relevant points of departure for the impact of the electoral system. Our study indicates that this is worthy of reevaluation.

What may be driving this finding? We believe there are a handful of factors to keep in mind. First, it is entirely possible that the voters being tracked in these analyses are simply not well predicted by traditional rational choice voting literature. As Downs (1954) notes, not all voters will be equally rational and willing to vote strategically; particularly those on the far ends of the ideological distribution are likely to cast their vote with a long-term time horizon. It could be, then, that these small parties are gaining voters in the single-member district tier as a destination for protest voters seeking to move their preferred parties or the overall party system in a given direction in the longer term. Along a similar front, it could also be that voters are responding to the incentives of the electoral system, but their reasons for doing so do not reflect a desire to minimize vote-wasting so much as to maximize the chances of ideological coalitions through ticket-splitting. Figure 6 displays the SMD to PR vote ratio for two parties in New Zealand, the ACT and Conservative parties. In 2011, the ACT was in the midst of a long-term electoral collapse but had managed to maintain a number of seats in the previous election, while the Conservative party was a newly formed party with unclear chances. What we notice from Figure 6 is that ACT supporters in 2011 largely left their party in the SMD tier; the Conservative party, meanwhile, largely retained its supporters between the two tiers. In contrast, in 2014 the ACT gained voters in the SMD tier, while the Conservative Party, now a viable national party who, in the previous election, just barely missed the threshold, faced notable defection between the PR and SMD tiers.

[INSERT FIGURE 6]

It is also important not to discount the role of contextual factors such as ethnicity and regionality, and how these impact strategic voting. As Moser and Scheiner (2012) note, context can change how voters interpret the strategic implications of institutions. While ethnicity might not be driving the findings we get in New Zealand, that does not mean that ethnicity-based parties like Maori and Mana are not contributing to the phenomenon. And though ethnicity cannot be driving the results in Korea, it should be noted that regional contexts likely do have some impacts on how voters choose to respond to the strategic incentives of the electoral system (see Appendix A for a further discussion of this topic).

Unfortunately, the nature of our data means that we can only discuss potential causal pathways, rather than prove them. Going forward, we believe future research on strategic voting in mixed-member electoral systems, and the broader literature on how electoral systems impact voter behavior and party systems, should take in to account and seriously evaluate how institutions differentially impact parties with different characteristics.

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Figure 1

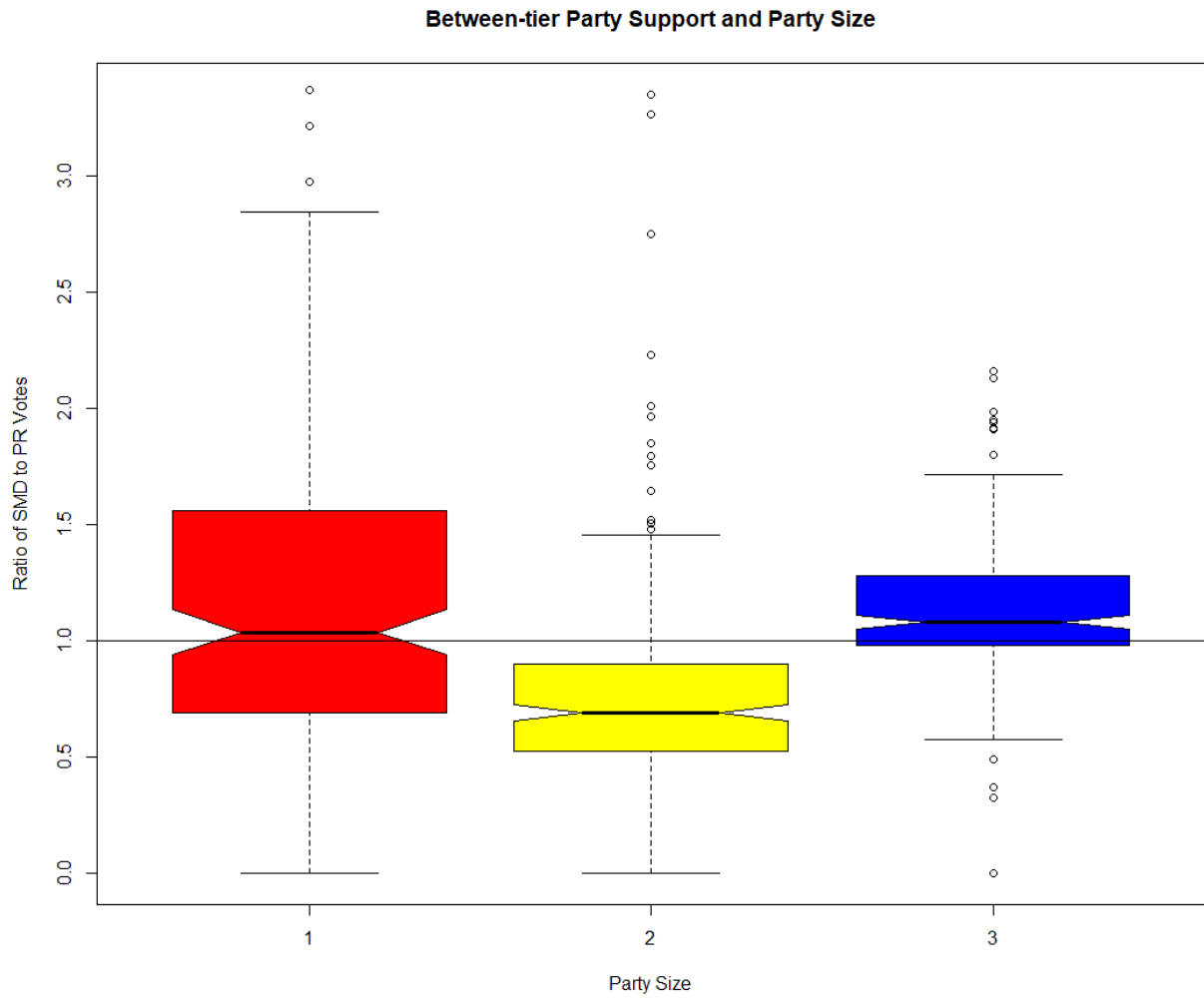


Figure 2

Between-tier Party Support and Party Size, 2011

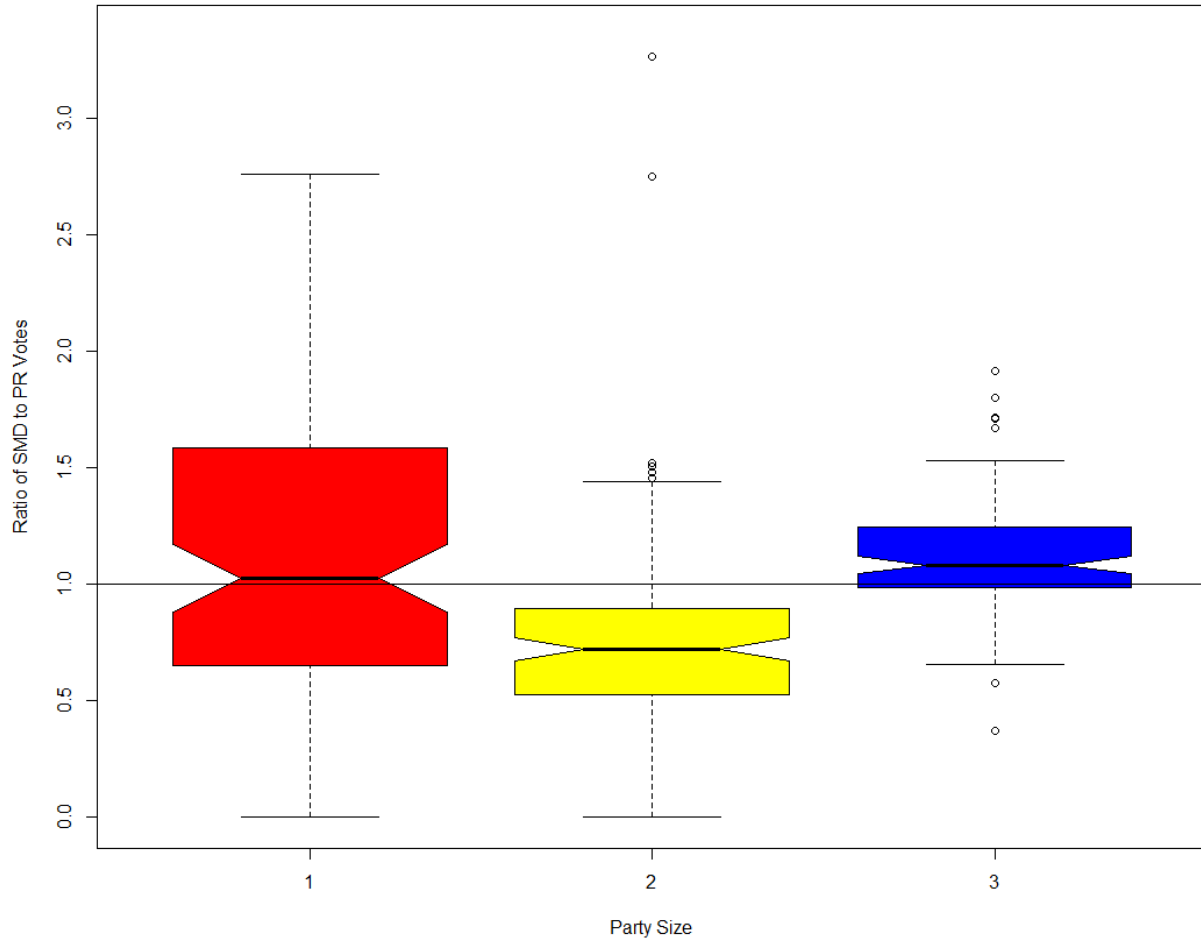


Figure 3

Between-tier Party Support and Party Size, 2014

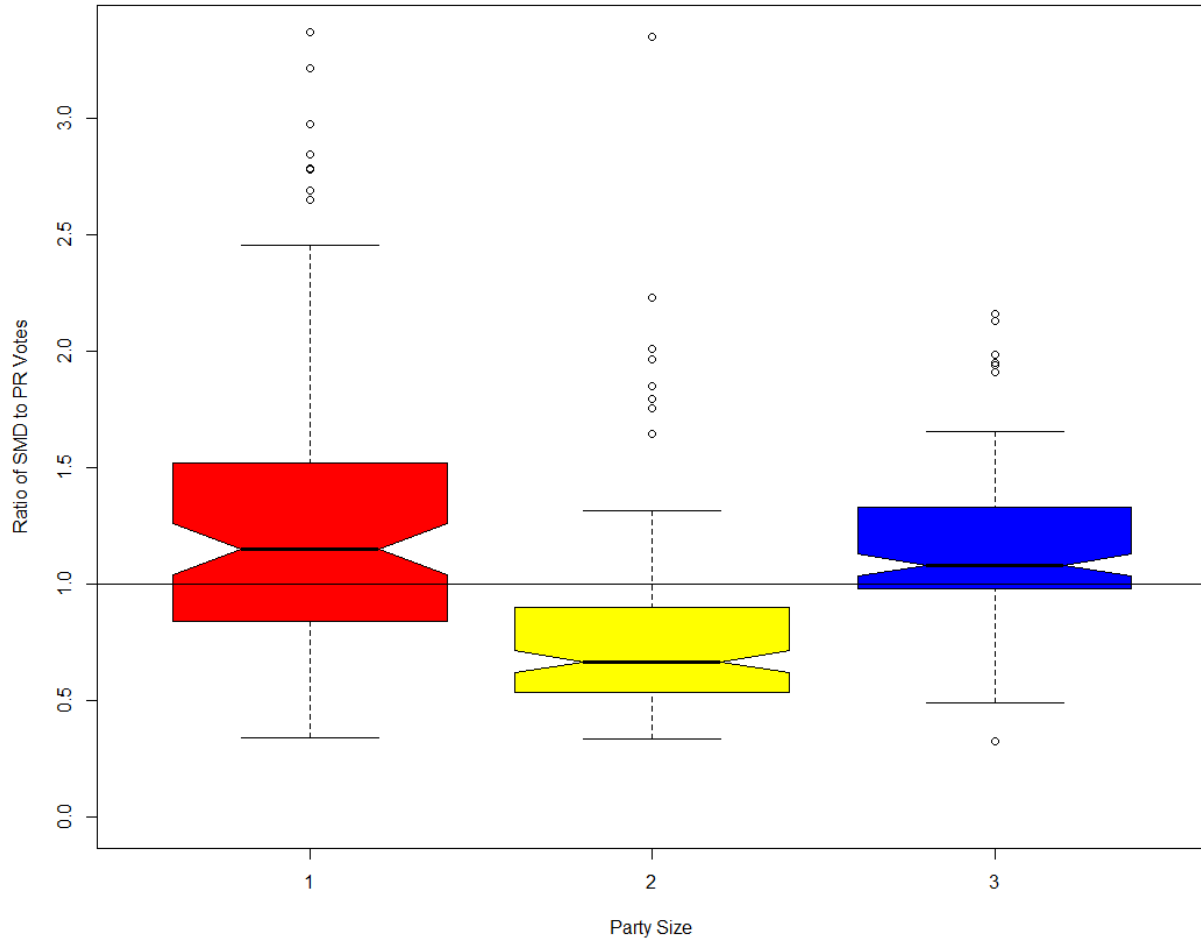


Table 1

	Mean: SMD/PR Votes Ratio	Median: SMD/PR Votes Ratio	Standard Deviation: SMD/PR Votes Ratio	N
ALCP	2.25	2.31	.51	24
Mana (2011)	1.58	1.62	.50	14
Internet Mana (2014)	.99	.71	.84	17
Maori	1.26	1.16	.54	21
United Future	1.05	.96	.21	28
ACT	.98	.88	.52	87
Conservative	.91	.77	.50	116
NZ First	.55	.52	.20	62
Green	.74	.70	.25	109
Labour	1.29	1.28	.27	127
National	.96	1.0	.15	127

Table 2

	<i>Dependent variable:</i>		
	Small	Medium	Large
PR Votes	0.823*** (0.079)	0.389*** (0.092)	1.041*** (0.205)
Candidate Strength	-5.410*** (0.928)	-8.099** (3.785)	-41.231*** (8.842)
Number of Candidates	-35.523*** (8.748)	-83.014** (38.839)	-138.833 (113.382)
District Size	0.004 (0.004)	0.066* (0.036)	0.066 (0.110)
District Competitiveness 2	0.003 (0.008)	0.056 (0.044)	
Party Competitiveness 2		-0.037 (0.035)	
District Competitiveness 1	0.008 (0.008)	0.240*** (0.090)	-0.203* (0.116)
Party Competitiveness 1			-0.228 (0.207)
Constant	290.846 (202.593)	144.624 (926.137)	944.186 (2,802.420)
Observations	195	295	268
R ²	0.478	0.604	0.754
Adjusted R ²	0.461	0.594	0.749
Residual Std. Error	162.995 (df = 188)	909.338 (df = 287)	2,834.184 (df = 261)
F Statistic	28.642*** (df = 6; 188)	62.528*** (df = 7; 287)	133.636*** (df = 6; 261)
<i>Note:</i>	* p<0.1 ** p<0.05 *** p<0.01		

Table 3

	<i>Dependent variable:</i>	
	<i>SMD Votes</i>	
	Small to Medium	Medium to Large
PR Votes	5.299*** (0.593)	0.514*** (0.146)
Party Size	1,219.149*** (246.279)	3,468.309*** (424.101)
candidate Strength	-12.454*** (4.611)	-29.961*** (5.337)
Number of Candidates	31.363 (46.353)	-141.378** (61.603)
District Size	0.006 (0.030)	0.066 (0.056)
District Competitiveness 2	0.058** (0.029)	
Party Competitiveness 2	-0.001 (0.043)	
District Competitiveness 1		0.029 (0.072)
Party Competitiveness 1		0.080 (0.129)
PR Votes x Party Size	-4.683*** (0.589)	0.229*** (0.075)
Constant	-1,938.179* (1,126.204)	189.273 (1,631.855)
Observations	484	543
R ²	0.446	0.915
Adjusted R ²	0.436	0.914
Residual Std. Error	1,387.583 (df = 475)	2,119.834 (df = 534)
F Statistic	47.762*** (df = 8; 475)	722.717*** (df = 8; 534)
<i>Note:</i>	*p<0.1 **p<0.05 ***p<0.01	

Table 4

	<i>Dependent variable:</i>	
	<i>SMD Votes</i>	
	Small and Medium	Small Only
PR Votes	0.502*** (0.057)	0.806*** (0.084)
Ethnic Party	-522.117 (458.275)	-81.735 (76.484)
Candidate Strength	-11.054** (4.936)	-5.678*** (0.936)
Number of Candidates	1.734 (49.568)	-31.022*** (8.806)
District Competitiveness 2	0.090* (0.048)	0.008 (0.008)
Party Competitiveness 2	-0.007 (0.050)	0.003 (0.008)
PR Votes x Ethnic Party	0.423 (1.600)	0.482 (0.371)
Constant	1,411.797*** (415.077)	456.900*** (82.118)
Observations	483	191
R ²	0.364	0.483
Adjusted R ²	0.355	0.464
Residual Std. Error	1,485.766 (df = 475)	161.913 (df = 183)
F Statistic	38.859*** (df = 7; 475)	24.473*** (df = 7; 183)
<i>Note:</i>	*p<0.1 **p<0.05 ***p<0.01	

Figure 4

Between-tier Party Support and Party Size, Korea

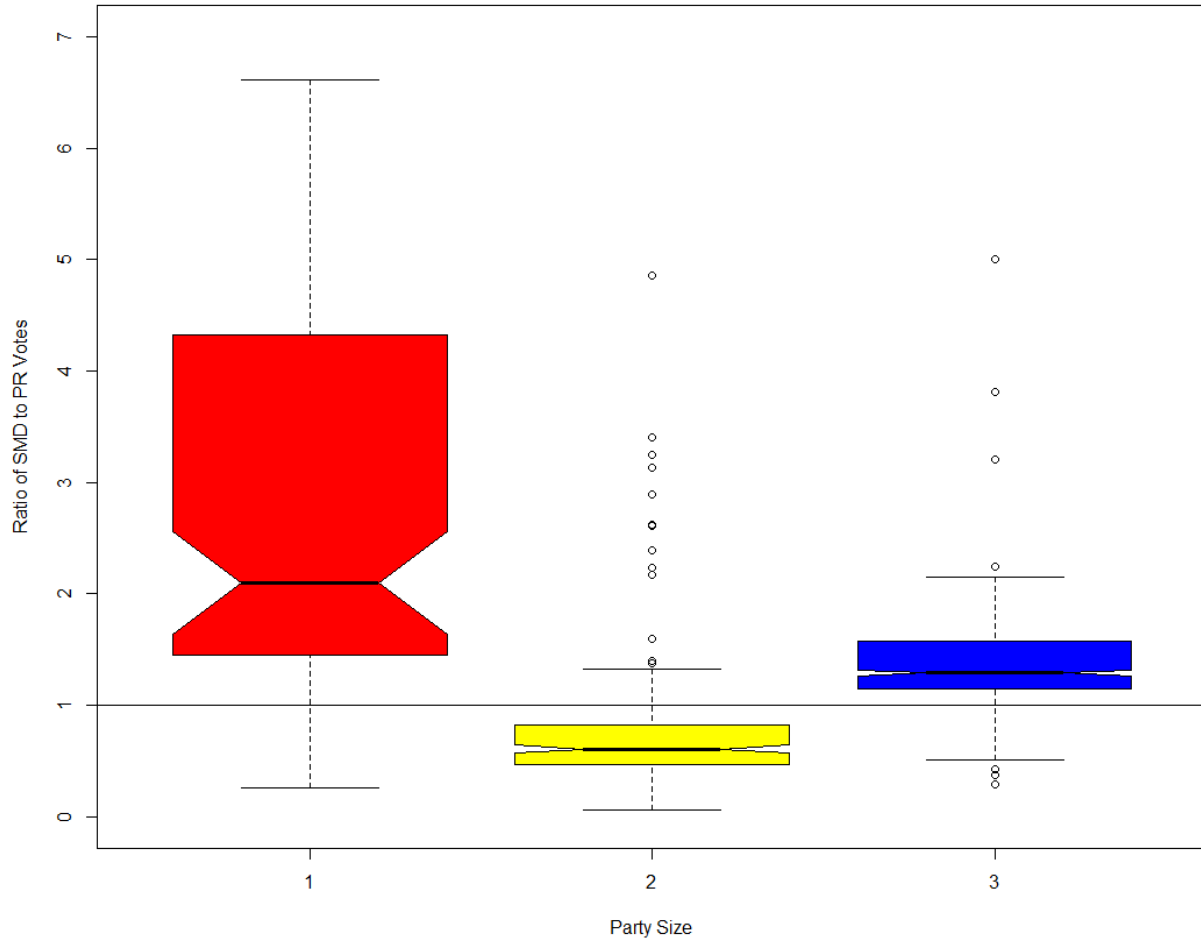


Table 5

	Mean: SMD/PR Votes Ratio	Median: SMD/PR Votes Ratio	Standard Deviation: SMD/PR Votes Ratio	N
Small Parties	3.25	2.0	3.99	89
Medium Parties	.76	.61	.60	214
Large Parties	1.35	1.29	.39	482

Table 6

	<i>Dependent variable:</i>		
	Small	Medium	Large
PR Votes	1.867*** (0.422)	0.266 (0.208)	1.035*** (0.112)
Number of Candidates	-794.754*** (273.474)	-716.614 (550.064)	-1,915.418*** (344.242)
District Size	0.057*** (0.016)	0.078** (0.038)	0.065*** (0.022)
District Competitiveness 2	0.012 (0.065)	0.555*** (0.137)	
Party Competitiveness 2	-0.354*** (0.075)		
District Competitiveness 1		0.664*** (0.157)	-0.384*** (0.079)
Party Competitiveness 1		-0.604*** (0.212)	0.126 (0.101)
Constant	3,778.283 (2,567.821)	154.365 (4,095.841)	9,090.965*** (2,413.198)
Observations	89	214	482
R ²	0.474	0.633	0.664
Adjusted R ²	0.442	0.622	0.661
Residual Std. Error	3,501.314 (df = 83)	8,966.620 (df = 207)	8,329.966 (df = 476)
F Statistic	14.950*** (df = 5; 83)	59.444*** (df = 6; 207)	188.165*** (df = 5; 476)

Note:

* p<0.1 ** p<0.05 *** p<0.01

Table 7

<i>Dependent variable:</i>		
<i>SMD Votes</i>		
	Small to Medium	Medium to Large
PR Votes	1.785** (0.847)	0.919*** (0.053)
Party Size	-4,009.461** (1,813.884)	13,997.920*** (1,773.759)
Number of Candidates	-549.720 (386.185)	-1,014.241*** (305.776)
PR Votes x Party Size	-0.871 (0.848)	0.040 (0.066)
Constant	3,555.122 (2,215.916)	1,427.140 (1,847.773)
Observations	303	696
R ²	0.654	0.697
Adjusted R ²	0.649	0.695
Residual Std. Error	8,455.528 (df = 298)	9,371.511 (df = 691)
F Statistic	140.627*** (df = 4; 298)	397.175*** (df = 4; 691)
<i>Note:</i>	*p<0.1 **p<0.05 ***p<0.01	

Figure 5*Mean, Median and Std. Dev. of SMD/PR Ratio*

	2011 <i>Mean/Median</i> <i>(SD)</i>	2014 <i>Mean/Median</i> <i>(SD)</i>
Conservative	.99/.87 (.48)	.84/.67 (.50)
ACT	.83/.70 (.40)	1.19/1.13 (.60)

Appendix 1

The success of small parties in South Korea in the 2016 election confounds traditional expectations, and we are unable fully to explain it with the current data. However, the data strongly suggest that it may be a product of weakening of regional cleavages. In order to test for this we run a model similar to that of models 3-5, only this time including a dummy for region, such that “Jeolla” indicates North or South Jeolla province (Gwangju inclusive), “PK” indicates North or South Kyeongsang Province (Dageu and Busan inclusive), “Seoul” indicates the Seoul metropolitan area, and “Other” indicates all other provinces and major cities. The model is run on the subset of the data that only includes districts where small parties nominated candidates. The results, shown in the table below, indicate a clear and statistically significant increase in SMD votes for small party candidates in Kyeongsang province.

Model 6 Results (regional for small with run_cand=1)

```

=====
Dependent variable:
-----
SMD_VOTES
-----
PR_VOTES                1.2***
                        (0.1)

regJEOLLA                322,400.2
                        (1,410,167.0)

regPK                    -2,426,919.0**
                        (1,084,079.0)

regSEOUL                 -169,137.5
                        (763,469.4)

YEAR                     458.8
                        (391.3)

NUM_CAND                 -630.5***
                        (229.7)

DIST_COMP3               0.04
                        (0.1)

PARTY_COMP2              -0.2*
                        (0.1)

PR_REG_VOTERS            0.03*
                        (0.01)

regJEOLLA:YEAR           -160.6
                        (700.1)

regPK:YEAR                1,206.0**
                        (538.6)

regSEOUL:YEAR             84.5
                        (379.1)

Constant                 -920,061.5
                        (787,857.6)

-----
Observations              259
R2                        0.6
Adjusted R2               0.6
Residual Std. Error      4,789.5 (df = 246)

```

F Statistic 32.6*** (df = 12; 246)
 =====
 Note: *p<0.1; **p<0.05; ***p<0.01

One possible explanation for this effect is that, as regional political ties become obsolete, voters looking for programmatic or ideology-based parties with concrete policy objectives are increasingly turning to smaller parties, as suggested by the year-PK interaction term. In order to explore this further, we add a dummy variable indicating whether the party has a clear left-leaning ideological basis, as well as a party size dummy, similar to models 3-5. The results for this model are shown in the table below.

```

=====
                        Dependent variable:
                        -----
                        SMD_VOTES
-----
PR_VOTES                1.273***
                        (0.107)

left                    1,918.245**
                        (903.377)

DIST_COMP3              0.018
                        (0.212)

PARTY_COMP2             0.008
                        (0.090)

NUM_CAND                -489.728
                        (383.374)

biga2                   -12,220.250***
                        (1,359.407)

biga3                   -1,365.790
                        (2,250.002)

Constant                1,128.005
                        (1,519.377)

-----
Observations            189
R2                      0.871
Adjusted R2             0.866
Residual Std. Error    4,739.741 (df = 181)
F Statistic            175.234*** (df = 7; 181)
=====
Note: *p<0.1; **p<0.05; ***p<0.01

```

The sample size is relatively small, but the results do appear to suggest that small, ideologically oriented parties are attracting a large number of voters in the SMD tier. This is in contrast to Jeolla province, where small strategic voting appears to have been strengthened with the bifurcation of the main liberal party. The negative coefficient on the medium party size dummy and the insignificance of the large party size dummy would suggest that this support is coming from the medium sized parties, namely, Justice and People's Party. One possibility is that moderate liberal voters, frustrated by the absence of moderate liberal candidates in the SMD tier, may be voting for small parties, either as a sort of protest vote, or simply because of their ideological convictions. While the latter would accord with existing theories of sincere voting, it

is not possible to distinguish between the two with the present data. Furthermore, sincere voting in this manner would not explain why it is happening more in Kyeongsang than in other regions. Under what circumstances will strategic concerns overtake ideological or regional convictions? This is a question that will require further investigation.