The past decade has witnessed a surprising growth in the popularity of mixed-member electoral systems. Under these systems, voters choose representatives simultaneously under both proportional representation (PR) and single-member district plurality (SMDP) rules. It is widely accepted that SMDP rules tend to winnow competition down toward two large parties, and evidence from mixed systems suggests that this Duvergerian "gravity" reduces the number of parties surviving SMDP competition under mixed systems as well. Nevertheless, we argue, simultaneous balloting under PR rules softens this winnowing effect, operating as a "centrifugal force" that prevents Duvergerian gravity from reducing competition to the degree it does under pure SMDP systems. Thus, these new systems produce effects unanticipated by their designers. To test for the presence of this centrifugal force, we examine elite-level electoral strategies in Germany, Japan, and Italy and compare district-level SMDP election results from pure systems with those of mixed-member systems.

INTERACTION EFFECTS IN MIXED-MEMBER ELECTORAL SYSTEMS
Theory and Evidence From Germany, Japan, and Italy

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For 40 years after Germany adopted its "mixed-member" electoral system, that system—which elects half of its representatives in single-member districts (SMDs) and the rest by proportional representation (PR)—found few imitators. Because it was so rare, the system received little attention in

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the major comparative studies of electoral systems, all of which focused primarily on the more common alternatives, pure PR and pure SMD plurality (SMDP) systems. Even those scholars who looked specifically at the German system tended to treat it as little more than the sum of the two more familiar elements (Jesse, 1988) and focused on the opportunity to show how SMDP rules produce "strategic voting" (Bawn, 1993; Cox, 1997, pp. 81-83; Fisher, 1973; Roberts, 1988). Indeed, it has been found that German voters have frequently split their ballots strategically by giving more of their SMD votes to the two large, competitive parties and saving their PR votes for smaller parties not viable in the SMDs.

The recent proliferation of mixed-member systems—which have now extended to 29 nations, including Japan, Italy, New Zealand, and Russia—has not surprisingly produced a new flurry of studies looking at what has happened under newly implemented mixed-member rules (Massicotte & Blais, 1999; Shugart & Wattenberg, 2001). Most of these studies, however, have continued to treat mixed systems as an opportunity to look for the familiar aspects of pure SMDP and PR rules: strategic voting and elite-level coordination under SMDP and a proliferation of parties under PR.[1] However, in focusing on the familiar parts of mixed systems, all of these scholars have failed to focus on the potential for interaction effects across the two ballots under mixed rules.

We do not disagree that strategic voting and the related incentives for elites to engage in electoral coordination produce a "Duvergerian gravity" that pulls down the number of parties receiving votes on the SMD side of electoral contests even under mixed rules. We argue, however, that interaction effects also generate a "centripetal" force that pulls up the number of electoral parties.[2] Furthermore, we argue that these interaction effects,

1. There are now five studies that provide evidence of Duvergerian effects in the SMD tier of the Japanese system (Kohno, 1997; Moser & Scheiner, 2000; Reed, 1999, in press; Reed & Thies, 2001). In addition, Reed (2001) finds evidence of strategic voting in Italy, whereas Banducci, Karp, Vowles, and Donovan (1998) and Moser and Scheiner (2000) show that it is also common in New Zealand.

2. The one exception to this neglect of interaction effects is Herron and Nishikawa's (2001) assessment of "contamination effects" across the two ballots in the mixed systems of Russia and Japan. Their paper takes a promising step toward rectification of the neglect of interaction effects. Yet several aspects of their research design result in only a limited examination of the interactive effects of the two systems. They examine only one variety of mixed system, and much of their evidence relies on data from a country with an extremely fluid party system, that is, Russia. Furthermore, their comparison of combined proportional representation (PR) and single-member district (SMD) data from mixed systems with data from pure SMD systems does not provide the more complete test that an SMD to SMD comparison does. Herron and Nishikawa compare the proportionality profile of aggregate results from the Japanese and Russian mixed-member systems as a whole, including their PR components, with the profile of aggregate results

through their influence on the number of parties participating in electoral competition and elite-level coordination decisions, have a significant influence on the ability of party systems to adapt to the changing desires of electorates.

In this article, we take the possibility of interaction effects seriously, deriving a set of hypotheses that should follow if mixed systems do indeed generate such effects and then testing those hypotheses by comparing district-level electoral results in mixed systems with those seen in a range of pure SMD systems. In this initial review of the problem, we are interested in mixed systems in general. All mixed systems, according to the definition put forward in the edited volume by Shugart and Wattenberg (2001), feature electoral rules where seats in separate tiers are allocated both nominally and by party list. Voters cast votes that determine which names win seats, usually under plurality rules, while also casting separate votes that determine which parties win seats under PR rules.

To see whether interaction effects have an impact across different types of mixed systems, we focus on a prominent example of each major type of mixed system. We also limit our sample to mature democracies with relatively well-established party systems, "hard cases" for our argument, because one should expect the most strategic voting in nations where voters are familiar with the act of voting and with the choice of parties (Moser & Scheiner, 2000). As our example of a compensatory-proportional mixed system, we focus on Germany, which also has the longest experience with mixed rules.[3] Under Germany's mixed rules, the PR ballot determines the balance of seats in the Bundestag. Parties' SMD seat totals are subtracted from the allocation they receive in the PR tier to maintain proportionality. As our example of a parallel-majoritarian mixed system, we look at Japan, where seats have been allocated under mixed rules in the Upper House since 1983 and in the Lower House since 1996. In both houses, seats in the party list and nominal tiers are allocated separately. Even if a large party wins a disproportionate number of the SMD seats, it gets to keep its full proportional allocation of party list seats. Finally, we examine Italy's Chamber of Deputies as an example of a semiparallel majoritarian mixed system. Under this most complicated version of mixed rules, votes received by parties winning SMD seats

of pure SMD systems. That mixed-member systems as a whole should be less punishing of small parties than pure SMD systems is a given, because the former include a PR tier. The real test of whether mixed systems are characterized by interaction effects requires a comparison of the results from mixed systems' SMD tiers with the results seen in pure SMD systems—ideally by using district-level results for both rather than aggregate data. This is the test we conduct in this article.

3. The classification scheme and terminology used here comes from Shugart and Wattenberg (2001).

are subtracted from the party list vote totals used to allocate PR seats, but the share of seats set aside for PR allocation is too small to fully compensate small parties for the difficulty they have in winning SMD seats. If we find that the number of parties surviving SMD contests across all three of these mixed systems significantly differs from what one finds in pure SMDP systems, we will have strong evidence that interaction effects are at work.

THE LOGIC OF INTERACTION EFFECTS

The Duvergerian logic that underlies the expectation that the number of parties[4] surviving electoral competition will settle at two under pure SMD rules has been developed in elaborate detail in the existing literature (Cox, 1997; Duverger, 1954; Palfrey, 1989; Rae, 1971; Riker, 1982). Duverger (1954) and his successors all base their prediction that SMD plurality rules will tend to winnow the number of electoral parties down toward two, first on the straightforward mechanical effects of "winner take all" voting. Parties with geographically dispersed voters and/or low levels of support tend to be systematically underrepresented under plurality rules because a party can win 100% of the seats available by winning half or less of the vote in each district. As voters know that votes for trailing candidates are likely to be "wasted votes," the psychological effect of SMD rules leads supporters of these candidates and parties to abandon them in favor of a candidate who actually has a chance of winning: one of the top two finishers. Recognizing the mechanical and psychological effects in play, elites also tend to shift resources toward the two leading contestants, further propelling the system toward two-party competition.

Proponents of this Duvergerian logic assume that all or at least some critical mass of voters are short-term instrumentally rational and that the presence of these voters is enough to provide elites with the incentives described above (Cox, 1997). Dissenters, on the other hand, argue that most voters are expressive. They derive utility from the feeling of having voted for the candidate or party they like best. As a result, they do not care enough about whether their votes are wasted to make the calculations and trade-offs necessary to render their decisions strategic (Green & Shapiro, 1994). We do not presume to set-

4. Following Taagepera and Shugart (1989, pp. 78-79), we employ a measure called the "effective number of electoral parties" (ENEP) to count the number of parties. This index simply sums the squares of the vote shares won by each party and takes the inverse of this value. The index corrects for the presence of very small parties that receive only a few votes by weighting the votes of each party in the denominator of the equation such that the influence of each party's vote on the final value is proportional to its share of the vote.

tle this debate but propose instead that societies are composed of a continuum of voter types, from the always strategic to the always expressive—with a group in between that can go either way.

This assumption by itself, of course, is not grounds for expecting pure and mixed SMD systems to produce different numbers of electoral parties. If voter types are distributed similarly across the two types of electoral systems, we should see similar levels of strategic voting and similar elite responses regardless of whether the electoral systems in use are mixed. Our expectation of interaction effects in mixed systems derives instead from our assumption that "either-way" voters are likely to be amenable to influence by the mobilization tactics of elites. In pure SMD systems, the predominant message these voters are likely to receive during campaigns is the message, "Don't waste your vote." Consequently, we expect most will be swayed into voting strategically—reinforcing Duvergerian gravity. In mixed systems, in contrast, these either-way voters are likely to receive a mixture of messages as they attempt to follow the PR and SMD contests. Small parties are likely to emphasize how, under PR rules, voters do not need to worry about wasting votes. They are unlikely to risk losing PR votes by mentioning that voters have strategic incentives to abandon them in SMD races. They may even run hopeless SMD candidates at the local level to give their party a human face they can use to boost the party's vote totals. Of course, large parties are likely to stress "don't waste your vote" arguments to encourage small party supporters to vote for them in the SMD races, but the messages either-way voters receive under mixed rules are likely to be much more mixed. We thus expect many to swing toward voting expressively, casting both their SMD and PR ballots for their first-choice party, even if this means their SMD vote is wasted.

If either-way voters are susceptible to this type of mobilization, elites are likely to face quite different incentives under mixed rules than they do under pure SMD systems. In pure systems, frustrated by the propensity of either-way voters to vote strategically, small candidates and their elite supporters are likely to engage in electoral coordination, merge, drop out, or otherwise limit the choices available to SMD voters in future elections—reinforcing movement toward a two-party system. In contrast, given the opportunity to boost their PR vote totals by using the human face of their SMD candidates to encourage expressive voters to stick with them, small parties in mixed systems are likely to hesitate before engaging in electoral coordination, merging, or dropping out. These reactions will create centrifugal tendencies in opposition to Duvergerian gravity. Small parties will continue to run SMD candidates to maximize their PR vote, making these candidates available for voters casting expressive SMD votes as well.

Gary Cox has identified a similar barrier to elite electoral coordination that occurs even in pure SMD systems when other elected bodies are chosen under different electoral roles. Writing about what we should expect in nations where two chambers are elected under different rules, he comments,

> One would hardly expect that the party systems for house and senate elections would fully adapt to their respective electoral systems, in splendid isolation from one another. If a party can run and elect candidates under the more permissive system, it may decide to run candidates in the other system as well—not to win seats, perhaps, but to keep its electoral organization in good trim, to establish its blackmail potential, or for other reasons. In this case, the party system in each chamber should be influenced by that of the other, in such a way as to lessen observed differences. (Cox, 1997, p. 21)

Brian Gaines has found empirical evidence in support of this proposition, showing that the use of PR rules for provincial legislatures in some Canadian provinces is correlated with larger effective number of electoral party (ENEP)[5] statistics for the national-office SMD contests in these same provinces (Gaines, 1999). If we have these theoretical and empirical reasons to expect the number of parties winning seats in a pure SMD system for one body to be influenced by elections for other bodies, often holding their elections at different times, it seems all the more likely that SMD and PR systems will influence each other when voters are casting two votes for the same chamber at the same time.

The analysis of interaction effects in this section yields the following hypotheses that we test in the next two sections. The first two hypotheses, investigated in the first section below, identify patterns we should see if the interaction effects we posited above actually influence voter and elite behavior in mixed systems. The first hypothesis is designed to see if parties do have the incentive described above to make sure their party has a human face in as many SMDs as possible in order to boost their PR vote totals. If this incentive is operating, a party's performance on the PR ballot in a given locality will be stronger when it runs SMD candidates than when it does not. We test this hypothesis with data from Japan. The second hypothesis then looks for the expected elite response: Most parties operating in mixed systems should resist electoral coordination and attempt to run candidates in every SMD district. We investigate this hypothesis by examining strategies pursued by the major parties in Germany, Japan, and Italy.

The final hypothesis, examined in the second section below, concerns the ENEP levels we expect to see in the SMD tiers of mixed systems and is more straightforward. Given our expectation that under mixed rules interaction

5. See Note 4.

effects will moderate Duvergerian gravity, we expect that ENEP levels in the SMD tiers of mixed systems will be significantly higher than those seen in pure SMD systems.

EVIDENCE THAT INTERACTION EFFECTS EXIST IN MIXED SYSTEMS

As our first test of whether interaction effects are operative in mixed systems, we examine the variation in parties' district-level PR performance depending on whether they ran SMD candidates in those districts. We expect parties to receive a PR vote bonus in places where they run SMD candidates. Yet, it turns out that there are not very many parties in Germany, Japan, and Italy that run candidates in only some SMD districts (see below), limiting the range of cases we can use for this test. In the 1996 and 2000 Japanese elections, however, several parties ran in only some districts, providing us with a limited opportunity to examine this phenomenon.

In the 1996 Lower House election, the Democrats ran SMD candidates in 119 of 300 districts (40%), whereas the New Frontier Party (NFP) ran candidates in 219 districts (73%), providing us with an opportunity to test this hypothesis. The other parties ran SMD candidates too often (Japan Communist Party—99.7%; Liberal Democratic Party—96%) or too infrequently (Social Democratic Party of Japan—14%; Sakigake—4%) to allow for meaningful testing. We can see a rough outline of the benefits the Democrats and NFP received by running SMD candidates by comparing the share of the potential PR vote won by each of these parties in the districts where they ran SMD candidates with their performance in districts where they did not run candidates.[6] The New Frontier Party won 12.7% of the potential vote in districts in which it did not have an SMD candidate but won 18% in districts in which it did (a 42% increase in its share of the potential PR vote). The Democrats' vote share jumped from 6.8% in districts where they did not run candidates to 11.5% in districts where the party was represented (a 70% increase in its vote share).

Of course, some of this advantage reflects the fact that parties generally try to run candidates in districts in which they have stronger voting bases. A more sophisticated analysis, therefore, requires an investigation that controls for other variables affecting party performance. Mizusaki and Mori (1998) conducted a study of this kind, analyzing voting patterns broken down by the

6. Note that we use the share of the potential vote (i.e., the share of the electorate rather than the share of votes cast) because we expect that a party's decision to run a candidate or not affects voters' turnout decisions as well as the way in which they cast their votes.

basic geographical units (cities, wards, towns, and villages) that make up voting districts. They thus allow us to see whether the presence or absence of a party's SMD candidate affects that party's vote share while controlling for the degree of urbanization of the geographical unit, one of the most important socioeconomic determinants of Japanese parties' vote shares. Their results show that both the NFP and the Democrats did significantly better in similarly urbanized geographical units in districts where they ran SMD candidates than they did where they competed for PR votes without a local candidate. This advantage was consistent across all six population size categories for both parties and, when averaged, reveals that the NFP and the Democrats gained 33% and 66% more PR votes, respectively, in areas where they ran SMD candidates.[7]

The 2000 Lower House election in Japan provides us with another opportunity to investigate this hypothesis, this time by comparing the PR performance of the same parties across the two elections in the same districts, depending on whether they ran SMD candidates. Starting out with the same basic comparison made for the 1996 data, we find that the Democrats won 26.6% of the potential PR vote in districts in which they also had SMD candidates but only 17.3% in districts in which they did not. This represents a 54% gain in the party's vote share. To take the analysis a step further, we compared the parties' vote gains across several different conditions. First, we looked at the average gain in PR vote for the party across the two elections in districts in which it did not field a candidate in 1996. The party's PR vote gain where it chose once again to pass on nominating a candidate was just 10.8%, compared to an average gain of 17.7% when it chose to run a candidate for the first time in 2000. Next, we compared districts in which the Democrats did have candidates in 1996. In districts where it continued to run candidates, it saw an average PR vote increase of 16.4%, compared to a gain of only 10.4% in districts where it withdrew from SMD competition. This result, obtained by looking at vote improvement across time in the same districts and thus controlling for district differences, further supports the conclusion that parties get a genuine and significant PR vote boost wherever they run SMD candidates.

Ideally, we would have preferred to report the results of similar investigations of voting behavior in the German and Italian mixed systems. This was not possible, however, because of the way parties in these systems have

7. A similar effort to examine the degree to which running SMD candidates benefited parties' SMD vote shares is made by Herron and Nishikawa (2001, pp. 78-80) using different control variables. They too found that running SMD candidates had a positive and statistically significant impact on parties' PR performance.

responded to the incentives created by interaction effects.[8] Exactly as we anticipated in our second hypothesis, German parties have consistently run SMD candidates everywhere, even when their candidates have had no chance of winning. Whereas third parties in nations with pure SMD plurality rules generally stop putting up candidates when they lose everywhere and all of the time, the Free Democratic Party (FDP) has continued to put up SMD candidates in every race at every Bundestag election despite the fact that it has not won an SMD seat since 1957 and has not finished even in second place in a district contest since it did so in one district in 1961 (Jesse, 1988, p. 112). Similarly, the Green Party has put up SMD candidates in almost every district at every election since it established itself as a political force in 1983—despite the fact that they have never won an SMD contest.[9] Even the Party of Democratic Socialism (PDS), with an electoral base only in the former East Germany, has greatly expanded its district candidacies in the western portions of the unified nation, areas in which it has no chance of winning district seats. Behavior that does not make sense in Duvergerian terms is comprehensible, however, when we realize these parties are simply doing what is necessary given the interaction effects across the two components of mixed systems. To maximize their PR vote—German parties' primary concern under that nation's compensatory mixed system—they need to run SMD candidates even when they have no hope of winning even one of these seats.

In Italy, party strategies have been very different from those seen in Germany and not in accord with our expectation that parties would try to run everywhere and refrain from electoral coordination in order to maximize their PR vote. The most common strategy they have preferred—running candidates under an allied banner in SMD races—makes sense, however, given how this option under Italian election law allows them to mitigate the adverse interactive effects of their failure to put up their own SMD candidates.

In all three elections held so far under Italy's mixed rules, most parties joined an electoral alliance. In 1994, Silvio Berlusconi put together coalitions with the Northern League in the North and with the National Alliance in the

8. A number of minor Italian parties stayed out of the major alliances and ran candidates in many (but not all) single member districts: the Italian Popular Party and Segni's Pact in 1994, MS Tricolore in 1996, and Democratzia Europea and Lista Di Pietro in 2001. Although it should be possible to test whether these parties also received more PR votes where they ran SMD candidates, as we did for the Japanese parties above, we have not done so because we have not been able to locate data breaking down PR vote shares by single member district.

9. In 1983, for example, the Greens put up SMD candidates in all but four districts. Although they failed to develop their base in East Germany in time to put up SMD candidates there in the 1990 election, by 1994 they managed to run candidates in all but 17 of the former East German districts (*Wahlbeteiligung und Stimmabgabe Nach Wahlkreisen,* 1990, 1994; *Bundestagswahlstatistik*, 1983).

south and center, coordinating candidate selection so that each coalition was represented by only one of its candidates in most *circoscrizioni* in each region. In 1996, he put together another center-right coalition. Although the coalition this time did not include the Northern League, it did span the entire country. In 2001, he brought the Northern League back into his Freedom Alliance. In a similar way, all three elections also saw the Democratic Party of the Left (PDS) lead in the formation of electoral alliances, which in 1994 included the Communist Refoundation (RC) and a variety of other small parties and in 1996 and 2001 included other parties supporting prominent technocrats Romano Prodi and Lamberto Dini (but not the RC, at least formally). Each of these coalitions coordinated candidate placement in the SMDs while allowing constituent parties to run their own PR lists in the other tier of the mixed system.

This kind of electoral coordination, of course, is exactly the kind of behavior that we propose should have been made difficult by the existence of interaction effects in mixed systems. The constituent parties of each alliance should have hesitated to give up the chance to run candidates under their own name in the SMDs to maximize their PR vote. What has facilitated electoral alliances in Italy, in our view, are provisions in the nation's election law that allow parties to step aside in a given SMD in favor of an allied party's candidate without giving the allied party an edge in winning PR votes. Under Italian law, SMD candidates can be listed on ballots next to the emblems of an electoral alliance such as the "Olive Tree" or the "Freedom Alliance" or with the emblems of multiple parties that are supporting that candidate (Donovan, 1995, p. 60). By allowing parties to run SMD candidates without giving any one of them an edge in winning PR votes, this system has helped neutralize the tendency of interaction effects to inhibit electoral coordination. Italian law also encourages systematic alliances by requiring that parties jointly backing an SMD candidate in one district to jointly back candidates in all SMDs in that region (Katz, 1995, pp. 101-103). Together these provisions of the law seem to have a bigger effect on the degree of electoral coordination in Italy than the incentive to maximize PR votes by running candidates in every SMD.

Finally, we return to the Japanese case to investigate whether mixed system rules have inhibited electoral coordination there. One sign that the system has encouraged parties to run everywhere is the lesson the Democrats drew from their experience running in only some districts in 1996. In 2000, they made an effort to run almost everywhere, even in rural areas where they had little chance of winning. After running in just 40% of districts in 1996,

they fielded candidates in 80% of SMDs in 2000. This increased effort in the SMDs was partly a reflection of the emergence of this party as the largest opposition party after the collapse of the NFP and its consequent ability to win more SMD seats, but the party's effort to run even in hopeless districts is consistent as well with the lesson we predicted parties would take away from their experience with mixed rules: to maximize their PR seat totals they needed to run in as many SMDs as possible.

Other parties also ran large numbers of SMD candidates who had little chance of winning. The Liberals, with just 2.7% support nationwide in public opinion polls conducted prior to the election, nevertheless fielded SMD candidates in 61 districts. The Social Democratic Party of Japan (SDPJ), with 3.9% support, placed candidates in 71 districts.[10] Finally, the Communists once again ran candidates in every SMD. Most of these Liberal, SDPJ, and Communist candidates came in third or worse in their district races. In total, the four opposition parties ran 674 candidates against the 305 backed by the three ruling parties, splitting the anti-LDP vote and costing them around 68 district seats—enough extra seats to give them 53% of the seats (to the LDP-led coalition's 42%) in the Lower House. Even if opposition cooperation had been successful in only 50% of these cases, the balance would have shifted to 222 seats for the four major opposition parties, 21 seats for independents/minor parties, and 237 seats for the three government parties.[11]

Of course, electoral cooperation is always difficult. Even in pure SMD systems such as those in Britain and Canada, parties often fail to cooperate in situations in which coordination would have benefited them. The incentives created by the need to run SMD candidates to maximize PR vote totals in mixed systems, however, seem to complicate the task. Each of the four Japanese opposition parties discussed in the previous paragraph depended heavily on the PR tier for representation. In the 2000 election, the Communists won 100% of their seats that way; the Liberals, 82%; the SDPJ, 79%; and the Democrats, 37%. Electoral coordination designed to help these parties win more SMD seats would have put these PR seats at risk. It does not help that Japanese election law, in contrast to Italian law, does not give parties the option of lining up behind a neutral alliance banner in the SMD races. If the Democrats agree to support an SDPJ candidate, for example, they have to let that candidate run under the SDPJ label, with no mention at the polling sta-

10. Public opinion poll results were reported in *The Japan Times*, June 22, 2000 (Unaffiliated," 2000).

11. Our estimate of the number of seats the opposition could have won was calculated by comparing the vote totals of the three government parties and the four major opposition parties in districts where the government side ran only one candidate but the opposition ran two or more.

tion that the Democrats too are backing this candidate. The Democrats can thus expect to lose some PR votes to their partners whenever they agree to step aside under electoral coordination agreements.[12]

The Japanese provision for double candidacies—the running of a single candidate in both the SMD and PR tiers—only adds to these incentives. Parties are allowed to give all or some of their PR candidates a single ranking on party lists, with the order of election from the list to be decided by how close the losing district candidates come to winning their seats. Each SMD loser on a PR list is ranked according to the percentage of the winner's total vote he or she receives. This feature of Japanese election law impedes electoral coordination in several ways. First, as the "better losers" are more likely to win PR seats, voters loyal to specific candidates running in both tiers have an incentive to give them their SMD votes, even when this candidate is likely to finish in third or fourth place in the SMD race (meaning the vote is likely to be wasted).[13] Christensen (1998) found evidence that such behavior was a factor in a race in Hokkaido during the October 1996 Lower House election. Second, parties seeking to avoid difficult ranking choices have an incentive to let the voters make that decision for them by giving each of their PR candidates a district race, even in districts where the party is too small to be competitive in SMD races. Finally, the dual-candidacy provision creates PR Diet members who insist that their incumbency entitles them to run for a district as well, even when these districts already have surplus candidates. This makes it difficult for parties to negotiate alliances without alienating their own representatives.[14]

12. Japanese voters receive a blank ballot paper and are instructed to write down the name of an SMD candidate after examining a sheet posted on the wall of their voting booth. This list gives the names of all candidates along with the names of the party that submitted the candidate's name. A submitting organization must be a single political party and cannot be an electoral coalition running under an umbrella label. Such coalition candidates are possible but must be listed under just one party's name or as an *independent*, the same label attached to candidates who are not backed by any party. This information was provided in a written communication by Professor Narita Norihiko. See also Christensen (1996, p. 55) and Reed (1999, p. 1).

13. One might argue that this provision is only likely to benefit second-place candidates—who are already contenders—and thus not have a strong effect on levels of strategic voting. However, evidence from Japan shows that third- and fourth-place SMD candidates (most frequently those representing the smallest parties) are often in contention for PR-list seats. In the 1996 and 2000 elections, several such candidates won their seats by virtue of the fact that they came closer to winning than other dual-listed candidates from the same party—a point of controversy because in some cases the second-place finishers in these same districts did not get PR seats because other SMD losers from their parties made stronger showings.

14. Reed (in press) finds this aspect of the system to be democracy-enhancing in the way it fosters races pitting incumbents against each other, which tend to be more competitive.

There is anecdotal evidence that considerations such as these got in the way of opposition party electoral coordination in 2000. For instance, one Communist Party official noted that although the party was running candidates in all 300 districts, only 10 of those were likely to win and that the party was really more concerned about the PR tier (Sonritsu, 1996). Yet the fact that the party runs the more expensive district campaigns in every district indicates that the party believes that it gains from doing so. Other stories from campaigns in Japan indicate that the parties do see the district-PR link as important. In Hyogo Prefecture, for instance, in both 1996 and 2000, attempts to coordinate against the dominant LDP struggled because parties that coordinated on district candidacies also ran separate PR lists and thus wanted to see their own candidates represented in the districts (Cox, in press).

Successful electoral coordination has not been totally absent in Japan, however. During the 2000 election, the LDP agreed to step aside for candidates put up by its coalition partners, the Komeito and the Conservative Party, in 25 districts, in exchange for support from these parties in districts where the LDP was the coalition's only representative. This deal was clearly a response to Duvergerian incentives and no doubt helped reduce the number of parties receiving votes in these districts by a significant margin. It is telling, however, that most of these agreements involved the Komeito, a party that receives almost all of its votes from loyal members of the Soka Gakkai religious organization. This is the one party in Japan that can be sure that its supporters will not be confused by the mixed system and will save their PR votes for Komeito even in districts where they have stepped aside for coalition candidates. They thus can enter into coordination agreements without the worries that hamper coordination among other parties that depend much more on floating voter support.

In summary, the evidence presented in this section provides support for the proposition that interaction effects operate in mixed systems. In Germany, the party response is exactly as we expected. In Japan as well there is substantial evidence that parties' efforts to maximize their PR vote totals have impeded electoral coordination and resulted in a large number of surplus SMD candidates. Italy is the only country with a mixed system (among those we examine) where we have seen substantial electoral coordination. This process has been facilitated, however, by a feature of Italian election law that provides parties with a way to mitigate the negative effects of SMD cooperation on their efforts to win PR votes.

EVIDENCE THAT INTERACTION EFFECTS RAISE ENEP LEVELS IN THE SMD TIERS OF MIXED-MEMBER SYSTEMS

Even if parties can improve their PR vote totals by running excess SMD candidates and respond to this incentive by doing so, this need not mean that SMD voting patterns in mixed systems differ significantly from those seen in pure versions of these systems. The most direct way to determine whether mixed systems have the offsetting effect on Duvergerian gravity that we predict is to compare ENEP numbers from pure systems with those we have seen in our three mixed systems.

What we need first are benchmark figures for pure SMD systems. Taagepera and Shugart report ENEP values for a variety of pure SMD systems based on national vote totals, but this is an inappropriate yardstick given our effort to focus on the district-level effects of plurality rules. Therefore, we have calculated average ENEP figures for each pure SMD system for which we could obtain raw district-level voting returns for every party over a series of elections. We include India and Canada in our analysis, despite the fact that they are often treated as exceptions to Duverger's Law and significantly raise the average ENEP value for this type of system. The results are summarized in Table 1, which shows that the average pure SMD system was associated with an ENEP value of 2.24 parties.

Compared to this baseline, how do our three mixed systems look? We turn first to Germany (see Table 2), which after almost 50 years has had enough experience with its system to provide us with a reasonable look at what equilibrium party numbers look like in a mixed system. Averaging across the six most recent elections (the only elections for which district-level data is available), we find that 2.45 parties survived in the German SMDs, somewhat more than the average seen in pure SMD systems. German ENEP figures thus meet our expectation, based on the logic of interaction effects, that the number of parties receiving votes in the SMD tier of mixed systems will be higher than in pure systems.[15]

15. This discussion obviously raises the question of statistical significance. One difficulty raised here is the question of what standard to use in measuring statistical significance. If we treat each district in each election in each country as a separate data point, we have very large numbers of cases and thus very significant differences of means for all of the comparisons discussed in this section. However, if we treat the average ENEP value for each election in a given country as a single data point, our number of cases becomes very small and biases the tests against finding statistically significant differences. Fortunately, we did not feel it necessary to make a decision between the two approaches, because decisions regarding statistical significance using the aggregated values did not differ from those made using district-level data. Each of the differences of means discussed in this section of the article is significant at least the $p < .03$ level. An

Table 1
Effective Number of Electoral Party (ENEP) Figures for Pure Single-Member District Plurality Systems

Country	Years	Average ENEP
U.S. House	1900-1990	1.81
U.S. Senate	1914-1990	1.91
United Kingdom	1922-1997	2.27
Canada	1935-1993	2.40
India	1957-1991	2.49
New Zealand	1972-1993	2.56
Average		**2.24**

Source: Canada, 1908 to 1984: D. E. Blake and R. Johnston (personal communication, February 16, 2001); Canada, 1988: Gaines (1999); Canada, 1993 to 1997: "Official Results" (1993); United States: Inter-university Consortium for Political and Social Research (1994); India: Chhibber and Kollman (1998); New Zealand: J. Vowles (personal communication, May 5, 2001); United Kingdom, 1922 to 1951: Field (1997); United Kingdom, 1955 to 1997: C. Pattie (personal communication, December 6, 2000).
Note: Personal communication sources represent contributions from data set creators/owners.

These ENEP figures also reflect a tendency that shows up clearly in the remaining columns of Table 2. For all the attention vote splitters have received, the aggregate vote shares of the parties have differed little across the two systems. This might be expected in the case of the large parties, but even for the smaller FDP and Greens, the data show that these small parties' SMD vote shares were an average of just 1.7 percentage points lower than the vote shares they received in the PR contest. There have even been some cases (e.g., the Greens in 1980 and 1990) in which small parties have received more SMD votes than PR votes. With so little desertion of the small parties, it is little wonder that seemingly nonviable parties have continued to run in the districts and that the SMD ENEP figures have not fallen very much.

The longitudinal pattern seen in these German party numbers also deserves some attention. If adjustment to the effects of mixed rules occurs over time through a process of learning, we would expect ENEP values for Germany's SMD districts to move steadily downward over time. On the other hand, if interaction effects moderate Duvergerian gravity, we would expect less downward pressure over time. Again, the results fit our expectations. Over the period for which we have district-level data, the ENEP figure for SMDs has actually risen rather than fallen.

overall test of all pure versus mixed SMD systems also shows a significant difference of ENEP means.

Table 2
German Elections: Percentage of SMD and PR Ballots

	SPD		CDU/CSU		FDP		Greens		PDS		Other		National	Dist.
Year	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD ENEP	SMD ENEP
1949	29.2	29.2	31.0	31.0	11.9	11.9	—	—	—	—	27.8	27.8	4.8	—
1953	29.5	28.8	43.7	45.2	10.8	9.5	—	—	—	—	16.0	16.5	3.2	—
1957	32.0	31.8	50.3	50.2	7.5	7.7	—	—	—	—	10.2	10.3	2.7	—
1961	36.5	36.2	46.0	45.3	12.1	12.8	—	—	—	—	5.4	5.7	2.8	—
1965	40.1	39.3	48.8	47.6	7.9	9.5	—	—	—	—	3.2	3.6	2.5	—
1969	44.0	42.7	46.6	46.1	4.8	5.8	—	—	—	—	4.7	5.5	2.4	—
1972	48.9	45.8	45.4	44.9	4.8	8.4	—	—	—	—	1.0	0.9	2.2	—
1976	43.7	42.6	48.9	48.6	6.4	7.9	—	—	—	—	1.0	0.9	2.8	2.2
1980	44.5	42.9	46.0	44.5	7.2	10.6	1.9	1.5	—	—	0.4	0.5	2.9	2.3
1983	40.4	38.2	52.2	48.8	2.8	7.0	4.1	5.6	—	—	0.5	0.5	2.9	2.2
1987	39.2	37.0	47.7	44.3	4.7	9.1	7.0	8.3	—	—	1.4	1.4	3.2	2.5
1990	35.2	33.5	45.7	43.8	7.8	11.0	4.4	3.8	2.3	2.4	7.0	7.8	2.9	2.8
1994	38.3	36.4	45.0	41.4	3.3	6.9	6.5	7.3	4.1	4.4	13.4	15.3	2.8	2.7
1976-1994 average													**2.92**	**2.45**

Source: Jesse (1990, p. 100); Cerny (1990, pp. 272-273); *Wahlbeteiligung* (1990, 1994); *Bundestagwahlstatistik* (1976, 1980, 1983, 1987).
Note: SMD = single-member district; PR = proportional representation; SPD = Social Democratic Party; CDU = Christian Democratic Union; CSU = Christian Social Union; FDP = Free Democratic Party; PDS = Party of Democratic Socialism; ENEP = effective number of electoral parties.

To get a better sense of whether the dynamics we anticipate operate across mixed systems in general, of course, we must examine additional systems. Thus we turn next to Japan. Japan's mixed system is in many ways a harder case for our interaction effects hypotheses. That German voters tend to stick with their parties across systems is probably not that surprising to most readers given the well-known importance of parties in German politics.[16] Also, given that voters who waste their SMD vote under the German version of a mixed system do not actually lose any of their ability to influence the party composition of the Bundestag with their more important PR vote, it may be natural that incentives for strategic voting are not especially strong. However, if we find that there are significant numbers of Japanese voters sticking with their parties across the two ballots, the finding will be more significant. Japanese voters are known for their tendency to focus on individual candidates when voting (Richardson & Flanagan, 1984, pp. 171-176). Vote splitting by such voters is much more likely. At the same time, Japan's version of mixed electoral rules penalizes voters for wasting their SMD vote more severely than either of the other two mixed systems examined here. A PR vote cast for a small party does not compensate in any way for a wasted SMD vote in Japan, whereas it fully compensates for wasted votes in Germany and partially compensates for them under Italian rules.

Given these conditions, it should not be surprising that political scientists studying the results of the first two elections held under mixed rules for the Lower House have found evidence that Japanese voters split their votes and seem to be voting strategically across the two systems. No one has asked, however, whether this activity is taking place at a level comparable to that seen in pure SMD systems or at a level sufficient to propel elites toward electoral coordination. Is there an interaction-driven centripetal force that is holding party numbers above the level one usually sees in pure systems?

The best place to begin is actually the Japanese Upper House, which has a longer experience using a mixed system.[17] Starting in 1983, Japanese voters in Upper House elections were given two ballots, one for a party list and one for a candidate in the voters' prefectural district. These districts elected from one to four members under plurality rules. Although only 24 of the 47 dis-

16. In a communication with us, Harald Schoen noted that if party identification is a major determinant of vote choice for a significant proportion of voters, strategic voting will not occur to the degree hypothesized by strict adherents of Duvergerian logic. Schoen and Falter (1998) have shown in their research on Germany that when party identification is controlled for, the effect of concern for wasting one's votes disappears.

17. We know of no other study that has examined strategic voting in Japan's Upper House mixed system.

tricts were SMDs, the system qualifies as a mixed system under Shugart and Wattenberg's (2001) definition.[18]

The ENEP numbers for Japan's Upper House are reported in Table 3. They show that between 1983 and 1998, an average of 2.52 candidates received votes in Upper House single-member districts, a level that is once again above the average for pure SMD systems. Moreover, contrary to the expectations that this number might at least fall over time, it has actually increased over time, reaching its highest level in 1998.[19] Duvergerian gravity thus seems to have been offset to some degree in the Upper House SMDs.

We turn then to the Japanese Lower House, which has had just two elections under its new mixed system. As shown in Table 4, the ENEP figures for the SMD tier in 1996 and 2000 were 2.95 and 2.77, respectively, for an average ENEP value of 2.86. This average value is well above the average for pure SMD systems, and although the trend is downward as would be expected under the learning theory approach that expects leaders and voters to require a few elections to adapt to the effects of SMD, we have no way of knowing whether these values will keep falling or stabilize at a level significantly higher than that typically seen in pure systems. The fact that Japanese voters and parties had ample experience with the mixed system in the Upper House before adopting the system for the Lower House raises questions about exactly how long it would take for this learning to eliminate excess SMD candidates and parties. We believe it to be more likely that under mixed rules, Duverger's incentives do not operate strongly enough to move ENEP numbers below the mid-2.0 range seen in the SMD tiers of other mixed systems.

The Italian mixed system, as described above, is distinct from Germany's and more similar to Japan's in that voters' PR votes do not compensate fully for wasted SMD votes. First, there are more SMD seats and fewer PR seats in Italy than in any of the other mixed systems considered in this article. Second, the adjustment processes used to recalculate party vote shares that are used as the basis for distributing PR seats only compensates small parties somewhat for the votes that are wasted by their supporters in the SMD contest. As a

18. The rules for Japan's Upper House were changed such that the 2001 election took place under a system in which voters were encouraged to cast their PR ballots for individual candidates rather than parties, which is a significant change in the dynamics analyzed in this article. The data presented in this section therefore cover the entire period in which Japan's Upper House operated under the parallel system that in many ways served as the model for Lower House reforms of 1994.

19. Although not making specific predictions about the Japanese Upper House, Reed's (1990, 1994, 2001) analyses of previous Lower House trends (under the single nontransferable voter system) indicates that the need for learned adjustment to electoral rules should produce such trends over time.

Table 3
Japanese Upper House: Percentage of Plurality and PR Ballots

	LDP		JSP/SDPJ		Komeito		NFP		Democrats		JCP		Other		District
Year	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	ENEP (SMDs only)
1983	43.2	35.3	24.3	16.3	7.8	15.7	—	—	—	—	10.5	8.9	14.1	23.8	2.40
1986	45.1	38.6	21.5	17.2	4.4	13.0	—	—	—	—	11.4	9.5	17.7	21.7	2.40
1989	30.7	27.3	26.4	35.1	5.1	10.9	—	—	—	—	8.8	7.0	28.9	19.8	2.40
1992	43.4	33.3	13.3	17.8	7.8	14.3	—	—	—	—	10.6	7.9	24.9	26.8	2.20
1995	28.6	27.3	14.9	16.9	—	—	27.7	30.8	—	—	10.4	9.5	18.4	15.5	2.80
1998	36.2	25.2	4.0	7.8	3.1	13.8	—	—	14.3	21.8	14.7	14.6	27.6	16.9	2.93
Average															**2.52**

Source: Seikan youran (1993, 1998, 2001), *Gendai Seiji Jouhou* (1986, 1991), *Seiji handobukku* (1996, 1997, 2000), *About Japan* (1995), "Jimin sanpai" (1998).
Note: LDP = Liberal Democratic Party; JSP = Japan Socialist Party; SDPJ = Social Democratic Party of Japan; NFP = New Frontier Party; JCP = Japan Communist Party; ENEP = effective number of electoral parties; SMD = single-member district; PR = proportional representation.

Table 4
Japanese Lower House: Percentage of SMD and PR Ballots

	LDP		JSP/SDPJ		Komeito		NFP/Liberals		Democrats		JCP		Other		SMD
	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	SMD	PR	ENEP
1996	38.6	32.8	2.2	6.4	—	—	28.0	28.0	10.6	16.1	12.6	13.1	8.0	3.6	2.95
2000	41.0	28.3	3.8	9.4	2.0	13.0	3.4	11.0	27.6	25.2	12.1	11.2	10.1	1.9	2.77
Average															**2.86**

Source: Seiji handobukku, 2000.

result, as in Japan, Duvergerian incentives for parties to engage in electoral coordination to minimize wasted votes should be quite strong.

Nevertheless, we find that average district-level ENEP numbers for the SMDs in the first three mixed elections for Italy's Chamber of Deputies are again much higher than those found in pure SMD systems. As shown in Table 5, 3.07 electoral parties won SMD votes in 1994, 2.43 in 1996, and 2.41 in 2001, for an average of 2.64. As discussed above, there certainly has been some electoral coordination in these three Italian elections, but these phenomena do not seem to have occurred with the magnitude necessary to bring the SMD ENEP values down to the levels found in pure systems.

The aggregate voting figures for the few parties that stayed outside these electoral alliances are interesting because they provide clues as to whether supporters of these parties split their votes to favor the larger alliances in the SMDs when they actually had the option of supporting candidates from their own party. In 1994, the most important party left out of the alliances and running candidates in many districts was the Italian Popular Party. In 1996, the main party in a similar position was the Northern League. Both of these parties received more SMD votes than PR votes, suggesting that they suffered very little from strategic desertion.[20] This again suggests that parties have incentives to continue running hopeless SMD races.

Finally, we turn to the trend over time in Italy. Because this nation has had less experience with mixed systems than the other two countries examined in this article, it is probably premature to say very much about any pattern that has emerged over just three elections. Nevertheless, the decline in the SMD ENEP values from 3.07 in 1994 to 2.41 in 2001 fits quite well the Duvergerian "learning" hypothesis because it shows a sharp downward movement toward 2.0. Whether that process continues in the face of the mixed-system incentives for parties to run extra SMD candidates to boost PR vote totals will depend largely on how parties deal with the competing incentives for coordination in the SMDs and the need to run independently to boost PR vote shares. Given the mitigating provisions of Italian laws covering electoral alliances, it is likely that Italian parties will continue to display a mixture of behaviors that produce both Duvergerian gravity and anti-Duvergerian centripetal forces.

20. In Table 5, it appears that the Communist Refoundation (RC) also stayed out of the alliances in 1996. Unlike the Italian Popular Party in 1994 and the League in 1996, however, the RC chose not to run candidates in most SMDs, implicitly supporting the Olive Tree Coalition candidates there. The fact that it seems to suffer a drop from 8.6% in PR to 2.7% in the SMDs should not therefore be taken as evidence of strategic desertion of this party.

Table 5
Italian Camera Elections

1994	SMD	PR
Progressive	31.9	
Democratic Party of the Left		20.4
Communist Refoundation		6
Italian Socialist Party		2.2
Greens		2.7
The Network		1.9
Democratic Alliance		1.2
Christian Socialists		
Socialist Renewal		
Other Left	1.5	
Pact for Italy		
Italian Populist Party	12.5	11.1
Segni's Pact	3.1	4.7
Freedom/Good Government	33.2	
Forza Italia		21
Christian Democratic Center		
United Christian Democracy		
Italian Liberal Party		
Reformatori		
Northern League		8.4
National Alliance	9.1	13.5
Other Right	3.9	
Pannella's List	1.2	3.5
Other	3.7	3.6
1994 ENEP	**3.07**	

1996	SMD	PR
Olive Tree	42.1	
Democratic Party of the Left		21.1
Popolari-Prodi		6.8
Dini's List		4.3
Greens		2.5
Other Left-Center	0.5	0.1
Communist Refoundation	2.7	8.6
Freedom	40.3	
Forza Italia		20.6
National Alliance		15.7
Christian Democrats		5.8
Pannella-Sgarbi	0.2	1.9
Northern League	10.8	10.1
MS Tricolore	1.7	0.9
Other	1.7	1.7
1996 ENEP	**2.43**	

2001	SMD	PR
Olive Tree	38.7	
Democratic Party of the Left		16.6
Party of Italian Communists		1.7
Margherita		14.5
Girasole		2.1
House of Freedom	42.5	
Forza Italia		29.4
National Alliance		12
Biancofiore		3.2
Northern League		4
New Italian Socialist Party		1
Commnist Refoundation	5	5
Lista Bonino	2	2.3
Lista Di Pietro	3.4	3
Democrazia Europea	3.2	2.4
MS Fiamma	1	0.4
Svp Ulivo	0.5	
Svp	0.4	
2001 ENEP	**2.41**	
GRAND AVERAGE	**2.64**	

Source: Gangemi and Riccamboni (1997, pp. 391-392); "Elezioni 1994" (1994, pp. 14-20); "Elezioni 1996" (1996, pp. 12-19); "Elezioni 2001" (http://www.repubblica.it/speciale/elezioni2001/camera.html, retrieved May 15, 2001).
Note: SMD = single-member district; PR = proportional representation; MS = Movimento Sociale; SVP = South Tyrolean People's Party ; ENEP = effective number of electoral parties.

CONCLUSIONS

Mixed systems provide an opportunity to learn more about how SMD and PR rules shape voting behavior and elite strategy, but these systems are more than the sum of their two parts. The rules applying to each tier do indeed shape the results in that segment of the balloting. More interesting, however, are the effects each set of rules has on the other tier—the interaction effects on vote choice and elite-level coordination decisions.

We began our investigation by asking whether parties actually have an incentive to run a maximum number of SMD candidates to improve their PR performance by comparing the PR vote shares parties received across districts where they did and did not run SMD candidates. Although we were only able to test this hypothesis with data from Japan, a variety of tests—including some conducted by other scholars—confirmed that the phenomenon is real.

We then asked whether the existence of this incentive actually inflates the supply of SMD candidates. Do parties actually try to run in as many SMDs as possible, even when they cannot win? Does this effort get in the way of electoral cooperation that might otherwise reduce the number of candidates on SMD ballots? The evidence here was more mixed. In Germany, even small parties run in all SMDs. In Italy, on the other hand, electoral alliances have reduced the supply of SMD candidates regardless of the incentives we identified. The record in Japan is somewhere between the two: The three ruling parties were able to cooperate to some degree in the 2000 election, but the opposition parties ran a large number of surplus candidates.

Finally, we investigated whether the combination of voter behavior and elite strategies has had the hypothesized moderating effect on the number of parties winning votes in the SMD tier of mixed systems. The results of this comparison were striking. Every mixed system has produced a larger number of parties than the average ENEP for pure SMD systems. The mixed systems with the longest histories, Germany and Japan's Upper House, moreover, have shown no long-term downward trend—with each reaching equilibrium above 2.5. The ENEP values for the Japanese Lower House and Italy's Chamber of Deputies fell over the course of the first two or three elections, but we have yet to see whether they will stabilize any lower than those seen in the two longer running systems.

The gap between a pure SMD system ENEP value of 2.24 and the average mixed system SMD tier ENEP of 2.6 may seem small, but it represents the difference between parties winning seats in a 49-45-6 race, a typical pure SMD result, with an ENEP value of 2.24, and one where parties win 44-40-16, a typical mixed SMD result, with an ENEP value of 2.6 (the average

across our four mixed cases). The higher ENEP value for mixed systems means most districts will be won by parties winning less than 50% of the vote. It also means that the proportion of voters not represented by their party choice will be significantly higher. In the 1996 Japanese election, 55% of SMD votes were dead votes cast for a losing candidate. In mixed systems such as Germany, where PR votes ultimately determine seat shares, patterns like these may not be problematic, but in systems such as Japan's, where there is no compensatory link between tiers, large numbers of wasted SMD votes are likely to cause an erosion in support for the democratic system itself. Even a cursory examination of widely reported dead vote tallies from the 2000 Japanese election drives home the significance of this point. All of the parties but the LDP received many more dead votes than live votes. The fact that 100% of SMD votes for the Communists and nearly 90% of votes for the Komeito and the Liberals were dead is unlikely to inspire feelings of efficacy in voters.

Several of our findings highlight the fact that despite certain similarities across our sample of mixed systems, differences in ways mixed systems are constructed do affect the strategies chosen by elites, with consequences for the degree to which interactive effects moderate the Duvergerian tendency to produce diverging party numbers across the two tiers. We conclude, therefore, by offering some preliminary observations about what differences matter the most.

In all mixed systems, interactive effects present small parties with a dilemma. On one hand, to do their best in the PR contest, they need to run candidates in every SMD under their own party's banner. At the same time, they face incentives to cooperate to efficiently translate votes into seats on the SMD side of the ballot. How they resolve this dilemma goes a long way toward determining how interactive effects play out. If they resolve it in favor of the "go it alone" approach, the number of parties winning votes in the SMDs is likely to be greatest because of the extra supply of candidates in that tier. On the other hand, if parties resolve the dilemma through electoral coordination to maximize seats won on the SMD ballot, the interactive effects are weaker. The supply of SMD candidates will be lower, driving SMD values down closer to those seen in pure SMD systems.

The basic distinction between compensatory and parallel mixed systems goes a long way toward determining which way parties are likely to swing in the face of the above dilemma. German small parties have consistently chosen to go it alone because winning PR votes is their main concern under Germany's compensatory version of mixed rules. Because the SMD results do not affect the party composition of the Bundestag, they have little need to worry about wasted votes there and consequently have little incentive to

engage in electoral alliances, merge, or restrain themselves from putting up candidates.

In contrast, under parallel rules where winning PR votes matters but winning SMD seats does too, small parties have a much greater incentive to engage in electoral coordination. Both Italy and Japan, with versions of the parallel mixed system, have had more electoral coordination than in Germany. The fact that Italy has seen more electoral cooperation than Japan suggests, however, that the compensatory-parallel distinction is not the only feature of mixed systems that matters. If it were the primary factor, Japan, with its completely parallel system, should have seen more electoral alliances than Italy, with its semicompensatory scheme designed to award the bulk of PR seats to parties that do not win SMD seats. Our analysis of electoral cooperation under the two mixed systems suggests that what made the difference was the privilege Italian electoral law gives to alliances. By allowing SMD candidates to be listed alongside multiple party emblems and neutral alliance emblems, Italian election law makes it less costly for small parties to enter alliances. In Japan, in contrast, rules that force SMD candidates to be identified with a single party (or as independents) make such a strategy much more difficult, pushing Japanese small parties toward the more ad hoc approach of running candidates here and there. It seems to us that this version of mixed rules is especially inimical to the democratic goal of assisting voters in translating their votes efficiently into influence over the makeup of governments.

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