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Electoral Coordination in Mixed–Member Systems: Does The Level of Democratic Consolidation Matter?

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Abstract

In the last twenty years, dozens of elections have been conducted under mixed-member rules. An emerging literature has characterized these hybrid electoral systems as those that combine the majoritarian and the proportional principles of representation. Despite the amount of new work on mixed systems, the critical question of why strategic entry and voting are not observed and, hence, the Duverger's Law does not hold in this type of institutional context remains unanswered. In other words, we do not know yet why parties and voters have failed to coordinate so often in their single-member districts. In this article, I identify a number of institutional and non-institutional factors that increase party system fragmentation in the nominal tier of mixed electoral systems. Contrary to what I expected, the number of electoral parties is not lower in all established democracies. Nevertheless, my findings show substantial evidence of how the level of democratic consolidation modifies the effect of other variables like the closeness of the races or the type of mixed electoral system. My econometric tests evaluate this phenomenon in a diverse sample of 15 countries and a total of 55 elections with more than 10,000 observations at the district-level that come from my own dataset.

INTRODUCTION

In the past decade, there have been a considerable number of countries that have carried democratic elections under rules that combine the majoritarian and proportional principles of representation. As a result, an emerging literature on the origins and consequences of these so-called mixed-member electoral systems has emerged. In spite of the volume of this new work, a critical question remains unanswered: *how do the strategic incentives created by these mixed rules interact with other classical determinants of party system fragmentation like the level of democratic consolidation in order to influence electoral coordination among parties and voters?*

Maurice Duverger was arguably the most distinguished French political scientist of the last century. His chief contribution deals with party politics and electoral systems, and can be summarized with what have come to be called in his honor Duverger's Law and Duverger's Hypothesis (1954). The first one is particularly relevant for this article, and argues that countries with plurality rule will tend to become two-party systems. However, the empirical evidence that plurality voting results in two-party systems is remarkably weak (Grofman *et al.* 2009). This article considers district-level evidence about Duverger's law in fifteen countries and a total of 55 elections carried under mixed-member electoral rules.

Scholars have regularly used the number of nominated candidates and Cox's (1997) second-first ratio (SF-ratio) in a single-member district (SMD) to examine the processes of electoral coordination that take place in the nominal tier of mixed systems (Ferrara and Herron 2005; Moser and Scheiner 2009). However, two problems emerge as we attempt to draw from analyses that use these measures. First, the number of political agents on the ballot only focuses on the incentives faced by the parties, and how they react to them. Second, the use of the SF-ratio is not wholly reliable because it only takes into account data of the second and the third parties. Bearing in mind these shortcomings, I offer a different approach to understand party system size in mixed-

member systems by using Laakso and Taagepera's (1979) "effective number of electoral parties". This index is a useful indicator that is comparable across very diverse country cases. Moreover, it has become the most frequent operationalization of the fragmentation of a party system because it weights the count of parties by their relative strength, and, hence, takes into account their "coalition" and "blackmail" power (Sartori 1976).

Given this approach, I am most concerned with identifying which type of institutional and competitive setting is most likely to produce a two-party system under this type of electoral rules. As I show below, the level of democratic consolidation is particularly critical to shaping voters level of information about the exact functioning of the electoral systems and the candidates' viability, and so the lack of such factor produces a formidable obstacle to strategic behavior. Furthermore, I also demonstrate that the closeness of the race and the absence of a SMD-PR linkage do not have the expected constraining impact on the number of parties in new democracies. That is, there is a substantial difference in the effects that produce close races and the linkage between the nominal and the list tiers in established and young democracies.

Aside from addressing this relevant research question, the establishment of the conditions that induce voters to behave strategically and foster two-party competition in SMDs under mixed rules has important practical implications. Firstly, the emergence of non-Duvergerian equilibria can entail the election of legislators with socially biased and minority support, especially when the majority of voters would prefer an alternative candidate, that is, when the elected is not a Condorcet winner (Colomer 2001). The cases of presidential elections by plurality rule producing non-median winners and ending in military coups in Latin America perfectly illustrate this point (Linz and Stepan 1978). Further, if voters repeatedly fail to achieve government representation may become alienated from the system and discontinue being a part of a loyal opposition (Duch and Palmer 2002; Tavits and Annus 2006).

Secondly, by dwelling on a long and diverse sample of countries, this article moves beyond country-specific explanations of electoral coordination. During the last decade of the twentieth century, a compromise system between the principles of individual representation of geographic constituencies and multi-seat districts with party lists and proportional formulas spread throughout the world (Shugart and Wattenberg 2001). Methodologically speaking, then, it is highly advisable to examine party system fragmentation under mixed-member electoral rules in order to incorporate variability in the sample. Finally, and not less importantly, the reported findings reinforce the need to consider the level of democratic consolidation in order to make conclusions about the effects of electoral rules.

The rest of the article proceeds as follows. In the next sections, I discuss the different approaches to the study of party system fragmentation and mixed rules, and elaborate a series of theoretical propositions that describe under which conditions is more likely to find Duvergerian equilibria. Then, I conduct empirical tests on single-member district-level data of elections taking place in a variety of countries or sub-national units that employ mixed rules to select their legislative representatives. Finally, section five concludes.

PARTY SYSTEM FRAGMENTATION AND MIXED RULES: AN OVERVIEW

At least since the seminal contribution of Duverger (1954), the negative consequences of restrictive electoral rules on party system fragmentation are understood as a matter of two types of mechanisms. First, minor parties are typically awarded a much smaller share of seats than the share of votes they receive. Second, the existence of this “mechanical effect” creates incentives for electoral coordination. As defined by Cox (2000: 49), electoral coordination “refers to a variety of processes by which groups of voters and politicians coordinate their electoral actions in order to win more

legislative seats or executive portfolios” (see also Riker 1982). Therefore, we expect electoral restrictiveness to decrease the number of parties by generating incentives for strategic entry or withdrawal on the part of political entrepreneurs and tactical voting on the part of voters (Cox 1997). Duverger coins the term “psychological” for these behavioral consequences of non-permissive electoral laws on the party system size.

Yet the consequences of electoral rules are not as straightforward as most institutional studies suggest (Benoit 2001; Duverger 1954; Lijphart 1994; Rae 1967; Sartori 1994; Taagepera and Shugart 1989). Recently, some prominent scholars have successfully argued that the *strength* of electoral rules interact with the number of sociological cleavages to shape party systems (Cox 1997; Golder 2006; Mozaffar *et al.* 2003; Ordeshook and Shvetsova 1994). The results of these works would suggest that the district-level number of parties would be an interactive function of social diversity and electoral permissiveness. If this general conclusion was valid, multipartism would arise as the joint product of many exploitable cleavages and a permissive electoral system.

The second source of deviation from Duverger’s Law among SMDs with the plurality rule has an exclusively institutional origin. Strategic entry and tactical voting assume the complete independence of a majoritarian system from other sets of electoral rules; and this assumption does not simply hold most of the times. In fact, some previous research has shown that there are *interaction* or *contamination* effects between the different kinds of electoral systems used in a given country (Ferrara and Herron 2005). Although the presence of contamination has been demonstrated in scenarios of incongruent bicameralism (Lago and Martinez 2007), presidential systems (Shugart and Carey 1992), multilevel polities (Lago and Montero 2009) or high district magnitude variance under PR rules (Lago 2009), recent literature has been particularly successful at showing evidence of this type of effects in mixed-member electoral systems between their PR and SMD tiers (Herron and Nishikawa 2001;

Cox and Schoppa 2002; Gschwend *et al.* 2003).¹

As expected, however, the wealth of new research questions that has brought up the combination of the majoritarian and the proportional principles of representation can be hardly confined to the works that examine the existence of contamination effects. In this sense, scholars have investigated an increasingly set of topics that range from the emergence of mixed systems (Bawn 1993; Remington and Smith 1996) to the consequences of its implementation, studying the strategic behaviour of parties (Browne and Patterson 1999; Ferrara and Herron 2005; Kostadinova 2006; Roberts 1988) and voters (Gschwend *et al.* 2003; Reed 1999) under them, and assessing their effects on legislators' activity (Haspel *et al.* 1998; Lancaster and Patterson 1990; Pekkanen *et al.* 2006; Strattman and Baur 2002) and national party systems (Herron and Nishikawa 2001; Kostadinova 2002; Moser and Scheiner 2004; Nishikawa and Herron 2004).

In a similar vein, scholars have formulated alternative taxonomies of mixed electoral systems (see, for example, Massicotte and Blais 1999). Nevertheless, in this article I am particularly interested in distinguishing mixed-member proportional (MMP) from mixed-member majoritarian (MMM) systems on the basis of the presence or absence of a "seat linkage" between the SMD and PR tiers of the electoral system (Shugart and Wattenberg 2001). In Sartori's words (1994: 73), the "proportion" prevails over the "disproportion" under MMP rules because the total number of seats a party is assigned is contingent upon its performance in the PR election, and, therefore, the

disproportionality generated by SMD elections is effectively compensated by the seat linkage. By contrast, in MMM systems, the allocation of seats to parties in one component of the system is independent of the number of seats they win in the other. Consequently, the typical majoritarian boost received by a large party in the nominal tier is not likely to be wiped away by proportional allocation from the list tier. I will expand below on how the operation of seat linkage determines importantly the party system size in the SMDs under mixed rules. But before doing that, I will very briefly develop the main theoretical arguments on which the hypotheses I seek to test are grounded.

THEORY AND HYPOTHESES

As has been previously noted (Lago and Montero 2009), the number of competitors who can reasonably expect to win a seat in a given constituency is equal to the district magnitude (M) plus one. How close the quantity of viable parties and candidates get to this " $M + 1$ " rule depends on the amount of strategic entry and tactical vote that is observed in each election.² If the prospective agents of representation are all primarily interested in the election at hand, and have good information about the relative chances of each other, Duvergerian *equilibria* are likely to emerge. Otherwise, citizens will have neither the opportunity nor the incentives to desert less popular candidates/parties, and avoid wasting their votes.

According to Duvergerian gravity, third, fourth and lower-ranked candidates should drop out the race, and support one of the two top candidates in SMDs under plurality rule. However, these non-viable candidates can resolve the coordination dilemma on favour of the "going it alone" option (Ferrara and Herron 2005) in mixed-member systems for at least three main reasons: first, they might heighten voter's awareness and, subsequently, improve the electoral fortune of the party in the PR tier; second, some proportion of votes at the less

¹ Another systematic account of deviant cases from Duverger's Law among plurality systems is the presence of what have come to be called sectionalist third parties, that is, non-national parties that are sufficiently competitive locally to benefit from, rather than be punished by Duverger's Law (Rae 1967; Riker 1982). Given the fact that the central concern of this article pertains to party system size at the local level, I will not attempt to explain why the number of parties inflates at the national level (Bochsler 2010; Cox 1999; Chhibber and Kollman 2004).

² Needless to say, the $M+1$ rule implies the emergence of two-party systems when the district magnitude is equal to one.

permissive level could be necessary in order to qualify for the public funds; and third, running in districts where the party is expected to perform badly could be the acid test for possibilities of new-coming candidates. And voters might not react in a completely strategic way in front of this over-supply of candidates. In addition, why should small parties stop fielding candidates in the SMD contest if they have no electorally punishment for doing that?

First of all, substantial differences between established and young democracies are expected with regard to the level of party system fragmentation (Duverger 1954). Students of electoral politics have argued that the critical element in producing strategic voting is the availability of good information about the relative chances of potential competitors; and this kind of information is arguably worse in less consolidated democracies (Cox 1997).³ Thus, the ability of citizens to recognize and act upon situations where voting for one's sincere preference leads to a less desirable outcome – wasting their vote – heavily depends on the age of democracy (Horowitz and Browne 2005; Queralt 2009; Tavits and Annus 2006). The main causal mechanisms that explain why voters in recently democratized countries behave differently are basically two: voters' inexperience with electoral processes, and the inefficiency and inadequacy of political cues and information (Duch and Palmer 2002). In fact, some analysts have shown that incompetent polling in young democracies led to false expectations about the election results on several occasions (Cox 1997; Kaminski 2002). Bearing in mind all these considerations, I put forward the following hypothesis: *The level of party system fragmentation will get lower as democracy matures (H₁).*

Secondly, mixed electoral systems may be divided into two broad categories on the

basis of the degree of disproportionality they produce. In MMP systems, such as those employed to elect the German Bundestag, the New Zealand's House of Representatives, and the Bolivian Chamber of Deputies, the seat linkage mechanism should undermine the constraining effect of the SMD tier. After all, voters under linked components lack incentives to defect from small to large parties because the nominal vote has virtually no impact on the final distribution of seats. In fact, if seats are linked, only under very exceptional circumstances the overall share of seats a party obtains is determined partially by the number of races it has won at the nominal tier.⁴ To sum up, I posit that, holding the rest of the variables constant, *party system fragmentation will be higher in systems with SMD-PR linkage mechanisms than in elections conducted under MMM rules (H₂).*

The third feature that is expected to affect agents' incentives to coordinate among them is the marginality of the district. Consistent with the literature on "pure" SMD systems, I expect low margins of victory in the previous election to exercise a reductive impact on the effective number of electoral parties by inducing voters to defect from small to large parties. Scholars have abundantly noted in previous research that the amount of strategic voting is higher in close races, where a change in a person's vote is more likely to have consequences for the final outcome. By contrast, districts in which the winner took a large lead over the second most preferred candidate in the previous election give little ability to voters to change the outcome of the election even if they changed their vote. In short, I hypothesize *that party system fragmentation will be lower in close rather than in open races (H₃).*

Finally, I expect strategic voting in close races and under MMM systems to be mitigated in new democracies (Gerring 2005). In other words, citizens in young

³ The rational choice framework indicates that prospective parties or candidates in a district have also to be interested in the election at hand (i.e., they have to be short-term instrumentally oriented) in order to observe a Duvergerian equilibrium. I do not expect important differences concerning this point between established and young democracies.

⁴ MMP systems may deal with the situation in which the number of SMDs won by a party exceeds its PR share in two different ways: either some extra (or overhang) seats are added to the parliament, or the number of additional list seats is taken off from the other parties' proportional entitlement.

democracies should not respond to competitive contests and unlinked tiers with the same levels of strategic voting. However, the argument continues and presumes the existence of a learning process based on experience and information over time. As a result, uncertainty on candidate standings and ambiguity regarding the consequences of electoral rules decline with the years. Further, the initially high levels of electoral volatility are overcome as democracies mature and, subsequently, instrumentally rational voters are more likely to attach weight to the performance of the parties in the previous election in order to identify potentially close races and viable candidates. In summing up, I hypothesize that *systems with SMD-PR linkage mechanisms will only lead to a higher effective number of electoral parties if and only if the number of years since the transition to democracy is sufficiently high* (H₄). In addition, I also hypothesize that

elections over time. In this sense, the sample only includes democracies according to Przeworski *et al.*'s definition⁵ (2000), but the countries analyzed vary widely in their level of democratic experience, the type of mixed electoral system and the exact number of SMDs. Specifically, and from advanced industrial democracies, I examine SMD district-level data from Germany (17 elections in my dataset, 1949-2009), as well as Italy (3 elections, 1994-2001), Japan (5 elections, 1996-2009), New Zealand (5 elections, 1996-2007), Scotland (3 elections, 1999-2007) and Wales (3 elections, 1999-2007).⁶ From new democracies, I have Albania (4 elections, 1996-2005), Bolivia (4 elections, 1997-2009), Hungary (6 elections, 1990-2010), Lithuania (5 elections, 1992-2008), Mexico (4 elections, 2000-2009), Russia (4 elections, 1993-2003), South Korea (6 elections, 1988-2008), Ukraine (1998-2002) and Venezuela (3 elections, 1998-2010).⁷ With 55 elections in 15 countries, the

TABLE 1. Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min.	Max.
ENEP	10,723	2.967	1.128	1	11.71
Democratic Age	10,723	29.44	20.97	3	62
Link	10,723	0.436	0.496	0	1
(Log)Margin	10,723	0.00137	1.213	-7.49	2.29
Size winner party (t-1)	10,723	47.57	11.9	7.95	100
Link*Demo	10,723	15.08	20.75	0	62
(Log)Margin*Demo	10,723	-0.977	42.88	-464.73	119.65

narrow differences between the proportions of the vote won by the first and second place candidates in the district in the previous election will reduce the effective number of electoral parties if and only if the number of years since the transition to democracy is sufficiently high (H₅).

EMPIRICAL ANALYSIS: SAMPLE, VARIABLES AND METHOD

Mixed-member rules are particularly suitable to develop a comparative study on party system fragmentation because they now exist in numerous and heterogeneous contexts and offer a substantial amount of

⁵ According to these authors' dictum, "Democracy is a system in which parties lose elections". The most important feature of their coding is the use of a dichotomous measure.

⁶ Although the elections of the Scottish Parliament and the National Welsh Assembly can be regarded as second-order elections, I seek to maximize the evidence supporting my hypotheses by including them in the analyses in line with what Ferrara and Herron (2005), and Moser and Scheiner (2009) do.

⁷ If a majority formula is employed in the SMD tier (i.e., in Albania, Hungary and Lithuania), the results taken into consideration correspond to the first round.

dataset includes well over 10,000 observations at the district-level.

Further, the electoral rules employed in the countries evaluated in this article are distinguished by profound differences in the way they combine the proportional and majoritarian tiers. In this sense, my analysis includes six MMP systems (Bolivia, Germany, New Zealand, Scotland, Venezuela and Wales), two partially compensatory MMM systems (Italy and Hungary),⁸ and six non-compensatory MMM systems (Japan, Lithuania, Mexico, Russia, South Korea and Ukraine).⁹ In summing up, the main criterion of selection of the cases has been to incorporate variability in several dimensions. Although I have sought to get a representative sample of the world's mixed systems, some countries with this kind electoral rules have been excluded because problems in the collection of data (e.g., Armenia). Mixed systems that completely lack SMDs in the nominal tier are also excluded from the sample (e.g., Andorra).

Based on the above insights, I examine the determinants of party system fragmentation in the nominal tier of mixed electoral systems by using the effective number of electoral parties at the district-level¹⁰ (Laakso and Taagepera 1979). My hypotheses are founded on the argument that strategic voting is associated with a relatively low effective number of electoral parties. Therefore, I expect negative coefficients on variables that should lead to

higher strategic voting, and positive coefficients on factors that make electoral coordination less likely. In the past two decades, the effective number of electoral parties (N) “has become the most widely used measure” of party system size¹¹ (Lijphart 1994: 70). According to Laakso and Taagepera (1979: 4), this index “is the number of hypothetical *equal*-size parties that would have the same total *effect* on fractionalization of the system as have the actual parties of *unequal* size”. As discussed above, N considerably improves the merits of other previous measures of party system fragmentation. However, using it also entails potential problems that cannot be ignored.¹² That's why it is far from uncommon in the literature on mixed systems to use alternative dependent variables.

For example, Benoit (2001) measures pre-electoral coordination in Hungary through the average coalition size. Ferrara and Herron (2005) evaluate their propositions on strategic entry in comparative perspective by counting the number of candidates participating in a SMD race who are affiliated with a party that ran a list in the PR component of the election, and considering the number of candidacies relative to the number of parties taking part in the election. Finally, Moser and Scheiner (2009) employ Cox's

⁸ As Shugart and Wattenberg (2001) discuss in more detail, if votes are linked, like in Hungary and Italy, then the votes that are used to allocate list-tier seats are not solely the votes that are cast for party lists, but also some votes transferred from the nominal tier.

⁹ Two elections in Albania (in 1996 and 1997) are conducted under MMM rules, and two under MMP rules (2001 and 2005).

¹⁰ District-level results can be found online at the following electoral archives: www.electiondataarchive.org (the constituency-level elections archive), www.cle.wustl.edu (the constituency-level elections dataset), www.essex.ac.uk/elections (the Project on the Political Transformation and the Electoral Process in Post-Communist Europe of the University of Essex), and the websites of the electoral authorities of the different countries. See also Caramani (2004) and Bochsler (2010).

¹¹ As is probably well-known, this variable ranges from 1 to the number of parties which get at least one vote. There is also a similar index, the effective number of legislative parties, which measures the level of parliamentary fragmentation.

¹² One of such potential problems corresponds to the “other” and “independent” categories. In this article, I use the effective number of electoral parties once they have been corrected by using the least component method of bounds suggested by Taagepera (1997). This operation essentially requires calculating the effective number of electoral parties treating both categories as a single party (smallest effective number of parties), then recalculating the effective number of parties as if every vote in the “other” and “independent” categories belonged to a different party (largest effective number of parties) and taking the mean. The incidence of independent candidacies is only high in Russia and Ukraine.

(1997) “SF-ratio” to examine strategic voting in ten mixed-member systems.

With regard to the independent variables, *MMM* is dichotomous and is coded 1 for systems with unlinked tiers and 0 otherwise.¹³ *DistrictMarginality* is a continuous variable, and is the natural logarithm of the margin of victory (in percentages) by which a candidate won the SMD in question in the previous election.¹⁴ The natural logarithm is taken because I expect the relationship between margin of victory and the effective number of electoral parties to be non-linear. I use data from the previous election in order to overcome potential endogeneity in my dependent variable. However, taking electoral results at $t - 1$ implies that I do not have data for this variable in any of the first elections held either under a new electoral system or after the transition to democracy. In addition, I adopt Ferrara and Herron’s solutions (2005) in order to deal with the problems posed by redistricting.¹⁵

I argue that the marginality of the district is not the only information that voters may take into account to decide whether to act strategically or not. In this sense, I believe that there is a substantial difference between a close race in which the winner and the runner up receive 50% and 49% of the vote, respectively, and a close race in which they take 25% and 24% of the vote. In the former case, voters are induced to behave strategically in order to affect the outcome of the election. By contrast, there is a relatively small incentive to vote for one of the two top contenders in the latter given the fact that other candidates might be competitive with a comparably small share of the vote. Bearing these reasons in mind, I control for the winner’s percentage of the vote in the

previous election. I call this new variable *SizeWinnerCandidate(t-1)*, and expect its coefficient to be negative.

I also create *DemocraticAge*, which is equal to the number of years since the transition to democracy.¹⁶ I expect the coefficient to be negative, as the amount of electoral coordination ought to go up as time goes by.¹⁷ Finally, I also include two interaction terms in the regression models, *MMM* x *DemocraticAge* and *DistrictMarginality* x *DemocraticAge*, in order to test the hypotheses that the impact of seat linkage mechanisms and the margin of victory in the previous election depend on the level of democratic consolidation. The hypotheses discussed above indicate that MMM systems will have a negative effect on the number of electoral parties in established democracies. Thus, the coefficient for the first of these interactions should be negative. In contrast, I expect a positive coefficient for the second of these interaction terms since I predict that an increase in the lead of the winner over the runner up in the previous election will lead to more electoral parties as the democracy matures.

Because all the problems are addressed through a hierarchical analysis considering three levels of interest (district, election and country), multilevel modeling is the most appropriate technique to assess the effects of my independent variables. In addition, the hypothesis concerning the effect of district marginality over time implies the specification of a cross-level interaction between one level-1 and one level-2 contextual variable, and the implementation of a random-slopes model whereby the marginal effect of this main independent variable varies across districts within the same election. Third, when analyzing the impact of level-1 variables across different contextual units, a multilevel analysis is a better choice for technical reasons such as

¹³ Source: Shugart and Wattenberg (2001).

¹⁴ The source for this variable is described in footnote number 14.

¹⁵ These rules are basically three. First, I assume an essential continuity between districts at t and $t - 1$ provided that the name and the core of the district remain the same. Second, I assign to the new districts created as a result of a split the margin of victory of the pre-existing SMD. Finally, I take the mean margin of victory in the pre-existing SMD for those districts that were merged into one.

¹⁶ Source: Przeworski et al. (2000).

¹⁷ Alternatively, I also test the effect of the level of democratic consolidation by including a dummy variable *EstablishedDemocracy* that is coded as “1” for those countries that have remained democratic since the end of World War II and “0” otherwise. Results are not shown, but are available upon request.

avoiding the truncation of the variance and correcting the standard errors (Steenbergen and Jones 2002). Finally, because the dependent variable is a count, and thus can only take positive values, standard regression analysis could produce biased parameter estimates. In order to address this potential problem, I perform analyses applying a poisson distribution¹⁸ and introducing random intercepts by election and country before showing hierarchical linear results.¹⁹

RESULTS

The results of the multivariate analyses are displayed in Tables 2 and 3, and clear differences between institutionalized and non-institutionalized democracies emerge. However, simply breaking down the sampled countries in these two groups is not enough to demonstrate the impact of democratic age on the level of party system fragmentation. In this sense, the coefficient on *DemocraticAge* is almost always negative, but statistically insignificant most of the time. This is surprising because it means that consolidated democracies by themselves do not create more opportunities for strategic voting once we control for the type of mixed electoral, and the level of district marginality. The absence of conditions favourable to strategic voting in new democracies might be either overridden by the presence of competitive races or concealed by the high correlation between unlinked systems and non-consolidated democracies. Nevertheless, the

rest of the findings suggest that these two factors are not the cause of voters finding it difficult to act strategically in new democracies. In this sense, neither the absence of seat-linkage nor the district marginality hypotheses bear out as their coefficients in none of the models are statistically significant. By contrast, the coefficient of *Winner* is negative and statistically significant in all the models ($p < 0.01$) indicating that as the district-level winning's candidate share of vote in the previous elections decreases, the effective number of parties goes up. In other words, races with winners who take a small share of the vote imply that even relatively weak candidates can win and, therefore, voters stick to their preferred candidate and party system fragmentation mounts.

Models from 2 to 4 in each table evaluate the validity of the two interactive hypotheses and seem to offer strong evidence in favour of at least one of them. Research designs that assume the independence of, on the one hand, the seat-linkage mechanisms and the level of district marginality and, on the other hand, the length of the democratic rule may omit critical interactions to explain the absence of Duvergerian *equilibria* in the majoritarian tier of mixed electoral systems. Unlinked systems appear to produce more electoral coordination only in well-institutionalized democracies (the coefficient of the interaction term is negative and statistically significant in all the models specified). Contrary to expectations, though, the absence of seat-linkage mechanisms in the founding democratic elections has a positive impact on the level of party system fragmentation. I offer two potential explanations for this counter-intuitive finding. First, it is possible that the greater importance of gaining SMD races in systems without linkage give candidates and parties greater incentive to try to win SMDs, even when their chances of victory are remote. Second, and more likely, this outcome is explained by the presence of stronger parties that are able at the same time to enact an electoral system where the tiers are connected, and constrain the electoral competition. In sum, it takes time and only occurs after some years under democracy that voters learn about the exact

¹⁸ This operation is advisable because tests for over dispersion were negative and, subsequently, the negative binomial distribution is not appropriate (King 1988, 1989; Long 1997).

¹⁹ I do this in order to model unit heterogeneity (Beck and Katz 1995). Random-effects models assume that $Cov(x_{it}, \mu_i) = 0$; that is, there is no correlation between the unobserved heterogeneity and the explanatory variables. The Hausman test confirmed this condition was fulfilled. In such a case, random-intercepts models provide more efficient estimators than fixed effects, without losing consistency. Moreover, random-effects allow the estimation of time-invariant covariates, which is not possible with fixed-effects models (Greene 1997: 632–5).

TABLE 2. Party System Fragmentation under Electoral Mixed Rules; Poisson Regression Results

	Model 1 (additive)	Model 2 (additive with MMM*demo interaction)	Model 3 (additive with margin*demo interaction)	Model 4 (additive with both interactions)
Intercept	1.423*** (0.11)	1.294*** (0.10)	1.419*** (0.11)	1.290*** (0.10)
Democratic age	-0.001 (0.001)	-0.009 (0.0001)	-0.001 (0.001)	-0.009 (0.0001)
MMM system	0.104 (0.11)	0.390*** (0.12)	0.106 (0.11)	0.392*** (0.12)
District marginality (log)	-0.001 (0.01)	-0.001 (0.01)	-0.008 (0.01)	-0.008 (0.01)
Size winner party (t-1)	-0.007*** (0.0007)	-0.007*** (0.0007)	-0.007*** (0.0007)	-0.007*** (0.0007)
MMM system* democratic age		-0.012*** (0.003)		-0.012*** (0.003)
District marginality (log)* democratic age			0.0002 (0.0002)	0.0002 (0.0002)
Intercept variance at level 2	0.022*** (0.005)	0.018*** (0.004)	0.022*** (0.005)	0.018*** (0.004)
Intercept variance at level 3	0.031** (0.015)	0.020** (0.01)	0.031** (0.015)	0.20** (0.01)
Log likelihood	-16,471.520	-16,465.851	-16,470.779	-16,465.101
AIC	32,957.040	32,947.703	32,957.557	32,948.202
BIC	33,008.001	33,005.944	33,015.798	33,013.723
N	10,273	10,273	10,273	10,273

Note: The dependent variable is the effective number of electoral parties in every SMD. *p < .1; **p < .05; ***p < .01. One-tailed tests. Standard errors in parentheses. The specified models are hierarchical and a poisson distribution is used.

TABLE 3. Party System Fragmentation under Electoral Mixed Rules; Hierarchical Linear Results

	Model 1 (additive)	Model 2 (additive with MMM*demo interaction)	Model 3 (additive with margin*demo interaction)	Model 4 (additive with both interactions)
Intercept	4.129*** (0.38)	3.733*** (0.37)	4.111*** (0.38)	3.715*** (0.37)
Democratic age	-0.006 (0.01)	0.004 (0.01)	-0.006 (0.01)	0.004 (0.01)
MMM system	0.409 (0.39)	1.313*** (0.46)	0.420 (0.39)	1.325*** (0.46)
District marginality (log)	0.0002 (0.01)	0.0002 (0.01)	-0.043*** (0.01)	-0.043*** (0.01)
Size winner party (t-1)	-0.020*** (0.008)	-0.020*** (0.0008)	-0.020*** (0.0008)	-0.020*** (0.0008)
MMM system* democratic age		-0.038*** (0.01)		0.038*** (0.01)
District marginality (log)* democratic age			0.001*** (0.0002)	0.001*** (0.0002)
Intercept variance at level 1	0.457*** (0.006)	0.457*** (0.006)	0.456*** (0.006)	0.456*** (0.006)
Intercept variance at level 2	0.318*** (0.07)	0.279*** (0.06)	0.317*** (0.07)	0.277*** (0.06)
Intercept variance at level 3	0.446** (0.21)	0.342** (0.16)	0.441** (0.20)	0.340** (0.16)
Log likelihood	-11,164.472	-11,160.186	-11,150.477	-11,146.158
AIC	22,344.944	22,338.372	22,318.954	22,312.316
BIC	22,403.185	22,403.894	22,384.476	22,385.117
N	10,273	10,273	10,273	10,273

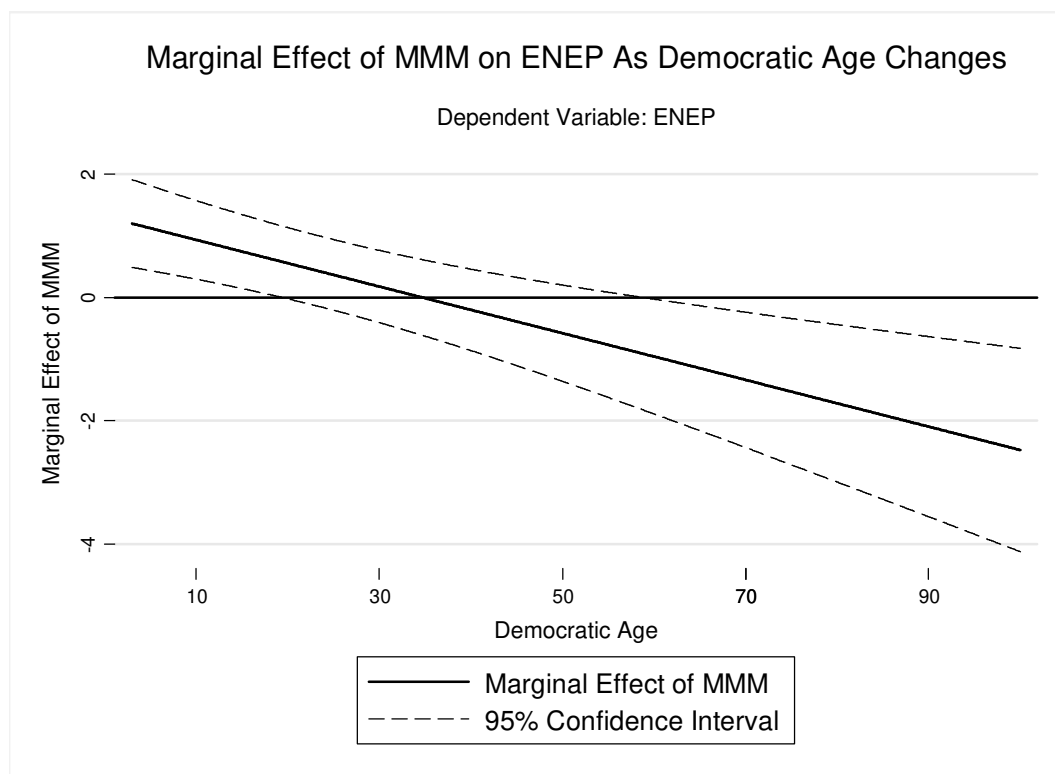
Note: The dependent variable is the effective number of electoral parties in every SMD. *p < .1; **p < .05; ***p < .01. One-tailed tests. Standard errors in parentheses. The specified models are hierarchical linear.

functioning of the seat linkage mechanism and, subsequently, understand that their SMD ballot has almost no impact on the final outcome of the elections.

A similar pattern emerges with regard to district marginality. As is apparent in both models 3 and 4 of Table 3, democratic age heavily conditions the effect of the closeness of the race on the effective number of electoral parties. In new democracies, that is, when the constitutive term *DistrictMarginality* equals to zero, the party system fragmentation goes up as the gap between the two top contenders in the previous election narrows. This finding is probably well explained by the combination of uninformed voters about the outcome in the previous contest and a high level of electoral volatility. However, this situation

system fragmentation for a reasonable range of values of the modifying variable (the length of democratic rule). According to Brambor *et al.* (2006) and Kam and Franzese (2007), the effect of an interaction term cannot be evaluated through the p-value shown in the regression table. Thus, it is necessary to graphically illustrate the marginal effect of these two independent variables on the effective number of electoral parties over time. As predicted in the hypotheses section, the absence of seat-linkage mechanisms has a strong reductive effect on electoral fragmentation when democracies mature (70 years or older). Moreover, Figure 2 shows that district marginality stop having a statistically significant reductive effect on the number of electoral parties once the democracy is

FIGURE 1. Marginal Effect of Parallel Tiers on the Effective Number of Electoral Parties



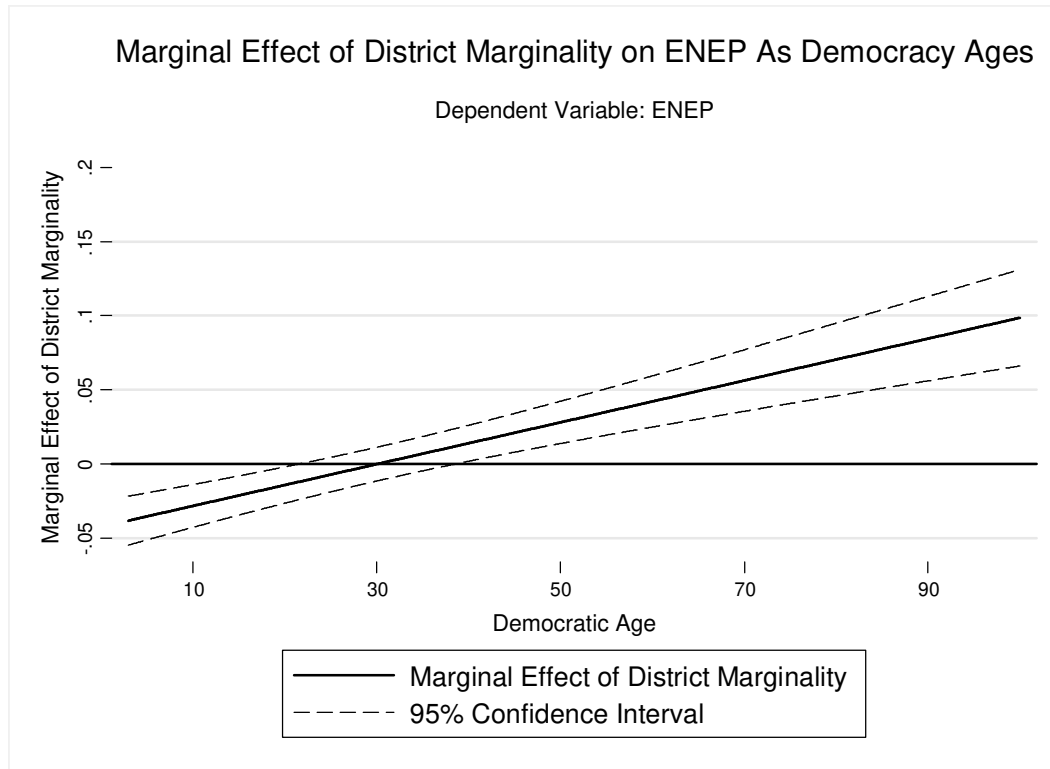
Note: Results are derived from Table 3, column 2.

tends to get reversed as democracy matures. In short, in consolidated democracies, greater competitiveness leads to lower effective numbers of electoral parties.

Finally, I plot in Figures 1 and 2 the conditional effect of the seat linkage and the district marginality on the level of party

younger than about 40 years. Hence, the results presented here clearly indicate that competitive races only can be expected to have a constraining impact on the level of party system fragmentation when the number of years since the last democratic transition is high enough.

FIGURE 2. Marginal Effect of District Marginality on the Effective Number of Electoral Parties



Note: Results are derived from Table 3, column 3.

CONCLUSIONS

Because of the wide spread of mixed-member rules during the nineties, and the huge heterogeneity of the countries in which they were introduced, this kind of electoral systems provide an excellent opportunity for the study of the determinants of the effective number of parties. However, some questions about them remain unanswered. How much does the level of democratic consolidation matter in predicting the party system size in countries with such electoral rules? To what degree does the length of the current democratic rule modify the incentives to cast a strategic vote offered by the majoritarian component of the electoral system? The results of this study support the proposition that the institutional features of mixed electoral systems in new democracies generate outcomes that differ from those generally observed under more consolidated ones. Hence, the extraordinary heterogeneity that characterizes the context in which mixed electoral rules are adopted produces variation in the level of electoral

coordination by creating different strategic environments for political actors.

When mixed-member majoritarian systems are implemented in young democracies, the interaction between the lack of information about the exact working of the rules and the relative weakness of parties render voters less likely to electorally coordinate and cast a strategic ballot. However, this pattern considerably changes over time, and unlinked systems can also create after some decades an incentives structure conducive to cooperation. For example, in democracies consolidated enough (over 70 years) where the two tiers are not legally linked, supporters of minor parties have a strong incentive to desert their preferred alternative and enter into electoral coordination.

Likewise, this study also takes into account the interaction of district marginality and democratic age and, thus, questions the validity of analyses that treat the effect of district marginality as essentially linear. Variation in the level of

democratic consolidation has a strong modifying effect on the role played by the closeness of the race. In other words, district marginality appears to be structuring party competition only in the nominal tiers of developed democracies. In fact, I find evidence of a lower likelihood of strategic voting in new democracies as the district gets competitive.

In short, my research points to the necessity of conducting dynamic analyses on the party system size under mixed rules. Assessing the evolution of coordination outcomes provides valuable information about how quickly voters adapt to electoral incentives. From a theoretical standpoint, the findings presented here provide useful clues to establish the conditions in which voters are expected to defy the Duvergerian gravity and foster multi-party competition in SMDs of mixed electoral systems. More significantly, however, my analysis suggests that, rather than assuming deterministic effects of the electoral systems, it takes several years (or even decades) with the same democratic regime before their impact on the number of parties can be evaluated (Taagepera and Shugart 1989: 236; Taagepera 2007: 273).

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