The IntraPartyComp project: the study of electoral personalization in 33 democracies since the 2000s

Dodeigne, Jérémy; Pilet, Jean-Benoit

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Jérémy Dodeigne (Universiy of Namur)
jeremy.dodeigne@unamur.be

Jean-Benoit Pilet (Université libre de Bruxelles-ULB)
jpilet@ulb.ac.be

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Data collection & cleaning under progress (please do not cite without permission)
All comments and suggestions welcome!

Introduction

In the last decades, electoral reforms have boosted importance of individual politicians in list proportional (PR) electoral systems. This general trend towards " electoral personalization of politics" (Renwick & Pilet 2016; Passarelli, 2020; Perdersen & Rahat 2021) leads scholars to study its broad effects on intra-party competition and personal vote-seeking behaviour. In list PR electoral systems that is widely used across the world, access to elected office not only depends upon *inter*-party competition (number of seats allocated to the party list): it is, furthermore, contingent on the nature of *intra*-party competition (candidates emerging *vis-à-vis* other co-partisan candidates). In this context, some scholars have argued that "the century that has just started will be the age of personalization, just as the previous one was the century of mass collective actors—a trend that political science has a duty to consider with greater attention" (Musella & Webb, 2015: 226). While personalization of politics is not - per se - a threat to democracy, various authors have underlined the negative effects it conveys. Some of the regular concerns are (Rahat & Kenig 2018): the increased fractionalization of the political parties and the government instability it creates; the "vicious circle" of the development authoritarian figures (especially in new democracies); or the inability of societies to articulate (legitimate) collective actions over individual interests.

While the growing literature of personalization of politics has boosted the publication of conceptual and theoretical scholarship in the recent years, comparative empirical studies on intra-party competition remain scarce, with often disputed conclusions (Karvonen 2010). Indeed, most of the literature has been based upon single-country studies. What is missing is a broad comparative endeavour covering the variety of political and institutional contexts of our modern democracies. This project precisely aims at establishing the first systematic comparative database of electoral personalization in 33 democratic countries across the world using (semi-)open list PR systems since the 1990s. In total, the IntraPartyComp project covers almost 300.000 electoral candidacies. This research note presents our research goals and current hypotheses, the research design as well as the preliminary empirical results. It concludes by identifying the next steps for the IntraPartyComp project.

1. IntraPartyComp project: Towards a comparative analysis of electoral personalization

Most list PR systems allow voters to cast preference votes for one or several candidates. Only closed list systems (used in Spain, Portugal and Israel, for example) do not allow for such a choice. In other list PR systems there is, therefore, a direct electoral competition between co-partisans running on the same list. Individual candidates have an electoral incentive to cultivate their personal traits and attributes to earn more preferential votes than the co-partisan candidates of their own party list (Carey & Shugart 1995). Consequently, the candidate's personal vote-earning capacity plays a crucial role in deciding which candidates will receive the seats won by the party list. Such a configuration is found in single-transferable vote systems (e.g., Ireland and Malta), but more frequently in countries where elections are held under open and flexible list systems allowing voters to cast preference votes for one or several candidates within party lists. These systems are very common across the world for parliamentary elections in Western and Northern Europe (Belgium, Denmark, Finland, Iceland, Luxembourg, the Netherlands, Sweden and Switzerland), in East and Central Europe (Austria, Bulgaria, Croatia, the Czech Republic, Cyprus, Greece, Kosovo, Latvia, Lithuania, Estonia,

Poland, and Slovakia), in Latin America (Brazil, Chile, Colombia, Ecuador, Panama, Peru, El Salvador, Honduras, and Suriname), and in a few democratic countries in Asia (Indonesia, and Sri Lanka).

In this context, a scholarship has emerged over the last decades on the nature of intraparty competition in PR systems, where voters can cast preference votes for candidates within lists (Wildgen 1985; Villodres 2003; Arter 2013; Wauters 2023). This body of research connects to the broader debate on the nature of the personalization of politics and of elections. In particular, it tries to examine whether personalization takes a more *centralized* form, benefiting to a few big leaders, or is more *decentralized*, with a wide range of candidates being able to attract support from voters (Balmas et al. 2014; Wauters et al. 2018; Lioy 2023). Those studies have been able to characterize the nature of intraparty competition, showing that, in most countries, competition was oligarchized, meaning that it is concentrated around a medium number of candidates who attract the most votes (Dodeigne and Pilet 2021, 2023).

This literature has also tried to examine what factors affect the degree of concentration of votes between co-partisan candidates. However, most of the factors that have been tested so far are about (1) differences *between candidates* (who they are, where they are positioned on the list, and how they campaign, see Maddens and Put 2013; Van Erkel et al. 2017; Söderlund et al. 2021; Marien, Wauters, & Schouteden, 2017), or about (2) factors at the *list or party*-level of analysis (type of candidates recruited, list length and list composition, party ideology and newness) (Wauters et al. 2018, Dodeigne and Pilet 2021). Factors at the *country*-level such as electoral systems have been, however, much less examined in a systematic way. For instance, what is the impact of rules organizing the allocation of seats to candidates within lists in modern politics (fully open lists, flexible lists, panachage, …)?

This comparative empirical gap in the literature is rather surprising as we theoretically know that electoral rules are central factors that shape candidates' incentives to cultivate their personal reputation. Electoral systems adopted by countries are key factors in the intensification of intraparty competition (Carey and Shugart 1995; Shugart2001; Shugart et al. 2005). The reason for this gap is quite simple: most of the literature has developed based on the in-depth study of country case studies, or upon comparison across a limited number of countries (see Popescu and Chiru 2020). Comparative work is certainly not entirely absent, though. Yet, this comparative scholarship is currently limited to a very limited set of countries (mostly Italy, Finland, Japan, Netherlands and Belgium), while being empirically restricted to a few elections. Overall, despite the respective merits of case studies, we are still lacking a consolidated comparative approach about the effects of electoral systems on electoral personalization. The only notable exception is the study by Emanuele and colleagues (2022), which covers 11 Western European countries, and examines intraparty fractionalization in leadership races as a proxy of intraparty competition. Systematic electoral comparisons are much more difficult to conduct, mostly because of time-consuming efforts and empirical obstacles due to data availability and accessibility. Yet, only a comparative approach could allow us tapping into the impact of macro-level factors on intraparty competition. This is the goal of this IntraPartyComp project.

2. Hypotheses

Going back to the seminal work of Carey and Shugart (1995), we develop hypotheses that cause cross-sectional and longitudinal variation in intra-party competition. The authors defended the idea that electoral rules shape incentives for co-partisan candidates to cultivate their personal vote attributes. The greater those incentives, the more intense intraparty competition because more candidates develop vote-earning strategies to attract preference votes (i.e. resulting in a form of decentral personalized elections). By contrast, when incentives are lower, candidates would not waste their limited resources to attract preference votes. Voters would most of the time vote for the few candidates they already know, thanks to a greater media visibility. This has for consequence to decrease intraparty competition, resulting in greater central personalized elections (see for instance the German study from Brauninger et al. 2023; and the Czech and Slovak elections in Gyárfášová & Hlatky 2023).

According to Carey and Shugart's model, there are two main elements of PR electoral systems that are at play. First, intraparty competition varies when voters' preference votes matter. Larger influence of preference votes in the allocation of seats within lists trigger strategic vote-seeking behaviour, that is to say: the more open the electoral list, the greater the incentives for candidates to attract votes under their own name (i.e. greater electoral intraparty competition). In the countries covered in this study, we can distinguish between flexible list, open list, mixed and free list systems. In *open list systems*, only preference votes for candidates matter to allocate seats to candidates within lists: it is a question of individual electoral performance. By contrast, *flexible list* systems allow voters to cast (one or multiple) preference votes, but some electoral rules limit the impact of those preference votes. As a consequence, the ranking of candidates on the list as defined by the party selectorate counterbalance – or even predominate over – candidates' individual performance. Finally, *free list systems* function like open list systems, but voters can spread their preference votes across several party lists. According to recent classifications of electoral systems (see Söderlund 20016), the least candidate-centred systems are flexible lists, then open lists and free lists. We would therefore expect that, the more candidate-centred the electoral system, the more intense intraparty competition would be.

> **H1.** The more candidate-centred the electoral system, the more intense is intraparty competition.

Second, we test the effects of institutional district features. According to Carey and Shugart's seminal contribution, district magnitude (M) matters in the degree of intra-party competition: in case of openness of electoral lists (including flexible lists, with limited openness), the larger the district, the higher the chances to win several seats within the list. As a result, the wider the pool of candidates who should make effort in cultivating their personal reputation in the hope of being allocated of the list seats. We therefore expect to observe greater intraparty competition (and decentral personalized elections) in larger electoral districts. While M has been extensively used in electoral studies as a core component, it remains a proxy of the causal mechanism at work. By their own admission (Carey and Shugart 1995:431), it is rather the ratio between the number candidates (C) recruited on the list and M that determines the degree of intraparty competition. Still, M has been presented as a "fixed and identifiable determinant of intraparty competition", as the "the number of endorsements [C] tends to rise

with M" (Carey and Shugart 1995:431). A decade after the seminal publication of Carey & Shugart, Crisp and colleagues (2007) have, however, empirically established that C rarely increases faster than M. As a consequence, "the ratio of C:M generally decreases in size as M increases" which is in contradiction with the assumption of Carrey & Shugart's model to use M as a proxy for the C:M ratio.

As an alternative, Crisp and colleagues (2007: 731) suggest an alternative indicator of intraparty competition that reflect the ''party- in-a-district'' intraparty competition. In other words, "[w]hen weighing the relative value of reputations, prospective candidates must contemplate not merely the number of seats available but also the number of seats their parties are likely to win". In this respect, "the ratio C:M confounds two types of competition: the competition among all candidates for all seats (M) and the competition among co-partisan candidates (C) for the seats likely to go to their party (P)". This is especially the case for smaller or niche parties: intraparty competition remain extremely low as the co-partisan candidates know that the electoral intraparty competition is virtually inexistent considering the very low chance of success of their party, even in the largest districts. In a context of increasing fragmentation in party systems, P becomes an even more important dimension of the empirical reality of the openness of a list. In this line, we use P as a complementary proxy of the openness of electoral lists. Instead of simply replacing M by P, we still test the effects of M because recent research has shown that larger districts are associated with specific electoral pattern of (de)central electoral personalization (see for instance Dodeigne, Put & Teuber 2023 on Belgian elections).

> **H2a.** The higher district magnitude (M), the more intense is intraparty competition.

> **H2b.** The higher party magnitude (P), the more intense is intraparty competition.

Despite its respective merits, Carey and Shugart's causal model remains ambivalent regarding the causal mechanism at work though. In a later study by Shugart and other colleagues (2005: 439), it seems that it was not district magnitude *per se* that matter, but the number of candidates on the list (see also Maddens 2022). In most PR list systems, the maximum number of candidates that parties recruit on their lists equals the district magnitude. In other words, there are longer lists in larger districts. While this relationship is often empirically observed, it is not systematic and nor perfectly linear. For example, in Iceland, lists shall include twice as many candidates as there are seats to be allocated in the district. By contrast, in Slovakia, for the 1990 elections, lists can be composed of a maximum of 40 candidates even if the largest district had a magnitude of 50 seats. In other countries, even if the maximum number of candidates on the list is equal to district magnitude, some parties can still decide to have shorter lists even when M is high[1]. This is particularly the case for the smaller or niche parties which can struggle to present complete lists of candidates.

> **H3.** The greater the number of candidates (C), the more intense intraparty competition.

[1] For example, in Monaco, list scan have fewer than 24 candidates (minimum = 13 candidates) even if there are 24 seats to be allocated for the assembly.

[Note for the reader: that the IntraPartyComp project is not theoretically limited to these three hypotheses. More broadly, the research goals are to explain how intra-party competition is structured in PR list systems across distinct (1) electoral systems, (2) structures of party competition, (3) patterns of candidate selection, and (4) over electoral time periods. We briefly discuss how we intend to integrate these factors in the next step of the project in the conclusion section].

3. Research design

A central goal of the IntraPartyComp project is to build a comprehensive database that will allow to describe the level intra-party competition across countries and over time. The research design is thus cross-sectional, covering currently 29 democracies using PR list systems for national and European elections (see table 1). Although we are currently facing important challenges in terms data accessibility and availability, we seek to include some of the following six countries in the future: Iceland (Europe), Indonesia & Sri Lanka (Asia), Lebanon (Middle East), Ecuador and Honduras (Latin America). Beyond the idea of empirical diversity, the rationale of our approach is also theoretical. If electoral institutions matter, we shall observe trends across the world – beyond political and cultural geographical specificities. In line with our first hypothesis (i.e. *institutional* electoral personalization according to the type of electoral systems), our case selection includes countries with different electoral systems (see table 1). Furthermore, variation of district and party magnitudes within countries and across countries permit to test H2a, H2b and H3. Finally, the research design is cross-temporal encompassing two decades of electoral results. In line with the personalization thesis, we seek to verify whether or not a trend over time is observed where individual candidates are increasingly reinforced (decentral electoral personalization) or whether a few top politicians attract most attention (central electoral personalization).

As display on figure 1, the time scope is, however, not uniform across countries to test the personalization thesis. The time scope greatly varies across political systems: some countries present an extensive time-scope coverage, while other countries hardly cover a few elections (because of limited elections organized under PR rules and/or data availability). Hence, intraparty competition is measured since the mid-1990s in a few countries (e.g. Panama, Finland, and Czech Republic), whereas other countries present hardly a couple of elections since the mid-2010s (e.g. Colombia, Suriname, and Switzerland). This is methodological limitation to take into consideration.

Data collection for national elections was conducted via official electoral information online as well as through electoral archives (most of them are publicly available or were obtained on request via official authorities). For European elections, we used the dataset compiled by the COMEPELDA project (Daübler et al. 2021). European elections arguably differ from national elections in terms of interparty and intraparty competition (especially its second-order nature). As a matter of fact, Dodeigne and Pilet (2021) have already demonstrated that European elections are characterized by a greater centrality of personalized elections, in comparison to national elections. This can be explained by a milder competition because of the second-order nature of European elections. However, it is also a unique institutional and political context to test the effect of electoral rules on intraparty competition for the same supranational legislative assembly, where representatives are elected from a variety of

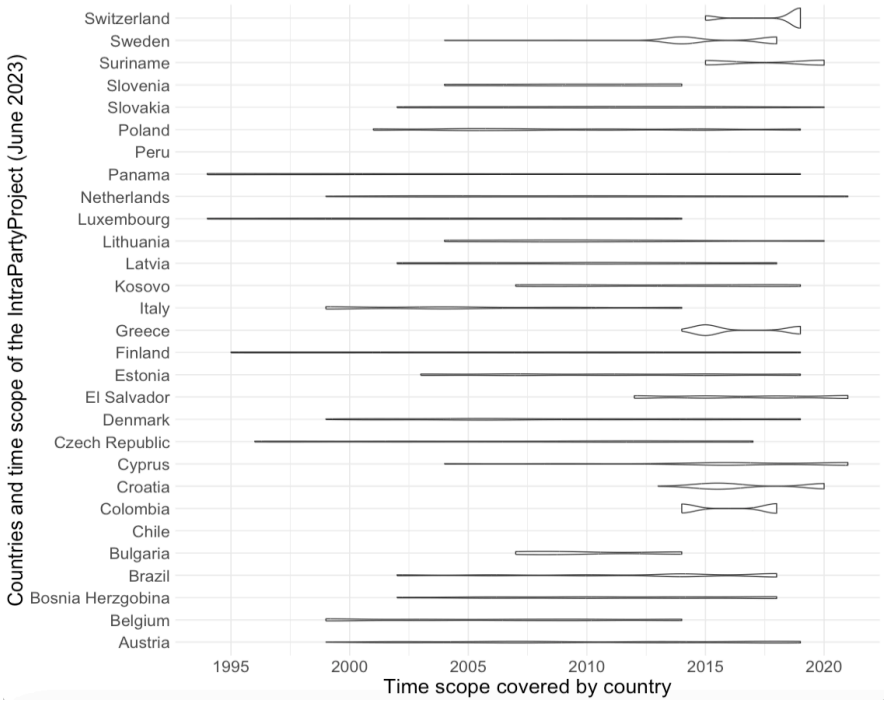
countries. Last but not least, including European elections permit to increase the geographical coverage in European democracies where majoritarian systems are generally used for national elections.

Table 1. Overview of the country covered by the IntraPartyComp Project (1994-2019)

Countries	Nb. of elections	Nb. of candidates	World area	Electoral systems
*Brazil	5	32.302	Latin America	Open
*Chile	1	960	Latin America	Open
*Colombia	2	2.714	Latin America	Open (since 2003)
*El Salvador	4	2.416	Latin America	Free
*Panama	6	3.501	Latin America	Mixed / Open
*Peru	3	6200	Latin America	Open
*Suriname	2	984	Latin America	Flexible
Austria	6	37.090	Western Europe	Flexible
Belgium	5	9.627	Western Europe	Flexible
Luxembourg	4	2.341	Western Europe	Free
Netherlands	7	8.072	Western Europe	Flexible
*Switzerland	2	8.455	Western Europe	Free
Czech Republic	7	37.621	Eastern Europe	Flexible
Poland	6	44.358	Eastern Europe	Open
Slovakia	6	6.122	Eastern Europe	Flexible
Bulgaria	3	374	Eastern Europe	Flexible (since 2013)
Latvia	6	8.860	Eastern Europe	Open
Lithuania	5	6.356	Eastern Europe	Mixed / Open
Sweden	2	15.402	Northern Europe	Flexible
Denmark	10	5.755	Northern Europe	Open
Estonia	5	5.529	Northern Europe	Flexible
Finland	9	15.038	Northern Europe	Open
Bosnia-Herzegovina	5	3.139	Southeastern Europe	Open
Croatia	3	7.401	Southeastern Europe	Flexible (since 2015)
*Kosovo	5	5.592	Southeastern Europe	Open
Slovenia	3	119	Southeastern Europe	Flexible
Cyprus	5	1.213	Southern Europe	Open
Greece	2	9.523	Southern Europe	Open
**Italy	4	4.485	Southern Europe	Open

* National elections only; ** European elections only. Remark: some of these countries are only covered for parliamentary parties while others include all candidacies according to data availability. For the sake of parsimony, only lists presented by parliamentary parties are presented below.

Figure 1. Time scope covered by the IntraPartyComp project, by country



4. Descriptive statistics

In line with recent research, we use the Gini scores to measure intraparty competition. The gini scores describe the dispersion of preference votes between co-partisan candidates wihtin the same lists. The Gini scpres produces a *relative* measurement (from 0 to 1) in which a score of 0 describes a situation of perfect equality in the distribution of preference votes (i.e. decentral personalized elections), while a score of 1 represents a situation of perfect inequality (i.e. central personalized elections, where all preference votes are captured by a single candidates). Former studies on intraparty competition have highlighted the importance of looking at the concentration of votes over candidates (e.g. Bergman et al. 2013), and several scholars have discussed the Gini-indicator as suitable for the empirical study of electoral intraparty competition (e.g. Wildgen, 1985; Villodres, 2003; Arter, 2013; Passarelli, 2017; Passarelli, 2020; Arter, 2013; Arter, 2021; Dodeigne & Pilet 2021, Dodeigne et al. 2023). Other measurements have also been used in the scholarship and have their owrn merits.(Arter, 2013; Dodeigne & Pilet 2021). For the comparative research of the intrapartycom project, the Gini coefficient presents, however, three key properties: (1) *scale independence* (the Gini coefficient provides relative scores between 0 and 1 percent for each list, irrespective of the electoral weight of the lists); (2) *population independence* (the Gini coefficient can be estimated irrespective of the number of candidates present on electoral lists) [2]; (3) *transfer principle* (when preferential votes switch from a very popular candidate to a least successful candidate between two elections, the Gini coefficient automatically reflects the greatest electoral equality between candidates, i.e. decentralized personalization).

[2] The Gini coefficient presents a small-sample bias: when the number of observations (n) is low, the Gini coefficient does not strictly vary between 0 and 1 (it varies between 0 and (n-1)/n). However, most electoral lists are big enough not to be affected by this small-sample bias. In the next steps of the project, we seek to include an adjusted gini coefficient that accounts for theses biases (se for instance Deltas 2003).

Figure 2. Distribution of Gini scores of electoral lists, by country (time scope: 1994-2020)

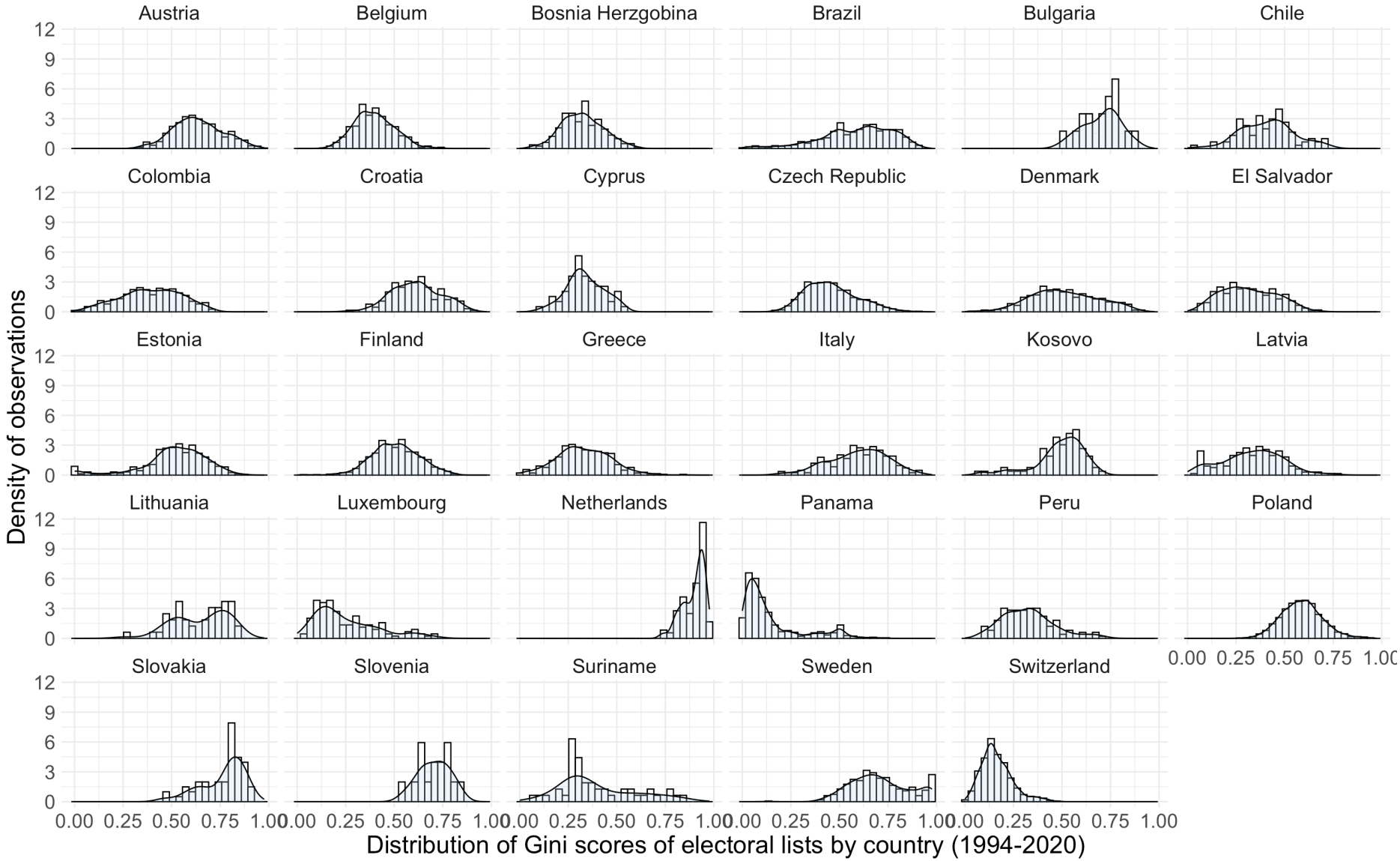


Figure 2 shows the distribution of the Gini coefficient by country (see also figure A1 for temporal evolution by country). First, some countries present lower intraparty competition as indicated by their high average scores on the Gini index: the Netherlands (0.90), Slovakia (0.77). By contrast, other countries such as Switzerland (0.16), Luxembourg (0.25) present the lowest Gini scores. This indicates a very intense intraparty competition with decentral personalized elections. In between these two groups of countries, we find many political systems with Gini scores in the 0.40-0.60 interval. Second, we observe that intraparty competition can be associated with a clear national pattern (that is to say, limited within-country variance). Hence, the Netherlands present a standard deviation of 0.06 (with a mean Gini score of 0.90), namely a strong centrality of personalized elections across – irrespective of party lists, electoral districts and over time. In other political systems, the variance of intraparty competition seems to be located within the country (with large differences across party lists and/or electoral districts). This is clearly identifiable with the flat density curves on figure 1 (e.g. Brazil has a standard deviation of 0.18, with a mean Gini score of 0.59).

We now discuss the distribution of the Gini scores according to our main independent variables, namely electoral systems, district Magnitude (M), Party magnitude (P) and number of Candidates (C). Figures 3a and 3b show the degree of intraparty competition according to electoral systems and its evolution over time. Categorization of electoral systems are based on Renwick & Pilet (2016) with a distinction between (1) open list systems, (2) flexible list systems, and (3) free list systems (see table 1 for classification by country). In line with H1, we observe that electoral systems unmistakably shape the intensity of intraparty competition: the latter is on average the highest in Free systems (low Gini scores, mean = 0.23, std= 0.13), and the lowest in flexible systems (higher Gini scores, mean = 0.56, std= 0.18). In between, we find that open list systems present a slightly fiercer intraparty competition than flexible systems (mean = 0.49, std= 0.22). In all electoral systems, we note a large variance indicating that other factors matter within countries (be they M, P or C). Finally, we note that figure 3b does not present a clear trend over time, but instead display ups and downs over the last decades. The only exception is found in free list systems which tend to reflect a slight structural increase in Gini scores, that would indicate a decreasing intensity in intraparty competition, in favour of greater centrality of elections.

Figures 4, 5 and 6 present the distribution of the Gini scores according to district and party features. For these variables, district magnitude (M) is defined as the number of seats in competition in a given electoral district, party magnitude (P) equals the number of seats obtained by a party list in a given electoral district, while number of co-partisan candidates (C) equals the number of candidates recruited on the party lists. M is based on official information from electoral regulations, while P and C are district-level variables that must be calculated for each party list across all elections. Contrary to H2a, the descriptive statistics does not indicate a positive relationship between M and intensity of electoral intraparty competition. On the opposite, a higher M seems to reflect central personalized elections. H2b is not validated either as greater P seems to be associated with higher Gini scores (lower intraparty competition, resulting in central personalized elections). Interestingly, it shows that a quadratic relationship best describes the relationship between P and intraparty competition. As we will observe in the next section, multivariate analyses tend, however, to tell a different story (validating H2b while providing interesting interpretation of the results for H2a). Finally, figure 6 shows the relationship between the number of candidates and the Gini scores: the

descriptive statistics also show that a quadratic term is necessary to describe evolution of intraparty competition according to list length. Counter-intuitively, figure 6 indicates that intraparty competition seems to be lower as the number of candidates increases (Gini scores become higher, indicating higher central personalized elections). It is only beyond a critically mass of candidates (about 80-100 candidates) that the intraparty competition becomes fiercer (as Gini scores decrease, indicating decentral personalized elections). As we will discuss further in the discussion, this indicates that M and P have key effects, but that they must be distinguished from C which has an alternative mechanism at work in the shape of intraparty competition.

Figure 3a. Distribution of Gini scores of electoral lists, by country (time scope: 1994-2020)

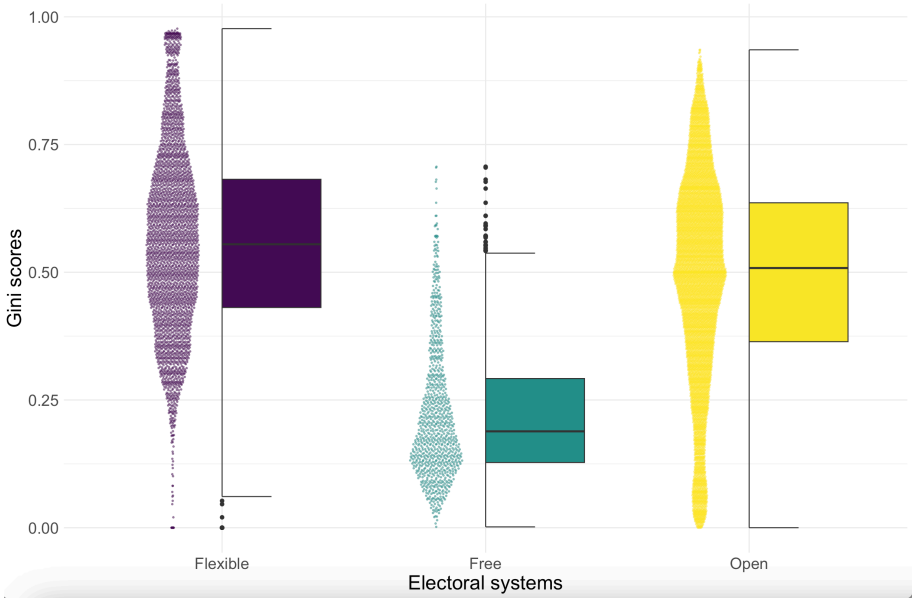


Figure 3b. Evolution of Gini scores over time (1994-2020), by electoral systems

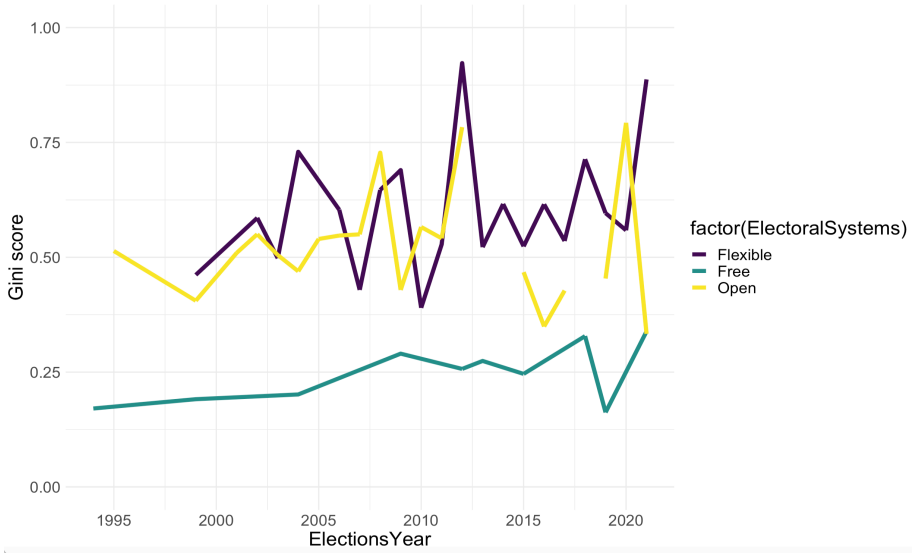


Figure 4. Distribution of Gini scores, by district magnitude

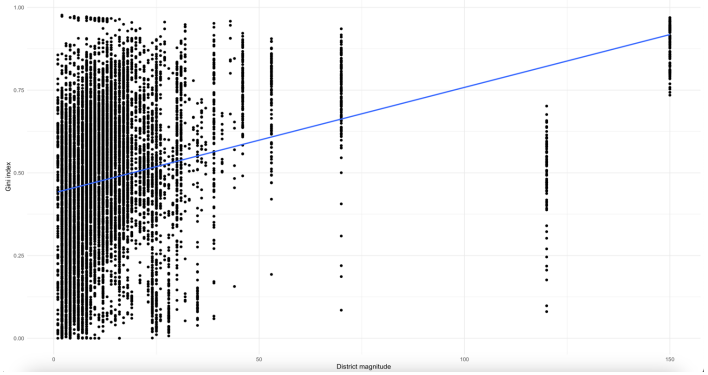


Figure 5. Distribution of Gini scores, by party magnitude

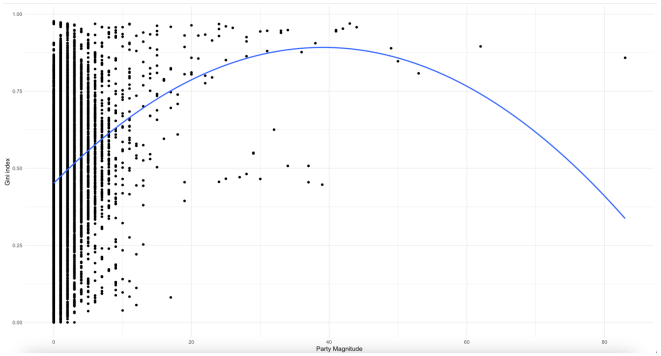
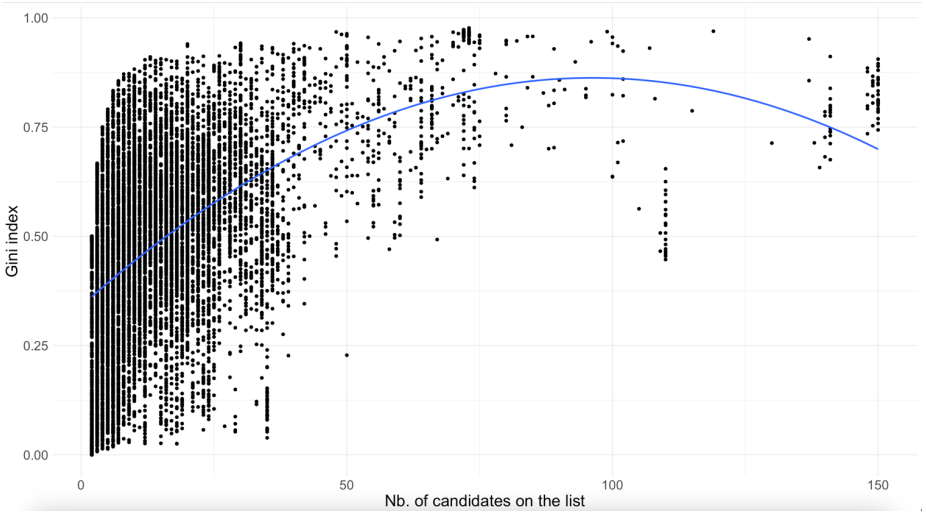


Figure 6. Distribution of Gini scores, by nb .of candidates (time scope: 1994-2020)



5. Results of the multivariate analysis

Because of the hierarchical structure and cross-classified data configuration of our dataset (i.e. electoral lists are presented by parties across multiple electoral districts in different countries), we develop regression models with fixed and random effects. In total, the regression models cover 11.271 electoral lists (the unit of observations) presented by 543 parties (level I) in competition in 588 electoral districts (Level II) across 29 countries (Level III). Furthermore, we take into account the longitudinal structure of our dataset, by controlling for autocorrelation of repeated measures of the Gini scores over multiple elections (1994-2019). Because of the bounded limits of our DV (Gini scores range from 0 to 1), we did not opt for a linear regression with ordinary least squares (as the model would fit a regression line that can take values below 0 and above 1)[3]. Instead, we implement a generalized linear mixed model using template model builder (glmmTMB library on R, with beta distribution and link-logit). Note that our observations can theoretically take 0 and 1 values on the Gini scores, while a beta distribution implies that 0 and 1 are strictly non-inclusive values (i.e. 0 < DV <1). Empirically, none of the electoral lists achieve a Gini score of 1, but 49 lists obtained a Gini score of 0 (0.4% of all our observations). For the sake of simplicity at this stage of the project, we excluded these 49 observations (an alternative model would be to use a zero-inflated beta regression model that deals with 0 scores). Our models are thus based on 11.222 observations. See results on table 1.

First, we observe that in the baseline model (not reported on table 1), most of the variance is located at the country-level (76.4 %) and more marginally at the party and district levels (respectively, 12.6 %and 11.0 %). Also note that a baseline model with random effects substantially increase the Efron's R-Squared from 1% to 72.9%, in comparison to models without random effects (in the OLS models, it also dramatically increases from 2.8% to 73.4%). Goodness-of-fit is unmistakably much better when considering the hierarchical structure and cross-classified data configuration of electoral competition. Once we consider country-level factor (electoral systems) and districts-level factor (district magnitude), Efron's R-Squared slightly improves to 76.6%. The inclusion of election years makes, however, no improvement (identical Efron's R-Squared), while this temporal variable is not significant (p= 0.48). Likewise, the inclusion of interactive effects between electoral systems and D, P and C introduces only marginal improvements the Efron's R-Squared, but most interactive terms are statistically significant. As a final note, diagnoses provide in general indication of goodness-of-fit for most models – even though some residual variance remains not entirely normally distributed and would deserve further considerations.

Second, we observe that several of our hypotheses are verified. Regarding electoral systems (H1), free list systems present the lowest Gini scores at a statistically significant level (i.e., the fiercest intraparty competition, decentral personalized elections). On average, free list systems present Gini scores of 0.16, while flexible and open list systems have respectively average Gini scores of 0.47 and 0.44. There is, however, no statistically significant difference between flexible and open list systems. Regarding party magnitude (H2b), the effects P are in line with our expectation: as P increases, Gini scores decrease – leading to greater intraparty competition. Hence, for a party list that obtains 0 seat at elections, the Gini score is on average

[3] The OLS models were, however, extremely convergent with the models presented in this research note with high (marginal) R-squared values (between 70 and 81%).

of 0.48; while a highly successful list that obtains about 25 seats present an average Gini score of 0.34. In this respect, we note that the intensity of intraparty competition reaches an absolute floor under which additional increases of P make hardly any difference (i.e., a stabilization of intraparty competition between 20 and 35 seats). Interestingly, we observe that beyond under very large P (P>40 seats), Gini scores rise again (Figure A3 in appendix). However, such situations hardly concern a couple of electoral lists in our dataset (N=10 electoral lists obtained 42 seats or more at elections). Yet, this empirical effect is theoretically interesting as it connects to the finding that in the largest districts (where a large number of seats can be won), central electoral personalization is observed (see discussion below).

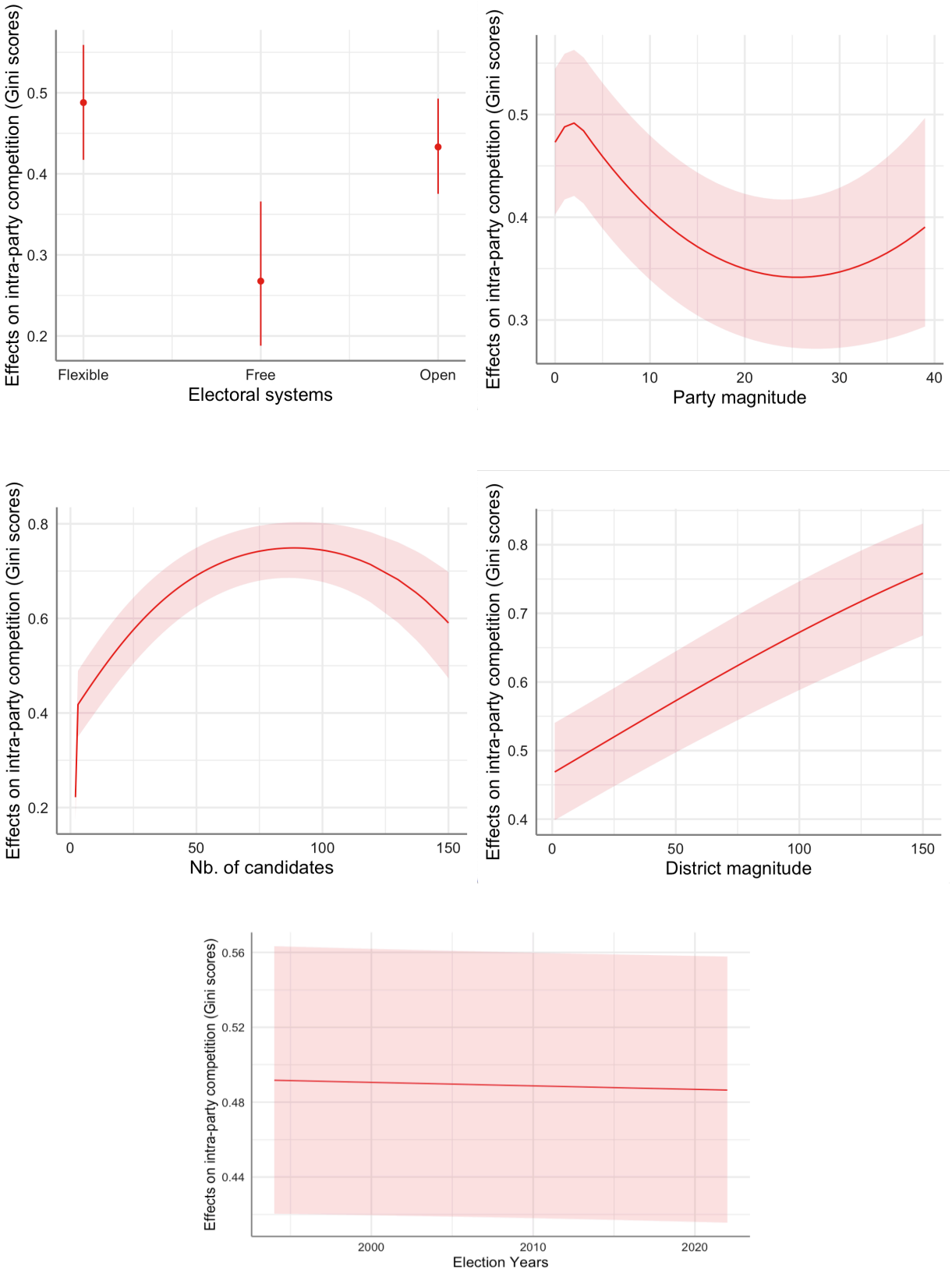
Contrary to our expectation for district magnitude (H2a), we observe that M does not trigger more intense intraparty competition. On the opposite, when M increases, Gini scores increases – leading to central personalized elections. In smaller districts (e.g., M=15 in some Polish, Danish or Latvian districts), the Gini scores are on average of 0.5; while amongst the largest districts (e.g., M=120 in Kosovo), the Gini score is above 0.7. These results might be surprising as they contradict one of the founding pillars in electoral studies. Yet, these results also make sense when considering the causal mechanism at work. Indeed, the largest districts often constitute a key electoral arena in which top politicians decide to compete (e.g., Prime ministers and party leaders). These districts thus attract some of the greatest media visibility. The combination of high visibility of top candidates, national focus in media coverage, and key electoral issues at stake in these districts often tend to presidentialize elections (Dodeigne, Put & Teuber 2023). These effects are even stronger in electoral systems where a single preference vote is authorized for each voter. For instance, the two largest districts of Uusimaa and Helsinki in Finland cover 30 % of the seats in competition in the national parliaments (200 seats in competition in 13 districts). These two districts often attract the top candidates, who manage to concentrate single preference vote on their own name. Likewise, it has been observed in Belgian local elections that prominent candidates (e.g. members of the local governments) receive the largest proposition of single preference vote in larger districts (Dodeigne & Pilet 2023). Overall, in line with Crisp et al. 2007, we can conclude that P is the key determining factor for larger intraparty competition – leading to *decentral* personalized elections. By contrast, higher M conduct to *central* personalized elections.

Finally, our results partly confirm that the number of candidates present on party lists has an enhancing effect on intraparty competition (H3). Yet, this effect only applies for the lists with the highest C (C>100): in that context, the Gini scores decreases as C increases (see below). But for most lists in our dataset (two thirds of all lists have C< 17 candidates, median being 12 candidates), there is a negative relationship between C and Gini scores. Hence, we observe on figure 7 that the Gini scores increase from about 0.4 for the smallest lists (a couple of candidates), to reach about 0.75 for the largest lists (up to 80-100 candidates). In other words, higher C cause lower intraparty competition (centralization of elections). As C is correlated to M (0.62), it is the same kind of causal mechanism at work: longer list tends to be more presidentialized (see above). However, contrary to M, the relationship between C and intraparty competition is not linear but quadratic: beyond a certain threshold (i.e. lists of more than 100 candidates), we observe a *decentralization* of elections. There seems to be simply 'too many candidates' on these lists to prevent intraparty competition from occurring. Hence, Gini scores goes from 0.72 for lists of 100 candidates to below 0.60 for lists of 150 candidates (as in the national district in NL). This decrease in Gini scores indicates greater competition.

Table 2. Multilevel regression of the degree of intraparty competition (Gini Scores)

	Model 1		Model 2		Model 3		Model 4		Model 5	
Predictors	*Estimates*	*p*	*Estimates*	*p*	*Estimates*	*p*	*Estimates*	*p*	*Estimates*	*p*
(Intercept)	1.77	0.789	1.60	0.824	not reported	**<0.001**	0.55	0.777	1.72	0.798
ElectionsLevel [National]	0.63	**<0.001**	0.63	**<0.001**	0.64	**<0.001**	0.65	**<0.001**	0.62	**<0.001**
District magnitude	1.01	**<0.001**	1.01	**<0.001**	1.01	**<0.001**	1.01	**<0.001**	1.01	**<0.001**
Electoral systems (Ref. Category =Flexible)										
ElectoralSystems (Free)	0.38	**<0.001**	0.88	0.724	0.00	**<0.001**	0.46	**0.004**	0.53	**0.019**
ElectoralSystems (Open)	0.80	0.199	0.98	0.921	0.00	**<0.001**	0.91	0.582	0.75	**0.098**
PM (1st knot)	1.13	**<0.001**	1.13	**<0.001**	1.14	**<0.001**	1.17	**<0.001**	1.14	**<0.001**
PM (2nd knot)	0.13	**<0.001**	0.13	**<0.001**	0.12	**<0.001**	2.04	**0.064**	0.13	**<0.001**
PM (3rd knot)	27.09	**0.001**	26.83	**0.001**	28.80	**<0.001**	0.76	0.878	26.43	**0.001**
Nb. of C (1st knot)	2.48	**<0.001**	2.96	**<0.001**	2.49	**<0.001**	2.48	**<0.001**	2.47	**<0.001**
Nb. of C (2nd knot)	28.95	**<0.001**	27.92	**<0.001**	29.38	**<0.001**	28.31	**<0.001**	30.93	**<0.001**
Nb. of C (3rd knot)	5.05	**<0.001**	13.70	**<0.001**	5.12	**<0.001**	5.43	**<0.001**	4.52	**<0.001**
Election years	1.00	0.476	1.00	0.442	0.99	**<0.001**	1.00	0.829	1.00	0.487
Interactive effect with electoral systems (Ref. Category =Flexible)										
Free × Nb. of C (1st knot)			0.56	**0.014**						
Open × Nb. of C (1st knot)			0.83	0.179						
Free × Nb. of C (2nd knot)			0.16	0.116						
Open × Nb. of C (2nd knot)			1.21	0.474						
Free × Nb. of C (3rd knot)			0.00	0.163						
Open × Nb. of C (3rd knot)			0.27	**0.003**						
Free × Election Year					1.05	**<0.001**				
Open × Elections Year					1.02	**<0.001**				
Free × P (1st knot)							0.95	0.501		
Open × P (1st knot)							0.99	0.837		
Free × P (2nd knot)							0.00	**<0.001**		
Open × P (2nd knot)							0.02	**<0.001**		
Free × P (3rd knot)							not reported	**0.037**		
Open × P (3rd knot)							91.06	**0.034**		
Free × M									0.97	**<0.001**
Open × M									1.00	0.223
Random Effects										
σ^2	0.01		0.01		0.01		0.01		0.01	
$\tau_{00\ District}$	0.05		0.04		0.05		0.05		0.05	
$\tau_{00\ Party}$	0.06		0.07		0.07		0.06		0.07	
$\tau_{00\ Country}$	0.25		0.26		0.27		0.25		0.27	
ICC	0.98		0.98		0.99		0.98		0.99	
N District	588		588		588		588		588	
N Party	542		542		542		542		542	
N Country	29		29		29		29		29	
N Electoral list	11222		11222		11222		11222		11222	
Efron's R-Squared	0.766		0.765		0.768		0.768		0.765	

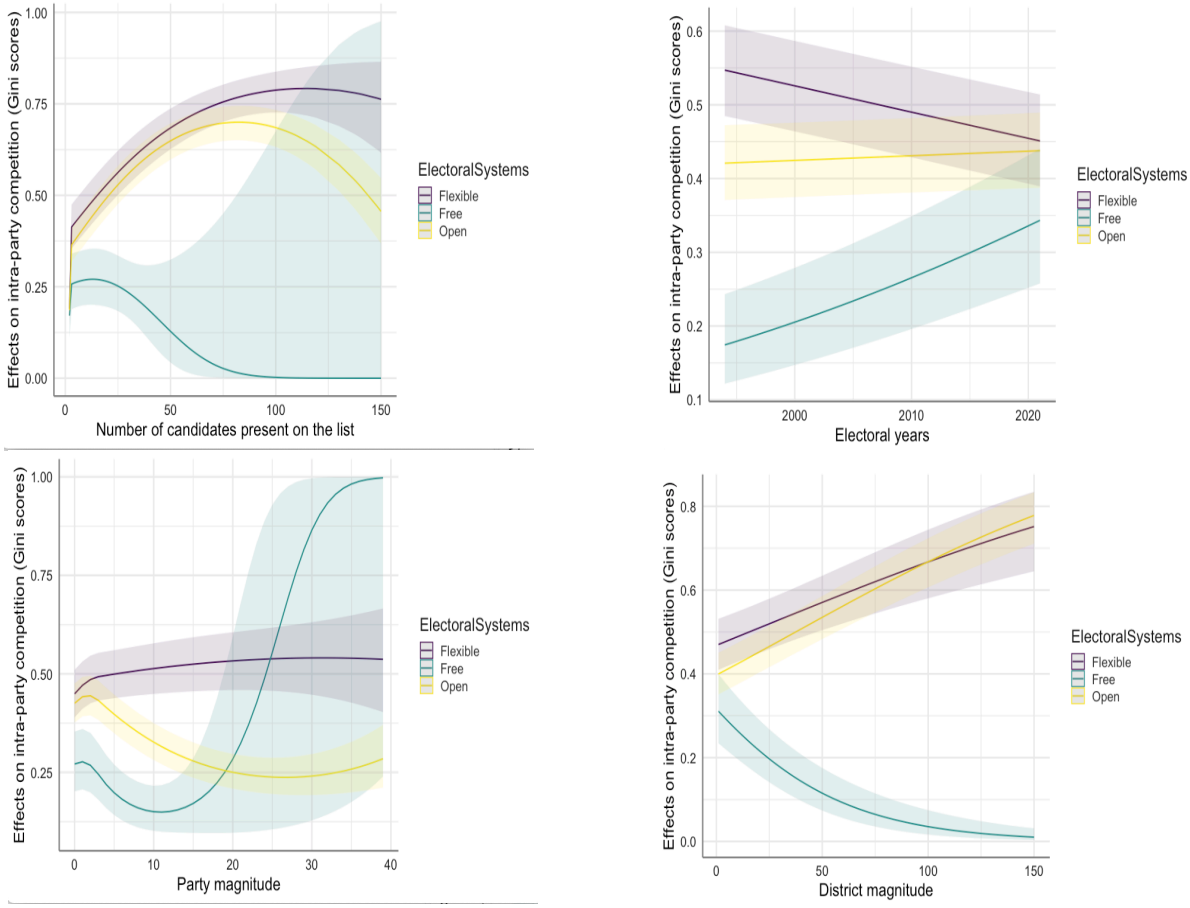
Figure 7. Marginal effects of electoral systems, district magnitude (M), party magnitude (P) and number of co-partisan candidates (.C).



Note: Marginal effects are estimated based on coefficients from model 1.

Before concluding, we briefly discuss the interactive effects observed (figure 8). First, we observe that the absence of temporal evolutions seems to hide differences between electoral systems. Free list systems have become increasingly centralized over time while flexible list systems have become more decentralized. By contrast, the open list systems do not seem to present any temporal variance in their Gini scores from the mid-1990s and onwards. Interestingly, we observe overall a tendency towards mid-range Gini scores across all types of electoral systems (average Gini scores of 0.35-0.45 in the early 2020s, whereas the gap between electoral systems was much wider in the mid-1990s 0.15-0.55). This would deserve greater attention in the next steps of the project, but these trends seem to underline the need to further study the mid-range intensity of intraparty competition. In other words, to study *oligarchization* of elections, in addition to the seminal classification of *centralization* and *decentralization* of elections (see discussion in Dodeigne & Pilet 2023). Second, we observe that some of the party-level and district-level factors shall always be studied as specifically related to country-electoral contexts. Figure 8 shows that larger C and M make intraparty competition fiercer in free electoral systems, while they trigger an opposite trend in open and flexible list systems. Third, larger P intensify intraparty competition only in free and open list systems. In flexible list systems, there is virtually no effect of P (almost perfectly horizontal line over time. Overall, these interactive effects underline the necessary comparative research to study the effects of party/district-level factors as specific to the electoral systems in which they are observed.

Figure 8. Marginal effects of electoral systems, district magnitude (M), party magnitude (P) and number of co-partisan candidates (C)



Note: Marginal effects are estimated based on coefficients from modes 2, 3, 4 and 5

Discussion: next steps for the IntraPartyComp project

The goal of the IntraPartyComp project is to develop an empirically and theoretically better understanding of the impact of institutional and political factors upon intraparty competition. For these research goals, the project has developed a large comparative research approach (29 countries across the world) and over time (since the mid-1990s until present days). The methodological challenge remains important to gather such a comprehensive dataset. Among other challenges, we seek to go beyond the current independent variables we collected (electoral systems, M, P and C), even though this limited number of variables already explains a large part of the cross-sectional and within country variance (R-squared values above 0.75).

First, we seek to take into consideration the nature of the political parties. A distinction could be made between newer and established political parties (Aardal & Binder 2001). The latter have to be, by definition, present for a longer period of time. Voters are therefore more familiar to them, but also to their candidates. By contrast, within newer parties, voters often know a limited number of politicians - if they know anyone beyond the party leader. Electoral campaigns of newer parties tend indeed to be more personalized around the leader than with older parties (Van Aelst 2007). We could therefore expect that newer parties are more likely to be affected by centralized personalization. Larger parties tend to be less dominated by a single leader than smaller parties (Wauters et al. 2016). The explanation is partly the same for newer and older parties. Smaller parties have fewer prominent politicians. They have fewer MPs and ministers. And they are, therefore, more inclined to be dominated by the party leader. Furthermore, larger parties have more candidates elected within the list which impacts both candidates and voters' electoral behaviour. As the number of a party's seats increases, candidates increasingly invest in their electoral campaign to seduce voters (Crisp et al. 2007). In the meantime, voters are also strategic in the way they cast their preference votes (André et al., 2012): they can concentrate their votes on a large pool of candidates who stand a real chance of being elected. All these elements lead to expect a greater dispersion of votes between co-partisan candidates in larger parties.

Second, we seek to account for the variance in candidate recruitment patterns (Rahat & Hazan 2001). The notoriety of candidates to voters would understandably affect how preference votes are distributed. More specifically, we expect that when well-known politicians campaign on the same list (the "big fish", such as incumbent MPs, ministers or party leaders), the competition among candidates is more dispersed than when fewer prominent candidates are on the ballot (Poguntke & Webb 2005, Holtz-et al. 2014, Wauters et al. 2018, Dodeigne & Pilet 2021).

Thirdly, we seek to foster our theoretical contribution regarding the causal effects of the party and district-level factors. Not only do we find inverted relationship invalidating some of our hypotheses (e.g., M and intraparty competition); but we, furthermore, argue for the need to better describe the empirical reality of electoral intraparty competition (e.g., quadratic relationship between C and vote dispersion between co-partisan candidates on lists). Science is a cumulative process: it does not indicate that our findings entirely question the foundations of the established scholarship. Rather, it suggests that some theoretical causal mechanisms shall be refined in the context of modern politics (i.e., higher party fragmentation, new pattern of media coverage under digital electoral campaigns, to cite but a few).

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Appendix

Figure A1. Evolution of Gini scores over time (1994-2020), by country

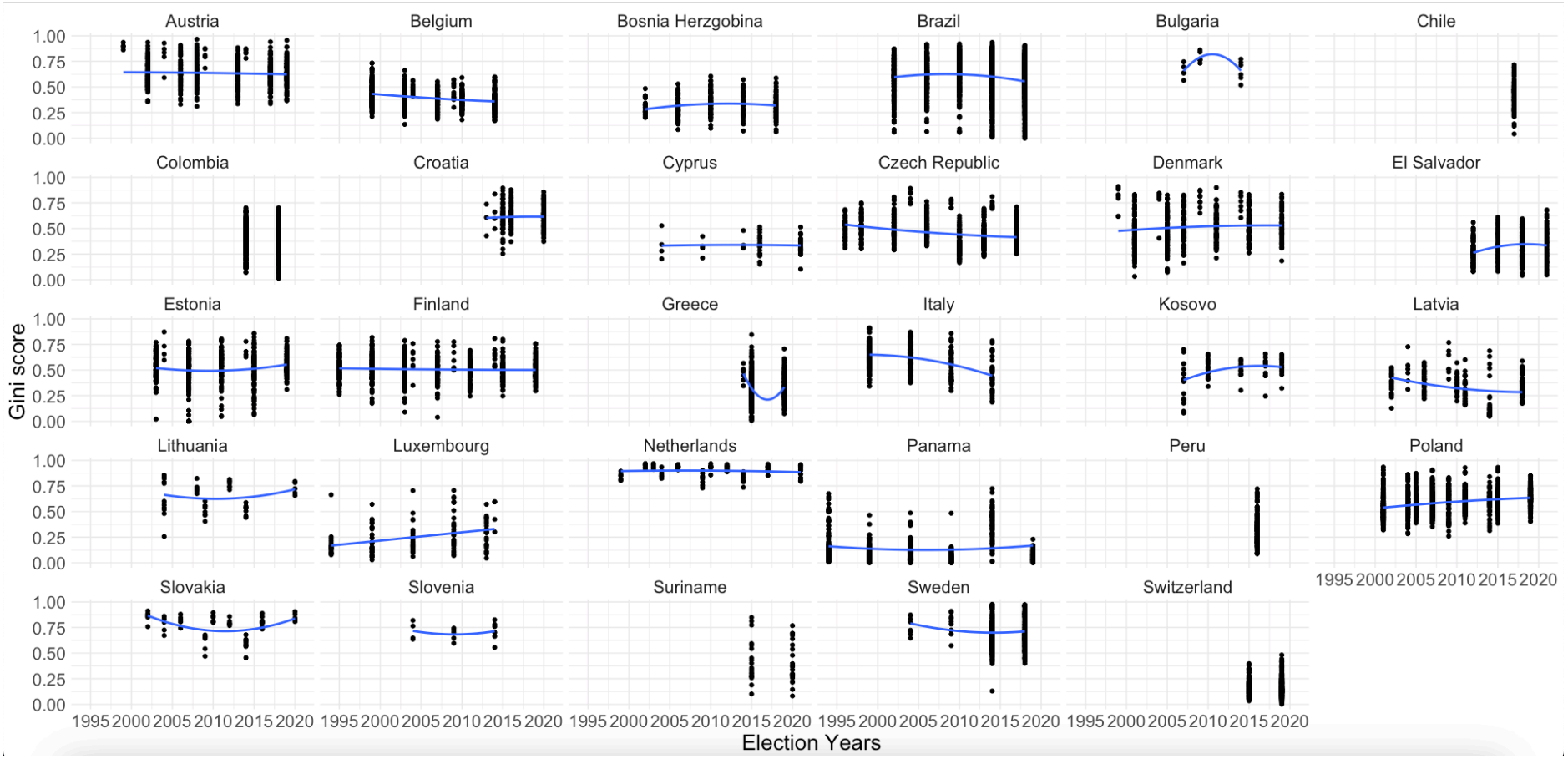

Figure A2. Distribution of Gini scores, by nb .of candidates and countries (time scope: 1994-2020)

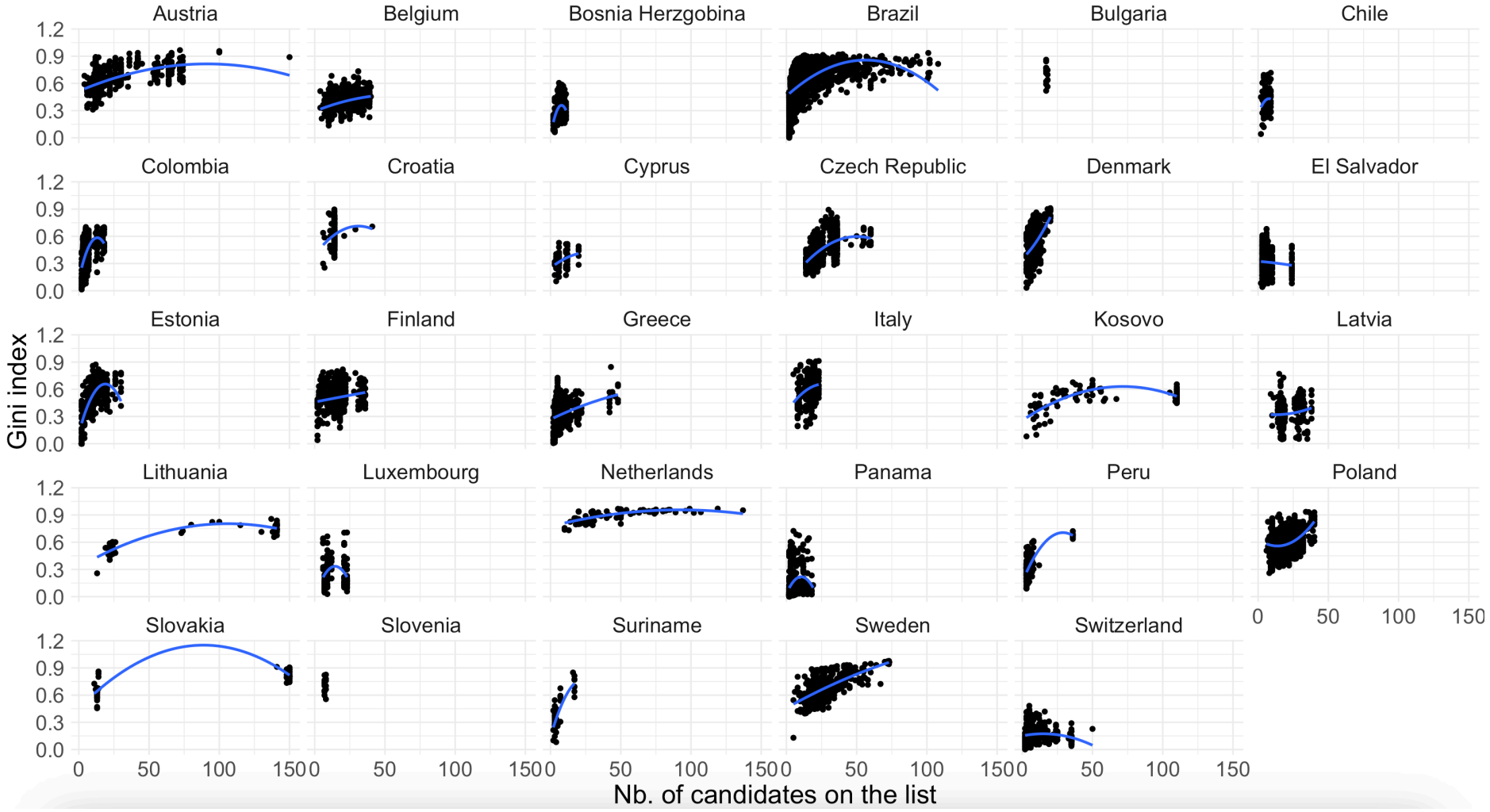

Figure A3. Marginal effects of Party magnitude (Marginal effects estimated from model 1).