

The Conditional Effect of District Magnitude on Compensatory Voting

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Abstract

This paper considers the interdependencies between ‘policy balancing’, where voters decide to support a party which is more extreme than their own preference and ‘traditional’ strategic voting, where voters avoid ‘wasting’ their vote by supporting a party with weak electoral chances.

Literature on policy balancing has not sufficiently accounted for the mutual relationships between the two forms of strategic voting. The incentives for policy balancing and the incentives for supporting a viable party may cancel each other out. This will happen if the more extreme alternative that should be preferred from the point of view of policy balancing is not a viable party in a voter’s electoral district.

This paper examines these conditional effects in the 2007 Swiss federal elections. This country is ideally suited for this research question, as it offers both strong incentives for policy balancing (grand coalition) and strong variation across electoral districts in the incentives for traditional strategic voting (PR elections with varying district magnitude). While the incentives for policy balancing are the same for all citizens, the frequency of policy balancing should vary across electoral districts and be higher in the large ones.

Keywords: Spatial models; Issue voting; Compensatory voting; Switzerland

Introduction

The literature on strategic voting has emphasized two types of incentives that may lead citizens to defect from their preferred party. ‘Traditional’ strategic voting (Cox 1997) focuses on parties’ electoral chances at the electoral district level. Citizens may avoid ‘wasting’ their vote by defecting from their preferred party if it has weak electoral chances in their electoral district. More recently, the literature on ‘compensatory voting’ has also emphasized national-level incentives (Adams et al. 2005; Kedar 2005, 2009). Following this argument, citizens should consider how their voting decision affects the government position. When that position is the product of a bargaining among coalition members, citizens will be incited to support relatively extreme parties, as these have a potentially larger effect on the average government position.

While both types of incentives have been shown to be relevant for explaining voting choices, we argue that more attention should be paid to the interdependencies between them. Literature on policy balancing has not sufficiently accounted for the mutual relationships between the two forms of strategic voting. Citizens may be confronted with conflicting incentives. The party which would bring the expected government’s position closest to a voters’ preferred position may not be viable in his or her electoral district.

In this paper, we explore the interplay between traditional strategic voting and compensatory voting. We do so by examining voting choices in the 2007 Swiss Federal elections. There are several reasons why Switzerland is a particularly interesting case for this research question. First, the consensual character of Swiss politics and the inclusive nature of the Federal government (a grand coalition of four parties with a combined vote share of about 75 per cent) mean that the incentives for compensatory voting are particularly strong. At the same time, the electoral districts (the cantons) vary strongly in size and thus in the strength of the incentives for traditional strategic voting. This institutional context presents an ideal setting for examining the conditional relationship between traditional strategic voting and compensatory voting.

A second reason is linked with recent developments in Swiss politics. The Swiss political landscape has been marked by important changes in the last two decades. The right-wing populist Swiss People’s Party (SVP) has made impressive electoral gains since the early 1990s. Long the junior partner of the governing coalition, it now has the largest vote share in the National Council (lower house). This status was confirmed in the 2007 elections, where the SVP could further expand its lead. At the same time, the major left-wing party, the Social-Democrats (SPS), could hold to its vote share of the late 1980s or improve upon it, while the

Greens have made important gains. One can thus observe the formation of two poles with strongly divergent ideological positions. These party blocs have strengthened at the expense of the major centre and centre-right parties, the Christian-Democrats (CVP) and the Liberals (FDP), which have suffered significant electoral losses in recent elections.

A common interpretation of these developments is that voters, too, have become more polarized. The relatively weak results of the centre parties in recent elections would be a direct reflection of the comparatively high degree of ideological polarization among Swiss citizens. Large numbers of voters should share the ideological position of the SVP and of the SPS or the Greens, respectively. Given the magnitude and speed of the changes in the party landscape, this would mean that the ideological preferences of Swiss voters have been transformed to an impressive degree over a relatively short period of time. This paper tests a different interpretation, namely that the current polarization of the party landscape is to a large extent a product of strategic voting.

The next section introduces compensatory voting in more detail and compares it to traditional strategic voting, which is influenced by parties' chances of success in a given electoral district. We also explain in more detail why the two forms of strategic voting should be conditional on one another. Then, we present the operationalization of our concepts and discuss the estimation of the statistical model, which combines characteristics of citizens, parties, and cantons. This is followed by the presentation and discussion of the empirical results. We find strong evidence for compensatory voting in the Swiss electorate and show that its frequency increases with district magnitude. The paper concludes by discussing some implications of our findings.

National- and district level incentives for voting strategically

Many traditional spatial models of voting conceive of voters and parties as being located on a single latent policy continuum ranging from, say, left to right (e.g., Cox 1997). In general, voters are expected to receive the highest utility from voting for the party closest to them. In contrast, strategic voting means that citizens support a party other than the most proximal with the intention of influencing the outcome of the election (Blais et al. 2001). Two forms of strategic voting have been identified in the literature. The best known form is when voters are influenced by the perceived *electoral chances* of parties. Voters may be incited not to support their preferred party because it has weak chances of winning the election (Cox 1997). In other words, citizens should avoid 'wasting' their vote by supporting only viable parties. The incentives for such behaviour are typically stronger in majoritarian elections than in PR

electoral systems. As a consequence, much of the literature on traditional strategic voting has dealt with elections held under majoritarian rules.

'Compensatory voting' is a second form of strategic behaviour that has received some attention in the more recent literature (Grofman 1985; Adams et al. 2005; Kedar 2005, 2009; Blais et al. 2006; Bargsted and Kedar 2009). Citizens' choices may also be influenced by their expectations about the *government position*. They may think about how a weakening or strengthening of the different parties would impact on the policies implemented by the government. Such considerations should be particularly important in PR electoral systems, where governments are often formed by a coalition. No single party can implement its preferred positions fully. The government position is a result of negotiations among the coalition members. This creates incentives for voters to be strategic. Supporting a party other than their preferred party may be the most effective way to keep or move the government position close to their ideal point.¹ Previous research has shown strong evidence for such compensatory voting, particularly in elections where the formation of a coalition government was expected (Kedar 2005, 2006).

Both forms of strategic voting fit into the general definition given above. But they differ in the outcome voters seek to influence and in the origin of the relevant incentives. With traditional strategic voting, citizens try to influence who wins in their electoral district (or what the relative strengths of the parties are). The corresponding incentives are created by the electoral chances of the parties at the *district level*. In the case of compensatory voting, citizens' goal is to influence the government position. The incentives for this lie at the *national level* and they are thus the same for all voters in a given election. However, their impact on voters' behaviour is still likely to be moderated by district specific factors. All voters may recognize that an increase in the vote share of the more extreme parties has a larger effect on shifting the government position. Supporting a non-centrist party, however, only makes sense if it is viable in one's electoral district. In other words, incentives for compensatory voting are conditioned by the incentives not to waste one's vote on a non-competitive party.

Incentives for compensatory voting are likely to be particularly strong in Switzerland. It is often considered one of the best examples of a consensual democracy (Lijphart 1999), where institutions guarantee that policies are the product of a compromise among many players. The Swiss federal government, the Federal Council (FC), has been formed by a coalition of the

¹ There are similarities between compensatory voting and 'directional' voting (Rabinowitz and Macdonald 1989; Merrill and Grofman 1999). Both models of issue voting suggest that a substantial share of citizens should support parties that are more extreme than their own preferences. Compensatory voting, however, avoids the arbitrary assumptions (such as defining the region of acceptability) that must be made when applying the directional theory of issue voting.

four largest parties from 1959 to 2007, including the left-wing Social-Democrats (SPS), the centrist Christian-Democrats (CVP), the right-wing Liberals (FDP), and the right-wing populist Swiss People's Party (SVP). During most of this period, the SVP was the junior partner in this grand coalition, holding one of the seven governmental portfolios, while the other coalition members had two Federal Councillors each. Following the 2003 election, the SVP claimed a second seat, at the expense of the Christian-Democrats. As each governmental party has a minority position within the Federal Council, eventual changes in the relative strength of the parties within the government have a much diluted effect on the average governmental position. This should create strong incentives for compensatory voting. These can be illustrated by referring to Figure 1, which presents the left-right positions of the governmental parties and of the Federal Council at the moment of the 2007 federal elections.²

<Figure 1 about here>

The Federal Council has a centre-right position, with an average of 0.57 on the 0-1 left-right scale. Let us consider the case of a moderate right-wing voter, which shares the ideological position of the FDP (at 0.62). The government position came closer to that citizen's ideal point after the 2003 elections, when the SVP won a second seat at the expense of the CVP. If the SVP fares badly in 2007 the CVP may reclaim the governmental seat it lost in 2003. This would move the government position back toward the centre (at 0.53) and away from the hypothetical voter considered in this example. If the SVP defends or increase its share of votes, in contrast, it will probably keep its second seat in the government and the status quo would be confirmed. In this situation, moderate right-wing voters who prefer the status quo to a leftwards shift will be incited to vote for the SVP. This will be the case even if they are, in ideological terms, closer to the FDP than to the SVP.

The incentives for both forms of strategic voting should be linked to the district magnitude, which varies strongly in Switzerland.³ One of the best known results of formal models of party competition under the wasted vote logic is the emergence of local two-party systems in single member districts (SMD), where both competitors converge on the median voter's position (e.g., Cox 1997). If true, the parties that possess high leverage with regards to moving the national government's policy would be exactly those that are, due to their non-

² The parties' positions are based on the average voters' perceptions measured in the 2007 Swiss election study. The government's position is the average position of the governmental parties, weighted by their share of portfolios.

³ Swiss electoral law divides the country into 26 electoral districts (the cantons) ranging from 6 SMDs to multimember districts with 34 seats (canton of Zurich).

centrist ideological positions, unable to win the plurality of votes in SMDs. As the district magnitude rises, in turn, the vote shares required for winning seats declines and the electoral prospects of non-centrist parties improve. Thus, strategic voters in an SMD should be primarily worried not to waste their vote on a hopeless district party (since otherwise they would not be able to influence the national balance of power whatsoever), and vote for a party with plurality appeals. In contrast, strategic voters in larger districts do not have to worry so much about district level viability, and may vote for non-centrist parties capable of moving the national policy status quo into their preferred direction. In linking the rationales from the two literatures on strategic voting, we would therefore expect compensatory voting to increase with rising district magnitude.

Data and operationalization

To test our hypotheses, we rely on data from the 2007 Swiss election study.⁴ This is a post-election survey conducted immediately after the election of 23 October 2007. about 4'400 interviews were conducted, combining a national representative sample and additional samples in smaller cantons to ensure a minimum of 100 observations in each electoral district. Our dependent variable is a measure of voters' propensity to support a given party. Relying on such *voting propensities* (y), rather than voting choice, is quite frequent in the framework of spatial models. The analysis focuses on the evaluation of the choice alternatives, rather than on voting choice. This corresponds to a two-stage model of the voting decision process (Van der Eijk et al. 2006; Rosema 2006), where the actual *voting choice* is preceded by *evaluations of the parties* in competition. The evaluation stage largely determines the voting decision: Citizens should simply support the party for which they have the highest voting propensity (Van der Eijk et al. 2006). It is thus possible to examine the evaluation stage rather than the choice stage. In doing this, one is still looking at the same decision process. In addition, modeling voting propensities has several advantages (Tillie 1995; van der Eijk et al. 2006). One of the most important ones is to offer a more rigorous test of the underlying model of voting choice. The hypotheses about the determinants of party preferences are not tested by looking at a simple dichotomy between the party voters supported vs. all other parties. Rather, the expected differences in voting propensities can be tested for all important parties in a given context.

A potential drawback of voting propensities is that they could be less strategic than voting choice itself. The literature on voting propensities argues that these variables include strategic

⁴ The data are available from the Swiss Foundation for Research in Social Sciences (<http://www.selects.ch>).

considerations (e.g., van der Eijk et al. 2006; van der Brug et al. 2008), but the evidence is rather limited. We cannot exclude that voting propensities are driven to some extent by sincere voter preferences, disregarding the strategic considerations we try to capture. However, this also means that we are performing a more conservative test of our hypothesis and it does not undermine the conclusions we may reach if we do observe compensatory voting.

In the 2007 Swiss election study, voting propensities were measured for five to six parties, depending on the canton. Citizens were invited to indicate how likely it is that they will ever vote for each of the corresponding parties. Answers were coded on an 11-point scale, ranging from a ‘very low probability’ to a ‘very high probability’. This variable is recoded to the 0-1 range. For the present study, the analysis is limited to the voting propensities for the governmental parties, that is, the Social-Democrats (SP), the Christian-Democrats (CVP), the Liberals (FDP) and the Swiss People’s Party (SVP). The sample is defined in this way to allow us to focus on compensatory voting among the members of the governing coalition. The spatial components of the voting choice model are based on citizens’ position on the left-right scale and on their perception of parties’ position on that same scale. Respondents were asked to locate both themselves and the main parties on an 11-point left-right scale. We have rescaled this item to range from 0 (left) to 1 (right), and use this information to compute both the proximity and compensatory spatial components. The proximity component is based on the squared Euclidean distance between voters and parties. Accordingly, voter i ’s utility U from party j is defined as:

$$U_{ij}^P = -(v_i - p_{ij})^2 \quad (1)$$

where v is the voter i ’s and p is the party j ’s position on an ideological continuum as perceived by voter i .⁵ Thus, the utility of i from j so defined increases with decreasing (perceived) distance between voter and party.

Rather than relying on (perceived) party positions, the compensatory component according to Kedar (2005) incorporates the voter’s perception of the corresponding party’s impact on the government’s left-right position:

$$U_{ij}^C = (v_i - G_{i,-j}^*)^2 - (v_i - G_i)^2 \quad (2)$$

where G_i is the actual left-right position of the government, as perceived by voter i . It is defined as:

⁵ Using voters’ perceptions of party positions is the standard procedure in the literature on proximity issue voting (e.g., Adams et al. 2005). It also makes sense from the underlying theoretical model. All voters are not assumed to perceive parties’ positions in the same way.

$$G_i = \sum_{j=1}^J w_j p_{ij} \quad (3)$$

where w_j is the share of government seats of party j . $G_{i,j}^*$, finally, is the counterfactual position of the government that would result from the exclusion of party j , as perceived by voter i . It is defined as:

$$G_{ij}^* = \left(\frac{\sum_{l \neq j} w_l p_{il}}{\sum_{l \neq j} w_l} \right) \quad (4)$$

Thus, according to the compensatory voting model, voter i 's utility from voting for party j would increase if the exclusion of j from the government moved the government further away from i 's ideal point. Following above reasoning, we would generally expect large amounts of compensatory voting in Switzerland.

Moreover, we would expect the inclination to vote compensationally to increase with rising *district magnitude* (M), which is naturally measured as the number of seats to be allocated in a district (though we found that a log transformation of district magnitude provided the best empirical fit). The parties' *electoral prospects* are operationalized in two ways. First, competitiveness (C) is measured using Grofman and Selb's (2009) party-specific index of political competition for d'Hondt and other parametric divisor rules.⁶ In a nutshell, their index is the inverse of the minimum vote shares required for each party either to win a(nother) or to lose a seat under a worst case scenario, normalized by the threshold of exclusion (that is, the maximum vote share with which it is possible not to win a seat in a district, see Rae et al., 1971. In a Hagenbach-Bischoff district, this is $1/(M+1)$). Its maximum of 1 will obtain if a party is very close to winning a(nother) or to losing a seat; its minimum of 0 will obtain if a party is one threshold of exclusion away from winning or losing a seat. According to traditional tactical voting models based on the district level wasted vote logic, incentives to vote for a party should increase with competitiveness. However, while strategic voting should always work to the detriment of the weak competitors in single member districts, the same is not true for larger districts where additional incentives to desert seat-winning parties chanceless of winning *more* seats may occur. As there is less reason to expect a strong party that already won seats to be subject to strategic desertion than weak parties that did not win any seats (see Cox 1997), we also include a dummy variable, *no seats* (L), that indicates whether a party won seats (0) or not (1), along with their interaction.

⁶ Gaughhofer (1988) demonstrates the mathematical equivalence between the Hagenbach-Bischoff method used in Swiss National Council elections and the d'Hondt method.

Empirical Model

Our dependent variable, voting propensities y , may be conceived of as being grouped within $i = 1, 2, 3, \dots, N = 1'995$ voters (as voters have distinct voting propensities for different parties), within $j = 1, 2, 3, 4 = J$ parties (as the four parties receive scores from different voters), and within $k = 1, 2, 3, \dots, K = 25$ districts (as each voter is enrolled in a single district).⁷ Each of these factors – voters, parties, and districts – may impinge on the voting propensities due to features not included in our model. For example, an alienated voter may, irrespective of his or her spatial utilities, ascribe lower voting propensities to all of the parties than a satisfied voter; a party may receive lower average voting propensities than its (perceived) spatial location relative to the voters would have one expect, for example, due to unpopular leadership; and finally, the electorate of a district that is not so well integrated into the national political system may, on average, expect lower utilities from all of the national parties than voters from more nationalized districts. However, these factors do not constitute a strict hierarchy. While voters are nested within districts (as no voter is enrolled in different districts), parties and voters as well as parties and districts are so-called *crossed factors*. To take this complex data structure into account, we set up a cross-classified model with separate error components for each of these factors (see, for example, Rasbash and Goldstein, 1994).

$$y_{ijk} = \beta_0 + \beta_{1k} U_{ijk}^C + \beta_{2k} U_{ijk}^P + \beta_3 C_{jk} + \beta_4 L_{jk} + \beta_5 (C_{jk} * L_{jk}) + u_{1i} + u_{2j[i]} + u_{3k} + e_{ijk} \quad (5)$$

where the u 's are error terms pertaining to the individual, party, and district level which are assumed to be normally distributed with variances σ_1^2 , σ_2^2 and σ_3^2 , e is an observation specific error term with variance σ_0^2 , and the β 's are regression weights. Note that the proximity and compensatory slopes, β_1 and β_2 , are additionally indexed with k , so that they are allowed to vary randomly across districts, as a function of log magnitude:

$$\begin{aligned} \beta_{1k} &= \gamma_{10} + \gamma_{11} \log(M) + u_4 \\ \beta_{2k} &= \gamma_{20} + \gamma_{21} \log(M) + u_5 \end{aligned} \quad (6)$$

where the γ 's are regression weights, and the u 's are, again, normally distributed error terms with variances σ_4^2 and σ_5^2 and correlation ρ_{45} . In addition, we also estimate the correlations ρ_{34} and ρ_{35} of the random district deviation u_3 from the intercept β_0 and u_4 and u_5 , respectively.

⁷ The district of Nidwalden held a so-called *tacit* election in 2007, a euphemism for no election at all, as a single candidate was running for filling the only seat in the National Council. It is therefore excluded from the analysis.

Statistical results

Table 1 presents residual maximum likelihood (REML) estimates from the cross-classified model of voting probabilities. As to the fixed part of the model,⁸ both the compensatory and the proximity components exert a significant effect on the voting probabilities in the expected direction. An additional ANOVA type of analysis with fixed effects for voters, districts and parties, which is not reported in detail here,⁹ indicated that, in general, the proportion of variance in voting propensities that is due to the compensatory component (0.15) outweighs the proportion of variance accounted for by proximity voting (0.06) by a factor of 2. Also in line with our expectations, the effect of the compensatory component significantly increases with rising district magnitude, as shown by the positive value of the interaction between the compensatory component and the log district magnitude. On the other hand, a rising district magnitude leads to a *lower* level of proximity voting. This conditional effect is further illustrated in Figure 2, which plots the estimated compensatory and proximity slopes (± 1.645 standard deviations) versus log district magnitude, along with the district-level regression lines. These show that the predicted proximity slope is weaker (i.e., closer to 0) in large districts, while the predicted compensatory slope becomes larger.

<Table 1 about here>

While these results fit our hypothesis about the effects of district magnitude, a closer look at Figure 2 reveals some surprising findings. The level of compensatory voting in the smaller electoral districts tends to be higher than the district level model would lead us to expect (right-hand panel of Figure 2). In order to better understand the reasons for this pattern of results, we examined the parties' levels of competitiveness in the various electoral districts (Figure 3). Following our theoretical discussion, we would expect non-centrist parties, that is, the SP and the SVP, to be non-competitive in smaller electoral districts. The high effective threshold means that candidates need to mobilize a substantial share of voters in order to be successful. This tends to be much easier for centrist parties, such as the CVP and FDP. Yet,

⁸ A series of Chi² tests of the random part indicated that the inclusion of the random party intercepts significantly improved the model fit at $p < 0.01$, the inclusion of the district intercept at $p < 0.10$, while the inclusion of the voter intercept did not improve model fit at conventional levels of significant. That is, no unobserved voter characteristics (such as alienation) seem to uniformly affect the voting propensities for all the parties in all of the districts. On the other hand, the inclusion of random slopes for both the compensatory and the proximity component significantly improves model fit at $p < 0.01$.

⁹ In our model specification including random proximity and compensatory voting slopes, the decomposition of variance hinges on the covariates in quite a complicated manner. In particular, the proportion of variance explained by the two components is a function of (log) district magnitude. Therefore, the ANOVA findings reported here should be taken with a grain of salt.

contrary to this classical prediction of centripetal party competition in single member districts, we observe that both non-centrist parties were, on average, as competitive as the moderate parties in the single member districts. One possible explanation for this could be that the Social-Democrats and the Swiss People's Party field more moderate candidates in small districts, and are thus perceived to be less extreme. Figure 4, which presents the parties' left-right position, as perceived by voters in the different cantons, allows us to rule out this argument.

<Figures 2–4 about here>

Thus, we are left with something of a puzzle. These descriptive finding basically lever out the presumed causal mechanism underlying the empirical relationship between district magnitude and extent of compensatory voting: Lower levels of compensatory voting in smaller districts just does not seem to be a consequence of non-centrist parties having worse electoral prospects in these districts as compared to larger districts! The fact that voters actually do take the parties' competitiveness into account when assigning their utilities – parties that did not win seats receive lower average voting propensities, and a party's competitiveness has a positive effect given that party has not won any seats – does not alter this puzzling conclusion.

Discussion

This paper as presented several important findings that shed new light on the recent developments in Swiss politics. First of all, the analyses have revealed that compensatory voting is strong among Swiss citizens. Voting propensities appear to be much more strongly influenced by a compensatory component than by traditional proximity voting. Citizens do not simply support the party whose electoral platform is closest to their own preferences. Rather, they discount these policy positions, accounting for the fact that parties will have to compromise with the other governmental parties. Voters are ready to support parties they may view as too extreme, because they know their impact on the government position will be only marginal. This means that the polarization of the party landscape largely exaggerates the polarization among voters.

Second, this study has shown that the strength of compensatory voting increases with district magnitude. We expected such an interactive effect, based on the idea that the more extreme parties are less competitive in small districts. The incentives linked with the two forms of strategic voting, thus, should tend to cancel each other out in small cantons. These results also

present something of a puzzle, though. While the hypothesis seems to be confirmed, the cantonal decomposition of parties' competitive situation did not reveal such a clear relation between district magnitude and electoral chances of non-centrist parties. The SVP, on which most of the discussion on the polarization trend focuses, is competitive in virtually all cantons, large and small. The lesser degree of compensatory voting in smaller cantons cannot thus be brought back to the SVP being less competitive.

What accounts then for this moderating effect of district magnitude? Our analyses do not deliver a clear-cut answer. Some possibilities seem worth exploring though. An alternative interpretation of why compensational voting increases with rising district magnitude involves information requirements. In particular, MacDonald et al. (1995) argue that proximity voting is more informationally demanding than 'directional voting' – a concept closely related to compensational voting. If true, we would probably expect more compensational voting in larger districts due to the mere fact that choice sets, i.e., party systems, are getting more complex with rising district magnitude.

Another direction in which to extend this research is the specification of the compensatory voting model. In following Kedar's model quite strictly, we might have failed to adequately capture the counterfactuals on government policy that are relevant for Swiss voters. In particular, the Kedar model specifies voter utilities in terms of the difference in government policies in the bare presence and absence of a respective party. But as we know, such all-or-nothing scenarios are quite unrealistic in Swiss politics. Therefore, one might suspect it is more appropriate to think about counterfactuals in terms of the probability of specific government reshuffles. For example, in 2003, it was hardly surprising that an eventual seat gain of the SVP in the Federal Council would be at the expense of the CVP (as the CVP received the smallest fraction of votes, after a pronounced downward trend). Considering statements of party officials and pundits of Swiss politics during the run up to the 2007 national elections, the most likely scenarios would probably have been the SVP losing a government seat (namely, Christoph Blocher's) in favor of the CVP, or a seat loss of the FDP in favour of the CVP. To be sure, we have also played around with such alternative scenarios in operationalizing the relevant counterfactuals. However, Kedar's simple specification by far outweighed our more informed alternatives in terms of predictive power. Nevertheless, more efforts should probably be made in order to take the probabilities of particular government formations into account.

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Figure 1. Left-right positions of the Swiss governmental parties and of the Federal Council in the 2007 election

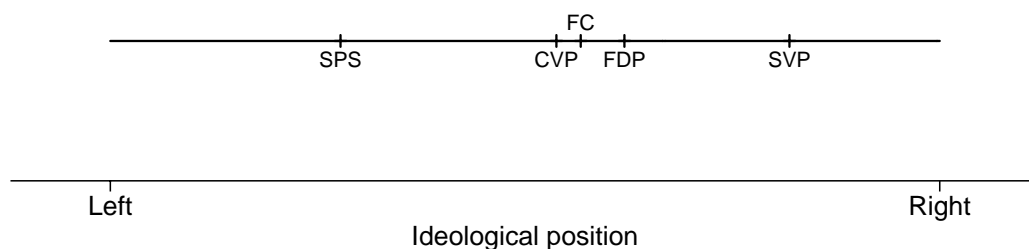


Table 1. REML-estimates from the cross-classified model of voting probabilities

<i>Fixed part</i>	<i>REML</i>	<i>SE</i>	<i>t-value</i>
Intercept	0.597	0.032	18.906
Compensatory component	0.886	0.123	7.206
Proximity component	-0.530	0.055	-9.661
Competitiveness	-0.059	0.026	-2.288
No seats	-0.145	0.038	-3.825
Competitiveness*No seats	0.139	0.051	2.732
Log district magnitude	-0.013	0.009	-1.440
Log magnitude*Compensatory	0.383	0.057	6.683
Log magnitude*Proximity	0.039	0.024	1.575
<i>Random part</i>	<i>Std. Dev.</i>	<i>Correlations</i>	
Voters	0.001		
Districts	0.027		
Compensatory slope	0.125	0.406	
Proximity slope	0.056	-0.975	-0.195
Parties	0.035		
Residual	0.289		

Figure 2. Estimated proximity and compensatory voting slopes versus (log) district magnitude, along with the district level regression lines (vertical lines represent 90%-confidence intervals).

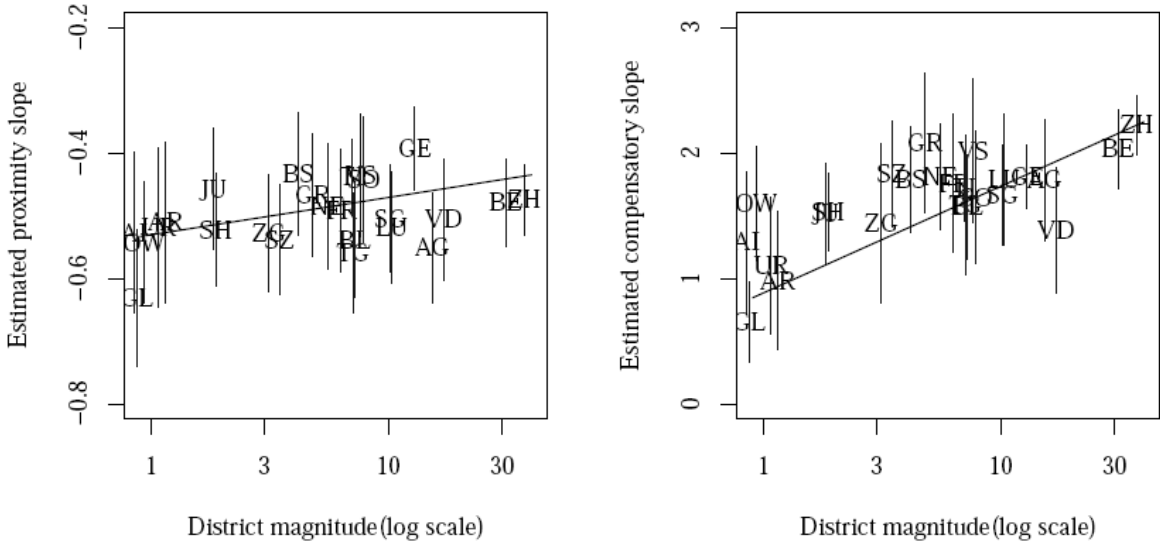


Figure 3. Party-specific levels of competition versus (log) district magnitude.

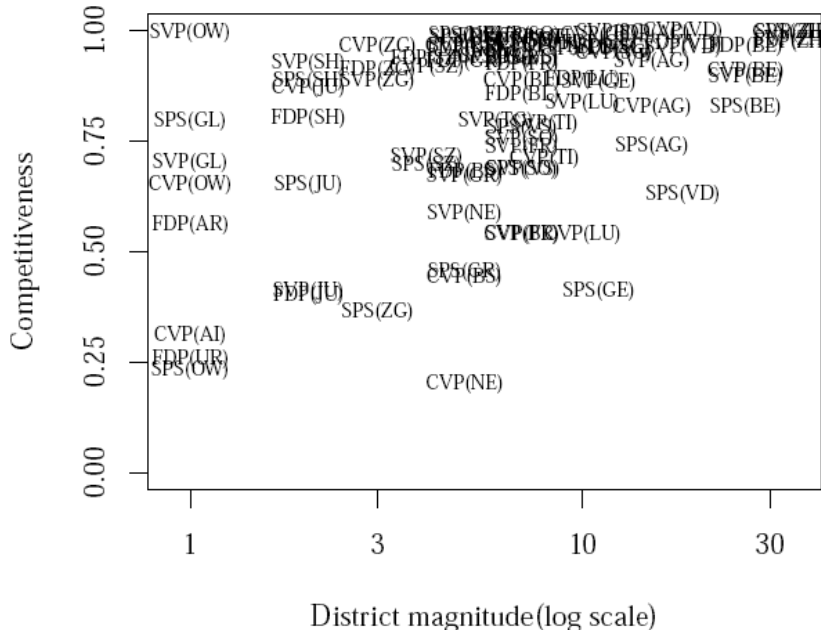


Figure 4. Mean perceived left-right positions of the parties versus (log) district magnitude

