Strategic voting in Swiss national elections: national and district-level incentives

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First draft – comments are welcome

Abstract

This paper analyses the role of strategic considerations in the 2011 Swiss National Council elections. Citizens may be incited to defect from their preferred party when its chances of winning seats in their canton are low. Also, following the compensatory voting logic, they may prefer supporting a more extreme party, which could bring the expected government position closer to their preferred location. This paper examines the impact of both types of strategic incentives, and the degree to which they are conditional on one another. The paper improves on the existing literature on compensatory voting by offering a more precise account of the type and likelihood of changes in the composition of the government. The analyses show that both district-level and national-level incentives exerted a substantial impact on voters' choices.

Keywords

Strategic voting, compensatory voting, expectations, Switzerland

1. Introduction

This paper investigates the role of strategic considerations in the voting decision process in the election of the Swiss National Council (lower chamber). There is a vast literature showing that citizens may vote in a strategic way, by supporting a party other than the one they like most, in order to influence the electoral outcome (e.g., Blais et al. 2001; Cox 1997). Two types of strategic incentives have been emphasized. At the district level, citizens may be influenced by the expected electoral chances of parties. They may defect from their preferred party when its chances of success are deemed to be low. In that way, they can avoid "wasting" their vote on a non-viable party. At the national level, voters may consider how electoral results may influence the policy position of the resulting government. They may be incited to support a more extreme party, with the aim of drawing the expected government position closer to their preferred ideological location. This form of "compensatory voting" should be particularly strong when a coalition government is expected. Previous studies have shown evidence for both types of effects in PR electoral systems and multiparty systems (Abramson et al. 2010; Kedar 2005). This paper extends on the existing literature by offering a more precise conceptualization of the expected national-level shifts in the government's policy position as well as by combining both forms of strategic voting and showing how they interact.

The Swiss case is particularly interesting for studies of strategic voting. The avoidance of "wasted votes" is usually stronger in majoritarian electoral systems. But there is evidence for such behaviour in PR electoral systems as well (Abramson et al. 2010). While Swiss National Council elections are based on a PR system, the average district magnitude is moderate and there are strong differences in magnitude between cantons, ranging from 1 (de facto majoritarian election) to 34. This allows comparing citizens within the same election who face incentives of varying strength for defecting from one's preferred party.

As regards national level incentives, recent developments in the Swiss party system have led to strong incentives for compensatory voting. The rise of the right-wing populist Swiss People's Party (SVP) since the 1990s has led to a more polarized party system (Kriesi et al. 2005). It has modified the balance of power among major parties and has led to a change in the partisan make-up of the Federal Council, the Swiss federal government, which is elected by both chambers of the federal parliament about two months after the parliamentary elections. From 1959 to 2003, the partisan composition of the Federal Council was stable. But

following the strong electoral gains of the SVP, this party successfully claimed a second seat in government in 2003, at the expense of the Christian-Democratic Party (CVP). Furthermore, this change has not been an isolated phenomenon. Rather, it has initiated a period of greater uncertainty regarding the distribution of government portfolios. Subsequent elections have given rise to intense discussions about possible changes in its composition. And the SVP lost its second seat in 2008, following a split within the party and one of its ministers joining the newly formed Conservative Democratic Party (BDP). During the electoral campaign for the 2011 federal elections, several scenarios were considered. In particular, some expected the SVP to be able to claim again a second seat, at the expense of the BDP or of the Liberals (FDP). The election of a Green minister was also considered by some to be a possibility.

The higher degree of uncertainty surrounding the election of the Federal Council means that national parliamentary elections are largely perceived to be more consequential. After decades of stability, the consequences of federal elections for the composition of the Federal Council have become a central political topic. This reinforces incentives for citizens to behave in a strategic way, by considering how their vote might indirectly affect the partisan composition and ideological location of the federal government.

Against this background, this paper analyses how voters in the 2011 National Council elections responded to both types of strategic incentives. It relies on data from a pre-electoral survey in which citizens were asked about their expectations about the electoral results. This allows measuring district-level expectations as well as perceptions about the likelihood of changes in the composition of the Federal Council. The remaining of this paper is structured as follows. Section 2 discusses in more detail both forms of strategic voting, and it explains how the compensatory voting model can be refined in the Swiss case. Next, the specification of the corresponding voting choice model is introduced. Section 4 presents the data and variables used. This is followed by the discussion of the empirical results. Section 6 concludes.

2. Strategic voting incentives

Both forms of strategic voting represent a defection from a citizen's preferred party. Party preferences are usually conceived in a spatial framework (Adams, Merrill, and Grofman 2005; Downs 1957). That is, such voting decision models are based on the idea that voters' preferences in terms of political issues, as well as the positions of parties, can be represented

as positions in a political space, characterized by one or several dimensions. Following the proximity model of voting choice, which is the type of spatial model most often used, citizens have the highest expected utility for the party which is closest to their own position in the political space (Adams, Merrill, and Grofman 2005). From this point of view, citizens are considered to be strategic when they do not vote for the party which is closest to them in the political space and when they do this with the intention of reaching a more favourable electoral outcome (Blais et al. 2001).

The first type of strategic incentives is linked with parties' electoral chances in a given electoral district, that is, in a voter's canton. When voters' preferred party has only weak chances of being successful, they may support instead a party with better electoral prospects. In single member districts, this implies that citizens should focus on the top two contenders (Cox 1997). In PR elections, incentives for such strategic behaviour are usually expected to be weaker. First, in larger districts, more parties can win seats and the proportion of citizens who prefer a non-viable party should be smaller. Second, as district magnitude increases, it is usually considered to be more difficult to identify non-viable parties (Cox 1997). In the Swiss context, district magnitude varies strongly between cantons. The smallest cantons have a single representative in the National Council, meaning that the election is de facto a SMD plurality election. At the other end, the largest canton, Zurich, has 34 seats. This variation means that district-level incentives for strategic voting should vary in strength between cantons.

The second type of incentives for strategic voting results from the expected government position. Citizens may base their voting decision not on the policy positions of parties, but on the policy position of the government that will result from these elections (Kedar 2005, 2009). In case of a coalition, parties in government have to compromise with their coalition partners. It means that no single party is able to implement fully its preferred policies. Citizens may account for this and support the party which is expected to move the government position as close as possible to their own preferred location – even if it is not the most proximate party. In the Swiss case, five parties are represented in the Federal Council. Among the possible scenarios that were discussed during the 2011 electoral campaign, the change considered most likely would have seen the SVP claim back a second seat, at the expense of the BDP. This would have moved the average ideological location of the Federal Council rightwards, but still let it far away from the SVP's preferred position. Following this logic, centre right voters,

close for instance to the FDP, may have been incited to support the SVP, in order to favour such a change in the partisan make-up of the federal government. In general, grand coalitions such as in Switzerland mean that changes in the government's position are characterized by a strong degree of inertia. This should create strong incentives for citizens to support parties that are more extreme than themselves (Lachat and Selb 2010).

This study will look at the effect of both district-level and national-level incentives. It will also consider how they may interact. Like traditional proximity voting, compensatory voting may be conditional on party viability at the district level. A centre-right voter might for instance be incited to support the SVP based on the compensatory voting logic. But if the SVP is not viable in that voter's district, there is no point in supporting that party. Given the variation in district magnitude among Swiss cantons, the effect of national-level incentives can be expected to be stronger in larger cantons. Such an effect was suggested in a previous study of compensatory voting in Switzerland (Lachat and Selb 2010). However, there was no data to capture citizens' perceptions of party viability. This paper will pursue this line of analysis, by integrating citizens' expectations about parties' chances of success in their canton. It will thus offer a more precise test of how district-level and national-level incentives interact to shape voting choices.

An additional contribution to the existing literature is to offer a more precise account of how changes in parties' electoral results might affect the position of the governmental coalition. In studies of compensatory voting, potential changes in the composition and ideological location of governments have been operationalized in a rather crude way. Following Kedar (2005), citizens' utility for a given party should depend on the change in the average policy position when this party is excluded rather than included. She tests alternative versions of this model, focusing on expected changes in the overall party system position, in the position of the parliament, or on a weighted average of the changes in the parliament's and government's positions (Kedar 2005: 192). In all cases, however, the counterfactual on which citizens' choices are based implies the entire exclusion of a party. Such "with or without you" comparisons are problematic. The counterfactual scenarios on which voters' choices are expected to be based do not seem to be equally meaningful for large and small parties. For junior coalition partners, winning one additional parliamentary seat or losing one may eventually be consequential for the party's inclusion in the government coalition. For a larger party, in contrast, a marginal loss of votes may affect its share of portfolios, but it is far less

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likely to result in the complete exclusion from the government coalition. Another potential weakness of this model is that it only considers what would happen if a party was excluded, but not how the overall position would shift if a party became stronger.

Several features of the Swiss case allow for a more fine-grained conceptualization of how the government's position might change. It is a small government, with only seven portfolios, and its size is fixed, that is, it cannot be changed by the winning parties. In addition, the plausible changes in its partisan make-up are limited. Virtually all scenarios discussed by experts or parties during the 2011 campaign were about a single portfolio changing from one party to another. This means that there are only a limited number of well-defined alternative governments. A higher vote share of the SVP, for instance, may have allowed it to win a second seat. But a more substantial gain for this party (or one of its competitors) would be considered as entirely unrealistic by most observers of Swiss political life. These characteristics of the Swiss case allow defining counterfactual scenarios in a more precise way, by referring to incremental changes in the partisan distribution of government portfolios. Consider a voter's utility for the FDP. Rather than considering what the government's position would be if this party were entirely absent of the political system, a voter can compare better defined and more realistic scenarios. For instance, how could the government position change if the FDP had a single portfolio, rather than two?

The second improvement of the compensatory voting model suggested in this paper is to account for the likelihood of various changes in the government composition. Relying on incremental changes in the distribution of portfolios, rather than on the complete exclusion of parties, is one thing. But these alternative scenarios, even if they are more plausible, are not all equally likely. The FDP losing one seat, for instance, was considered much more likely by most observers than a similar loss by the Social Democrats (SP). Similarly, many observers thought the SVP could claim a second seat in government, while a gain of a second portfolio by the BDP was not seriously envisaged. Accordingly, the model used in this paper will include citizens' perceptions of the likelihood that various parties win or lose one seat in the Federal Council.

3. Voting choice model

In order to investigate the impact of strategic considerations, this paper will test models of voting choice in the 2011 National Council elections. Both forms of strategic voting usually

are modelled within the spatial modelling framework. That is, strategic incentives are expected to lead some voters to defect from the most proximate party in the political space. The choice of a spatial modelling framework is straightforward for compensatory voting, as it rests on the spatial distance between voters and the expected government position. For the traditional form of strategic voting, in contrast, a spatial model of voting choice is not the only option. Central for this model are voters' expectations about party viability. Citizens who prefer a non-viable party may be incited to choose instead a party credited with better electoral chances. Yet, citizens' sincere party preferences may or may not be based on a spatial comparison of policy positions. In fact, it is not uncommon among spatial models to include additional determinants of party utilities (Adams 2001; Adams, Merrill, and Grofman 2005; Erikson and Romero 1990). In this paper, two alternative models will be specified, which differs in the specification of citizens' sincere preferences. In one version, sincere preferences are a function of the voter-party distance on political issues, while in the second model, sincere party preferences are based on party sympathies. The main reason for this is to see whether strategic considerations still influence voting choices when using a more encompassing measure of sincere preferences. Spatial utilities (for compensatory voting and for the corresponding version of sincere party preferences) will be based on a one-dimensional model of the political space, with voters, parties, and governments being located on a left-right ideological dimension.

Both models correspond to the following general specification:

$$U_{ij} = \beta_1 U_{ij}^S + \beta_2 D_{ij} + \beta_3 U_{ij}^C + \beta_4 D_{ij} U_{ij}^C + \varepsilon_{ij} \qquad (1)$$

U_{ij} is the overall utility of voter i for party j, U_{ij}^S is a voter's sincere utility for that party, D_{ij} is the voter's perception of the electoral chances of party j in his or her district, and U_{ij}^C is the expected impact of party j on the government position, as perceived by voter i. The terms β_1 to β_4 are parameters to be estimated, and ε_{ij}, finally, is a random error term. The two alternative specifications of this voting choice model differ in the definition of voters' sincere utility for a given party. In the first version, based only on the spatial logic, the (sincere) utility of voter i for party j is a function of the spatial distance between them:

$$U_{ij}^S = -\left| v_i - p_j \right| \qquad (2)$$

Where v_i and p_j are the left-right positions of voter i and party j, respectively. Note that spatial distances are computed as linear distances. While squared distances are more frequently used in the literature, recent research has shown that simple linear distances offer a more accurate model of the voting decision process (Grynaviski and Corrigan 2006; Singh 2014). In the alternative specification of the voting choice model, U_{ij}^S will be defined instead as the voters' utility for party j, relying on a corresponding survey question.

The second component in Equation 1 is D_{ij}, which is the voter's perception of the electoral chances of a given party. To that end, this model will focus on the perceived chances that a party wins at least one seat in the respondent's district. U_{ij}^C, finally, is the impact of party j on the government's position. In the work of Kedar, a party's impact is determined by comparing the current position of the government (or party system, or parliament, depending on the various specifications she suggests) with the hypothetical position resulting from the exclusion of the corresponding party. As mentioned above, such a counterfactual scenario is problematic for several reasons. In this study, the compensatory component captures expected changes in the government's position resulting from a party's gain or loss of one seat. It can be specified as:

$$U_{ij}^C = \left| v_i - \left(G + \pi_{i,j-1} G_{j-1} \right) \right| - \left| v_i - \left(G + \pi_{i,j+1} G_{j+1} \right) \right| \quad (3)$$

v_i is the left-right position of voter i, G is the position of the outgoing government, G_{j-1} is the hypothetical government position when party j would lose one seat, G_{j+1} the hypothetical government's position would party j win one more seat, and the π terms indicate the probabilities of such changes. $\pi_{i,j-1}$ is the probability that party j loses one seat, as perceived by voter i, and $\pi_{i,j+1}$ is the corresponding probability of the party winning one more seat.

The position of the outgoing government is straightforward to define. It is the average left-right position of the K governing parties, weighting each position p_k by the number of portfolios of that party ($seats_k$):

$$G = \frac{\sum_k seats_k p_k}{\sum_k seats_k} \quad (4)$$

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For the expected position of the Federal Council following a gain or a loss of one seat by a party, a similar formula is used, while modifying accordingly the number of seats of that party. Furthermore, the remaining seats are distributed among the other parties ($k \neq j$) proportionally to their current share of portfolios. Thus, when party j loses one seat, the government position is equal to

$$G_{j-1} = \frac{seats_{j-1}p_j + (7 - seats_{j-1})G_{k \neq j}}{7} \tag{5}$$

where $seats_{j-1}$ is the number of portfolios of party j, minus one, and $G_{k \neq j}$ is the average left-right position of the other parties in government, computed according to Equation 4 but without party j. The hypothetical government position following a gain of seat by party j is computed in the same way, replacing $seats_{j-1}$ by $seats_{j+1}$.

Voters' utilities are expected to be higher for parties that are closer to them on the left-right scale or for which they have a higher degree of sympathy. The parameter β_1 should thus be positive. Utilities should be higher for parties credited with better electoral chances in a citizens' canton, and β_2 is thus also expected to be positive. The compensatory utility shows the expected change in the distance between voter and government resulting from a seat loss by a party, compared to a seat gain. A larger value of that variable means that the government would be further away from the respondent if the party loses. As a consequence, I also expected β_3 to take a positive value. β_4, finally, indicates how compensatory voting is moderated by district viability. As compensatory voting is only meaningful for viable parties, this last coefficient is also expected to be larger than zero.

4. Data and variables

To test the above model of voting choice, this paper relies on data from a rolling cross-section survey that was conducted in the weeks before the 2011 federal elections. The sample was drawn from the population of all Swiss cantons, with the exception of the Italian speaking canton of Ticino. 4002 respondents were interviewed before the election. Given that advanced postal voting is widespread, some respondents had already voted at the time of the pre-electoral survey. Respondents who had not yet voted were interviewed again after the election.

The sample of respondents that can be used is limited in two ways. First, only respondents who voted for one of the governmental parties (i.e., SP, CVP, BDP, FDP, SVP) or for the Greens are included. The reason is that expectations about electoral success (at both the district and national levels), which are required to compute party utilities, were asked only for these six parties.[1] This reduces the sample almost by half, to 2083 respondents.[2] Second, the sample is limited to respondents who could accurately answer a question about the number of parties in the Federal Council. The reason for including this filter was to avoid asking potentially challenging questions to respondents with a low level of political knowledge. Knowing which parties form the government seems to be a precondition for being able to estimate probabilities of change in its composition. 727 respondents (that is, 34.9 per cent of respondents who supported one of the main six parties) answered this question correctly. Some additional observations are excluded because of missing values for one or several other variables. It is important to emphasize that the sample on which this study is based is not representative of the general electorate, but corresponds to a segment of better informed voters.

The dependent variable, voting choice, was measured in the pre-electoral or post-electoral wave, depending on the timing of the voting decision. Left-right positions of voters and parties are used to determine spatial utilities. Left-right self-placement was not asked in the survey, but respondents were invited to indicate their position on six issues:
- Increasing or decreasing social expenses,
- Joining the European Union or staying out of it,
- Giving foreigners and Swiss citizens equal chances, or giving Swiss citizens better chances,
- Whether environmental protection or economic growth is more important,
- Increasing or decreasing taxes on high income.
- For or against nuclear energy.

On all six issues, answers were given on a five-point scale. A principal-component factor analysis was used and the first factor extracted, in order to compute respondents' left-right position. Table 1 shows the corresponding factor loadings.

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[1] As the Green party is not represented in the Federal Council, the probability that it loses one seat was obviously not asked. In that case, the compensatory utility can still be computed using Equation 3, while setting $\pi_{i,j-1}$ at 0.
[2] This means that 1919 respondents were excluded at that stage. They correspond to 1348 nonvoters and to 571 voters who supported a different party or who did not indicate who they voted for.

Table 1. Factor loadings for the left-right scale

	Factor loading
For lower social expenses	0.71
Against EU membership	0.64
For better chances for Swiss citizens	0.51
Economic growth more important than environment protection	0.66
For lower taxes on high income	0.55
Against nuclear energy	0.69
Eigenvalue	2.39
% Explained variance	0.40
N	653

As respondents were not asked about their perceptions of parties' ideological or issue positions, parties' left-right positions are computed as the average position of respondents who voted for the corresponding party (Table 2).

Table 2. Parties' positions on the left-right scale

Party	Left-right position
GPS	-0.80
SP	-0.77
CVP	0.17
BDP	0.20
FDP	0.65
SVP	0.84

As regards voters' expectations about parties' electoral chances, citizens were asked about possible changes in the composition of the FC. For each party in government, respondents were asked to assess the probability that it wins an additional seat and the probability that it loses one seat. The probability of a seat gain was also asked for the Greens. Each question was based on an 11-point scale, ranging from a "very low probability" to a "very high probability". These estimated probabilities are coded in the 0-1 range for the present analysis. If respondents gave the highest possible probability to a seat gain for a given party, they were not asked to evaluate the chances of a seat loss by that party, and the corresponding probability was set to 0.

As mentioned previously, district-level expectations are about the chances that a party wins at least one seat in the respondent's canton. This battery of question was again based on an 11-point scale, ranging from a "very low probability" to a "very high probability", and coded here in the 0-1 range. In order not to annoy respondents with pointless questions, this item

was not asked for parties that could be expected to pass this hurdle without any difficulty (that is, parties that won an average of three seats or more in the 1999 to 2007 elections). In such cases, the perceived district level probability of a seat gain was set to the maximum value of 1.

The final variable included in this paper's analysis is a measure of citizens' degree of sympathy for each of the main parties. This variable is used as an indicator of sincere party preference, which is used in one of the two versions of the voting choice model. Respondents were invited to indicate their level of sympathy on an 11-point scale, ranging from "no sympathy at all" to "a lot of sympathy". These utilities are coded in the 0-1 range. Descriptive statistics for all variables can be found in the appendix.

5. Empirical results

Before turning to the analysis of the voting choice model, it is worth looking at citizens' perceptions about electoral results, as they play a key role in the theoretical model. At the national level, citizens were asked to evaluate the likelihood of changes in the composition of the Federal Council. Table 3 presents the average expectations for seats gains and losses. Three possible changes are attached with a relatively high probability. The SVP winning a second seat was evaluated with an average probability of 0.61 on the 0-1 scale. Most voters expected this seat to be lost by either the BDP (probability of 0.55) or the FDP (probability of 0.49). Most other scenarios are considered to be rather unlikely. Only the entrance of the Greens (GDP) in the government (probability of 0.27) or a loss of a seat by the Social Democrats (probability of 0.26) have average probabilities larger than 0.25. These expectations show a surprising degree of sophistication on the part of voters.[3]

Table 3. Average probabilities of expected seats gain and losses

	Probability seat gain	Probability seat loss
GPS	0.27	-
SP	0.13	0.26
CVP	0.22	0.19
BDP	0.09	0.55
FDP	0.08	0.49
SVP	0.61	0.11

Note: The number of observations ranges from 713 to 722, depending on the party and outcome.

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[3] The average probabilities in Table 3 are based on the raw data. In the voting choice model, probabilities were rescaled to sum to 1 in case they summed to more than 1 for a given party and respondent.

The second relevant type of expectations is about district-level electoral chances. Although elections of the Swiss National Council are based on a system of proportional representation, district magnitude varies strongly across cantons. Furthermore, party system fragmentation is relatively high. For both of these reasons, many citizens may be uncertain about the electoral chances of their preferred party. As mentioned above, this should strengthen incentives for strategic behaviour. A precondition for this, however, is that citizens are able to estimate parties' chances of success in their electoral district. In order to get an overview over the accuracy of these voter perceptions, we can compare them with an indicator of parties' objective chances. For that, we can see how close parties were (not) to win at least one seat. To that end, I compute in each canton the Effective Threshold, which is an approximation of the share of votes needed to secure at least one seat (Lijphart 1997). It is equal to $75\%/(M+1)$, where M is the district magnitude. Thus, in a canton with 2 seats, the effective threshold is equal to 25, meaning that a party usually requires at least 25 per cent of the vote in order to win one of these seats. To determine how far away parties were from this threshold, I compute the ratio between the party vote share and the threshold. A value larger than 1 means the party won more votes than required by that threshold. Figure 1 shows the relation between electoral results and electoral chances, as perceived by citizens before the election. In that figure, the perceived electoral chances correspond to the average perception for each "party by canton" combination.

Figure 1. Average perceived electoral chances by objective chances

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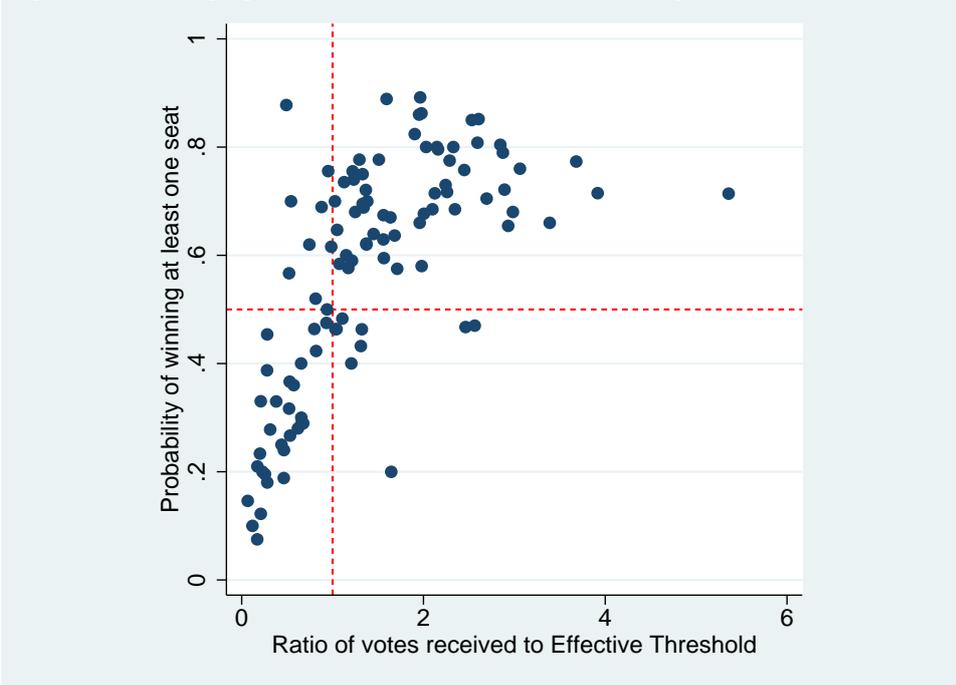
There is a strong positive relation between the two (r = 0.68), indicating that parties that did better were credited with better electoral chances before the election. Two dashed lines are drawn in the scatter plot. The vertical line corresponds to a ratio of 1, that is, to parties that received as many votes as usually required to secure one seat. The horizontal line corresponds to a perceived probability of 0.5 of winning at least one seat. It is remarkable that almost all parties that won more votes than the threshold are credited, on average, with a probability higher than 0.5, while most parties below the threshold were considered to have less than 50 per cent chances of winning at least one seat. Again, these results show a surprising level of sophistication on the part of the electorate.

In a last preliminary analysis, we can compare citizens' party sympathies with their actual voting choice. Party sympathy is the most encompassing indicator of citizens' sincere preferences. Both forms of strategic voting should incite some citizens to depart from these sincere preferences, in order to support a party which is either more viable in their canton or more likely to move the government position closer to the voter's ideal point. In the sample used for this study, 15 per cent of respondents (83 out of 646) did not vote for the party for which they had the highest level of sympathy (from the parties that contested the election in respondents' district). This is a relatively high percentage, compared to estimates of the number of strategic voters in other electoral systems (Abramson et al. 2010; Blais, Young, and Turcotte 2005). Furthermore, it does not appear to be inflated by the limitation of the sample to citizens with a certain degree of political sophistication. In the overall sample (i.e., among all voters), the corresponding proportion is even slightly higher (17 per cent).

Turning now to the results of the main analysis, Table 4 shows the estimated coefficients for four regression models. In the first two models, sincere party preferences are captured by the voter-party ideological proximity, while this variable is replaced by a voter's degree of sympathy for the corresponding party in the next two models. Furthermore, models 2 and 4 include an interaction term between party viability and compensatory utility, while this interaction is omitted in models 1 and 3. As voting choice is a categorical dependent variable, and as all independent variables are characteristics of the voter-party relation, the models were estimated with conditional logistic regressions (Long 1997).

Table 4. Impact of party preferences and strategic factors on voting choices.

|	Model 1	Model 2	Model 3	Model 4
Left-right proximity	1.48***	1.48***		
	(0.14)	(0.14)		
Party sympathy			10.91***	10.97***
			(0.64)	(0.64)
Compensatory utility	3.04**	2.02	2.53*	-2.36
	(1.06)	(3.53)	(1.22)	(4.22)
District viability	2.23***	2.20***	1.85***	1.74***
	(0.22)	(0.23)	(0.30)	(0.31)
Viability × Comp. utility		1.16		5.74
		(3.84)		(4.76)
N (Respondent × party)	3459	3459	3426	3426
N (Respondents)	591	591	589	589
McFadden R^2	0.25	0.25	0.63	0.63

*$p<0.05$; ** $p<0.01$; *** $p<0.001$

Note: Coefficients (standard errors in parentheses) estimated with conditional logistic regressions.

Both variables capturing sincere party preferences have a positive and significant impact on the probability to vote for the corresponding party, which is all but surprising. In line with expectations from the strategic voting literature, we also notice that citizens are more likely to vote for a party which is considered to have better chances of winning at least one seat in their canton. Compensatory utility, finally, has the expected positive effect in models without the interaction terms. When this interaction term is included, however, neither the main effect of compensatory voting, nor the interaction with party viability, is significantly different from zero.

To get a better grasp of the substantial significance of these estimated effects, it is necessary to express them in the form of predicted voting probabilities. This is however not a straightforward task. The usual practice is to let one variable vary while holding other covariates constant at their average value. This may however result in predictions for unrealistic combinations of values. A change in voters' left-right position will for instance influence the distances to all parties at the same time. In addition, ideological proximity and compensatory utility cannot vary independently from one another. Thus, while it is not possible to compute predicted probabilities for an "average" citizen, we can compare predictions for individuals with different characteristics. Figure 2 illustrates the effect of left-right distances and of both types of strategic incentives, based on the results of Model 1. It shows predicted probabilities to vote for the SVP, for respondents with different left-right positions (on the horizontal axis) and with different expectations about electoral results. The solid line corresponds to citizens who are certain that the SVP will win at least one seat in

their district but who do not expect any changes in the composition of the Federal Council. The second case (dashed line, hollow circles) is for respondents with identical national-level expectations, but who are less sure about the district-level chances of the SVP (probability of 0.5 that it wins at least one seat). Finally, the third scenario (line with short dashes and values indicated with crosses) corresponds to respondents who think the SVP will win in their canton (district probability of 1) and who are furthermore certain that it will win a second government seat, at the expense of the BDP.

Figure 2. Predicted probability to vote for the SVP, by left-right position and expectations about the electoral results. Estimates based on Model 1.
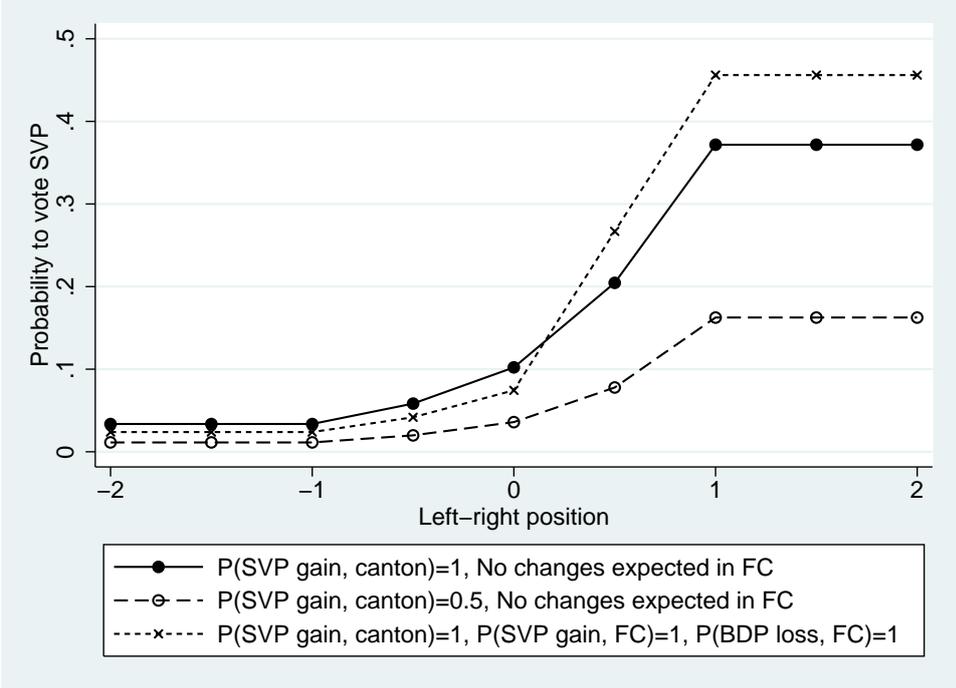

The SVP is the rightmost party, located at a value of 0.84 on the left-right scale (followed by the FDP at 0.65). Compared to citizens on the left, citizens on the right-hand side of the ideological continuum are closer to the SVP and have a higher probability to vote for that party. Furthermore, citizens on the right of the midpoint between the FDP and SVP (i.e., at a value of 0.75 or higher) are closer to the SVP than to any other party. The likelihood to support the SVP does however also depend on this party's perceived viability in a voter's canton. While the solid line corresponds to voters who are certain that the SVP will gather enough votes to win one or several seat, the dashed line indicates the predicted probability of citizens who are more uncertain about this outcome (probability of 0.5). The SVP voting probability is substantially reduced in the latter case. For a respondent who is one standard

deviation on the right of the centre of the ideological scale (i.e., a position of 1), this uncertainty about the viability of the SVP reduces the predicted probability from 0.37 to 0.16.

The predicted voting probability for the SVP also depends on national-level expectations. If the SVP claimed back its second seat, at the expense of the BDP, the left-right position of the government would move toward the right, from 0.14 to 0.25. Thus, the compensatory voting mechanism increases the probability to support the SVP among right-wing citizens, as can be seen in Figure 2. However, compared to the effect of district viability, the magnitude of this effect is substantially smaller.

Model 2 differs from Model 1 by adding an interaction effect between compensatory utility and district viability. To better see how the effects of strategic incentives are conditioned by one another, Figure 3 shows their marginal effects, conditional on the value of the other (Brambor, Clark, and Golder 2005). The left-hand panel shows how the estimated effect of compensatory voting varies with a party's perceived viability. The effect is only significant when parties are above a certain level of viability (probability of winning at least one seat larger than 0.6). For parties considered less likely to win a seat in a respondent's canton, national-level incentives seem not to matter. Compensatory voting only influences the likelihood to support viable parties.

Figure 3. Marginal effects of compensatory utility and district viability (with 95% confidence intervals). Estimates based on Model 2.
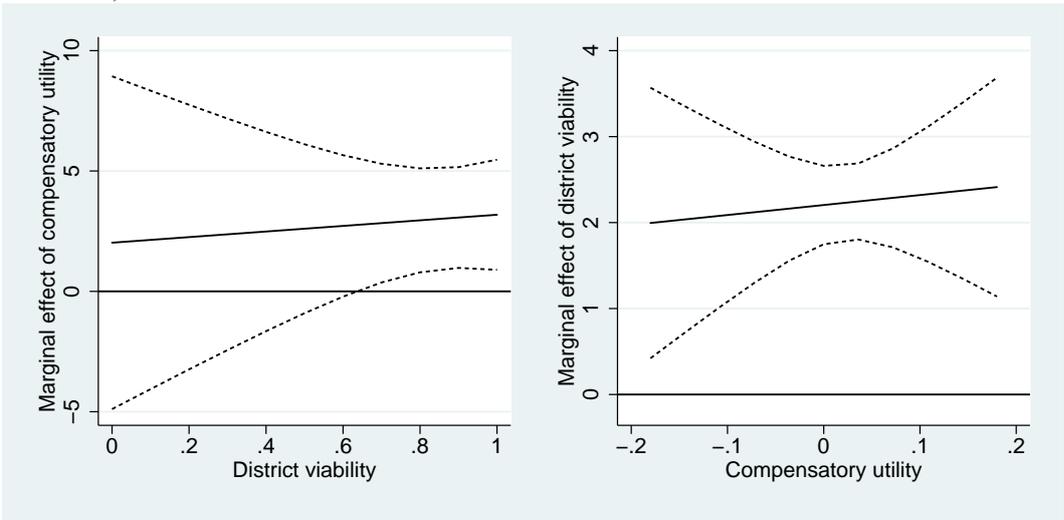
The right-hand panel in Figure 3 shows again the conditionality of the effects of viability and compensatory voting, but this time by focusing on the marginal effect of district viability. The

confidence interval is wider at extreme values of the compensatory utility. But the viability effect, corresponding to the traditional form of strategic voting, is always significant.

The last two models in Table 4 show the corresponding findings when left-right proximity is replaced by party sympathy. The effect of strategic considerations is then somewhat weaker, while sincere utilities exert a stronger impact. Given that party sympathy is a more encompassing measure of citizens' sincere party preferences, this finding is not surprising. As regards the interaction between compensatory voting and party viability, Model 4 also shows that compensatory utility only has a significant impact among viable parties (in that case, for parties with a probability of winning at least one seat higher than 0.8).

Another way to assess the extent of strategic voting is to compare the overall predictions with those resulting from counterfactual scenarios. Table 5 shows the predicted vote shares, and how these are affected by strategic voting. These predictions are based on the model including party sympathy (Model 3), as it offers a better goodness-of-fit than the model based on left-right distances alone. The first column in Table 5 shows the predicted vote shares, when both forms of strategic voting play their role. The next series of results show how these predictions would change if citizens did not react to strategic incentives (that is, when setting the corresponding coefficients to 0). In the first case, only traditional strategic voting (i.e., the avoidance of nonviable parties) is neutralized. In the second counterfactual scenario, only compensatory voting is ruled out. And in the third one, predictions are made while cancelling the effect of both forms of strategic voting.

Table 5. Predicted vote shares (in per cent), based on Model 3

| | Model prediction | Change in predicted vote share when neutralizing… | | |
		viability effect	compensatory voting	both
GPS	10.9	+1.6	+0.2	+3.8
SP	32.6	−1.5	−0.5	−4.2
CVP	12.0	−0.2	+0.1	+0.1
BDP	6.7	+0.5	+0.4	+1.6
FDP	14.8	−0.3	+0.7	−0.2
SVP	23.0	−0.1	−0.9	−1.1

The model predictions are very close to the observed voting behaviour in this sample. They are however quite far away from the true electoral results. In particular, the share of the SP is much larger in this sample than in reality and that of the SVP much smaller. As the results are not weighted, they reflect a common left-wing bias among respondents of this type of survey.

Also, the sample is not representative in terms of political knowledge, as noted above. This probably means that the effects of strategic voting are larger in this group than in the entire electorate. But in terms of determining which form of strategic voting is more influential and which parties are positively or negatively affected by strategic considerations, these data still allow drawing valid conclusions.

Looking first at the effect of viability, we clearly see that it disadvantages the smaller parties. Both the Greens and the BDP, which were credited with lower chances of winning seats, suffer from defections linked with district-level incentives. The Social-Democrats are the main beneficiaries. The strength of compensatory voting, in contrast, does not depend on party size. It benefits parties that have the potential to move the position of the Federal Council. For this, parties need to be distant from the current position and to be perceived as capable of winning one more seat or at risk of losing one. The SVP is the party that best meets this condition and its vote share would have decreased by almost one point if voters had not reacted to this source of strategic incentives. The other party that benefits from compensatory voting is the SP, although the effect is weaker than for the SVP, as a change in the Federal Council was considered less likely.

The total effect of strategic voting, in the last column of Table 5, shows that the Greens are those who are most negatively affected by strategic considerations, while the SP is the main beneficiary.[4] Among left-wing parties, the SP is both more viable and considered as more likely to influence the government's position. Among right-wing parties, strategic voting advantages the SVP, at the expense of the BDP. The total changes are close to zero for the CVP and FDP.

6. Conclusion

Strategic voting means that citizens do not support the party they like most or which is closest to them in ideological terms. Instead, they vote for a party which is more likely to bring about a favourable electoral outcome, because of higher electoral chances or because it can bring the government's policy position closer to a voter's preferred location. In the 2011 National Council elections, a substantial share of citizens defected from their preferred party. The analyses presented in this paper have shown that both forms of strategic voting, linked with

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[4] Note that the total effect is not equal to the sum of the two separate effects. This would be the case if we were looking at changes in the predicted party utilities. Voting choice, on the other hand, depends on the configuration of all party utilities for one given voter.

district-level and national-level incentives, contribute to the explanation of voting choices. A party is less likely to be supported when citizens doubt that it can win a seat in their canton. Voters' perceptions about the chances that parties win or lose a seat in the Federal Council also impact on their voting decision, as suggested by the literature on compensatory voting. This paper has also suggested that compensatory voting should be conditional on district viability – a hypothesis that was supported by the analysis of the 2011 Swiss elections. Expectations about a party's chances of winning or losing a seat in the Federal Council are only relevant in the voting decision process when this party is viable in a voter's canton. Electoral viability is thus a precondition for national-level incentives to matter.

The estimation of the effect of strategic voting on parties' vote shares has revealed that the Greens are the party that suffers most from strategic defection, followed by the BDP. The party that gained most from citizens' strategic behaviour was the SP. Compared to the Greens, they are considered as both more viable and more likely to move the government's position to the left, despite the relatively low expectations about this party's chances of winning or losing one Federal Council seat. Among right-wing parties, the SVP benefited most from strategic behaviour. Comparing the effects of "traditional" and compensatory strategic voting, it appears that the former has a larger overall effect. While compensatory voting can be observed, its impact on the electoral results seems to be weaker than that of party viability.

A potential weakness of the analyses presented here lies in the nature of the sample. As previously emphasized, this sample is not representative of the national electorate, in terms of both partisan leanings and level of political knowledge. The higher degree of political sophistication among the respondents included in the analysis is likely to increase the observed effect of strategic incentives. In the entire electorate, the impact of strategic factors is likely to be weaker than what was observed here. Also, the weaker impact of strategic voting on right-wing parties might be due in part to the composition of the sample. However, these biases in the representativeness of the sample are less likely to affect the conclusions on the relative importance of compensatory and traditional strategic voting. Compensatory voting is more demanding in terms of information than voting based on party viability. If a similar analysis could be performed for the entire electorate, the impact of compensatory voting, compared to that of party viability, would probably not become larger.

7. Appendix

Table A1. Summary statistics

	Mean	Std. dev.	Min.	Max.	N
Left-right proximity	-0.97	0.70	-3.89	-0.00	3459
Party sympathy	0.51	0.28	0.00	1.00	3426
Compensatory utility	0.00	0.06	-0.18	0.18	3459
District viability	0.72	0.34	0.00	1.00	3459

Note: Observations are respondents by party combinations

Table A2. Summary statistics, by party

	Mean	Std. dev.	Min.	Max.	N
Left-right proximity					
GPS	-1.03	0.78	-3.88	-0.00	580
SP	-1.01	0.77	-3.84	-0.00	581
CVP	-0.85	0.58	-2.91	-0.00	582
BDP	-0.85	0.59	-2.88	-0.00	537
FDP	-0.99	0.68	-2.94	-0.00	591
SVP	-1.09	0.74	-3.13	-0.00	588
Party sympathy					
GPS	0.55	0.28	0.00	1.00	580
SP	0.58	0.29	0.00	1.00	581
CVP	0.54	0.20	0.00	1.00	582
BDP	0.50	0.24	0.00	1.00	537
FDP	0.54	0.23	0.00	1.00	591
SVP	0.35	0.36	0.00	1.00	588
Compensatory utility					
GPS	0.01	0.05	-0.13	0.13	580
SP	0.01	0.09	-0.18	0.18	581
CVP	-0.00	0.00	-0.01	0.01	582
BDP	-0.00	0.01	-0.01	0.01	537
FDP	-0.01	0.06	-0.10	0.10	591
SVP	-0.01	0.09	-0.12	0.12	588
District viability					
GPS	0.57	0.33	0.00	1.00	580
SP	0.87	0.25	0.00	1.00	581
CVP	0.72	0.33	0.00	1.00	582
BDP	0.43	0.33	0.00	1.00	537
FDP	0.84	0.28	0.00	1.00	591
SVP	0.89	0.23	0.00	1.00	588

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