

RESEARCH ARTICLE

Electoral incentives for cross-ethnic voting: evidence from a natural experiment

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Abstract

Prospects for democracy in multi-ethnic societies are generally more promising if elections are not mere ethnic censuses, in which people vote predominantly for co-ethnic parties and candidates. But what institutions facilitate or hinder ethnic voting? Unlike past studies, this article explores ethnic voting by conducting a natural experiment (rather than surveys or laboratory experiments). It examines the case of Fribourg, a bilingual (French/German) Swiss canton where elections at different levels of government, within the same electoral district, are held under both majoritarian and proportional systems. Coupled with the high territorial homogeneity of the linguistic groups, this unique setting allows us to conduct a robust empirical analysis of voter behaviour. We find that cross-ethnic voting is significantly more frequent in multi-member majoritarian elections than in list-PR elections or in two-member majoritarian elections. Our results yield qualified support to the centripetalist approach to electoral design in multi-ethnic societies, that favours majoritarian systems, rather than to the consociational school that advocates proportional representation.

Keywords: electoral systems; ethnic voting; multi-ethnic societies; centripetalism; consociationalism; Switzerland

Introduction

One of the most controversial issues in the literature on electoral behaviour is whether, and under what circumstances, people tend to vote on the basis of their ascriptive identities – especially ethnic identities – rather than to choose parties and candidates that match their political beliefs and preferences (see, e.g., Lau and Redlawsk, 2006; Achen and Bartels, 2016; Arzheimer *et al.*, 2017: Part 2). In particular, scholars have explored the question of whether citizens with a specific ethnic identity tend to support their respective ethnic parties and/or co-ethnic candidates (Wolfinger, 1965; Parenti, 1967; Stokes-Brown, 2006; Birnir 2007; Dunning and Harrison, 2010; McConnaughy *et al.*, 2010; Hoffman and Lang, 2013; Fisher *et al.*, 2015; Heath *et al.*, 2015; Portmann and Stojanović, 2019). If they do, are such patterns of ethnic voting – also called ‘ethnic bloc voting’ (Ishiyama, 2012), ‘census elections’ (Horowitz, 1985, 1991: 98; Chandra, 2005; Ferree, 2006; Birnir, 2007) and ‘ethnic headcount’ (Hoffman and Long, 2013) – beneficial or detrimental to democracy?

Generally speaking, there seems to be a consensus among scholars that ethnic voting is inimical to the development of democracy (Rabushka and Shepsle, 1971; Horowitz, 1991; Ishiyama, 2012; Moehler and Conroy-Krutz, 2016; Houle, 2018).¹ Ishiyama (2012: 761), for example, argues that

¹Only a handful of scholars think that under some circumstances ethnic voting can be beneficial. For Rosenblum (2008: 417), ethnic and other ‘particularist’ parties, as well as bloc voting, ‘should not be uniformly depreciated’ because they are ‘key

ethnic voting tends to create ‘impermeable blocs that detract from interethnic accommodation’. For Seymour Martin Lipset, ‘the chances for a stable democracy are enhanced to the extent that groups and individuals have a number of cross-cutting, politically relevant affiliations’ (Lipset, 1959: 97). Lipset also argues that ‘democracy needs cleavages within linguistic or religious groups, not between them’ (Lipset, 1960: 92; our italics). As a consequence, voting across ethnic lines (usually called ‘interethnic vote pooling’ or ‘cross-ethnic vote’) is seen as beneficial to democracy and something that should be promoted (Horowitz, 1991; Reilly, 2001; see also Mitchell, 2014).

In this debate, however, a major disagreement has emerged concerning the impact of electoral institutions on democracy in multi-ethnic societies.² Most scholars warn against the use of typically majoritarian formulas in ethnically divided societies (Lijphart, 1977, 2004; O’Leary, 2005; Fraenkel and Grofman, 2006; McGarry and O’Leary, 2009), unless ethnic minorities are concentrated in discrete geographical areas (Lublin, 2014). As Lijphart notes, there is ‘a scholarly consensus against majoritarian systems in divided societies’ (Lijphart, 2004: 100). Indeed, numerous scholars favour the use of proportional representation (PR) systems in multi-ethnic societies (e.g., Cohen, 1997: 628; Diamond, 1999: 104; Doorenspleet, 2005: 366). The same can be said of national and international actors involved in the design of electoral institutions in post-conflict societies (e.g., Bosnia and Herzegovina, Macedonia, Kosovo, Northern Ireland, Iraq, Afghanistan). Only a small number of scholars, usually associated with the so-called ‘centripetalist’ school (Horowitz, 1991; Sisk, 1995; Reilly, 2001), go against the grain by advocating majoritarian electoral rules such as Alternative Vote. Centripetalists claim that PR provides incentives for the formation of ethnic parties and, via ethnic voting, facilitates the electoral success of such parties to the disadvantage of multi-ethnic parties (Reilly, 2012). In Horowitz’ (1991: 172) words:

[L]ist-system PR requires that votes be cast for a single party list. Where parties are ethnically based, there is no way to transfer votes across ethnic lines. A voter is locked wholly within his ethnic party.

Hence, centripetalists believe that multi-ethnic democracies need strong multi-ethnic parties and institutional incentives for cross-ethnic voting.

And yet there is surprisingly little empirical evidence on how voters actually behave under the various types of electoral systems. Most influential studies to date are based either on surveys (e.g., Huber, 2012) or on laboratory experiments (e.g., Kartal, 2015). The existing comparative studies of real elections have two serious limitations. First, they do not provide sufficient variance with regard to electoral systems (in most countries, elections are held either under PR or a majoritarian system). Second, it is hard to investigate patterns of ethnic vs. cross-ethnic voting in places where different groups are territorially separated and where the borders of electoral districts follow the territorial demarcation lines between groups (Lublin, 2014).

In this article, we overcome such limitations by relying on a natural experiment in which we analyse electoral results in the canton of Fribourg, Switzerland. Our approach allows us to compare the impact of majoritarian vs. PR electoral formulas upon the voting behaviour of citizens of two different linguistic³ groups who live in discrete, ethnically homogenous areas but vote within

instruments of political conflict but also of political integration’. Based on an empirical study of 10 post-communist democracies, Ruiz-Rufino (2013) concludes that the perceived level of satisfaction with democracy increases if ethnic groups can articulate their preferences through their own political parties. Birnir (2007), too, does not hold a generally negative opinion on ethnic voting.

²On the general impact of institutions on electoral behaviour see, e.g., Norris (2004), Bowler (2017).

³For the purposes of this article, we refer to ‘linguistic group’ and ‘ethnic group’ interchangeably. Specifically, we follow Wimmer (2008: 4) and consider the adjective ‘linguistic’ in this context as one subtype of ‘ethnic’, where ethnicity is a subjective sense of belonging based on the belief that people of the same ethnicity share a culture and have a common ancestry. See also Chandra (2005: 236), who defines ethnic identities as ‘nominal membership in an ascriptive category, including race, language, case, or religion.’

the same electoral district – one in which all major parties run an ethnically mixed slate of candidates. Our results show that cross-ethnic voting is significantly more frequent in majoritarian elections. However, we go beyond the classical PR vs. majoritarian dichotomy to show that it is important to take into account the district magnitude (i.e. the number of candidates elected in a given electoral district; see Hix *et al.*, 2017). The result of our investigation is the strong evidence that, in the canton of Fribourg, ethnic voting is significantly lower in majoritarian elections held in a seven-member district than (a) in PR elections held in a district of the same size, and (b) in majoritarian elections held in a two-member district. In other words, our analysis yields support to the idea that multi-member districts provide more incentives for cross-ethnic voting if district magnitude is relatively high.

The article is organized as follows. In the next section, we present the context of our natural experiment and the logic of comparison. We then discuss the incentives for ethnic vs. cross-ethnic voting provided by different electoral systems, highlighting not only the distinction between majoritarian and list-PR formulas, but also the varying incentive structure created by different district magnitudes. The central part of the article is dedicated to our empirical analysis and the main findings. In the concluding section, we discuss wider implications of our findings.

The context and the logic of comparison

In the canton of Fribourg, approximately two-thirds of voters are French speakers and one third are German speakers (Stojanović, 2008: 241). Each group is highly concentrated in its respective geographical area. There are no ethnic parties: all parties are bilingual. The whole canton forms a single electoral district in three types of election, when electing

- (a) two representatives to the Council of States, i.e. the second chamber of the federal parliament (under a two-round plurality/majority system),
- (b) seven representatives to the National Council, i.e. the first chamber of the federal parliament (under a free-list PR system), and
- (c) seven representatives to the cantonal executive, i.e. the regional government in Fribourg (under a two-round plurality/majority system).

We compare the electoral results by applying a double logic. First, we hold constant the electoral formula – i.e. a majoritarian system (*a* and *c*) – and compare it to elections held under PR (*b*). Second, we hold constant the district magnitude – i.e. seven-member districts, in (*b*) and (*c*) – and compare it to elections held in a two-member district (*a*). All elections were held in 2011.⁴ We chose the 2011 elections for reasons related to the coherence of our municipality-level data but have been able to replicate all main findings with data from the more recent elections held in 2015/16 (see Appendix: Part B).⁵

Switzerland is an interesting case study in this respect because surveys show that language is not the main marker of its citizens' identity (Kriesi *et al.*, 1996). Also, attachment to a common identity – 'being Swiss' – is very strong among speakers of all language groups (Eugster and Strijbis, 2011). At the national level, linguistic groups are typically not considered ethnic groups. That said, it would be erroneous to argue that this non-ethnic view of language applies unvaryingly to all language groups, especially with regard to the bilingual cantons. It is one thing to live in

⁴Recent studies show that Swiss parties and politics have become more and more nationalized over decades, i.e. voters see less and less difference between cantonal and national elections (see Caramani, 2004; Bochler *et al.*, 2016). This facilitates direct comparisons between the two types of elections.

⁵Between 2012 and 2016, there was a significant municipality merger in the Canton of Fribourg. Hence, our sample of municipalities is not the same for the two sets of elections (2011 vs. 2015/2016).

Geneva, Zurich or Lugano where, respectively, French, German and Italian are the only official languages. If you reside in Geneva, for example, you rarely encounter people speaking German or Italian. In such places, it is easier to see language in a purely functional way. It is quite a different thing if you live in close proximity to another linguistic community. In the Swiss context, this point is nicely illustrated by the secession of Northern Jura – French-speaking and predominantly Catholic – from the Canton of Berne in the 1970s (see Siroky *et al.*, 2017), and also by tensions between German and French speakers in Fribourg (Altermatt, 2018). We can expect, therefore, that in the bilingual canton of Fribourg, language is both a functional and an ethnic marker of identity.⁶

In this section of the article, we have presented the context in which we have conducted our natural experiment and the logic of our comparison. We now turn to the question of institutional design, namely which electoral systems are more or less conducive to ethnic voting.

Electoral incentives for cross-ethnic voting

What institutions are more conducive to cross-ethnic (rather than ethnic) patterns of voting behaviour?⁷ The centripetal thesis is that majoritarian systems – in particular the Alternative Vote – provide more incentives for cross-ethnic voting, whereas PR favours ethnic voting (Horowitz, 1991; Reilly, 2012). But why is this so? Here, we need to turn to the literature on strategic voting and coordination. According to Cox (1997), under the assumption of rational voters and abundant information about likely electoral outcomes, we can expect that in competitive elections both majoritarian and proportional formulas reduce the number of competitive candidacies, i.e. candidacies that have a non-negligible likelihood of winning a seat. More specifically, strategic voting and the coordination by the competitors tend to reduce the number of competitive candidacies to the size of the electoral district (M) plus one ($M+1$). Empirical studies confirm this hypothesis (Jesse, 1999), and we see it realized in multi-member majoritarian elections in Switzerland (Lutz, 2013; see also Lachat and Kriesi, 2015; Van der Straeten *et al.*, 2018).⁸

The crucial difference between majoritarian systems (applied in either single- or multi-member electoral districts) and PR systems is that, in the former, the reduction of the number of competitive candidacies happens at the candidate level, while in the latter, it takes place at the level of party lists. Hence, in contrast to majoritarian systems, the number of competitive candidacies is not restricted in PR systems where parties have an incentive to put forward lists with a large number of candidates. This is particularly accentuated in the case of free-list PR systems in which – given

⁶Still, even in a bilingual canton like Fribourg, linguistic identity is not the most important identity trait. According to one study (Meune, 2011), people's primary attachment is to their municipality (37% among French speakers and 30% among German speakers), followed by the attachment to Switzerland (30% among French speakers and 22% among German speakers) and to the canton (17% among French speakers and 19% among German speakers). Being a French speaker is the most important identity for only 13% of French-speaking *Fribourgeois*, while being a German speaker is the prime identity for only 11% of German-speaking *Freiburger*.

⁷Our working definitions of ethnic and cross-ethnic voting are as follows:

Ethnic voting = When citizen A, belonging to the ethnic group gA, casts (one or more) votes for the party pA representing (only or predominantly) the ethnic group gA, and/or for (one or more) candidates (cA1, cA2, cA3, etc.) belonging to gA.

Cross-ethnic voting = When the citizen A, belonging to the ethnic group gA, casts (one or more) votes for the party pB representing (only or predominantly) the ethnic group gB, and/or for (one or more) candidates (cB1, cB2, cB3, etc.) belonging to gB.

⁸Lutz (2013) has found that in 213 elections to the cantonal executives that took place in 23 cantons between 1971 and 2011, held under a multi-member majoritarian system, 61% of parties presented the number of candidates that corresponded to their seat share in parliament, whereas 14% presented an additional candidate. Only a minority (5%) presented two additional candidates and 8% presented fewer candidates.

the option of allocating preference votes to single candidates across party lists – parties try to convince citizens to vote for a large number of candidates from their own lists.⁹

But why should a lower number of candidates lead to more cross-ethnic voting? The answer is not obvious. Cross-ethnic voting will be negligible if voters' choices are guided exclusively by their ethnic group affiliation. In such contexts, parties have an interest in avoiding running minority candidates since their prospects of electoral success are inherently dim. This has been observed in the United States, in both multi-member and single-member districts, and contributes to the underrepresentation of African-Americans both in Congress and at the sub-national level (Lublin, 2014; Shah, 2014; Juenke and Shah, 2016). In such contexts, where ethnicity is the main predictor of voters' choice, single-member districts might be even better for ensuring minority representation since they at least increase the probability of representation via the so-called 'majority-minority districts', where the minority constitutes the local majority (Niemi *et al.*, 1985).

But if voting behaviour is not motivated predominantly by ethnic group affiliation, in multi-member majoritarian systems large parties might have an incentive to run with one or more minority candidates.¹⁰ The reason is that a high concentration of minority votes for minority candidates might help the party win additional seats.¹¹ Now, a rational voter who weighs party affiliation and political ideology more than ethnicity has an incentive to cast a cross-ethnic vote if the number of co-ethnic candidates from her preferred party is lower than the number of votes that she is allowed to allocate to single candidates. Even a rational voter who is primarily (but not entirely) motivated by ethnicity has an incentive to cast a cross-ethnic vote when the two candidates who compete for the last contested seat are from a different ethnic group than her own.¹² In such a case, abstention is irrational: this vote is the one with the highest potential to influence the electoral outcome and the voter cannot maximize its impact by voting for a co-ethnic candidate.

To sum up: unlike list-PR electoral systems, in multi-member majoritarian systems parties have an incentive to limit the number of candidates on their lists. Also, in such systems, voters have multiple votes to allocate to single candidates (the number of votes usually corresponds to the number of seats that can be won). As a result, the number of candidates belonging to a voter's preferred party and ethnicity is lower than the number of votes that the voter can allocate. Hence, the voter of a given party faces a dilemma: she can either cast a vote for a co-ethnic candidate from a different party or for a candidate from her party but belonging to an ethnic group other than her own. Furthermore, if two candidates from the other ethnic group compete for the most contested seat, a rational voter who is not entirely motivated in her vote choice by her ethnicity will always cast a cross-ethnic vote. Therefore, multi-member majoritarian systems incentivize cross-ethnic voting and clearly more so than PR.

Having illustrated the mechanism that underpins vote choices under different electoral systems, in the next section we present our natural experiment and its findings.

⁹In closed-list PR systems, no (cross-)ethnic voting is possible – at least according to our definition, see Footnote 7 – since voters cannot express preference votes for single candidates. Hence, in such systems, the question is whether the competing parties are multi- or mono-ethnic.

¹⁰We expect this phenomenon especially in electoral districts with a sufficiently high district magnitude, where parties can hope to get at least two candidates elected. In other words, it will hardly occur in two-member districts, where parties can realistically gain at maximum one seat.

¹¹This is shown by Gerber *et al.* (2008) for two-member districts with three candidates. Depending on district magnitude and the share of ethnic groups, parties might have the incentive to put forward several minority candidates.

¹²We expect this phenomenon also in smaller (e.g., two-member) electoral districts, if the election is competitive. But generally speaking, we assume that in multi-party systems it is more likely that the last seat is contested in electoral districts with higher district magnitudes.

Empirical test

Data and method

Our natural experiment consists of analysing group-level voting behaviour in the 2011 elections held in the canton of Fribourg. More specifically, we analyse the first round of elections to the cantonal executive, as well as the national elections to the first chamber (the National Council) and the first round of elections to the second chamber (the Council of States) of the federal Parliament (for detailed results, see Appendix: Part C). In all three elections, the canton forms a single electoral district. Since we cannot rely on survey data to analyse individual voting behaviour – such data does not exist – we estimate group-level behaviour from aggregate data. Since ethnic homogeneity within the linguistic regions is very strong (see Appendix: Part A) and administrative data is available at highly disaggregated level, we can calculate with high precision ecological inferences.

The data consists of electoral data and register data on the language affiliation of residents at the municipal level. Since language data is not available at the level of enfranchised voters, we assume that the proportions of the linguistic groups revealed in the register data are also valid for the electorate. Also, we assume that the relatively small group of residents that indicated neither French nor German as their mother tongue in the census can be divided along the two main language groups in the proportions of their presence in each municipality.

In Fribourg, the party system is similar to that of the rest of Switzerland. The Left is composed of Social Democrats (PS), the Christian Social Party (PCS), and the Greens; the Centre consists of Christian Democrats (PDC) and Green Liberals (PVL); and the Right is represented by Radical-Liberals (PLR) and the Swiss People's Party (UDC). Hence, there are no proper 'ethnic' or 'ethno-linguistic' parties (see Chandra, 2005; Strijbis and Kotnarowski, 2015).

We analyse the results of all candidates who ran in the majoritarian elections to the cantonal executive and the second federal chamber (the Council of States), as well as all elected or successive candidates in the elections to the first federal chamber (the National Council). In the latter case, in each of the four large parties (PDC, PLR, PS, and UDC), we can identify both a French-speaking and a German-speaking candidate, which allows for paired comparisons.

In order to estimate voting behaviour of each ethnic group, we apply ecological inference techniques (King, 1997; Rosen *et al.*, 2001). The ecological inference estimates are based on two crucial assumptions. First, it is assumed that there is no aggregation bias, i.e. that the vote share of the groups are mean independent. The second assumption is that voting behaviour at the level of the aggregate units (here: municipalities) can be modelled as a truncated normal distribution. This means that the method does not assume uniform voting behaviour across groups, but that the voting behaviours of the ethnic groups resemble each other across municipalities.

In order to test the plausibility of these assumptions for our data, we compare our results from the ecological inference models with the existing survey data on turnout in elections to the National Council. This is the only case in which the N in the survey is large enough to estimate (with an acceptable level of uncertainty) turnout levels across groups and, hence, to compare these levels with those estimated via the ecological inference method. In comparing the survey data and the ecological inference estimates, it has been taken into account that turnout tends to be heavily overestimated in surveys due to social desirability issues and selection bias (Sciarini and Goldberg, 2016). However, assuming that the over-reporting of the turnout in the survey is constant between German and French speakers, in the absence of aggregation bias we would expect the same pattern in the survey data as in the ecological inferences. This is exactly what Table 1 shows: In both the survey and the ecological inference data, we find (in relative terms) the same difference in turnout between German and French speakers. This is a strong evidence for the absence of aggregation bias in our ecological inference models.

Table 1. Group-level turnout in the 2011 elections to the National Council in Fribourg, estimated via survey and ecological inference (%)

	Aggregation of survey data	Ecological inference
German speakers	72.7	49.4
French speakers	68.5	46.2
Difference	4.2	3.2
Total	69.8	47.2
Difference/Total	6.1	6.9

Notes: Estimations made via survey and ecological inference. Survey data weighted with design weights. Ecological inferences estimated with 2×2 ecological inference command in R package 'ei'.

Measuring ethnic voting

In order to compare ethnic voting across parties or candidates within and between elections, we calculate the average relative electoral difference in vote shares across groups. We first calculate the relative electoral difference between two ethnic groups for each candidate: $\sqrt{(V_a - V_b)^2} / V_t$ where V_a and V_b are the proportion of members of group a and b , respectively, who support the candidate, and V_t is the total vote share of the same candidate. It measures the extent to which the proportion of votes that group a allocates to each candidate reflects the proportion of votes that group b allocates to each candidate relative to the overall vote share of the candidate. Low values indicate that the candidate receives a similar share of votes from her co-ethnics and from the other ethnic group. High values indicate that the candidate receives substantially more votes from her co-ethnics. Since the difference in vote shares for a candidate between the groups can exceed her overall vote share, values can be higher than 1. Finally, the average relative electoral difference is simply the average of the relative electoral difference over all candidates.

Our measure is inspired by Huber's (2012: 990) measure of electoral distance who adopts, for ethnic voting, the Gallagher's (1991) index of electoral disproportionality. However, contrary to Huber's index, our indicator of electoral distance does not vary with regard to group and party size. The reason is that for list-PR elections we need to include a large category for vote shares of all candidates with a small number of votes since for these candidates it is impossible to obtain valid estimates of group-level voting. Moreover, this category 'other candidates' is not informative about ethnic voting because with the aggregation of vote shares of these candidates, the electoral differences across ethnic groups are most likely averaged out.

A limit of both Huber's and our index of electoral distance is the assumption that ethnic voting exceeds cross-ethnic voting. However, in contexts such as the one of Fribourg this is not necessarily the case. Hence, whenever cross-ethnic voting exceeds ethnic voting, we set to zero the value for ethnic voting. This allows us to measure the support that a candidate receives from voters of the other ethnic group, compared to the support from her co-ethnics. Intuitively, thus, the index measures the average vote share that candidates receive from voters of the other ethnic group relative to vote share they would receive from co-ethnic voters, if the groups were of equal size.

Ethnic vs. cross-ethnic voting in Fribourg

An important, though often overlooked, case of ethnic voting is when turnout is strongly biased towards one ethnic group. In particular, in the case of 'ethnic census', a significant share of minority voters might see no point in participating. In this case, the discrepancy in turnout between ethnic groups (rather than differences in voter choice) might be the real dimension of ethnic voting. Hence, as a first step, we analyse turnout levels across groups and types of elections.

In the context of elections where a voter has several votes, turnout can be studied both at the level of voters and at the level of votes. We explore this by analysing turnout and the number of votes cast. In the latter case, we multiply the number of citizens with the number of votes they were

Table 2. Group-level turnout in the 2011 national and cantonal elections in Fribourg, estimated via cast votes (%)

	Cantonal executive		National Council		Council of States	
	Votes	Voters	Votes	Voters	Votes	Voters
German speakers	21.1	42.1	48.2	49.4	36.0	41.0
French speakers	25.5	44.3	44.3	46.2	32.9	41.7
Total	24.0	43.6	45.5	47.2	33.9	41.5

Notes: Estimations made via cast votes (where ‘votes’ = votes effectively used by voters). Voters could allocate up to seven votes to single candidates in the elections to the cantonal executive and the National Council, and up to two votes in the Council of States election. Calculated with 2×2 ecological inference command in R package ‘ei’.

allowed to cast in each election. Table 2 shows turnout levels by ethnic groups for both PR and majoritarian elections in the canton of Fribourg. First, it shows that the level of voter turnout is similarly high for the three elections (between 41.5% and 47.2%), with the cantonal executive election as the median (43.6%). This points to the fact that, in strongly federalized Switzerland, elections to the cantonal executive are considered similarly important as elections to the federal parliament. At the level of votes, however, turnout is lower in majoritarian elections – i.e. in such elections people tend to cast fewer votes than in free-list PR elections. Notice that this cannot be explained by differences in district magnitude. In fact, all elections are held in a single canton-wide electoral district and in two of them (the cantonal executive and the first federal chamber) there is the same number of seats (seven) to be filled. Instead, since the number of candidates in a typical majoritarian election is substantially lower than in the PR election (see below), turnout is related to the range of choice the voters face in terms of the number of candidates who run for office. This correlation between a shorter supply of candidates and turnout is a first indication that one important impact of the choice of electoral system is a different supply of candidates across the two types of elections.

Analysis of turnout by language group shows differences between the two groups. In relative terms, French speakers participate at a slightly higher rate in the cantonal than in the federal elections, while the opposite is true for German speakers. At the level of votes, the turnout is again quite similar between the groups in all elections. We can conclude that, in general, turnout between the two groups is similar and that the groups tend to have relatively higher vote shares in the election where they form the majority (i.e. the French speakers at the cantonal level and the German speakers at the federal level).

Since our analysis of turnout across language groups demonstrates that ethnic voting in Fribourg is not primarily a matter of electoral participation, we are ultimately interested in group-level voting across the various elections. In the first step, we analyse ethnic voting in the elections to the cantonal executive held under majoritarian rules in a seven-member electoral district.¹³ Table 3 displays the names of the candidates, their party affiliations, linguistic groups, as well as their vote shares within each group. The table shows that eight out of eleven candidates who can be clearly classified in one of the two linguistic groups gained a higher vote share within their own group than within the other group. Also, the only truly bilingual candidate received almost identical vote shares within each linguistic group. Finally, the average electoral difference was small (20.4%). The results suggest that, in this majoritarian election, ethnic voting was practised but was rather weak.

¹³Technically, there is no ‘list’ voting in these elections. Nevertheless, for symbolic and visibility-driven reasons, the parties present their candidates on separate party ballots. Such ‘lists’ indicate the strategic coordination among the parties with regard to the number of candidates they present for the election. In the 2011 election, for example, the Socialists, the Christian Socialists and the Greens presented their candidates on the same ‘list’ and jointly obtained the highest vote share.

Table 3. Candidate vote shares in the 2011 election to the cantonal executive in Fribourg (%)

Candidate	Party	Language	French speakers	German speakers	Total	Δ	Relative electoral distance
Chassot	PDC	French	12.0	12.0	12.0	0.0	0.4
Vonlanthen	PDC	German	10.4	14.0	11.6	3.6	31.2
Jutzet	PS	German	10.4	11.6	10.8	1.2	10.8
Godel	PDC	French	11.0	10.0	10.6	1.0	9.4
Demierre	PS	French	10.0	8.7	9.6	1.3	14.0
Garnier	Greens	French	8.3	7.2	8.0	1.1	14.4
Ropraz	PLR	French	9.6	3.2	7.5	6.4	86.2
Ganioz	PS	French	6.4	8.1	6.9	1.7	(25.1)
Nobs	PCS	French	6.6	7.1	6.8	0.5	(6.7)
Page	UDC	French	6.3	7.2	6.6	0.9	(13.0)
Bachmann	Ind.	Bilingual	5.6	4.2	5.1	1.4	26.9
Ith	PLR	German	3.3	6.9	4.5	3.6	78.3
Average relative electoral distance							20.4

Notes: Estimates are weighted municipality means from 1000 C \times R estimates per municipality.

Values for bilingual candidates and candidates receiving a higher vote share from the opposite group in parenthesis. For the calculation of the average their values were set at 0. Ecological inferences estimated with RxC ecological inference command in R package 'eiPack'. Δ = absolute difference between vote shares among German and French speakers.

Reading example: Candidate Vonlanthen received 3.6% more votes within his own linguistic group than within the other group. This difference is equivalent to 31.2% of his total vote share.

Why is ethnic voting so weak in elections to the cantonal executive? The answer can be found in the supply of candidates. As we can deduce from the number of candidates and their party affiliations, voters did not have the opportunity to cast all seven votes for candidates of their preferred party and for candidates from their own linguistic group.¹⁴ In other words, a voter had to choose candidates from at least three different parties (e.g., PDC, PLR, and PS) in order to make use of all seven votes. Even in this scenario, the voter had no alternative but to vote for at least some candidates of the other ethnic group if she wanted to make use of all her votes. In fact, in order to support only co-ethnic candidates (including the bilingual candidate), a French-speaking voter would have had to vote for candidates from at least four different parties. Since only four German-speaking candidates were contesting the election, this option was not available to German speakers. Hence, voters whose choice was primarily partisan/ideological were faced with the option either of allocating a share of their preferential votes to candidates from the other ethnic group (i.e. cross-ethnic voting) or of wasting votes – that is, by casting less than seven votes. Indeed, as the analysis of turnout across groups has shown (see Table 2), a substantial share of the electorate did not use all seven votes. If, however, the use of fewer than seven votes was motivated by an aversion towards candidates from the other language group, that share should be much higher for German speakers than for French speakers (given that, as already mentioned, a French speaker could cast all seven votes for a co-ethnic candidate). But this was not the case. The share of French-speaking voters who did not make use of all votes was as high as that of German speakers. In our view, this demonstrates that the decision to not cast all seven votes was not motivated by candidates' ethnolinguistic affiliation.

If the decision to not cast all seven votes was not motivated by candidates' ethnolinguistic affiliations, then what could explain it? A closer inspection of the candidates who received relatively fewer votes from their own linguistic groups might provide an answer. In terms of party affiliation, one candidate was from the Christian Democrats (Ms. Chassot), one from the Christian Socialists (Mr. Nobs), and another from the Swiss People's Party (Mr. Page). The latter two parties historically have a larger electorate in the German-speaking part of Switzerland than in the French-speaking part. Therefore, candidates (from both groups) from these parties receive higher vote shares from German speakers. It is thus likely that the higher vote shares of Mr. Nobs and

¹⁴Note that, in this majoritarian election, each voter can allocate only one preferential vote per candidate.

Table 4. Candidate vote shares in the 2011 National Council election in Fribourg (%)

Candidate	Party	Language	French speakers	German speakers	Total	Δ	Relative electoral distance
Levrat	PS	French	7.2	4.6	6.3	2.6	41.5
Steiert	PS	French	4.7	4.3	4.5	0.4	9.3
DeBuman	PDC	French	4.4	3.1	4.1	1.4	33.6
Rime	UDC	French	4.0	4.2	3.9	0.2	(5.7)
Bourgeois	PLR	French	3.4	2.3	3.2	1.1	36.3
Page	UDC	French	3.4	2.8	3.1	0.6	19.9
Piller Carrard	PS	French	3.1	1.9	3.0	1.2	38.1
Collomb	PDC	French	2.9	1.6	2.7	1.3	50.7
Schneider Schüttel	PS	German	2.7	2.6	2.7	0.1	(2.5)
Losey	UDC	French	2.6	2.7	2.6	0.1	(4.4)
Buillard Marbach	PDC	German	2.5	4.4	2.5	1.9	80.5
Waeber	UDC	German	1.8	3.7	2.5	1.9	79.6
Vonlanthen	PLR	German	0.9	2.9	1.6	2.0	126.7
Other	-	-	56.5	58.9	57.4	2.4	4.2
Average relative electoral distance							37.2

Notes: Estimates are weighted municipality means from 1000 C \times R estimates per municipality.

Values for bilingual candidates and candidates receiving a higher vote share from the opposite group in parenthesis. For the calculation of the average their values were set at 0. Ecological inferences estimated with RxC ecological inference command in R package 'eiPack'. Δ = absolute difference between vote shares among German and French speakers.

Reading example: Candidate Levrat received 2.6% more votes within his own linguistic group than within the other group. This difference is equivalent to 41.5% of his total vote share.

Mr. Page among German speakers can be explained by stronger identification with their respective parties in German-speaking Switzerland and, consequently, in the German-speaking areas of the Canton of Fribourg. The same data suggests that an important share of French speakers did not make use of all their votes, presumably because they preferred not to vote for a co-ethnic from an unfavoured party. This points to the conclusion that in majoritarian elections held in multi-member districts, voters prefer to support candidates on the basis of their (voters') partisan preferences and not of their ethnolinguistic affiliation.

Yet while party affiliation might explain the high levels of cross-ethnic voting for the two previously mentioned candidates, it cannot explain the same phenomenon with regard to candidate Chassot, who received the highest number of votes. Indeed, she received almost unanimous support, and notably she gained the same share of votes from both linguistic groups.¹⁵ This indicates a strong centripetal effect of the majoritarian system in this specific context: for strategic reasons, voters of both the Left and the Right have an incentive to vote for a centrist candidate (here: Ms. Chassot) in order to prevent a candidate from the ideologically opposite camp from winning a seat (see Cox, 1997).

To sum up, ethnic voting is weak in majoritarian elections in Fribourg. This is primarily explained by the fact that the low number of candidates in these elections – an outcome of strategic coordination by the parties – leaves voters with very limited options with regard to candidates who share their linguistic affiliation. These limited options may even induce such a high degree of strategic voting that centrist candidates receive near-unanimous support, further reducing ethnic voting. In addition to these direct effects of the electoral system, we have seen that the constellation in terms of candidates' party affiliations has an impact on ethnic voting (we will return to this point later).

In order to compare the effects that multi-member majoritarian and list-PR systems have on ethnic voting, we next focus on the elections to the National Council. In 2011, there were 99 candidates running on 18 different lists, which indicates that there was hardly any coordination at the candidate level. Table 4 shows the relevant information with regard to this election for all

¹⁵Note that Ms. Chassot's 12.0% vote share (Table 2) was calculated by taking into account that in this election every voter could vote for up to seven candidates. Therefore, in this election, the maximum potential vote share was 14.3%.

Table 5. Candidate vote shares in the 2011 Council of States election in Fribourg (%)

Candidate	Party	Language	French speakers	German speakers	Total	Δ	Relative electoral distance
Berset	PS	French	44.3	28.4	38.8	15.9	40.9
Schwaller	PDC	German	35.0	42.2	37.5	7.2	19.2
Rime	UDC	French	16.5	18.7	17.2	2.2	(12.3)
Vonlanthen	PLR	German	4.2	10.8	6.4	6.6	101.7
Average relative electoral distance							43.6

Notes: Estimates are weighted municipality means from 1000 C \times R estimates per municipality.

Values for bilingual candidates and candidates receiving a higher vote share from the opposite group in parenthesis. For the calculation of the average their values were set at 0. Ecological inferences estimated with RxC ecological inference command in R package 'eiPack'. Δ = absolute difference between vote shares among German and French speakers.

Reading example: Candidate Berset received 15.9% more votes within his own linguistic group than within the other group. This difference is equivalent to 40.9% of his total vote share.

candidates who were elected or succeeded elected candidates on the same list. The table reflects that among the thirteen listed candidates, ten received a higher vote share from their co-ethnic voters than from voters of the other group. The remaining three candidates (Mr. Rime, Ms. Schneider Schüttel, and Mr. Losey) received almost identical vote shares from both groups, with the differences ranging between 0.1% and 0.2%. Additionally, the average electoral difference (37.2%) shows a level of ethnic voting that is clearly higher than in the election of the cantonal executive held under majoritarian rules.

Why is there a higher level of ethnic voting in the list-PR election than in its multi-member majoritarian counterpart? As we have highlighted in Section 3, the crucial difference between the two systems is the set of options they provide to voters to express their preferences. The options in the majoritarian election are severely restricted and do not allow voters to cast all their votes for co-ethnic candidates and at the same time to vote according to their ideological/partisan preferences. The situation is very different in the list-PR election, where each major party presents a list with seven candidates from both ethnic groups. In these free-list elections, voters are allowed to allocate up to two positive preference votes to every candidate (from any party list), but also one negative preference vote for each candidate running on the selected party list. In other words, voters can concentrate their votes on co-ethnic candidates from the list of their choice. For example, a French-speaking voter can cast all seven votes for French-speaking candidates running on the same list and/or from other lists. German speakers typically have to split their votes across at least two lists if they want to support only co-ethnic candidates. However, since the main lists of five major parties (PS, PLR, PCS, and the Greens) were accompanied (via *apparentement*) by corresponding youth lists, many German-speaking voters did, in fact, have the option to vote only for co-ethnics from a single party by allocating preferential votes to candidates from the main and the youth lists of that party. Even voters whose first preference was for a party without a youth list had the option to support co-ethnic candidates running on party lists whose ideology is not so distant from that of their preferred party.

The next step of our analysis is to compare ethnic voting in seven-member district (both majoritarian and PR) and in two-member district (majoritarian) elections (Table 5). In the latter (i.e. the Council of States election), only four candidates ran in the first round. Even the PS and the PDC – the two largest parties – presented only one candidate each. As a consequence, the election became a rather non-competitive race: the third and the fourth candidate received not even half of the votes of the second candidate. Given the lack of competition, voters did not have incentives for strategic voting but could cast a 'sincere' vote instead. This resulted in an average electoral distance of 43.6%, which is even slightly higher than in the National Council election.

But was it really lack of strategic voting that explains the high levels of ethnic voting? A relatively low turnout points into this direction. Despite the fact that the election to the Council of

States took place the same day as the National Council election and the few candidates were among the most well-known politicians of the Canton, the turnout was 5.7% points lower than in the National Council election. Also, only 33.9% of the available votes were cast, compared to 45.5% for the National Council. This would have probably been different if the third candidate had a realistic chance to win the second seat. In such a case, we would expect to see a lower level of ethnic voting. It can be assumed that more French-speaking voters would have voted for Mr. Schwaller (a German speaker from the PDC) if they preferred to support someone from the centrist Christian Democrats (PDC) over the right-wing conservative People's Party (UDC). Similarly, we would expect to see more German-speaking right-wing voters supporting Mr. Rime (a French speaker from the UDC). Hence, while in highly competitive majoritarian elections with only two seats, we would expect similar dynamics as under a majoritarian election with seven seats, this assumption does not hold if the election is not competitive. Since uncompetitive elections are much more likely if there are only few seats at stake, the relatively high level of ethnic voting observed in the election to the Council of States (two seats) is not a coincidence.

Our strong finding is that, in Fribourg, there is much less ethnic voting under a multi-member (here: seven-member) majoritarian system than under a list-PR system or a two-member majoritarian system. However, we believe that the constellation of candidates in terms of party affiliation may not be entirely endogenous to the electoral system. While it is certainly true that the majoritarian system induces inter-party strategic coordination and, thus, significantly reduces voters' options, parties might miscalculate the effects of coordination or have other motivations than short-term electoral gain when recruiting candidates. The constellation of candidates, therefore, could be to some degree exogenous. Since these exogenous forces can potentially correlate with our dependent variable – ethnic voting – they might bias our comparison. In the final step of our analysis, we will therefore compare the levels of ethnic voting across electoral systems while controlling for these potentially important exogenous forces.

To identify exogenous variables, we highlight all factors that impact the constellation of candidates in terms of (a) their linguistic group affiliation, and (b) party affiliation. First, our focus on ethnic voting implies that we attach importance to candidates' ethnic affiliation. Any aspect of candidate selection, therefore, that pertains to ethnic affiliation but is not induced by the electoral system might potentially bias our previous analysis.

Table 6 presents the party vote shares across ethnic groups in the PR election to the National Council. The table shows both ethnic groups' vote shares for all parties that received at least 3% of the total vote. The findings are suggestive: since parties did not have to limit their number of candidates for strategic reasons, in this election voters could vote according to their party preference (almost) independently of their preference in terms of candidates' ethnic affiliation. Hence, Table 6 shows the distribution of voters' party preferences independent of their preferences for co-ethnic candidates. While the PS and the PDC clearly receive more support from French speakers, the opposite is true for the PCS, PVL, and other small parties. Now, as argued previously, the constellation of candidates with regard to party affiliation is strongly endogenous to the electoral system and, to the degree that it mediates between the electoral system and ethnic voting, it does not bias our analysis. However, to the degree that it is exogenous, it might impact our comparison of the effect of the electoral system on ethnic voting. The most conservative way to control for this potential bias is to control for party affiliation as a fixed effect.

Table 7 shows the comparison of ethnic voting across electoral systems while controlling for candidates' party and linguistic affiliations. Each cell depicts the average relative vote difference as described in Tables 3–5. Since in a two-member majoritarian system no paired comparisons of candidates from different linguistic groups and the same party are possible, we focus on the comparison between the seven-member PR and majoritarian elections. In this regard, the table shows that in five out of seven cases where controlled comparisons are possible, ethnic voting is higher in the PR election than in the majoritarian one. The difference is even larger when we include those

Table 6. Party vote share in the 2011 National Council election in Fribourg (%)

Party	French speakers	German speakers	Total	Δ	Relative electoral distance
PS	28.9	20.0	25.7	8.9	34.6
UDC	20.3	23.2	21.4	2.9	13.4
PDC	20.8	19.4	20.3	1.4	7.0
PLR	12.0	11.4	11.7	0.6	4.7
PCS	3.1	8.1	4.9	5.0	101.7
Greens	4.6	2.7	3.9	1.9	50.1
PVL	2.6	5.2	3.5	2.6	72.7
Other	7.7	10.1	8.6	2.4	27.8

Notes: Estimates are weighted municipality means from 1000 C \times R estimates per municipality. Values for bilingual candidates and candidates receiving a higher vote share from the opposite group in parenthesis. For the calculation of the average their values were set at 0. Ecological inferences estimated with R \times C ecological inference command in R package 'eiPack'. Δ = absolute difference between vote shares among German and French speakers.

Reading example: The PS received 8.9% more votes within the French-speaking group than within the group of German speakers. This difference is equivalent to 34.6% of its total vote share.

Table 7. Vote share difference between groups (as % of total) in the 2011 elections in Fribourg

Party	Language	Electoral system		
		PR, 7 seats	Maj., 7 seats	Maj., 2 seats
PCS	French		0.0	
	German			
PDC	French	42.1	4.9	
	German	80.5	31.2	19.2
PLR	French	36.3	86.2	
	German	126.7	78.3	101.7
PS	French	29.6	19.5	40.9
	German	0.0	10.8	
UDC	French	9.9	0.0	0.0
	German	79.6		
Greens	French		14.4	
	German			
Mean		50.6	27.3	43.6

Notes: Values are averages from Tables 3–5. Values for bilingual candidates and candidates receiving a higher vote share from the opposite group were set at 0.

Reading example: In the PR election (district magnitude = 7), the French-speaking candidates from the PDC received 42.1% more votes from French speakers than from German speakers.

cases where no direct comparison is possible. Since the cross-table controls for party and linguistic affiliation as fixed effects – although they are, in reality, at least partially endogenous – the analysis is very conservative. Consequently, the difference in ethnic voting between the two electoral systems should be interpreted as its lower bound. In sum, this is a strong evidence that ethnic voting is significantly lower in majoritarian elections held in multi-member electoral districts than in PR-list elections.

Conclusion

In this article we showed that, in the bilingual (French/German) Swiss canton of Fribourg, cross-ethnic voting is significantly stronger in elections held in a multi-member district under majoritarian rules than in list-PR elections. The reason, in our view, lies in the incentive structure that electoral rules provide for parties, candidates and voters. In multi-member majoritarian elections to the cantonal executive, parties present a limited number of candidates in order to maximize

their electoral success. As a consequence, a voter who wants to make use of all preferential votes that she is allowed to allocate, and who wants to support the parties corresponding to her ideological preference, has an incentive to support both co-ethnic and other-ethnic candidates. We also assume that candidates are aware of such an incentive structure and have an interest in appealing both to French- and German-speaking voters.

This is not the case in list-PR elections, where parties typically present as many candidates as there are seats to be filled. Also, the option of *appartenance* allows parties to appeal to different categories of voters by presenting more than one party list. A voter can thus easily allocate all preferential votes to a candidate who belongs both to her own language group and to her preferred party. Given the incentive structure, candidates running for PR seats do not have an interest in crossing the language border in order to attract votes from citizens speaking the other language.

Hence, our findings yield support to the centripetalist approach to institutional design in diverse societies – an approach advocating the use of certain majoritarian electoral rules in order to promote cross-ethnic voting and multi-ethnic parties that are allegedly beneficial to democratic stability. But to what extent can our results be generalized?

Within Switzerland, our study can be applied to other multi-lingual cantons (Berne, Grisons, Valais), where identical electoral rules govern the list-PR elections to the National Council and roughly the same rules are applied in elections to cantonal executives (Stojanović, 2008). The variations concern different district magnitudes, party systems, the number and population shares of language groups, as well as the salience of linguistic identities.

Outside of Switzerland, our results could be generalized to contexts where two or more ethnic groups live within the limits of the same electoral system and where the ethnic cleavage is not so pervasive as to trump all other political preferences of citizens. An interesting case-study could be, for example, the region of Brussels, where most elections are held under an open-list PR system. Ideally, however, one should look for multi-ethnic places where different electoral systems have been used in past years. One candidate could be the Italian province of South Tyrol, given that in Italy there have been many electoral systems reforms since the early 1990s. A hint that majoritarian elections are more conducive to cross-ethnic voting is the recent case of Francesco Palermo, elected to the Italian Senate in 2013, in a single-member district. A native Italian speaker who is also fluent in German, Palermo could be elected only because he was able to attract votes also from the German-speaking community.¹⁶ A further hint comes from Bosnia, a much more deeply divided and a post-conflict society. In majoritarian elections to the three-member Presidency a person from the Croat ethnic group, Ivo Komšić, was elected in 2006, 2010 and again in 2018 as a candidate of a multi-ethnic party, thanks to the decisive support received by Bosniak (Bosnian Muslim) voters.¹⁷

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¹⁶See ‘Il senatore Francesco Palermo: “Non mi ricandido”’, *Il Dolomiti*, 27 December 2017.

¹⁷In 2006 and in 2010, Mr. Komšić was the candidate of the Social Democrats. In 2012, he left that party and formed a new multi-ethnic party called ‘Democratic Front’. While we think that his election is a highly interesting demonstration that cross-voting is possible even in severely divided post-conflict societies, and thanks to a majoritarian electoral formula, we should note that this case has been a topic of major political controversy in Bosnia. Officials from the Croat ethnic parties argue, in fact, that Mr. Komšić received far less votes in Croat areas than their own candidates and that, therefore, he is not a ‘true’ representative of Croats in the collective Presidency of the country. See ‘Croats protest against election of moderate in Bosnia’s presidency’, *Reuters*, 11 October 2018.

References

- Achen C.H. and L.M. Bartels (2016), *Democracy for Realists: Why Elections Do Not Produce Responsive Government*, Princeton: Princeton University Press.
- Altermatt B. (2018), *Sprache und Politik– Zweisprachigkeit und Geschichte*, Freiburg: Kultur Natur Deutschfreiburg.
- Arzheimer K., J. Evans and M.S. Lewis-Beck (eds.) (2017), *The SAGE Handbook of Electoral Behaviour*, London, UK: SAGE.
- Birnir J.K. (2007), *Ethnicity and Electoral Politics*, Cambridge, UK: Cambridge University Press.
- Bochsler D., S. Mueller and J. Bernauer (2016), 'An ever closer union? The nationalisation of political parties in Switzerland, 1991–2015', *Swiss Political Science Review* 22(1): 29–40.
- Bowler S. (2017), 'Institutional effects on voter choice', in K. Arzheimer, J. Evans and M.S. Lewis-Beck (eds.), *The SAGE Handbook of Electoral Behaviour*, London, UK: SAGE, pp. 9–29.
- Caramani D. (2004), *The Nationalization of Politics*, Cambridge, UK: Cambridge University Press.
- Chandra K. (2005), 'Ethnic parties and democratic stability', *Perspectives on Politics* 3(2): 235–252.
- Cohen F.S. (1997), 'Proportional versus majoritarian ethnic conflict management in democracies', *Comparative Political Studies* 30(5): 607–630.
- Cox G.W. (1997), *Making Votes Count: Strategic Coordination in the World's Electoral Systems*, Cambridge, UK: Cambridge University Press.
- Diamond L. (1999), *Developing Democracy: Toward Consolidation*, Baltimore, MD: Johns Hopkins University Press.
- Doorenspleet R. (2005), 'Electoral systems and good governance in divided societies', *Ethnopolitics* 4(4): 365–380.
- Dunning T. and L. Harrison (2010), 'Cross-cutting cleavages and ethnic voting: an experimental study of cousinage in Mali', *American Political Science Review* 104(1): 1–19.
- Eugster B. and O. Strijbis (2011), 'The Swiss: a political nation?' *Swiss Political Science Review* 17(4): 394–416.
- Ferree K. (2006), 'Explaining South Africa's racial census', *The Journal of Politics* 68(4): 803–815.
- Fisher S.D., A.F. Heath, D. Sanders and M. Sobolewska (2015), 'Candidate ethnicity and vote choice in Britain', *British Journal of Political Science* 45(4): 883–905.
- Fraenkel J. and B. Grofman (2006), 'Does the alternative vote foster moderation in ethnically divided societies? The case of Fiji', *Comparative Political Studies* 39(5): 623–651.
- Gallagher M. (1991), 'Proportionality, disproportionality and electoral systems', *Electoral Studies* 10: 33–51.
- Gerber E.R., R.B. Morton and T.A. Rietz (2008), 'Minority representation in co-ethnics districts', *American Political Science Review* 92(1): 127–144.
- Hix S., R. Hortala-Vallve and G. Rimbau-Armet (2017), 'The effects of district magnitude on voting behavior', *Journal of Politics* 79(1): 356–361.
- Heath O., G. Verniers and S. Kumar (2015), 'Do muslim voters prefer muslim candidates? Co-religiosity and voting behaviour in India', *Electoral Studies* 38: 10–18.
- Hoffman B.D. and J.D. Long (2013), 'Parties, ethnicity, and voting in African elections', *Comparative Politics* 45(2): 127–146.
- Horowitz D. (1985), *Ethnic Groups in Conflict*, Berkeley, CA: University of California Press.
- Horowitz D. (1991), *A Democratic South Africa? Constitutional Engineering in a Divided Society*, Berkeley, CA: University of California Press.
- Houle C. (2018), 'Does ethnic voting harm democracy?' *Democratization* 25(5): 824–842.
- Huber J. (2012), 'Measuring ethnic voting: do proportional electoral laws politicize ethnicity?' *American Journal of Political Science* 56(4): 986–1001.
- Ishiyama J. (2012), 'Explaining ethnic bloc voting in Africa', *Democratization* 19(4): 761–788.
- Jesse N.G. (1999), 'Candidate success in multi-member districts: an investigation of Duverger and Cox', *Electoral Studies* 18: 323–340.
- Juenke E.G. and P. Shah (2016), 'Demand and supply: racial and ethnic candidates in white districts', *Journal of Race, Ethnicity, and Politics* 1(1): 60–90.
- Kartal M. (2015), 'Laboratory elections with endogenous turnout: proportional representation versus majoritarian rule', *Experimental Economics* 18(3): 366–384.
- King G. (1997), *A Solution to the Ecological Inference Problem: Reconstructing Individual Behavior from Aggregate Data*, Princeton: Princeton University Press.
- Kriesi H., B. Wernli, P. Sciarini and M. Gianni (1996), *Le clivage linguistique: Problèmes de compréhension entre les communautés linguistiques en Suisse*, Berne: Federal Statistical Office.
- Lachat R. and H. Kriesi (2015), '"Voluntary PR voting" in the election of Swiss regional governments', *Swiss Political Science Review* 21(3): 419–436.
- Lau R.R. and D.P. Redlawsk (2006), *How Voters Decide: Information Processing in Election Campaigns*, New York, NY: Cambridge University Press.
- Lijphart A. (1977), *Democracy in Plural Societies*, New Haven, CT: Yale University Press.
- Lijphart A. (2004), 'Constitutional design for divided societies', *Journal of Democracy* 15(2): 96–109.
- Lipset S.M. (1959), 'Some social requisites of democracy: economic development and political legitimacy', *American Political Science Review* 53(1): 69–105.

- Lipset S.M.** (1960), *Political Man: The Social Bases of Politics*, New York, NY: Doubleday & Company.
- Lublin D.** (2014), *Minority Rules. Electoral Systems, Decentralization, and Ethnoregional Parties Success*, New York, NY: Oxford University Press.
- Lutz G.** (2013), 'How multi-member majoritarian elections produce proportional outcomes?' *Paper Presented at the MPSA Annual Meeting*, April, Chicago.
- McConaughy C.M., I.K. White, D.L. Leal and J.P. Casellas** (2010), 'A Latino on the ballot: explaining coethnic voting among Latinos and the response of white Americans', *The Journal of Politics* 72(4): 1199–1211.
- McGarry J. and B. O'Leary** (2009), 'Power shared after the death of thousands', in R. Taylor (ed.), *Consociational Theory: McGarry and O'Leary and the Northern Ireland Conflict*, London and New York: Routledge, pp. 15–84.
- Meune M.** (2011), *Au delà du Röstigraben: Langues, minorités et identités dans les cantons suisses bilingues*, Geneva: Georg.
- Mitchell P.** (2014), 'The single transferable vote and ethnic conflict: the evidence from Northern Ireland', *Electoral Studies* 33: 246–257.
- Moehler D. and J. Conroy-Krutz** (2016), 'Eyes on the ballot: priming effects and ethnic voting in the developing world', *Electoral Studies* 42: 99–113.
- Niemi R.G., J.S. Hill and B. Grofman** (1985), 'The impact of multimember districts on party representation in U.S. State legislatures', *Legislative Studies Quarterly* 10(4): 441–455.
- Norris P.** (2004), *Electoral Engineering: Voting Rules and Political Behavior*, Cambridge, UK: Cambridge University Press.
- O'Leary B.** (2005), 'Debating consociational politics: normative and explanatory arguments', in S. Noel (ed.), *From Power Sharing to Democracy*, Montreal and Kingston: McGill-Queen's University Press, pp. 3–43.
- Parenti M.** (1967), 'Ethnic politics and the persistence of ethnic identification', *American Political Science Review* 61(3): 717–726.
- Portmann L. and N. Stojanović** (2019), 'Electoral discrimination against immigrant-origin candidates', *Political Behavior* 41(1): 105–134.
- Rabushka A. and K.A. Shepsle** (1971), 'Political entrepreneurship and patterns of democratic instability in plural societies', *Race and Class* 12(4): 461–476.
- Reilly B.** (2001), *Democracy in Divided Societies: Electoral Engineering for Conflict Management*, Cambridge, UK: Cambridge University Press.
- Reilly B.** (2012), 'Institutional designs for divided societies: consociationalism, centripetalism and communalism compared', *European Political Science* 11: 259–270.
- Rosen O., W. Jiang, G. King and M.A. Tanner** (2001), 'Bayesian and frequentist inference for ecological inference: the RxC case', *Statistica Neerlandica* 55(2): 134–156.
- Rosenblum N.** (2008), *On the Side of the Angels. An Appreciation of Parties and Partisanship*, Princeton: Princeton University Press.
- Ruiz-Rufino R.** (2013), 'Satisfaction with democracy in multi-ethnic countries: the effect of representative political institutions on ethnic minorities', *Political Studies* 61(1): 101–118.
- Sciarini P. and A.C. Goldberg** (2016), 'Turnout bias in postelection surveys: political involvement, survey participation, and vote overreporting', *Journal of Survey Statistics and Methodology* 4(1): 110–137.
- Shah P.** (2014), 'It takes a black candidate: a supply-side theory of minority representation', *Political Research Quarterly* 67(2): 266–279.
- Siroky D., S. Mueller and M. Hechter** (2017), 'Cultural legacies and political preferences: the failure of separatism in the Swiss Jura', *European Political Science Review* 9(2): 303–327.
- Sisk T.D.** (1995), *Democratization in South Africa: The Elusive Social Contract*, Princeton: Princeton University Press.
- Stokes-Brown A.K.** (2006), 'Racial identity and Latino vote choice', *American Politics Research* 34(5): 627–652.
- Stojanović N.** (2008), 'How to solve the dilemma of power sharing? Formal and informal patterns of representation in the Swiss multilingual cantons', *Representation* 44(3): 239–253.
- Strijbis O. and M. Kotnarowski** (2015), 'Measuring the electoral mobilization of ethnic parties: towards comparable indicators', *Party Politics* 21(3): 456–469.
- Van der Straeten K., R. Lachat and J.-F. Laslier** (2018), 'Strategic voting in multiwinner elections with approval balloting: an application to the 2011 regional government election in Zurich', in L.B. Stephenson, J.H. Aldrich and A. Blais (eds.), *The Many Faces of Strategic Voting: Tactical Behavior in Electoral Systems around the World*, Ann Arbor: University of Michigan Press, pp. 178–202.
- Wimmer A.** (2008), 'Elementary strategies of ethnic boundary making', *Ethnic and Racial Studies* 31(6): 1025–1055.
- Wolfinger R.E.** (1965), 'The development and persistence of ethnic voting', *American Political Science Review* 59(4): 896–908.