

Preferences, voting rules, behaviour and outcomes. A field experiment on the local elections in Romania

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Abstract: *The purpose of this paper is to study the electoral behaviour of the Romanian voters under different voting rules, looking to answer the question regarding the extent to which voting rules matter in the local context. In order to achieve this purpose, I use the results of a field experiment conducted in Bucharest during the local elections, which took place on the 10th of June 2012. Using the experimental results, I aim to answer two types of research questions. The first concerns the extent to which results obtained through different voting rules really differ in a real life setting, and if so, whether it is due only to the aggregation rule or also to a change in electoral behaviour caused by changing the rule. The second one concerns strategic behaviour in particular and aims to see to what extent strategic voting existed in these elections and whether some rules actually encourage strategic voting more than others, as theory predicts.*

Keywords: voting rules, Romanian elections, field experiment, strategic behaviour

I. Introduction and theoretical argument:

According to rational choice neo-institutionalism, the institutions, as a set of formal and informal rules and norms, constrain and influence the behaviour of rational actors and, in combination with preferences, they determine the outcomes (Plott, 1971). Applying the rational-choice institutional framework to elections, voting rules plus preferences determine outcomes. When holding preferences constant, outcomes can vary as a function of the voting rule in place. Therefore, voting rules can be compared to each other or evaluated in terms of the outcomes they produce. The outcomes that voting rules produce can be divided at least into two types, according to Duverger (1951): outcomes produced by the mechanical effects of the rule – converting votes into mandates, and those created by the psychological effects of the rule – the way people behave under the voting rule as a response to the mechanical effects¹. For example, whether a voting rule leads to the election of the Condorcet² winner, when such a winner exists (Peress, 2008: 207), or if it provides incentives for voters to behave strategically³ (Cox, 1997): change their option when their most preferred alternative is in danger of losing the elections. However, while some rule provide strong incentives for

¹ We can also talk of a psychological effect on parties and candidates, which will not waste their resources in districts where they fear they will be the victims of strategic voting, the result of the psychological effects on the voters

² A Condorcet winner is an alternative that defeats all other alternatives in pairwise comparisons

³ Strategic voting refers to a situation in which a voter casts her vote to her second-choice preference in order to prevent her least preferred alternative to win, when her first choice has no chance of winning (Alvarez et al 2006)

strategic behaviour, others do not. One reason is that strategic calculations might be difficult under some rules, especially when voters are not used to the rules.

Investigating the type of effects that different voting rules produce both in terms of outcomes and of voting behaviour is important, especially in a new context like a new democracy, where volatility might be high and where electoral reforms might be more frequent. Therefore, understanding what kind of effects different rules produce and to what extent the local context matters might become very relevant for this type of societies. Moreover, to our knowledge, little research of this kind has been carried out in such contexts, and in Romania in particular there has been none at all. Although the Romanian electoral systems for both the general and local elections have been changed in 2008 and both researchers and the policy makers had quite a few things to say about the consequences of these reforms, little information is actually available on what these would actually mean for the Romanian context.

Furthermore, even if there is a vast literature on the effects of voting rules both upon behaviour and upon outcomes (Cox 1997, Laslier 2009, 2010, Duverger 1951 etc.), these are mostly based on research carried out on western democracies and thus theoretical predictions might not always match the empirical evidence from the Eastern Europe. Thus, either confirming that these predictions are accurate or infirming them and explaining why some do not apply becomes highly relevant.

For these reasons, I use experimental methods in order to investigate these questions and the Romanian context of 2012 is an appropriate setting as both local and general elections have taken place. Thus, a field experiment that allows for real features of elections, like real candidates, real campaigns and real stakes to be introduced in the research, as opposed to only artificially reproducing these features in the lab through monetary incentives, might be very useful in understanding how well known voting rules interact with the local context and produce effects both on outcomes and on the behaviour of the electorate.

In order to account for these interactions a pilot field experiment has been carried out during the Romanian local elections in Bucharest on the 10th of June 2012. The present paper reports on the conclusions of the data collected through this experiment and their implications for the Romanian context.

The paper is structured as follows: section II presents the methodology and data used, including the experimental design for the field study and concludes with the main research questions and hypotheses for which this study has been intended; section III starts with a very short presentation of the local elections and the main candidates and then moves on to do

some preliminary analysis of the data; finally, section IV concludes the study and proposes further research directions.

II. Methodology and data:

II.1. The experimental design:

I use the data from a pilot quasi-field experiment conducted during the local elections in Bucharest, Romania, on the 10th of June 2012. The purpose of the experiment was the study of voting behaviour under various voting rules in the context of the local elections. For this purpose, selected one location in each of the six districts of Bucharest was randomly selected, each of these locations including up to six polling stations grouped together in the same building. The experiment was conducted in two time intervals, the first from 8.00 until 14.00 and the second from 15.00 until 21.00, while the polls opened at 07.00 and closed at 21.00. During these two time periods, a total number of 278 questionnaires⁴ have been applied. Questions concerned vote choice for the general mayor under several voting rules (two-round majority, Borda count, approval, limited voting and a scoring system on a 10 point scale). A series of questions regarding the degree of political information the voter held, political views and socio-demographic information were also included.

Although the design did not actually ask people to cast a vote under different voting rules, but just created different voting rules scenarios and then asked people how they would vote in each of these scenarios, I argue that the design can still be considered an experimental one, borderline between field and survey experiments. The design still has the main advantages of field experiments: it deals with real voters, real candidates and a real campaign, thus closely mimicking real elections in this respect (Carpenter et. all 2005). All the while it also approaches a survey experiment with repeated measures where the baseline would be vote under the existing voting rule in the real elections, while the scenarios could be considered vignettes, after which change in behaviour is measured and compared to the baseline (Atzmüller and Steiner 2010).

⁴Although the initial idea behind this field experiment was to set up an experimental polling station and get people to actually vote on experimental ballots under different voting rules, due to difficulties in getting approval from Biroul Electoral Central – BEC (the Romanian Central Electoral Committee) to run the experiment, we have decided to switch to a survey solution, where we would ask people how they would vote under different voting rules scenarios. This compromise solution has allowed us to take advantage of the real life choice situation, with real candidates, real campaign and real stakes, that the local elections provided, while still complying with the requirements imposed by BEC.

The design was an intra-subject one, as the same subject was asked to advise how she would vote under all scenarios in the study. Although the intra-subject design has many advantages when comparing results, it might raise some issues concerning the effect of having chosen to answer in one way under a scenario on the way people chose to answer the latter ones. Thus, people might have tried to be consistent and therefore choose to answer in the same way under different scenarios⁵.

Because there was no way to properly sample the people that would come and vote, as there was no way to predict which people would show up to vote and which of those would agree to take part in the experiment, the operators have been instructed to approach people at random, but at the same time to try and get people from as many socio-demographic categories (age, gender, education and ethnicity) as possible. Even though the obtained sample is not representative for the population of Bucharest, or for the Romanian population for that matter, in order to get results as precise as possible and to get valid comparisons between different categories, after the experiment, we decided to control for any sample bias by performing weighting on the sample.

II.2. Research questions and hypotheses:

There are several types of research questions and hypotheses I am interested in testing with this design, aiming to get a better understanding of how varying the voting rule would impact the outcome of the elections and the voting behaviour of the electorate.

In regard to the outcome of elections, I am interested in both absolute and relative results for the candidates. On the aggregate side of things, I analyse the extent to which different voting rules produce different outcomes, when there can only be a single winner of the elections. Thus, the focus is on whether and to what extent the different voting rules under study produce a different winner.

H1: The winner depends on the voting rule in place.

⁵The solution for this problem would have been to vary the order of the scenarios or to randomly assign only some of the scenarios to each person. We chose not to do this, as the number of respondents assigned to each group would have been small enough not to be able to get an accurate measure of the magnitude of these effects. However, these issues will be taken into account and dealt with in the next field experiment during the general elections, when there will be more locations and more people involved in the study.

In theory, different voting rules could lead to different outcomes, even if preferences remain constant, either because of the electoral formula itself or because strategic behaviour is involved. However, as strategic behaviour depends on the stakes of the elections and also on the complexity of the voting rule, I expect little evidence of strategic behaviour for the local elections. The reason for this is that the local elections for the general mayor in Bucharest have been quite non-competitive, with the first ranked candidate, Sorin Oprescu, winning approximately 64% of the vote share. The second reason is that some of the voting rules I study are somewhat complex (Borda count, limited voting etc.) and the voters are not used to them. Thus the possibility for strategic calculation might be severely reduced due to these aspects.

The second aspect of outcomes refers to the individual results each candidate would obtain in comparison to the rest. A measure of the relative individual outcomes could be given by the vote share that each candidate obtains in comparison to the rest and whether the differences in vote shares between candidates across rules are constant or vary. Regarding the relative individual outcomes, I aim at testing two hypotheses referring to the manner in which different voting rules will affect these outcomes:

H2.1: The more permissive the rule is in terms of the number of choices it allows the voter to express, the lesser the difference in vote share between the candidates.

H2.2. The more egalitarian towards the candidates a rule is, the lesser difference in vote share between candidates.

The intuition behind these hypotheses is that the intensity or the strictness of the preferences might vary, especially when moving down past the first preference. Thus, if the rule is permissive, meaning the voter is allowed to express more than one preference, she might be more inclined to approve of more candidates or split the votes between several candidates, thus shifting up the scores of lower ranked candidates, even though the actual rank order will probably not be altered. Furthermore, I expect the observed difference to be even lower in the case of rules that are more egalitarian towards the candidates, that is, they allow voters to express more than one preference without requiring the voter to rank her preferences, like in the case of approval voting, as voters can only express the subset of alternatives they prefer most, but not the order in which the alternatives in the subset are preferred.

The design of the study also allows approaching the outcome issue from a different perspective. Because I am analysing an intra-subject design, where the voting choices that the same person would make under the different voting rules are known, I can also examine the extent to which individual choices vary across rules. In doing so, several types of research questions arise both about the effect of the different rules in combination with the preference profile, and also regarding the effects of this particular research design. Using the intra-subject design we can research the extent to which strategic behaviour appears by comparing vote choice to the actual preference profile of each voter and also with the vote choice of the same person under different rules. Thus, we can also check the extent to which vote choice is consistent with the preference profile.

However, the issues of consistency also raise methodological questions, as consistency might only be a consequence of the intra-subject choice of research design. Unfortunately, this methodological concern cannot be addressed here, as further data is necessary to determine the degree to which choices remain consistent when either employing a between subject design or when changing the order in which the subject is provided with the scenarios.

However, the advantage of this design is that, assuming that variation in choice is mainly determined by the rule in place and the preference profile, we can trace better the extent to which voters engage in strategic behaviour under different rules. Unfortunately, due to the non-competitive nature of these elections and the novelty of some of the rules, we expect little strategic behaviour:

H3.1: The less competitive the elections are, the lesser the strategic behaviour.

H3.2: The more complex or unfamiliar the voting rule is, the less likely it is for voters to engage in strategic behaviour, even when the rule might allow it.

Finally, the last type of research questions I aim to answer using the data collected is the extent to which this type of research is feasible for Romania. How open are Romanian voters to this type of research and how capable are they to use different strategies under different voting rules when it suits them. Thus, we are interested in the share of non-responses and infer that the non-response rate could be used as an indicator for the level of complexity of the rule. Thus, the higher the non-response rate the more complex the rule is perceived to be.

III. Results:

The local elections in Romania, which have been the focus on this research, have taken place on the 10th of June 2010 under a first past the post system. Eighteen candidates have entered the race for the mandate of general mayor in Bucharest, including the incumbent Sorin Oprescu. The elections have been won by the incumbent with a majority of 64%. Oprescu has run for the second time as an independent candidate. He is a former member of the Social-Democratic Party (PSD), having resigned from the party just before the local elections back in 2008. Although he remained independent, he was supported by his former party in the 2012 elections. PSD did not propose its own candidate for the mayor office. Coming in second, with only 18% of the vote share, was the liberal-democrat candidate Silviu Prigoana. The Liberal-Democrat Party (PDL) has been the main incumbent party until the spring of 2012, losing in popularity due to the austerity measures implemented in the past couple of years. Finally, the third ranked candidate, with 5% of the vote, was Horia Mocanu, the candidate of the newly formed populist party of the People –Dan Diaconescu (PP-DD). The party is focused on its leader and initiator Dan Diaconescu and these were the first elections in which PP-DD entered candidates in the race. Finally, coming in fourth, with the same vote share of 4% are the independent candidate Nicușor Dan (for which the expected vote share was about 8% according to the polls), and Gigi Becali, the leader and initiator of the quite radical and populist Party New Generation(PNG).

The experimental results match the aggregate official results for the first two ranked candidates, as 58.6% of the subjects declared that they have voted for Sorin Oprescu and 24.22% for Silviu Prigoana. However, coming in third in the experimental data is Dan Nicusor with 11.72% of the vote (ranked 4th on the real results), followed by Horia Mocanu with 1.95% of the vote and Gigi Becali with only 0.4% of the vote. Thus, the experimental results change the order of the third and fourth candidate, with Nicusor Dan getting a score almost 4 times higher than the real one. However, this is not surprising, given that the experimental sample is not large enough to be representative for the whole population of the city.

Comparing aggregate results under the voting rules used in this study (two-round majority, Borda count⁶, approval, limited voting and a scoring system on a 10 point scale) and the first preference of the voters, the results for the first 5 ranked candidates yield:

⁶ Borda count results have been compromised by some operators and will not be used in this analysis

	Candidate	Real Results(%)	Experimental Results(%)	Limited(%)	Approval (%)	1 st preference (%)	Scores (means)	Scores (median)
1	SorinOprescu	64	58.6	56.61	31.04	58.08	7.52	9
2	SilviuPrigoana	18	24.22	22.82	18.12	23.53	5.65	6
3	Nicisor Dan	4	11.72	12.84	13.42	12.5	6.47	7
4	HoriaMocanu	5	1.95	2.24	2.68	1.83	-	-
5	Gigi Becali	4	0.39	0.87	13.42	0.73	4.07	3

First we can observe that all rules yield the same winner, Sorin Oprescu. Also the second place is occupied by the real runner up, except for the scoring system, where voters were asked to give a score from 1 to 10 to each candidate. Secondly, the rest of the results are consistent with the outcome of the question regarding vote choice in the real elections. Thirdly, at the aggregate level, choices are consistent with the voters' first preference. Thus, at least at the aggregate level, the hypothesis regarding the change in outcomes under different voting rules can be rejected, at least for the first placed candidate.

In order to test the hypothesis regarding the declining difference in vote share between candidates under different rules, I calculate vote share ratios between the first and second ranked candidate and the second and the third. We will not go lower than that, for two reasons: first, starting with the fourth place the vote share is rapidly declining; and secondly because these are the main two measures used to explain and predict strategic voting (Alvarez et.al, 2006, Moser and Scheiner 2008).

		Second - First Vote Share Ratio	Third - Second Vote Share Ratio
1.	Real results (First past the post)	28.13	27.78
	Experimental results (First past the post)	41.33	48.39
2.	Limited voting	41.31	56.27
3.	Approval	58.38	74.06
4.	First preference	40.51	53.12

The results indicate that the vote share ratio is higher in the experimental results in comparison to the real results, as it appears we have sampled a larger proportion of second and third ranked candidate supporters than we would expect to find in the population. However, similar to the real results, the second-first ratio is fairly close to the third-second ratio and the situation is similar for the results when taking into account only the first preference. As for the ratios under limited voting, we can notice that the third-second ratio has gone up under limited voting, thus increasing the gap between the other third-second ratios and also between the second-first ratio and the third-second ratio. Under approval, both ratios as well as the gap between them go considerably higher in comparison to all other results. Thus, even though these results might not be robust and require further research, it would seem that the ability to express more than one preference does shift the ratios up and the effect is larger when no ranking of the candidates is allowed or required. The consequence of this conclusion is that we should observe a larger share of strategic voting under these multi-choice rules in comparison to the single-choice rules. This happens when voters prefer the third ranked candidate to both the first and second, but also prefer the second to the first, so they choose to vote for the second; or, they prefer the first party to the second and third, but vote for the third party because the first cannot obtain the majority and has a better chance of beating the third party in the second round.⁷

There is little evidence of strategic voting under the real voting rule. Only 18 people vote for another alternative than their most preferred one. Out of them, 11 have a different first preference than Oprescu and 9 out of these 11 chose Oprescu, who was their second choice. Thus, only in these cases we could talk about not wanting to waste the vote on a candidate that has no chance of winning. However, the sample is too small to try and characterize these people. Therefore, strategic voting under plurality in Romania should be analysed further by a similar design in the context of the general elections. Investigating the same rules on the general elections, when there will be single member districts with different degrees of competitiveness will also allow us to test the hypothesis regarding the effect of the closeness of the elections on the observed amount of strategic vote.

Under approval, we cannot really talk of strategic voting, as it is really difficult to define strategic voting. We can however talk of sincere and insincere voting, as per Laslier's set all Leader Rule (2009, 2010). According to the Leader Rule, a voter is sincere if she approves of all candidates that she prefers to the most likely winning candidate (the Leader) and doesn't

⁷This latter mechanism will be tested later using the preference profile of each voter and their preferred pairs of candidates for the second round, data which has been collected during the experiment.

approve any of the of candidates she prefers the Leader to. Then, in order to decide if she approves of the Leader, she will compare her to her main challenger. The results indicate that out of the 269 people who indicated their vote choice under approval and did not abstain or refused to answer, 58 have deviated from this rule. Thus, the Romanian example seems to question the expected prediction regarding vote under approval. However, most subjects only chose to approve exactly one candidate and, with little exception, this was their first preference, indicating that people were somewhat reluctant to use the properties of this rule. The same stands for limited voting, where most people chose not to split the votes between several candidates, and gave their most preferred option all three votes. The tables below describe the two situations:

	No of Approvals											Mean	Median
	0	1	2	3	4	5	6	7	8	10	16		
No of respondents	8	119	67	41	8	12	5	2	2	1	1	2.08	2

No	Name	Cod party	3 votes	2 votes	1 vote	Total vote no.	Percentage received of the total vote	No. of approvals	Percentage received of the total approvals
1	BECALI GEORGE	PNG-CD	1	0	4	7	0.87	80	13.42
2	COJOCARU CONSTANTIN	PP-LC	0	0	0	0	0.00	8	1.34
3	COLUMBEANU ADRIAN IRINEL	P.P.P.S.	1	1	2	7	0.87	25	4.19
4	DAN NICUȘOR DANIEL	CI	25	7	14	103	12.84	80	13.42
5	DIMA PETRICĂ	PSR	0	0	0	0	0.00	4	0.67
6	DOBRESCU FLORIN	PTT	0	0	2	2	0.25	4	0.67
7	GEORGESCU IONUȚ	PER	0	0	0	0	0.00	11	1.85
8	GRIGORIU ADRIAN	PNDC	0	0	0	0	0.00	3	0.50

9	IONESCU CONSTANTIN	PSDM	4	0	0	12	1.50	5	0.84
10	IORDĂNESCU ANGHEL	UNPR	0	0	4	4	0.50	35	5.87
11	LINCU VASILE	PUER	0	0	1	1	0.12	6	1.01
12	MOCANU VASILE-HORIA	PP-DD	3	3	3	18	2.24	16	2.68
13	OPRESCU SORIN MIRCEA	CI	136	15	16	454	56.61	185	31.04
14	POPEANGĂ PETRE	PRM	3	0	2	11	1.37	12	2.01
15	PRIGOANĂ VASILE-SILVIU	PDL	50	13	7	183	22.82	108	18.12
16	ROMAN NICOLAE	P.PRO.	0	0	0	0	0.00	6	1.01
17	TEODOSIU- IONIȚĂ IOAN	PAS	0	0	0	0	0.00	1	0.17
18	VLADU ALEXANDRU	PPE-DE	0	0	0	0	0.00	7	1.17
Total			223	39	55		100%	596	100%

Even though the number of people with insincere voting behaviour under approval is rather small, we could try and model the behaviour and investigate which category of people are more likely to behave in this manner. In order to do so, I employ a logit model, where the dependent variable is a dummy variable that is 1 when people behave insincerely and 0 for all other cases. As independent variables we use dummies to indicate whether the respondents' first choice was Oprescu or Prigoana, a measure of how informed people think they are about the campaign, on a 5 point scale, and socio-demographic variables, like age measured in years, education measured on a 5 point scale, gender.

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)	
(Intercept)	5.07642	1.29179	3.930	8.5e-05	***
op	-2.05685	0.76235	-2.698	0.00698	**
pr	-1.02759	0.84013	-1.223	0.22128	
age	-0.02743	0.01050	-2.613	0.00896	**
edu	-0.07088	0.18791	-0.377	0.70602	
male	0.32508	0.36192	0.898	0.36909	
info	-0.16137	0.18535	-0.871	0.38398	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Null deviance: 227.47 on 223 degrees of freedom

Residual deviance: 202.87 on 217 degrees of freedom
AIC: 216.87

The results indicate that the only two factors with a significant impact on the odds of behaving insincerely are: 1) having Oprescu as first preference and 2) age. Both have a negative impact, meaning that people whose first preference is Oprescu or people who are older are more likely to vote sincerely under approval. A possible explanation for these results would be that older people might have more stable preferences, could be more risk adverse and more reluctant to behave insincerely. On the other hand, because Oprescu was a member of the Social-Democratic Party, and is still supported by them, he might be more appealing to older people, because he might be perceived as representing the left. Thus, it is very likely that most of the older people vote sincerely.

Finally, the last thing I would like to do in this analysis is to compare the non-response rate for different voting rules. The table below summarises these rates:

Table 5. Non-response rates				
		Number of valid responses	Number of refusals	Refusal rate (%)
1	Experimental results (First past the post)	278	0	0
2.	Limited voting	268	10	3.73
3.	Approval	267	11	4.12
4.	First preference	276	6	2.17
5.	Second preference	192	86	44.79
6.	Third preference	155	123	79.35
7.	2 round majority	258	20	7.75
8.	Scores (for Oprescu)	262	16	6.11

The rates in the table above seems to indicate that people did not find either approval or limited voting hard to understand as the non-response rates are rather low. However, if we look at the 2 round majority rule scenario where people were asked which pair of candidates they would like to see in the second round and also if we look at the response rate for the full preference profile, we can observe that the non-response rates increase significantly, especially for the second and third preference. A possible explanation is that people might not have a full preference profile, as none of the existing rules in Romania asks them to express more than one preference. Thus, it is very possible that people only decide which candidate

they like best and do not evaluate each pair of two possible candidates to have clear preferences about the full ordering of all possible alternatives. This is another issue that requires further investigation, which we intend to do in the upcoming elections.

IV. Conclusions, limits and further research:

The purpose of this study was to evaluate and compare the different outcomes and voting behaviour that can result as a consequence of changing the voting rule. For this purpose, I have analysed the results of an experimental study carried out during the local elections in Bucharest. The results of this preliminary analysis on the data seem to indicate that the rules which have been studied do not change the outcome too much, at least in the context of the local elections in Bucharest. Thus, the front runner and the runner up remain the same under all voting rules. Only the third and fourth place candidates change under some of the rules. The second conclusion is that although the rules seem to make little or no alterations to the order of the candidates, the vote share rate between the first and the second ranked candidates and between the second and the third ranked candidate seems to increase (meaning the differences in vote share become smaller) in limited and approval voting, especially approval voting, as these rules allow for more than one choice and also since approval does not allow for different rankings of approved candidates. This is extremely interesting especially since non-response rates seem to indicate that a good proportion of the people have trouble indicating a second and third preference. Thus, a rule that allows for more choices might allow people to better express their diffuse preferences between candidates.

Finally, the second purpose of this study was to check to what extent this type of research is feasible for the Romanian context, to what extent people are able to understand new rules and try to cast votes using them and also to what extent our research instrument works or needs to be altered. The results have raised some interesting questions which I can only partially answer using the data collected up to this point. Therefore, further research, on a wider population, with a wider variety of degrees of competition between candidates in the race is necessary to account for some of the results obtained up to this point.

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