

**Rational expectations or heuristics?**  
**Strategic voting in multimember districts**

**Ignacio Lago**

Department of Social and Political Sciences  
Pompeu Fabra University  
Ramon Trias Fargas 25-27  
08005 Barcelona, Spain  
Tel. 00-34-93-5422371  
Fax. 00-34-93-5422372  
[ignacio.lago@upf.edu](mailto:ignacio.lago@upf.edu)

**Abstract:** In this paper the process of formation of electoral expectations in multimember districts is analysed. Contrary to Duvergerian or electoral coordination theories, and using survey and in-depth elite interview data from Spain in the 1970s and 1980s, I show that strategic voting depends on heuristics (i.e., extrapolations from last election) instead of rational expectations. The main implication is that strategic voting is also possible in large districts.

**Key words:** Heuristics, multimember districts, rational expectations, strategic voting, Spain.

## 1. Introduction

This paper critically reviews the impact of district magnitude on strategic voting in the terms in which is conceptualized by Duvergerian or electoral coordination theories: in PR systems with large districts (i.e., greater than five seats) strategic voting is not possible because voters do not have good enough expectations about how well each party or candidate is likely to do it in the upcoming election (Cox, 1997; Cox and Shugart, 1996).

This asymmetry in the capacity of district magnitude to constrain voters' decisions has to do with the possession of rational expectations. According to the dominant theory of strategic voting, formulated by Cox (1994, 1997), when voters have rational expectations, (1) they agree on how preferences are distributed in the electorate, (2) they agree on what share of the vote each party or candidate will likely get and, therefore, (3) they are able to distinguish between the expected last winner of the last allocated seat and the expected first loser (Cox, 1997, chapters 4 and 5)<sup>1</sup>. In my opinion, this third implication means that voters know district magnitude. Since voters anticipate the allocation of seats in their district, they need to know the number of seats to be filled. But rational expectations are only available in low district magnitudes. The argument is that the larger the magnitude, the smaller are the voter percentages that separate winners from losers. Hence the harder it is to be sure who is "out of running": in these conditions there are no clear incentives to desert (minor) parties. According to empirical regularities based on Japanese, Colombian and Spanish district-level results, it seems to be above magnitude five when strategic voting ought to fade out.

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<sup>1</sup> These strong assumptions are not implied by any standard notion of instrumental rationality or rational expectations. In the formal model of Myatt (2000) or Fisher (1999, 2004), for instance, voters are uncertain of the support levels for the parties.

In this paper I will demonstrate that strategic voting does not depend on rational expectations. In order to vote strategically voters only need to know if the party they prefer has some chance of winning at least one seat in their district. Given that the “encyclopedic” knowledge that the assumption of rational expectations imposes is obviously out of reach, voters may however muddle through relying on a shortcut such as the electoral history heuristic (i.e., expectations about the likely outcome of the election are grounded in simple extrapolations from the last one). The heuristic voters employ in  $t$  is simply the viability of their preferred party in their district in the previous election or, in other words, if their preferred party gained at least one seat in their district in  $t-1$ .

If electoral expectations are formed according to this shortcut, strategic voting can be also possible in large districts, since this information is as cheap there as in smaller than five seats districts. However, since the higher the district magnitude, the higher the number of viable parties, in large districts less voters will have the incentive or the opportunity to cast a strategic vote. And, at the same time, the role of candidates and other elites in providing voters with the necessary information to vote strategically will be less important. Therefore, in large districts the amount of strategic voting will be lower.

This argument is not a totally novel idea ignored up to now. Reed (1991), for example, has shown that the connection between electoral system and behaviour in Japan has been learning and not instrumental rationality. According to the results from experiments on coordination in multi-candidate elections, Forsythe et al. (1993) found that election histories or the results of previous elections enable majority voters to

coordinate on one of their favored candidates. And recently Gschwend (2005) and Gschwend et al. (2004) have provided aggregated evidence that strategic voting can be observed in PR systems with large district magnitudes, in particular Portugal and Finland. Using survey and in-depth elite interview data from Spain in the 1970s and 1980s, in this paper I make two contributions. First, I examine how voters form expectations about the candidates or parties' vote shares. Second, I provide a systematic assessment of the merits of these two explanations of strategic voting based on rational expectations and election histories.

The rest of the paper proceeds as follows. The second section presents in detail the theoretical arguments on the formation of electoral expectations. The third section describes my case study, the 1979 and the 1982 Spanish elections. The fourth section explores to what extent Spanish voters' actions depend on rational expectations or electoral history heuristics. The fifth section compares the amount of strategic voting provided by the two approaches. The sixth explores to what extent perceptions, calculations and strategies of party elites square with these two models. Section seven concludes.

## **2. Theoretical arguments**

Electoral systems affect the coordination of political forces within districts when candidates or parties enter the race and voters distribute their votes among them. If the prospective competitors in a district are all primarily interested in winning a seat on the election at hand, and they will not enter if their chances are not good enough, then electoral coordination may end at the elite level. However, when some minor-party or independent candidates enter regardless of their chances at winning, then voters may be

faced with the incentives to vote strategically. The general finding is embodied in the  $M+1$  rule, which says that, under some conditions, strategic voting will reduce contests with more than  $M+1$  candidates or parties to contests in which at most  $M+1$  competitors are seriously in the running for seats (Cox, 1997, 1999).

The two key assumptions about voters concern their preferences and beliefs: voters are short-term instrumentally rational (i.e., they care only about who wins the seats in their district in the present election) and voters possess rational expectations (i.e., voters' expectations about which parties or candidates are leading, marginal, and trailing must be consensual). This second assumption (or the possibility of strategic voting) implies that voters have a perfect (or almost) information not only about electoral prospects of parties or candidates in the election at hand, but also about district magnitude. If strategic voting is only possible when voters can anticipate the allocation of seats and consequently identify the expected last winner of the last allocated seat and the expected first loser, the knowledge of the number of members elected from their districts is crucial. Specially when there is a wide variation in district magnitude within an electoral system and the number (and identity) of viable competitors is not a constant.

Strategic voting should decline as voters' expectations about who will win and who will lose are less clear and coordinated. The larger is the district magnitude (since a given vote percentage means more, in terms of a chance at a seat, as district magnitude increases), a voter requires more information to become confident that a given list is really out of the running. Although this argument does not provide a very precise idea about *when* strategic voting ought to fade out, as Cox (1997: 100) recognizes, it seems

to be above magnitude five according to empirical regularities based on Japanese, Colombian and Spanish district-level results (Cox, 1997: chapter five). But this explanation suffers from one of the most common methodological inconsistencies of rational choice models: it develops a post hoc account of known facts in which the null hypothesis is not clearly specified (Green and Shapiro, 1994: chapter 3). In sum, rational choice theories do not provide a compelling explanation of (the lack of) strategic voting in multimember districts.

Nevertheless, six decades of survey research carried out in the wake of Lazarsfeld, Berelson and Gaudet's *The People's Choice* have convincingly demonstrated how little attention citizens pay to politics, how rarely they think about even major issues, and how often they have failed to work through a consistent position on them (see, for example, Kinder, 1983; Sniderman, 1993). For instance, voters cannot recall basic political facts (Delli Carpini and Keeter, 1991), do not have a solid understanding of ideological abstractions (Converse, 1964) and fail to recognize the names of their elected representatives (Montero and Gunther, 1994; Neuman, 1986). In short, the assumption of rational expectations is hardly sustainable in view of the findings of survey research.

But this limited information need not prevent people from making reasoned choices or decisions based on accurate predictions about the consequences of a given decision (Lupia and McCubbins 1998: 18). Given that encyclopedic knowledge is beyond their reach, the public may however muddle through relying on a variety of sensible and mostly adaptive shortcuts. Thus, heuristics are judgmental shortcuts, efficient ways to organize and simplify political choices, efficient, that is, in the double

sense of requiring relatively little information to execute, yet yielding dependable answers even to complex problems of choice (Sniderman, Brody, and Tetlock, 1991: 19). The numerous possible heuristics include opinion leaders (Berelson, Lazarsfeld and McPhee, 1954), party identification (Downs, 1957), campaign events (Popkin, 1991), costly action (Lupia, 1992), the media (Iyengar and Kinder, 1987), interpersonal influence (Beck et al, 2002), social relations (Huckfeldt, 2001), or the political environment (Kuklinski et al, 2001).

What I defend here is that the assumption of rationality must be relaxed. Voters have limits in their abilities to comprehend a complex environment like elections and therefore they need to rely on shortcuts to form their electoral expectations. In the absence of credible communication, voters can solve coordination problems posed by electoral systems through the identification of a *focal point* (Schelling, 1960: chapter 3). The idea of a focal point is the most prevalent solution to coordination problems (Richards, 2001). Schelling surmised that coordination could occur if there was some shared interpretation of the salient features of a decisions context. People can often concert their intentions or expectations with others if each knows that the other is trying to do the same.

Elections provide a very simple clue for coordinating behavior: whether parties have previously gained at least one seat in a given district. In order to form their electoral expectations and vote strategically, supporters of (minor) parties have to answer the question whether they expect their party to gain seats in their district in the upcoming election. When their most preferred party was not viable in their district (or not able to win a seat) in election in  $t-1$ , there is an opportunity or an incentive for



strategic voting in election in  $t$ . Given that voters have too small at stake in elections to motivate strategic voting (Meehl, 1977; Riker, 1982), the information on the focal point and the wasted vote argument is provided by elites actors, in particular parties or candidates.

Contrary to what Cox defends, the most important consequence of this logic of electoral coordination is that strategic voting does not depend on district magnitude: voters can also behave strategically in large districts since the information on previous election results is also available there. In other words, the informational assumptions for strategic voting are also satisfied as district magnitude increases. However, the higher district magnitude, the higher the number of viable parties and, therefore, the extent of strategic voting will tend to decrease.

### **3. Strategic Voting in Spain**

Spain, Finland, Portugal and Switzerland are the European contemporary democracies with the highest district magnitude variation (Monroe and Rose, 2002: 75). Elections in Spain are held by D'Hondt formula and closed lists in multimember constituencies (Table 1). There is a legal threshold for representation: 3 per cent of valid votes in every district for representation. Over the period 1979-1996 Spain's has consistently been among the least proportional of all European electoral systems (Lijphart, 1999: 162). Precisely one of the primary features that fuel this disproportionality is the presence of many districts of small magnitude (30 districts or 58 percent with magnitude 5 or smaller in last election). This wide variation in district magnitude provides a very appropriate setting for testing strategic voting. Particularly, when it is combined with the existence of a third party, the communist party (the PCE)

and its heir, the United Left (the IU), that usually has a vote share in general elections between 4 and 11 percent (Table 2). Voters who have the PCE/IU as their first preference in small districts or in which the PCE/IU was not viable in last election are the potential strategic voters. And the social democratic party (the PSOE), one of the two dominant parties, is the larger party supported by leftist strategic voters.

[Table 1 about here]

The ample evidence of voters' strategic behavior found by Gunther (1989) in his analysis of the Spanish electoral system in the 1979 and the 1982 elections is presented as an important confirmation of the theoretical results presented by Cox (1997). On the one hand, strategic voting is also possible in multimember districts. On the other, strategic voting fades out when district magnitude is greater than five given that it gets harder and harder to satisfy the informational assumptions of the model (Cox, 1997: 115-117). Individuals with favourable attitudes toward the third- and fourth-place parties nationally, specially the PCE sympathizers, were sensitive to the wasted vote argument. According to Gunther (1989: 841-843), "Spain's electoral systems has given rise to a considerable amount of sophisticated or strategic voting. [...] What is more striking is the apparent ability of Spanish voters to determine the threshold levels separating provinces in which their preferred party had a fair chance of receiving parliamentary representation from those in which their votes would have been "wasted" [...] Respondents with highly favourable attitudes toward the third- and fourth-place parties in large provinces were about twice as likely to vote for them as sympathizers of those same parties in small provinces [...] This threshold level is reflected in the voting behavior of the PCE sympathizers: among respondents rating the Communist party at 9

or 10 in the feeling thermometer in 1979, 52% of those residing in provinces electing five or more deputies actually cast ballots for the PCE [...] while in provinces electing only three or 4 deputies [...] only 25% did so [...] Similarly, [in the 1982 election] significant number of Communist party sympathizers residing in small provinces were discouraged from voting for their first choice; just 33% of those “very close” to the PCE who lived in provinces electing five or fewer deputies cast ballots for the Communist party, while 61% of those residing in large provinces did so”.

[Table 2 about here]

#### **4. Empirical analysis: what do people know?<sup>2</sup>**

To assess the knowledge of district magnitude and the previous results of the PCE/IU in terms of seats (the focal point) that Spanish voters have (i.e., how expectations are formed), Tables 3 and 4 display the number and percentage of individuals that provide a correct answer in a post-election survey conducted in 2004<sup>3</sup>. As can be seen, only 86 individuals or the 3 percent knew the number of seats to be filled in his/her district in 2004 election. This percentage is slightly higher in districts equal or below magnitude 5 (8.5 percent versus 1.4 percent).

[Table 3 about here]

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<sup>2</sup> This analysis is focused on the 2004 election. Unfortunately, the information is not available for more elections.

<sup>3</sup> The survey, Demoscopia 2004, (N = 2909) were conducted by a consortium of researchers belonging to the Ohio State University, Universidad Autónoma de Madrid, Universidad Autónoma de Barcelona, Universidad Pompeu Fabra de Barcelona, Universidad de Santiago and the Instituto de Estudios Sociales de Andalucía-Consejo Superior de Investigaciones Científicas.

However, 2,193 individuals or the 75 percent knew whether PCE/IU gained seats in his/her electoral district in 2004 election. Again, this percentage is slightly higher in districts equal or below magnitude 5 (90.3 percent versus 70.5 percent).

[Table 4 about here]

I have produced two Figures (1 and 2) to summarize the distribution of correct answers in terms of district magnitude. The slope of the curves is negative: the higher district magnitude, the less the number of correct answers.

[Figure 1 about here]

[Figure 2 about here]

In order to assess the statistical significance of these figures, I have run two logit analyses. First, I have created two dummy variables, my dependent variables, *district magnitude* (1 when the individual knows the number of seats to be filled in his/her district, 0 otherwise) and *focal point* (1 when the individual knows whether the IU has gained seats in his/her district in the previous election, 0 otherwise). I have then regressed each one of these variables on a constant term and different sources of information acquisition and processing operationalized through the following independent variables: *Political knowledge* is a four-point scale of information (where 0 is the potential minimum and 4 the potential maximum) based on neutral factual knowledge about politics (such as ‘Do you remember the name of the President of your Autonomous Community (Region)?’, ‘Do you remember the name of the head of the list of your party in your district?’, ‘Do you remember which party gained the highest number of seats in the last election?’ and ‘Do you remember if the invasion of Iraq was

authorized by UN?'); *voting in last election* (1, yes; 0, no); *age* (in years), *long time residency in a community* (1 if an individual has always lived in the same city, 0 otherwise); and *civil status* (1, married/living together; 0, not married); and, finally, the key independent variable;  $M \leq 5$ , (1 if district magnitude is equal or less than five seats, 0 otherwise). The value 0 is always the category of reference (see table 5).

Very briefly, the causal mechanisms operating behind the control variables are as follows. Active citizens, voters and good-informed individuals, should follow politics more intensively; age generates knowledge that is useful in processing information; long-term residents in a community are more involved in local politics; married people enjoy economies of scales in information acquisition.

[Table 5 about here]

The full binomial logit results from the estimation of the model in which *district magnitude* is the dependent variable are presented in Table 6. Among the control variables, here may be noticed that only *political knowledge* and *voting in last election* in model 1 are signed in a theoretically-expected manner. But they are the only statistically significant variables, at the 0.01 level and at the 0.1 level, respectively: informed voters have the highest probability of knowing district magnitude. The model correctly classifies 97 percent of the reported answers of the 2,907 individuals in the sample. The Pseudo R2 shows that the model performs much better than a null intercept-only model. The interaction between *political knowledge* and *civil status* (model 2) is statistically significant at the 0.1 level, while the interaction between *age* and *community* (model 3) is not statistically significant. However, we cannot forget that the

coefficient of the constant is the highest, negative and statistically significant at the 0.01 level: independently of the explanatory variables, the predicted probability of knowing district magnitude is clearly below 0.

But the most important variable to focus on for my purposes is  $M \leq 5$ . I find that its coefficient is positive and statistically significant at the 0.01 level. Those individuals living in districts whose magnitude is less or equal than 5 seats have a higher probability of knowing district magnitude than the rest.

[Table 6 about here]

Similarly, in Table 7 I show the full binomial logit results for the estimation of the model that explains the knowledge of the focal point. The capacity of prediction is substantially worse here than in the previous case: this model correctly classifies 75 percent of the reported answers. Only *community* (at the 0.05 or 0.1 level), the interactions between *political knowledge* and *civil status* (model 2) and between *age* and *community* (model 3), at the 0.1 and 0.01 levels, respectively, and  $M \leq 5$  (at the 0.01 level) are statistically significant. They are of the sign we would expect from the theoretical analysis: economies of scale and sources of inexpensive information work. Here again those individuals living in districts whose magnitude is less or equal than 5 seats have a higher probability of knowing the local viability of IU. But in this regression there is a crucial difference in comparison with the previous one: the constant, statistically significant at the 0.01 level, is positive. That is, independently of the explanatory variables, the predicted probability of knowing the focal point is above 0.

[Table 7 about here]

To summarize the effect of  $M \leq 5$  on the probability of knowing district magnitude and the focal point, I have calculated its marginal effect at the mean or mode value of the explanatory variables. When all variables are set equal to their means (continuous variables) or modes (discrete variables), the probability of knowing district magnitude is 0.9 percent when  $M > 5$  (i.e., districts whose magnitudes are higher than five seats) and 7.4 percent when  $M \leq 5$  (i.e., districts whose magnitudes are equal or lower than five seats). On the contrary, when all variables are set equal to their means or modes again, the probability of knowing the focal point is 73.4 percent when  $M > 5$  and 91.2 percent when  $M \leq 5$ .

In sum, virtually all Spanish voters know whether the IU is locally viable according to the previous election in their district, but virtually nobody knows how many seats are elected in their district in the present election. Voters can employ, thus, heuristics, in particular electoral history heuristics, to form their expectations about how well each party is likely to do it in the upcoming election in their district. Therefore, this shortcut is also possible for voters in large districts (i.e., higher than 5 seats) and not only for voters in small districts. As Gschwend et al. (2004), Gschwend (2005) or Lago (2005) have shown, and contrary to the reasoning in the literature (Cox, 1997: 100; Cox and Shugart, 1996: 311), this implies that (seat-maximization) strategic votes can be also cast in large districts.

## 5. Empirical analysis: rational expectations or heuristics?

To compare the results obtained by a model of strategic voting based on rational expectations with those produced by a model that relies on heuristics, I develop a specification of vote choice concerning the decision to support the PSOE or the PCE in the 1979 and the 1982 elections. Three reasons explain why I look only at those who voted for these parties in these two elections. Firstly, the evidence of strategic voting in the Spanish electoral systems provided by Gunther (1989) and Cox (1997) corresponds to the 1979 and the 1982 elections and particularly to the PCE sympathizers. Secondly, the PCE/IU has been the third party in the nine elections held until now and the main victim of strategic voting. Thirdly, apart from the Popular Alliance (AP), and only in the 1979 election, there are no enough observations in the post-election surveys to analyze the strategic behavior of those preferring smaller parties.

The electoral decision is presumed to depend on evaluations of the parties and the leaders, the economy, some issues in each election, socio-demographic characteristics and the incentives for strategic voting. The variables are described in the Appendix. The dependent variable is indicated as voting behavior: 1 for the PSOE and 0 for the PCE. The analysis is based on two large post-election surveys conducted in 1979 and 1982<sup>4</sup>. Since the *independence of irrelevant alternatives* (Alvarez and Nagler, 1998) can be accepted according to the Hausman test (Long and Freese, 2001: 188-190), I use a binomial logit estimation.

In Tables 8 and 9 I present the full binomial logit estimates results from the estimation of these models. The results for the effects of issues, economic perceptions



and demographic factors are very similar to those presented in previous works on these same elections, so I will refer interested readers to that research<sup>5</sup>. All I want to note here is that most of the variables are signed in theoretically-expected manners, many are statistically significant, and these models correctly classifies more than 90 per cent of the reported votes cast by the more than 1,000 voters in the samples.

The important coefficients for my purposes are those on the three strategic voting variables. I expect that the two dummies,  $M \leq 5$  (1 if district magnitude is equal or less than five seats, 0 otherwise) and *Heuristics* (1 for those districts in which the PCE has not gained seats in the previous election, 0 otherwise)<sup>6</sup>, to be positively signed and *District Magnitude* (in seats) negatively signed: the higher district magnitude or in those district in which the PCE was viable in the previous election, the less the opportunity or the incentives to cast a strategic vote. In the 1979 election, I find that  $M \leq 5$  and *Heuristics* are positive and statistically significant at the 0.01 level. The *district magnitude* coefficient is negative, but no significant. In the 1982 election, *Heuristics* and *District Magnitude* are signed in theoretically-expected manners, although only the first coefficient is statistically significant at the 0.05 level. The  $M \leq 5$  coefficient is negative, but no significant. That is, both explanations on how expectations are formed show the existence of strategic voting in the 1979 election, but only the model based on heuristics in the 1982 election. Finally, the interactions between  $M \leq 5$  and *Heuristics* (not included in the paper) are not statistically significant: the use of heuristics is not different in districts equal or below magnitude 5 than in the rest.

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<sup>4</sup> The two surveys (N = 5439 and N = 5463) were conducted by Giacomo Sani, Goldie Shabad and Richard Gunther. See Gunther (1989) for a description.

<sup>5</sup> Fraile (2001: chapter 4) and Lago (2005: chapter 9).

[Table 8 about here]

[Table 9 about here]

I report my estimates of the extent of strategic voting in both elections in Tables 10, 11 and 12. Following Alvarez and Nagler (2000)<sup>7</sup>, the analysis is based on a counterfactual simulation in which I calculate the proportion of voters who would have voted differently if they had not taken into account party viability in their constituency<sup>8</sup>. I first predict the party that each respondent was most likely to support using the full models presented above (i.e., including the strategic voting variables): this is my prediction of voter's strategic vote. Second, I predict the party each individual was most likely to support when the incentives for an strategic behavior disappear, that is, if the variables  $M \leq 5$  or *Heuristics* had been zero (i.e., all voters are in districts above magnitude 5 or in which the IU gained at least one seat in the previous election)<sup>9</sup>.

The rows of the Tables correspond to predicted party support when all variables, including the strategic voting variables, are incorporated into the model, and the columns correspond to the predicted vote when the coefficients of the strategic voting variables are set at zero. All the cases along the main diagonal are instances where the two predictions converge: these are individuals who would not have voted differently if they had considered only their preferences. The off-diagonal entries are strategic voters,

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<sup>6</sup> Obviously, what should matter is whether the person thinks that the PCE had no seat in the previous election, not the objective reality. But this subjective information is not available in the pre or post election surveys.

<sup>7</sup> See also Blais, Yonng and Turcotte (2005).

<sup>8</sup> Although there is a very interesting debate on the use of direct or indirect methods in predicting the aggregate amount of strategic voting (Alvarez and Nagler, 2000; Blais, Young and Turcotte, 2005; Evans, 2002; Fisher, 2004), in Spain the direct approach based on respondents' reported preferences and behavior is not possible: surveys do not have the required information.

who would have made a different choice if their vote had been purely sincere. According to these estimations, 0.9% of my sample case cast a strategic vote in the 1979 election when the theoretical model is based on rational expectations (i.e., strategic voting fades out when district magnitude is greater than 5) and 1.6% when it rests on heuristics (i.e, strategic voting does not depend on district magnitude).

[Table 10 about here]

[Table 11 about here]

In the 1982 election, 0.6% of my sample case cast a strategic vote when voters' behaviour is based on electoral history heuristics, while there is no evidence of electoral coordination when strategic voting is a function of the number of deputies elected in each district.

[Table 12 about here]

## **6. Parties and strategic voting**

Strategic voting does not only depend on voters, but also on elite actors. As Cox recognizes, strategic voting survives in theory and practice because the process is mediated by elites. They point out that the race is close and that votes on weak candidates are wasted. Voters do the rest: they buy the argument and act accordingly (Cox, 1997: 90 and 98). In order to ensure that local viability in the previous election and not district magnitude is the key variable to explain strategic voting, and based upon extensive in-depth interviews with relevant elites of the four most important national

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<sup>9</sup> Since  $M \leq 5$  is not statistically significant in the analysis of the 1982 election, it has not been

parties in Spain during the period 1977-2004 (the dominant centrist party in the 1970s, the UCD, the PSOE, the minor right-wing party in the 1970s and dominant since then, the AP/PP and the PCE/IU), I examine in this section to what extent party strategies take place according to this logic. In particular, I interviewed Óscar Alzaga (the UCD), Félix Martínez de la Cruz (the PCE/IU), Ignacio Varela (the PSOE) and José Ignacio Wert (the AP/PP)<sup>10</sup>.

On the one hand, the wasted vote argument can only be exploited by parties possessing the focal point characteristic in a given district —being viable—, independently of its magnitude. Therefore, district magnitude is not the decisive variable, as Duvergerian or electoral coordination theories defend. Campaign strategies of large parties in Spain roundly support this assertion. In accord with the UCD leaders, "strategic voting appeals cannot be the same in Madrid, a thirty four-seat district, as in Segovia, a three-seat district. Strategic voting has a series of very defined messages. In a small district, without representation of the AP [the minor intra-bloc competitor of the UCD in the 1970s], you try to explain to the AP supporters that their vote is wasted; you try to explain to them the rules of the game. Individuals whose vote is exclusively expressive are rare. Most of them wish that their vote had influence. Then, what you explain in Segovia is totally different to what you explain in Madrid. What you [the PSOE and the UCD] explained in Segovia in 1979 is that before 1979 election votes for the PCE and the AP were not been translated into seats. Therefore, it was a thrown

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taken into account in my simulations.

<sup>10</sup> Óscar Alzaga was one of the *fathers* of the electoral system, deputy of the UCD (1978-1982) and the AP/PP (1982-1987) and member of the Electoral Committee of the UCD in 1979 election. Félix Martínez de la Cruz has been the campaign manager of the IU from 1990 to 1997. Ignacio Varela has been the manager of the Area of Analysis, Strategy and Monitoring of the Electoral Campaign in the Mass Media of the PSOE from 1978 to 2000. Finally, José Ignacio Wert was deputy of the AP/PP (1986-1987) and member of the Electoral Committees of

away vote [...] Voters strongly predisposed to support the AP or the PCE are not sensitive to the wasted vote argument, because they will always vote for their preferred party. On the contrary, in Madrid, Barcelona or large districts, in which you need to amass not too many votes to gain a seat, or in the small districts in which the AP had seats, the wasted vote argument is different. You cannot say 'don't vote for the AP because it will not win seats'. The argument is 'what is at stake is which party will govern' Then, the argument is different. [...] In Segovia what you explain is how the D'Hondt formula operates. You don't give the same explanation in Madrid. In Madrid the campaign is focused on the presidential candidates. You have to show who has possibilities to govern and who doesn't. Then, it is a wasted vote argument, but different. Because it is not the problem of uselessness, because the vote does not count on the distribution of seats, but it is much more useful to decide who governs. You change your speech"<sup>11</sup>.

In Ignacio Varela's view, "although the wasted vote argument is used in all the districts, it is true that in some of them vote dispersion was more detrimental for us than in others. In those districts in which there was a significant presence of other leftist parties that, however, were not able to win seats, the problem was specially dramatic. Avoiding the wasted vote on the left has been our priority. It is easier to convince voters that they are wasting their vote or benefiting the opposition when their votes are not going to be translated into seats. That is, in those districts in which the IU, for example, did not have seats and did not have good possibilities, independently of their magnitude. Therefore, in these districts of seven, eight or nine seats in which the IU has amassed

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the UCD in 1979 election and the AP/PP in 1982 election. The interviews (usually lasting over an hour) were conducted in October and November 2002.

<sup>11</sup> Interview with Óscar Alzaga, October 22 2002.

significant percentages of 8 or 10 percent of votes, that were not enough to win a seat but, however, added to the PSOE they had given us another seat [...] this acquires a crucial importance”<sup>12</sup>.

And as the campaign manager of the PCE/IU points out, "where strategic voting works is in those districts in which we don't have seats: 37 districts"<sup>13</sup>. Finally, when asked about such a campaign strategy, Wert responded that "I would tend to support that strategic voting appeals across districts mainly depends on the fact that the minor party counts or not on representation and not on district magnitude"<sup>14</sup>.

## **7. Conclusions**

In this paper I have tested two different approaches on the formation of expectations about how well each party is likely to do in the upcoming election in order to vote strategically. One is based on rational expectations according to the Cox theory and the other on heuristics.

First, I have shown that, while virtually nobody knew how many seats were elected in their districts, virtually all Spanish voters in the 2004 election knew the focal point that solve coordination problems in mass election: whether (minor) parties have previously gained at least one seat in a given district.

Second, these two approaches were applied to the 1979 and the 1982 elections in Spain, in which Gunther found ample evidence of voters' strategic behavior. Both show

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<sup>12</sup> Interview with Ignacio Varela, November 8 2002.

<sup>13</sup> Interview with Félix Martínez de la Cruz, October 10 2002.

<sup>14</sup> Interview with José Ignacio Wert, November 15 2002.

the existence of a significant strategic voting in the 1979 election: according to the model based on rational expectations, 4.6 percent of the PCE sympathizers cast a strategic vote, while this percentage for the explanation that relies on heuristics is 8.9. But the divergence is particularly important in the 1982 election. When electoral coordination depends on rational expectations, there is no evidence of strategic voting. However, when it is a function of heuristics, 8.5 percent of the PCE supporters voted strategically. Precisely party strategies of dominant parties to mobilize strategic voting in Spain depends on the local viability of the intra-bloc competitor and not on district magnitude.

Once the assumption of rationality is relaxed, and the encyclopedic knowledge is replaced with shortcuts, the conclusion is that strategic voting is observable across all districts, independently of district magnitude.

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## Appendix

### *Variables in the 1979 election*

*Gender* = 1, male; 0, female.

*Age* = in years.

*Earnings* = monthly earnings defined as follows: 0, more than 100,000 pesetas; 1, 50,001 –100,000 pesetas; 2, 20,001-50,000 pesetas; 3, less than 20,000 pesetas;

*Class* = Subjective social class defined as follows: 0, high or medium-high; 1, medium-low; 2, worker; 3, medium.

*Religion* = 0, atheist; 1, no practicing catholic; 2, practicing catholic.

*Leader PCE* = evaluation of the leader of the PCE on a scale ranging from 0 (very bad) to 10 (very good).

*Leader PSOE* = evaluation of the leader of the PSOE on a scale ranging from 0 (very bad) to 10 (very good).

*Autonomy* = opinion on the role of Autonomous Communities: 1 if an individual demands more autonomy, 0 if an individual does not demand more autonomy

*Economy* = evaluation of the national economic situation: 1, not bad; 0, bad.

*Occupation* = 0, housewife; 1, student; 2, unemployed; 3, retiree; 4, those who work.

*Education* = 0, illiterate; 1, primary education; 2, secondary education; 3, University education.

*Ideological distance* = difference between the position of each individual and each party on a left-right scale ranging from 1 (left) to 10 (right):  $|x_i - x_{PSOE}| - |x_i - x_{PCE}|$ .

### *Variables in the 1982 election*

Only two additional variables were added to the previous model:

*Unemployment* = 1 for those who think that the government is responsible for unemployment; 0 for the rest.

*Coup d'état* = 1 for those who think that a *coup d'état* is probable; 0 for the rest.

Table 1: District Structure in Spain (2004)

<i>District Magnitude</i>	<i>Number of districts</i>	<i>M ≤ 5</i>
1	2	30 districts (115 seats)
3	9	
4	9	
5	10	
6	5	22 districts (235 seats)
7	5	
8	3	
9	3	
10	1	
11	1	
12	1	
16	1	
31	1	
35	1	
350	52	52 districts/ 350 seats

Table 2: Votes and Seats in Congress of Deputies of the PCE/IU

<i>Election</i>	<i>Votes (%)</i>	<i>Seats (%Seats)</i>	<i>Districts with seats</i>	<i>% Districts with seats above magnitude five</i>
1977	9.33	19 (5.7)	10	90.0
1979	10.77	23 (6.6)	12	91.67
1982	4.02	4 (0.8)	4	100
1986	4.63	7 (2.0)	6	100
1989	9.07	17 (4.8)	11	100
1993	9.55	18 (5.1)	11	100
1996	10.54	21 (6.0)	13	92.31
2000	5.45	8 (2.3)	6	100
2004	4.96	5 (1.4)	3	100
Mean	7.59	13.6 (3.9)	8.44	97.14

Source: [www.elecciones.mir.es](http://www.elecciones.mir.es)

Table 3: Knowledge of district magnitude in Spain, 2004

<i>District Magnitude</i>	<i>Correct Answer</i>	<i>Wrong Answer</i>	<i>Total</i>
$M \leq 5$	55 (8.5%)	592 (91.5%)	647 (100%)
$M > 5$	31 (1.4%)	2251 (98.6%)	2282 (100%)
<b>Total</b>	<b>86 (2.9%)</b>	<b>2843 (97.1%)</b>	<b>2929 (100%)</b>

Source: Demoscopia 2004.

Table 4: Has the IU gained seats in your district (Spain, 2004)?

<i>Focal Point</i>	<i>Correct Answer</i>	<i>Wrong Answer</i>	<i>Total</i>
$M \leq 5$	584 (90.3%)	63 (9.7%)	647 (100%)
$M > 5$	1609 (70.5%)	673 (29.5%)	2282 (100%)
<b>Total</b>	<b>2193 (74.9)</b>	<b>736 (25.1)</b>	<b>2929 (100%)</b>

Source: Demoscopia 2004.

Table 5: Summary Statistics

<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>Std.Dev.</i>	<i>Min.</i>	<i>Max.</i>
District Magnitude	2929	0.0296	0.1694	0	1
Focal Point	2929	0.7487	0.4338	0	1
Political Knowledge	2929	2.5163	0.9420	0	4
Voting in Last Election	2929	0.6564	0.4750	0	1
$M \leq 5$	2929	0.2210	0.4150	0	1
Age	2915	46.09	18.09	18	91
Community	2929	0.6057	0.4888	0	1
Civil Status	2929	0.6094	0.4880	0	1

Table 6: Models to explain knowledge of district magnitude (Logistic Regression)

Dependent variable: <b>District Magnitude</b>	Models		
	1	2	3
Variables			
Political Knowledge	1.00* (0.17)	0.67* (0.23)	1.00* (0.17)
Voting in Last Election	0.45*** (0.27)	0.45*** (0.28)	0.44 (0.27)
$M \leq 5$	2.16* (0.24)	2.15* (0.24)	2.15* (0.24)
Age	-0.01 (0.01)	-0.01 (0.01)	-0.02*** (0.01)
Community	-0.09 (0.24)	-0.09 (0.24)	-0.73 (0.68)
Civil Status	-0.15 (0.25)	-1.98** (1.02)	-0.17 (0.25)
Knowledge*Civil Status		0.61*** (0.33)	
Age*Community			0.01 (0.01)
Constant	-6.88* (0.67)	-5.91* (0.81)	-6.44* (0.80)
Pseudo R <sup>2</sup>	0.16	0.17	0.16
% Correctly Predicted	97.4	97.4	97.4
N	2907	2907	2907

Estimation is by maximum-likelihood. Robust Standard Errors in parentheses.

\*p<.01; \*\*p<.05; \*\*\*p<.1

Table 7: Models to explain knowledge of parties' local viability (Logistic Regression)

Dependent variable: <b>Focal Point</b>	Models		
Variables	1	2	3
Political Knowledge	-0.01 (0.05)	-0.12 (0.09)	-0.01 (0.05)
Voting in Last Election	-0.02 (0.10)	-0.02 (0.10)	-0.02 (0.10)
$M \leq 5$	1.33* (0.14)	1.32* (0.14)	1.31* (0.14)
Age	-0.00 (0.00)	-0.00 (0.00)	-0.01 (0.00)
Community	0.22** (0.09)	0.22** (0.09)	-0.43*** (0.26)
Civil Status	0.11 (0.09)	-0.34 (0.26)	0.07 (0.09)
Knowledge*Civil Status		0.18*** (0.10)	
Age*Community			0.01* (0.01)
Constant	0.80* (0.19)	1.08* (0.25)	1.21* (0.25)
Pseudo R <sup>2</sup>	0.04	0.04	0.04
% Correctly Predicted	75.4	75.4	75.4
N	2907	2907	2907

Estimation is by maximum-likelihood. Robust Standard Errors in parentheses.

\*p<.01; \*\*p<.05; \*\*\*p<.1



Table 8: Binomial Logit Estimates, 1979 Election

<i>Independent Variables</i>	<i>Models</i>		
	(1)	(2)	(3)
Gender	-0.44 (0.30)	-0.39 (0.30)	-0.37 (0.30)
Age	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Earnings: 50,001-100,000 pta	1.29*** (0.69)	1.36** (0.69)	1.42** (0.70)
20,001-50,000 pta	0.53 (0.71)	0.58 (0.71)	0.59 (0.72)
-20,000 pta	-0.29 (0.79)	-0.15 (0.79)	-0.21 (0.79)
Class: Medium-low	-0.38 (0.51)	-0.41 (0.50)	-0.41 (0.51)
Worker	-0.29 (0.50)	-0.30 (0.49)	-0.24 (0.50)
Medium	-0.99 (1.09)	-0.99 (1.11)	-0.88 (1.11)
Religion: No Practicing Catholic	0.72* (0.24)	0.73* (0.24)	0.79* (0.24)
Practicing Catholic	0.35 (0.31)	0.34 (0.31)	0.30 (0.31)
Leader PCE	-0.78* (0.07)	-0.78* (0.06)	-0.79* (0.06)
Leader PSOE	0.78* (0.07)	0.78* (0.07)	0.78* (0.07)
Autonomy	-0.49 (0.34)	-0.49 (0.35)	-0.47 (0.35)
Economy	-0.05 (0.22)	-0.09 (0.21)	-0.06 (0.22)
Occupation: Student	-0.44 (0.51)	-0.43 (0.50)	-0.39 (0.51)
Unemployed	-0.58 (0.50)	-0.60 (0.50)	-0.48 (0.50)
Retiree	0.67 (0.58)	0.58 (0.58)	0.69 (0.57)
Work	-0.31 (0.36)	-0.30 (0.36)	-0.24 (0.37)
Education: Primary	0.61*** (0.33)	0.67** (0.33)	0.64*** (0.33)
Secondary	0.72*** (0.38)	0.80*** (0.38)	0.73*** (0.38)
University	0.90** (0.46)	0.93** (0.45)	0.85** (0.45)
Ideological Distance	-0.45* (0.08)	-0.42* (0.07)	-0.44* (0.08)
<b>M ≤ 5</b>	<b>0.75*</b> <b>(0.28)</b>		
<b>District Magnitude</b>		<b>-0.01</b> <b>(0.01)</b>	
<b>Heuristics</b>			<b>0.64*</b> <b>(0.23)</b>
Constant	0.55 (1.00)	0.80 (1.01)	0.25 (1.01)
Number of Observations	1053	1053	1053
Pseudo R <sup>2</sup>	0.52	0.52	0.52
% Predicted Cases	90.2	90.2	91.2

Estimation is by maximum-likelihood. Robust Standard Errors in parentheses.  
\*p<.01; \*\*p<.05; \*\*\*p<.1

Table 9: Binomial Logit Estimates, 1982 Election

<i>Independent Variables</i>	<i>Models</i>		
	(1)	(2)	(3)
Gender	0.70*** (0.37)	0.58 (0.38)	0.63*** (0.38)
Age	0.00 (0.01)	0.00 (0.01)	0.02 (0.01)
Earnings: 50,001-100,000 pta	-0.78 (0.69)	-0.84 (0.63)	-0.73 (0.70)
20,001-50,000 pta	-0.81 (0.69)	-0.94 (0.69)	-0.75 (0.68)
-20,000 pta	-0.97 (0.82)	-1.25 (0.84)	-0.91 (0.82)
Class: Medium and Medium-low	-1.14 (0.92)	-1.04 (0.90)	-1.06 (0.90)
Worker	-2.32* (0.84)	-2.23* (0.82)	-2.18* (0.81)
Religion: No Practicing Catholic	0.95* (0.33)	0.95* (0.34)	0.89* (0.34)
Practicing Catholic	0.58 (0.50)	0.47 (0.51)	0.38 (0.52)
Leader PCE	-0.68* (0.07)	-0.68* (0.07)	-0.67* (0.07)
Leader PSOE	0.65* (0.09)	0.65* (0.09)	0.65* (0.09)
Unemployment	0.16 (0.29)	0.14 (0.29)	0.13 (0.29)
Coup d'état	0.53*** (0.30)	0.47 (0.30)	0.54*** (0.30)
Occupation: Student	-1.33*** (0.79)	-1.38*** (0.79)	-1.35*** (0.80)
Unemployed	-1.69*** (0.70)	-1.55** (0.70)	-1.58** (0.70)
Retiree	-0.70 (0.73)	-0.71 (0.73)	-0.78 (0.74)
Work	-1.53* (0.58)	-1.50* (0.58)	-1.50* (0.58)
Education: Primary	1.04 (0.69)	1.12 (0.70)	0.91 (0.70)
Secondary	0.71 (0.83)	0.79 (0.84)	0.67 (0.84)
University	1.59*** (0.84)	1.65** (0.84)	1.49*** (0.84)
Ideological Distance	-0.77* (0.11)	-0.74* (0.11)	-0.76* (0.11)
<b>M ≤ 5</b>	<b>-0.09</b> <b>(0.37)</b>		
<b>District Magnitude</b>		<b>-0.02</b> <b>(0.01)</b>	
<b>Heuristics</b>			<b>0.71**</b> <b>(0.34)</b>
Constant	3.17*** (1.63)	3.49** (1.64)	2.90*** (1.61)
Number of Observations	1635	1635	1635
Pseudo R <sup>2</sup>	0.58	0.58	0.58
% Predicted Cases	96.3	96.2	96.3

Estimation is by maximum-likelihood. Robust Standard Errors in parentheses.

\*p<.01; \*\*p<.05; \*\*\*p<.1

Table 10: Predicted Strategic and Sincere Votes According to Rational Expectations, 1979 Election

	<i>Predicted sincere votes</i>		<i>Strategic totals</i>	
	PCE	PSOE		
<i>Predicted strategic votes</i>	PCE	187 (95.4)	0 (0.0)	187 (17.8)
	PSOE	9 (4.6)	857 (100.0)	866 (82.2)
Sincere totals		196 (18.6)	857 (81.4)	1053 (100.0)

Note; Entries are number of respondents, with column percentages in parentheses below.

Table 11: Predicted Strategic and Sincere Votes According to Heuristics, 1979 Election

	<i>Predicted sincere votes</i>		<i>Strategic totals</i>	
	PCE	PSOE		
<i>Predicted strategic votes</i>	PCE	175 (91.1)	0 (0.0)	175 (16.6)
	PSOE	17 (8.9)	861 (100.0)	878 (83.4)
Sincere totals		192 (18.2)	861 (81.8)	1053 (100.0)

Note; Entries are number of respondents, with column percentages in parentheses below.

Table 12: Predicted Strategic and Sincere Votes According to Heuristics, 1982 Election

	<i>Predicted sincere votes</i>		<i>Strategic totals</i>	
	PCE	PSOE		
<i>Predicted strategic votes</i>	PCE	107 (91.5)	0 (0.0)	107 (6.5)
	PSOE	10 (8.5)	1518 (92.8)	1528 (93.5)
Sincere totals		117 (7.2)	1518 (92.8)	1635 (100.0)

Note; Entries are number of respondents, with column percentages in parentheses below.

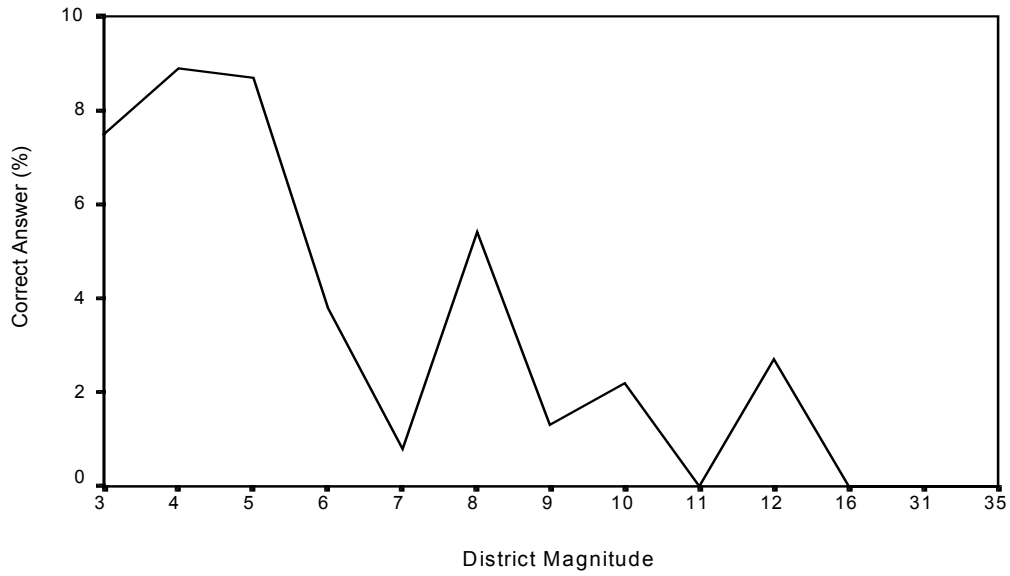


Figure 1: How many deputies are elected in your district (Spain, 2004 election)?

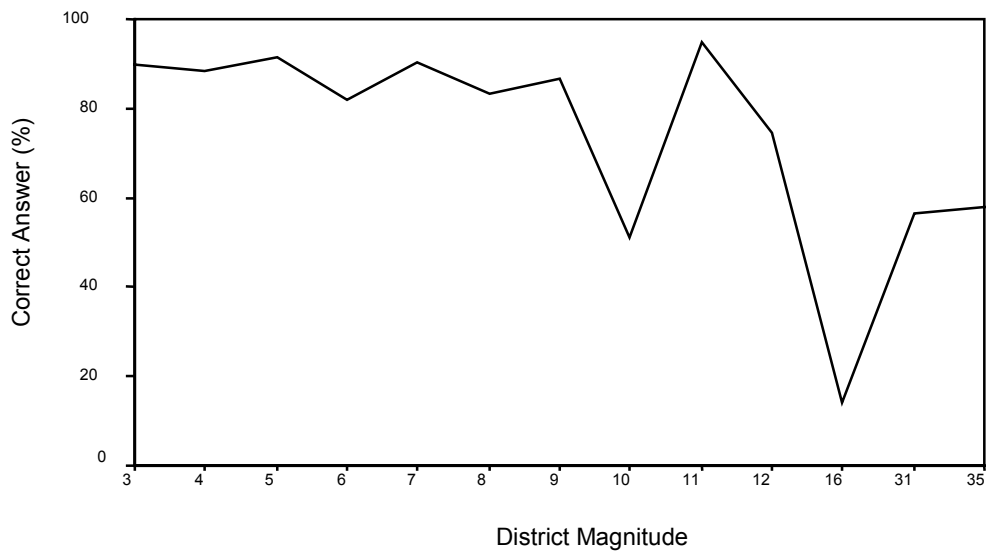


Figure 2: Has the IU gained seats in your district (Spain, 2004 election)?