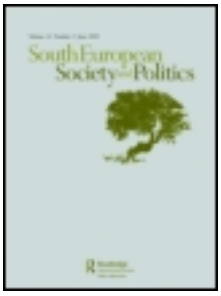

South European Society and Politics
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/fses20

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Version of record first published: 09 Oct 2012.

To cite this article: Didac Queralt (2012): Spatial Voting in Spain, South European Society and Politics, DOI:10.1080/13608746.2012.701890

To link to this article: http://dx.doi.org/10.1080/13608746.2012.701890

South European Society and Politics
iFirst article, 2012, pp. 1–18

Spatial Voting in Spain

Didac Queralt

This work evaluates the receptivity of the Spanish electorate to policy positions that are distant from the status quo. To that end, two spatial voting models are considered: the proximity and the directional model. The analysis also evaluates the econometric consequences of employing subsidiary measures of the status quo in policy spaces. The result suggests that the majority of the Spanish electorate adjusts to a hybrid model of spatial voting, where proximity dominates. Only the supporters of the main opposition party are receptive to non-moderate policy declarations. Altogether, this work helps unravel the microfoundations of party competition in Spain.

Keywords: Spatial Models; Status Quo; Party Competition; Spain

The main objective of a political party is to achieve power and to hold on to it once in office (Downs 1957). Both objectives require the support of the electorate. As strategic actors, parties pursue political strategies that they believe bring them most political support. From this viewpoint, we can interpret the policy positions of parties as best responses to maximise their electoral support. To fully characterise this strategic game, it is important to understand how voters form their preferences about parties. The spatial theory of voting provides a formal characterisation of this process. Under this approach, the satisfaction (or utility) conferred by a political party is a function of the distance that separates the latter from the voter. This theory explicitly assumes that all political debate can be reduced to a metric space where the preferences of individuals and political parties occupy unique positions. Based on this assumption, there are two main models that relate the *distance* between the location of the parties on each issue to that of the voters themselves: the *proximity* and the *directional* models of spatial voting. These models differ in the way that voters are assumed to evaluate the distances that separate them from the parties.

According to the proximity voting model (Enelow & Hinich 1984), individuals find greater utility in voting for parties that hold similar views to that of the voter. Specifically, an individual will vote for the political party that minimises the distance between that individual's *ideal point* and the party's policy position.

ISSN 1360-8746 (print)/ISSN 1743-9612 (online)
http://dx.doi.org/10.1080/13608746.2012.701890

The directional voting model (Rabinowitz & MacDonald 1989) assumes that voters are not politically sophisticated. They are unable to locate the parties' policy position with precision. Instead, voters simply place parties and themselves on one side or the other of the policy status quo (SQ). They prefer the party that seeks to move the SQ in the direction desired by the voter. Among all the parties positioned on their side, they prefer the one adopting the most intense position—since intensity is regarded as a sign of the party's commitment to that particular issue.

The strategies of the political parties to consolidate support and mobilise the electorate will critically hinge on how the voters respond to statements that are distant from the SQ. If voters penalise extreme positions, parties will avoid adopting positions that distance them from the SQ (inducing centripetal electoral competition). However, if voters reward parties that offer policies that break with the SQ, parties will tend to distance themselves from the SQ (thereby starting a process of centrifugal competition). The analysis of the incidence of these two spatial models, in turn, should allow us to unravel the micro-foundations of political competition in Spain.[1] With this aim in mind, the incidence of the two spatial models is evaluated for the entirety of the electorate, for each party separately, and for different degrees of partisanship.

This analysis uses Survey 2799 of April 2009 conducted by the Spanish Centre for Sociological Research (CIS). Survey 2799 asks for *subjective* positions of the SQ on three major issues in Spain: territorial policy, state secularity, and immigration policy.[2] The availability of subjective measures of the SQ allows us to assess the effects of subsidiary measures of the SQ (i.e. the centre of the scale) on the estimation of the spatial models.

The results of the analysis suggest, first of all, that most of the electorate in Spain respond to a spatial voting model of a hybrid nature. In this mix, the *pure* proximity component is predominant. Specifically, the analysis suggests that voters in Spain are receptive to pronouncements that are distant from the SQ, but not too extreme. This result is consistent with the hybrid model of spatial voting found in other Western European democracies (Iversen 1994). Only one group of voters does not fit the general pattern: the supporters of the main opposition party. They seem to follow a directional logic, and reward extreme positions that are far from the SQ. This finding, as will be discussed, might help us understand the political polarisation experienced during the 2004–09 period.

Lastly, from a purely econometric point of view, the analysis reveals the superiority of the subjective measures of the SQ over any scale centre. Despite the risk of *rationalisation* of the subjective measure (that is, that the individuals might locate the SQ in positions consistent with prior preferences), its use guarantees the congruence of the coefficient estimates with spatial model predictions.

This paper is divided into seven sections. The second section reviews the formalisation of spatial voting models and presents the specification of the empirical models that simultaneously test directional and proximity voting. In the third section measurement issues are discussed. The fourth section analyses directional and proximity voting simultaneously. The fifth section runs some robustness checks. The

sixth quantifies the predominance of the proximity model over the directional one. The seventh section concludes.

Spatial Voting

Formalisation

The spatial models can be differentiated, mainly, on assumptions about how voters evaluate the distance that separates them from political parties. Under the proximity model, voters experience disutility as the distance between them and the party increases. In cases where there is more than one dimension of political competition, the total disutility is the sum of the distances between the individual and the political party. In this case, the voter prefers the party that minimises the sum of the distances.

To compute the sum of the distances, two pieces of information are required: the ideal position of individual i, V_i, on each one of the k dimensions; and the position of each party j, P_j, on those dimensions. The utility obtained by the individual i is a negative function of the Eucledian distance $d(\cdot)$ that separates the party and the voter on dimension k. To guarantee that $d(\cdot)$ always yields a positive value we can assume a quadratic utility loss function. Thus

$$U_{ijk} = -(V_{ik} - P_{jk})^2 \tag{1}$$

The directional voting model requires an additional piece of information to calculate the (dis)utility of voting for a political party: namely, the position on the political dimension that defines two *fields* in conflict. Empirically, this value is captured by the SQ of a specific policy. Some individuals desire to move the SQ in one direction, and others in the opposite one. The parties at the same time place themselves on one or the other side of the SQ. Voters experience positive utility when they and the party situate themselves on the same side of the SQ, and negative utility when they locate themselves on opposite sides. Among those parties on the same side, voters prefer the one that adopts the furthest position from the SQ—as it is regarded as being more committed to their cause (Tomz & van Houweling 2008).

Under the directional logic, the utility perceived by the individual i with respect to party j on dimension k, given the SQ in this dimension, S_k, is

$$U_{ijk} = (V_{ik} - S_k) \times (P_{jk} - S_k) \tag{2}$$

where each element in parentheses represents the deviation of the individual and the political party, respectively, in relation to the SQ. When the voter and party situate themselves on the same side of the SQ, the (scalar) product in (2) is positive. When they are on opposite sides, it is negative. The more extreme the position of the party, the larger the right-hand side, and therefore the greater the utility gained by the directional voter.

Empirical Model

In order to test the models of pure and directional proximity we shall follow the approach of Lewis and King (1999) and Johnston, Fournier and Jenkins (2000). First, we centre V_{ik} and P_{jk} with respect to the SQ, which yields

$$\begin{aligned} \tilde{V}_{ik} &= V_{ik} - S_k \\ \tilde{P}_{jk} &= P_{jk} - S_k \end{aligned} \tag{3}$$

Then, we expand the right-hand side of (1) as

$$U_{ijk} = -(V_{ik} - P_{jk})^2 = -((V_{ik} - S_k) - (P_{jk} - S_k))^2 \tag{4}$$

Substituting (3) into (4), and expanding the quadratic term, we obtain

$$U_{ijk} = -(\tilde{V}_{ik}^{\ 2} + \tilde{P}_{jk}^{\ 2} - 2{\cdot}\tilde{V}_{ik}{\cdot}\tilde{P}_{jk}) \tag{5}$$

which is the model to be empirically tested. Indeed, the corresponding econometric model is

$$U_{ijk} = \beta_0 + \beta_1(\tilde{V}_{ik}) + \beta_2(\tilde{P}_{jk}) + \beta_3(2{\cdot}\tilde{V}_{ik}{\cdot}\tilde{P}_{jk}) + \varepsilon_{ijk} \tag{6}$$

where the error term is assumed to satisfy the Gauss–Markov assumptions.

The proximity model requires that all the coefficients are equal: $|\beta_1| = |\beta_2| = |\beta_3|$ with $\beta_1, \beta_2 < 0$, and $\beta_3 > 0$. The pure directional model requires the two components of distance to be zero, that is, $\beta_1 = \beta_2 = 0$, and β_3 to be positive (i.e., $\beta_3 > 0$). The two models operate simultaneously if $|\beta_1| = |\beta_2| < \beta_3$, with $\beta_1, \beta_2 < 0$, and $\beta_3 > 0$. This combination of parameters, known as the hybrid model, guarantees the concavity of the function of utility despite the presence of the centrifugal component β_3 (Johnston, Fournier & Jenkins 2000).

Implementation

Measurement

What policy measures should we employ to test the econometric model in (6): subjective scores or sample averages? The answer is not obvious, and a heated debate surrounds this issue. On the one hand, we have evidence that subjective measures are subject to the so-called 'projection effect': namely, individuals tend to grow closer to their preferred parties and distance themselves from the rest (Merrill & Grofman 1999). If projection takes place, the error component in (6) and the control variables are not orthogonal and the Ordinary Least Squares (OLS) estimates are biased.

Sample means of the party's policy positions are an alternative to subjective measures. If it is true that this option combats the possible rationalisation of the respondent, its theoretical validity is questionable. On the one hand, voters decide whom to vote for based on their own beliefs—not those of the population. On the

other hand, the systematic reduction of the variance of the distance component of the political party, $\tilde{P}_{jk}$, causes an attenuation bias on this covariate's coefficient. All things considered, an ideal measure to locate the political parties does not exist. For this reason, both subjective scores and sample means are considered here.

Debate about the best measure of the SQ is practically non-existent. The reason for this is that non-experimental surveys do not include, either in Spain or at a comparative level, specific questions about the SQ location. In the absence of such a measure, researchers have opted to approximate the SQ by employing the centre of the ideological scales, or, alternatively, the position of the party in government. Fortunately, CIS Survey 2799 does include a question on the SQ for three central issues in Spanish politics in the period 2004–09: the territorial structure of the state, state secularity, and immigration policy. Accordingly, we can study the effect of the three SQ measures on the regression estimates of spatial voting models.

Data

To approximate the utility conferred by a political party we use 'propensity to vote' (PTV) scores, that is, the probability of voting for all lists in the party system separately. This measure has clear advantages: on the one hand, it allows us to distinguish between the utility granted by the second and remaining lists, and, on the other, it allows us to fit linear regressions into the statistical analysis, which makes the coefficients directly interpretable.

The CIS Survey 2799 employs a national sample of 1,715 individuals. In order to guarantee the representativeness of the sample, two weights are applied: one corrects the socio-demographic elements; the other the support for political parties. Party competition in Spain is broadly structured along two dimensions: redistribution and decentralisation. All parties position themselves on both dimensions. PSOE (social democrat, federalist), PP (conservative, centralist), IU (communist, federalist) and UPD (liberal, centralist) run in all districts. In Catalonia and the Basque Country, additional regional parties run for national parliament too. In Catalonia, ERC (social democrat, separatist) and CIU (conservative, regionalist); in the Basque Country, PNV (centre, regionalist), EA (social democrat, regionalist) and Aralar (socialist, separatist).[3] PP and PSOE together obtain over 80 per cent of the total vote share in national elections. Thus, they are clearly majoritarian. Figure 1 draws together the sample average of the location of the individuals and the parties analysed, and also of the SQ for the three issues considered.

Analysis

Table 1 reports the estimates for expression (6) for each combination of SQ and position of the political parties (PPP). Each issue has three associated coefficients (always standardised). The first two, the squared *individual position* and the squared *party position*, capture the effect of the distance components β_1 and β_2. The third

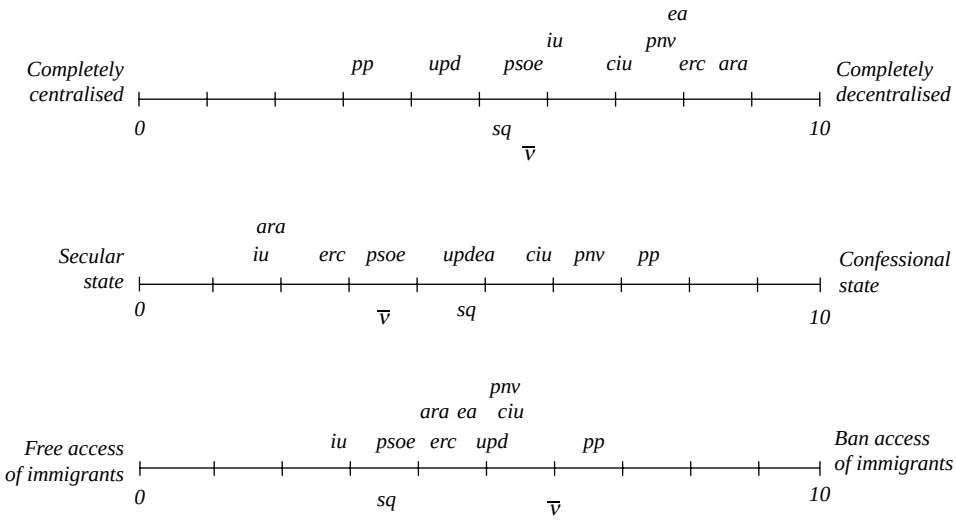

Figure 1 Sample Mean of Party, Voters ($\bar{v}$) and *STATUS QUO* Positions for Three Issues. *Note*: Scales range from 0 to 10. The scale centre is 5.

coefficient captures the marginal effect of the scalar product in (6), or β_3. All the models control for the party identification of the respondent. This variable seeks to capture any latent preference for parties, which may affect PTVs and party placements simultaneously. Its consideration should reduce this source of endogeneity bias in the empirical test.

Models 1 and 2 employ the centre of the scale as the SQ – thus replicating the standard convention. The estimates do not conform to the predictions of the *pure* model of proximity where $|\beta_1| = |\beta_2| = |\beta_3|$, $\beta_1, \beta_2 < 0$, and $\beta_3 > 0$; neither do they satisfy the *pure* directional model, where $\beta_1 = \beta_2 = 0$ and $\beta_3 > 0$; or the hybrid model, where $|\beta_1| = |\beta_2| < \beta_3$ and $\beta_1, \beta_2 < 0$, and $\beta_3 > 0$. The reason is due mainly to the behaviour of the distance coefficients $\hat{\beta}_1$ and $\hat{\beta}_2$. These are neither simultaneously equal to 0 (as predicted by the directional model) nor negative (as predicted by the proximity model). Some even take positive values and are statistically significant. The behaviour of these coefficients makes it difficult, if not impossible, to substantively interpret these models. This finding is in itself revealing in as far as it questions the suitability of employing the centre of the scale as a subsidiary measure of the SQ, a common practice in the studies reviewed – with the exception of Tomz and van Houweling (2008).

Something very similar happens in Models 3 and 4. Now, the SQ sample mean is used as an objective proxy of the SQ. Once again, the coefficients $\hat{\beta}_1$ and $\hat{\beta}_2$ are not simultaneously negative, or equal to zero, in any of the models. That is, they are not consistent with any of the spatial model predictions.

Model 5 takes the position of the government on each issue as the SQ (Cho & Endersby 2003). For *territorial* and *immigration issues*, Figure 1 showed a great

Table 1 Empirical Tests of Directional and Proximity Models for Seven Combinations of PPP and SQ

Issue	SQ ⇒ PPP ⇒	1 Scale's centre Subjective	2 Scale's centre Sample mean	3 Sample mean Subjective	4 Sample mean Sample mean	5 Government party Subjective	6 Individual Subjective	7 Individual Sample mean
Territoriality	(Individual position)^2	0.008	−0.036***	0.013	−0.004***	0.019	−0.132***	−0.221***
		(0.012)	(0.013)	(0.012)	(0.001)	(0.012)	(0.016)	(0.025)
	(Party position)^2	−0.066***	0.062**	−0.077***	−0.021***	−0.091***	−0.088***	−0.056***
		(0.013)	(0.024)	(0.013)	(0.005)	(0.013)	(0.016)	(0.020)
	Individual position × party position	0.138***	0.169***	0.139***	0.015***	0.141***	0.231***	0.246***
		(0.013)	(0.015)	(0.013)	(0.001)	(0.013)	(0.020)	(0.033)
Secularity	(Individual position)^2	−0.003	−0.035***	0.009	−0.002*	−0.002	−0.122***	−0.160***
		(0.011)	(0.012)	(0.011)	(0.001)	(0.010)	(0.014)	(0.017)
	(Party position)^2	−0.078***	−0.252***	−0.080***	−0.019***	−0.029**	−0.106***	−0.070***
		(0.012)	(0.036)	(0.012)	(0.004)	(0.013)	(0.015)	(0.013)
	Individual position × party position	0.126***	0.140***	0.126***	0.011***	0.130***	0.244***	0.206***
		(0.011)	(0.012)	(0.011)	(0.001)	(0.011)	(0.018)	(0.019)
Immigration	(Individual position)^2	0.011	−0.028**	−0.024**	−0.006***	−0.033***	−0.091***	−0.193***
		(0.011)	(0.011)	(0.011)	(0.001)	(0.011)	(0.013)	(0.024)
	(Party position)^2	−0.093***	0.217***	−0.068***	0.006	−0.081***	−0.098***	−0.052***
		(0.012)	(0.038)	(0.013)	(0.005)	(0.014)	(0.012)	(0.019)
	Individual position × party position	0.107***	0.098***	0.150***	0.012***	0.149***	0.171***	0.238***
		(0.011)	(0.011)	(0.011)	(0.002)	(0.011)	(0.015)	(0.032)
	Individuals	1,715	1,715	1,715	1,715	1,715	1,715	1,715
	Individual–alternatives	5,295	5,295	5,295	5,295	5,295	5,295	5,295
	R^2	0.377	0.336	0.376	0.333	0.375	0.370	0.322

Note: Standard coefficients reported. Standard errors in parentheses. All models controlled by party identification.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

similarity between the *average* position of the government (in the hands of the PSOE) and the SQ. However, not even for these two issues does the use of the government position as a subsidiary measure of the SQ yield coefficients that are congruent with the spatial predictions.

Lastly, Models 6 and 7 take the subjective score of the SQ. Neither of the two models seems to conform to the *pure* proximity model, where $|\beta_1| = |\beta_2| = |\beta_3|$ with β_1, $\beta_2 < 0$, and $\beta_3 > 0$. If the signs for all the coefficients are consistent with this prediction, the magnitude of the coefficient differs. This leaves us only with the hybrid voting model, in which $|\beta_1| = |\beta_2| < \beta_3$, and β_1, $\beta_2 < 0$, and $\beta_3 > 0$. Both Models 6 and 7 seem to describe this pattern. Yet, this is clearer in Model 6. In Model 7, the coefficient $\hat{\beta}_2$ takes slightly smaller values than $\hat{\beta}_1$ and $\hat{\beta}_3$. This could be due to the systematic reduction of the variance which entails the use of sample means to approximate the location of parties. In Model 6, on the contrary, the relative magnitudes of all the coefficients conform well to the prediction of the hybrid spatial model. Despite the fact that $\hat{\beta}_1$ and $\hat{\beta}_2$ are slightly different, both coefficients take values that are clearly smaller than $\hat{\beta}_3$ as the hybrid voting model predicts. Substantively, this result suggests respondents value positions that are distant from the SQ, but not extreme. This pattern is consistent with Iversen's (1994) findings in other European democracies, where a voter is 'attracted to parties that offer unambiguous and intense representations of her side of an issue position (the directional effect), but is turned away from parties that take issue positions well beyond those the voter considers politically reasonable (the proximity effect)' (Iversen 1994, p. 51). Model 6, in sum, suggests that the majority of the Spanish electorate evaluates political parties by employing very similar criteria to those of their European counterparts.

Robustness Checks

Three Sources of Heterogeneity

Westholm (1997) criticises MacDonald, Listhaug and Rabinowitz (1991) because their empirical design assumes that utilities are comparable among individuals. To attend to this potential flaw, Westholm proposes adding voter fixed effect. Taking as a base Model 6 of Table 1 (subjective SQ + subjective PPP), Model 1 of Table 2 reruns expression (6) controlling for individual heterogeneity. To prevent perfect multicollinearity between the individual effect and the coefficient β_1 in expression (6) – a problem already detected by Lewis and King (1999) – we assume that respondents are drawn from a common distribution. Econometrically, this corresponds to a *random-intercept* regression model. Besides resolving the problem of multicollinearity, random errors save as many degrees of freedom as individuals in the sample – thus improving the efficiency of the estimates.[4] Table 2 reports the coefficients for the random error specification.

The coefficients for Model 1 of Table 2 are very similar to those in Model 6 of Table 1, as much in magnitude as in sign. Still, the Likelihood-ratio (LR) test suggests that the random errors should be kept. In other words, some underlying heterogeneity seems

Table 2 Robustness Test No. 1: Individual Random Effects, District Heterogeneity, and Party Valance Advantage

		(1)	(2)	(3)
Territoriality	(Individual position)^2	−0.140***	−0.138***	−0.144***
		(0.018)	(0.018)	(0.018)
	(Party position)^2	−0.097***	−0.082***	−0.086***
		(0.016)	(0.016)	(0.017)
	Individual position × party position	0.245***	0.238***	0.247***
		(0.020)	(0.020)	(0.020)
Religiosity	(Individual position)^2	−0.100***	−0.099***	−0.109***
		(0.015)	(0.015)	(0.015)
	(Party position)^2	−0.108***	−0.105***	−0.106***
		(0.012)	(0.012)	(0.012)
	Individual position × party position	0.187***	0.207***	0.205***
		(0.014)	(0.015)	(0.015)
Immigration	(Individual position)^2	−0.130***	−0.139***	−0.131***
		(0.016)	(0.016)	(0.016)
	(Party position)^2	−0.117***	−0.121***	−0.115***
		(0.016)	(0.016)	(0.016)
	Individual position × party position	0.268***	0.274***	0.268***
		(0.018)	(0.018)	(0.018)
	Party ID	Yes	Yes	Yes
	Individual random error	Yes	Yes	Yes
	District fixed effect	No	Yes	Yes
	Party fixed effect	No	No	Yes
	R^2	–	–	–
	Log-likelihood	−6,257	−6,150	−6,221
	Number of ID	1,715	1,715	1,715

Note: Standard coefficients reported. Standard errors in parentheses. Intercept omitted. subjective party position and SQ assumed.
*** $p < 0.01$.

to exist among individuals, and these differences are sufficiently large to adjust the models for this source of variation.

In addition, it has been argued that the scores that the respondents grant to the political parties reflect intrinsic characteristics of the latter, or *valance advantages* (Adams & Merill 1999). In order to address this problem we must include indicators for each party in the models (or *party fixed effects*).[5] Once again, the coefficients for this augmented model, reported in Model 2 of Table 2, are virtually identical to those of Model 6 of Table 1. All the coefficients keep the sign, the significance, and the magnitude.

Finally, it has been claimed that parties' propensity to adopt extreme policy positions as well as voters' utility gains from such extreme declarations are conditional on the disproportionality of the electoral system (Cox 1990 and Calvo & Hellwig 2011, respectively). On the one hand, in very proportional systems, a little electoral support can make a big difference – for instance, in forming or breaking governments. Weaker incentives to maximise votes relaxes parties' need to approach the median voter, which allows them to uphold their *sincere* policy positions – including those distant from the

Table 3 Robustness Check No. 2: Necessary and Sufficient Conditions for Model Identification

	Territoriality	Issue Immigration	Secularity
(Individual position)^2	−0.134**	−0.198***	−0.140***
	(0.059)	(0.063)	(0.021)
(Party position)^2	−0.131***	−0.219***	−0.184***
	(0.042)	(0.048)	(0.026)
Individual position × party position	0.164**	0.289***	0.210***
	(0.068)	(0.062)	(0.029)
Observations	853	458	1,369
R^2	0.398	0.421	0.418

Note: Standard coefficients reported. Standard errors in parentheses. Party identification, party effect, and intercept omitted. Subjective party position and SQ assumed.
*** $p < 0.01$; ** $p < 0.05$.

SQ (Dow 2001). On the other hand, Calvo and Hellwig (2011) argue that the utility voters derive from extreme policy positions is lower the more disproportional the electoral system – since they dislike wasting their vote on hopeless lists. Altogether, (dis)proportionality is said to affect simultaneously party declarations *and* voters' utility (that is, the right- and left-hand sides of expression (6)).

Spanish districts vary in their electoral disproportionality; they have different district magnitudes.[6] Model 3 in Table 3 controls for this source of heterogeneity by adding district fixed effects to expression (6). If disproportionality modifies voter valuations *and* party policy, the district fixed effect should be sufficient to avoid this source of omitted variable bias. Nevertheless, once again, in Model 3 of Table 3 we see that all coefficients hold the expected sign and remain statistically significant.

In sum, once we control for heterogeneity among individuals, the potential *valance advantages* of parties, and the centripetal incentives of the electoral system, we still find evidence in favour of the hybrid model of spatial voting, under which individuals are receptive to positions that are distant from the SQ but not extreme.

Necessary and Sufficient Conditions

Tomz and van Houweling (2008) identify the necessary and sufficient condition to test the directional and proximity models in a bipartisan context. Specifically, these scholars formally prove that the empirical contrast of both models requires that respondents place themselves between the intermediate positions of the two parties and the SQ. If this condition is not satisfied, both spatial models yield the same prediction; an outcome that prevents us from identifying which of them guides the choice of the individual. Instead, if this condition is satisfied, the predictions of the two competing spatial models differ, and we can identify how compelling one model is versus the other.

The formal model of Tomz and van Houweling (2008) is designed for a bipartisan system. Even though the model is not directly exportable to Spain, we can still check if all previous results hold when we restrict the menu of parties to the PP and PSOE and limit the sample to those individuals satisfying Tomz and van Houweling's (2008) condition. The PP and PSOE together won more than 80 per cent of the votes in 2008, leaving a scenario that is not too distant from that of a two-party system.

Table 3 shows the results of the estimators for all those individuals located between the midpoint of the PP and the PSOE, and the SQ. Since Tomz and van Houweling's theoretical derivation assumes a unidimensional scenario, we run separate tests for each one of the three issues considered. All the models include party effects and control for party identification too.

The results in Table 3 seem to confirm, once again, the hybrid model. For this subsample, however, the relative magnitude of the estimates suggests that the territorial dimension would be nearer to the proximity model than the other two issues. However, even for this dimension, the estimator $\hat{\beta}_3$ is greater than $\hat{\beta}_1$ and $\hat{\beta}_2$.

Taken together, the analysis for the subsample that satisfies the necessary and sufficient conditions to contrast the two classic models of spatial voting in a two-party system appears to support the results of Model 6 of Table 1. That is, the variant of spatial voting in Spain is of a hybrid nature.

Non-issue Considerations

The previous models have been adjusted for party identification to minimise endogeneity bias between PTVs and subjective party placements. Nevertheless, endogeneity can also stem from non-spatial considerations. Those parties that are considered more competent to rule, for example, would not only receive a higher PTV, but might also be dragged towards the respondent's ideal position. In order to correct for this potential rationalisation, we must control the models for a battery of non-spatial considerations. If some kind of endogeneity exists due to such considerations, the estimators should be unbiased once we include them in the models. Furthermore, we already know that such considerations are essential in explaining voting behaviour in Spain (Sánchez-Cuenca 2008). So, even in the absence of endogeneity issues, the consideration of these variables means an additional challenge for the spatial coefficients.

CIS Survey 2799 provides information on non-spatial considerations for the two main parties only. Consequently, the results of Table 4 concern PSOE and PP only. Specifically, we control for three types of non-spatial considerations: capacity to rule (*capacity*), absence of internal conflicts in the party (*cohesion*), and the degree of corruption of party members (*corruption*). The three non-spatial considerations, initially categorical, enter the model as dichotomous variables (linearity holds).

Model 1 repeats the *subjective SQ – subjective PPP* specification of Model 6 of Table 2, but only for the two major parties. This allows us to observe the effect of the non-spatial considerations of Model 2 with greater clarity.

Table 4 Robustness Check No. 3: Non-issue Considerations for the Two Main Parties Only

		(1) PSOE and PP only	(2) PSOE and PP only
Territoriality	(Individual position)^2	−0.163***	−0.125***
		(0.020)	(0.020)
	(Party position)^2	−0.094***	−0.058***
		(0.022)	(0.022)
	Individual position × party position	0.249***	0.173***
		(0.027)	(0.027)
Secularity	(Individual position)^2	−0.103***	−0.092***
		(0.016)	(0.016)
	(Party position)^2	−0.094***	−0.057***
		(0.016)	(0.016)
	Individual position × party position	0.202***	0.150***
		(0.019)	(0.020)
Immigration	(Individual position)^2	−0.083***	−0.051***
		(0.018)	(0.019)
	(Party position)^2	−0.099***	−0.085***
		(0.019)	(0.019)
	Individual position × party position	0.238***	0.204***
		(0.023)	(0.023)
Non-issue elements	Capacity		0.470***
			(0.034)
	Cohesion		0.142***
			(0.038)
	Corruption		−0.253***
			(0.038)
Observations		1,694	1,572
R^2		0.439	0.511

Note: Standard errors in parentheses. Party effect, party identification, and intercept omitted. Subjective party position and SQ assumed.
*** $p < 0.01$.

The three non-spatial elements in Model 2 hold the expected signs and are clearly significant. Taking them into consideration reduces the magnitude of all spatial coefficients, especially for $\hat{\beta}_2$. This change suggests that some endogeneity issues were present in the previous models, and that non-spatial elements are required to minimise the bias. Nevertheless, even in the presence of non-spatial elements, all the spatial coefficients still hold the expected sign and are statistically significant.

In sum, if it seems necessary to correct the models for non-spatial considerations, it is also true that the hybrid model of voting continues to characterise the evaluation of the political parties in Spain.

Relative Weight of Spatial Component

The hybrid model is characterised by combining elements of proximity with directional elements. Next we seek to quantify the weight of each component in the

evaluation of the parties. To this end Cho and Endersby (2003) suggest estimating the following model and comparing the coefficients δ_1 and δ_2:

$$U_{ijk} = \delta_0 + \delta_1 \sum_{k=1}^{k} \sum_{j=1}^{j} \sum_{i=1}^{i} \left(V_{ik} - P_{jk}\right)^2 + \delta_2 \sum_{k=1}^{k} \sum_{j=1}^{j} \sum_{i=1}^{i} (V_{ik} - S_k)(P_{jk} - S_k) + \varepsilon_{ijk} \quad (7)$$

Specifically, δ_1 and δ_2 denote the relative weight of the component of proximity and directionality, respectively. Each component results from the sum of the distances and scalar products of individual i with party j on dimension k.

Model 1 of Table 5 shows the result of estimating expression (7) adjusted by party identity and party fixed effects. The coefficient of the proximity component, $\hat{\delta}_1$, is 2.36 times greater than that of directionality, $\hat{\delta}_2$. Model 2 of Table 5 re-examines the effect of electoral systems. As previously mentioned, it has been argued that parties and voters are more receptive to centripetal declarations the more proportional the electoral system is (Cox 1990). Now we fit a multilevel model in which we test for heterogeneity in the weight of proximity vs. directionality depending on district magnitude. Statistical computation does not allow inverse probability weighting. Hence, these unweighted coefficients are not directly comparable to those in Model 1. Instead, we should focus attention on the interactive coefficients. Despite the fact that these are both positive (suggesting that proximity is less valued the larger the district magnitude), they are not statistically significant. Hence, there is not enough evidence to confirm that the relative weight of proximity vs. directionality varies according to the degree of proportionality of the electoral system.

Finally, Model 3 adjusts expression (7) with the non-spatial elements. The sample for this second model is reduced to the PP and the PSOE, the only parties for which we have information for *capacity*, *cohesion*, and *corruption*. The ratio between the coefficients in Model 2 is reduced to 1.47; slightly less than the previous one, but still favourable to the proximity model. In other words, the results of Table 5 suggest that the weight of the factor of proximity within the hybrid model of vote is approximately 50 per cent greater than that of directionality. This value is consistent with the idea that the voters reward positions that are distant from the SQ as long as they are not extreme.

So far it has been assumed that all voters are governed by the same logic of voting, and that all parties are evaluated under the same criteria. However, Tomz and van Houweling (2008) suggest that individuals with stronger party identity respond to directional stimulus in greater measure than those without party identification. Likewise, it has also been suggested that the parties are unequally exposed to the logics of proximity and directionality. Specifically, Cho and Endersby (2003) suggest that parties in opposition are evaluated under the directional logic, because voters for the opposition seek to move the SQ in their preferred direction.

Table 5 Relative Magnitude of Proximity and Directionality Components

	(1) All parties Random intercept	(2) District magnitude Random intercept and random slope	(3) PSOE and PP OLS
Proximity component	−0.137***	−0.139***	−0.091***
	(0.006)	(0.011)	(0.007)
Directional component	0.058***	0.042**	0.062***
	(0.007)	(0.016)	(0.009)
District magnitude (M)		−0.002	
		(0.005)	
Proximity component × District magnitude		0.001	
		(0.001)	
Directional component × District magnitude		0.001	
		(0.001)	
Capacity			0.460***
			(0.034)
Cohesion			0.142***
			(0.038)
Corruption			−0.250***
			(0.038)
Standard deviation (proximity component)	–	0.021***	–
		(0.008)	
Standard deviation (directional component)	–	0.041***	–
		(0.015)	
Individual random effects	Yes	No	No
Random slope	No	Yes	No
Observations	1,715	1,715	1,627
R^2	–	–	0.507
Log-likelihood	−6226	−8043.5	–
Ratio proximity/directionality	2.35	–	1.47

Note: Standard coefficients reported. Standard errors in parentheses. Party effects, party identification, and intercept omitted. Subjective party position and SQ assumed.
*** $p < 0.01$; ** $p < 0.05$.

To check whether the incidence of directional logic and that of proximity differ between individuals and parties, we estimate expression (7) for the two larger parties only, and distinguish respondents by their level of militancy.

Models 1 and 2 in Table 6 make reference to the party in government, the PSOE. Model 1 is run for the entire sample. The ratio between the component of proximity and directionality clearly favours the former. Model 2 re-estimates expression (7) only for those identifying with PSOE. For this group the directional component is not statistically different from 0. However, this result could be a mere statistical artefact. Those who identify with the PSOE place this party very close to themselves on the three issues. The scalar product for this subgroup has a pronounced mode in 0. The lack of variability of the scale product makes it difficult for this coefficient to be

Table 6 Proximity and Directional Models for the Two Main Parties by Partisanship

	PSOE		PP	
Variables	All respondents (1)	Identified with PSOE (2)	All respondents (4)	Identified with PP (5)
Proximity component	−0.102***	−0.079***	−0.077***	0.007
	(0.012)	(0.028)	(0.009)	(0.029)
Directional component	0.033**	0.043	0.074***	0.054***
	(0.016)	(0.030)	(0.011)	(0.015)
Capacity	0.684***	0.558***	0.246***	−0.122
	(0.049)	(0.131)	(0.043)	(0.143)
Cohesion	0.074	−0.084	0.244***	0.216**
	(0.050)	(0.115)	(0.054)	(0.089)
Corruption	−0.239***	−0.378***	−0.225***	−0.004
	(0.052)	(0.122)	(0.055)	(0.087)
Party identification	0.832***		1.205***	
	(0.051)		(0.061)	
Observations	1,351	380	1,417	227
R^2	0.479	0.136	0.536	0.089

Note: Standard coefficients reported. Standard errors in parentheses. Intercept omitted. Subjective party position and SQ assumed.
*** $p < 0.01$; ** $p < 0.05$.

statistically significant. In other words, the non-significance of the directional component for those identifying with the PSOE must be interpreted with caution.

Models 3 and 4 run the same analysis for the PP, the main party in opposition. Model 3 estimates expression (7) for the whole sample. Again, the ratio between proximity and directionality is favourable to the first component, but only slightly. The scenario changes when we restrict the sample to those identifying with the PP. For this group, the component of proximity stops being significant, while the directional one is clearly positive. In other words, voters who identify with the main opposition party seem to be characterised by their receptivity to positions that are markedly distant from the SQ and therefore from the directional logic.[7]

The results of Table 6 convey a picture that is slightly different to that found by Cho and Endersby (2003) in the United Kingdom (UK). For most of the Spanish electorate, the party in government as much as the party in opposition is evaluated by the logic of proximity, in the main. The directional logic seems to affect the party in opposition in relation to its core supporters, mainly. Those identifying with the PP seem to reward extreme positions by their party. Given the strong ascendency of the PP in the electorate (20 per cent of the survey sample declare themselves to be PP supporters), the polarisation perceived in matters of secularity, territoriality, and immigration in the period 2004–09 does not seem more than a strategic response by the PP to keep its electoral base active. Unfortunately the nature of the data does not allow us to confirm

whether the incidence of the directional vote is a specific characteristic of those identifying with the PP, or of those identifying with any party in opposition. The sample is not sufficiently large to test expression (7) for those identifying with other opposition parties.

In any case, the results confirm some degree of heterogeneity in the incidence of the logic of directionality and proximity in Spain. The differential effects seem to be party specific and to be conditioned by the degree of party identification, as suggested in Tomz and van Houweling (2008) and Cho and Endersby (2003).

Conclusion

This analysis seeks to understand the spatial foundations of party competition in Spain. For this reason, the two main spatial voting models have been evaluated: the proximity and the directional models. We have also studied the advantages and disadvantages of the available measures to estimate the models of spatial voting. In this regard, we have identified serious risks in employing the centre of the scale as a subsidiary measure of the SQ, as well as the sample mean for the location of the political parties. Altogether, this analysis suggests that in order to find coefficients that are consistent with the main spatial model predictions, we must employ the subjective location of the parties and the SQ.

With the aim of minimising the more than probable endogeneity between the spatial scores and the evaluations of the parties, we have adjusted the models for party identification, electoral institutions, party valance advantages, and non-spatial considerations. Having controlled for all the variables within the reach of an observational study, each and every one of the results suggests that the majority of the electorate in Spain conforms to a hybrid version of spatial voting. That is, the immense majority of the electors are receptive to positions that are distant from the SQ, as long as they are not extreme. Their behaviour, in sum, does not differ from their European counterparts' (Iversen 1994). And, for the same reason, neither do we observe a convergence of the two main parties in Spain on any of the three issues considered.

Still, we sought to go one step further and quantify the prevalence of proximity voting. The estimates suggest that the component of proximity in the hybrid model weighs approximately 50 per cent more than the directional component. Only one group appears to exclusively respond to the pure directional stimulus: the supporters of the main party in opposition. Noticing its volume within the electorate, the polarisation perceived in matters of secularity, immigration, and territorial structure during the period 2004–09 could be, simply, an optimal response of the PP to keep their electoral bases active. The PP's ability to satisfy its core supporters (and hence deviate from centrist positions without losing votes) is expected to persist as long as no other party challenges its predominance on the conservative side of the three issues considered. The UPD might be the only potential rival in the territorial dimension. But its numbers might still be too low to prevent the PP from catering to its loyal supporters with non-moderate policy declarations.

That said, except for this very group, the analysis offers a portrait of the average Spanish elector that is very similar to their European counterparts. They vote in a sincere way. They value positions that are distant from the SQ. And they punish extreme policy declarations. Parties, in turn, have incentives not to converge to the median voter in order to win elections, but neither to adopt extreme positions.

Acknowledgements

I gratefully acknowledge the comments and suggestions of participants in the Spatial Modelling Seminar at the Juan March Institute, Ignacio Sánchez-Cuenca, María José Hierro, and two anonymous referees.

Notes

[1] The models of proximity and directionality have been simultaneously tested in other multiparty contexts: Denmark, Belgium, Holland, and Germany (Iversen 1994), Norway (Adams & Merril 1999; MacDonald, Listhaug & Rabinowitz 1991), Great Britain (Cho & Endersby 2003), and Hungary (Todosijevic 2005); but never before in Spain.

[2] These issues were particularly salient in the political debate in the legislative period 2004–09 (Bonet, Pérez-Nievas & Hierro 2010).

[3] PSOE: Spanish Socialist Party; PP: Popular Party; IU: United Left; UPD: Progressive Democratic Party; ERC: Republican Left of Catalonia; CIU: Union and Convergence of Catalonia; PNV: Nationalist Basque Party; EA: Basque Solidarity.

[4] The random effects have been put into practice by MacDonald, Rabinowitz, and Listhaug (1998).

[5] This solution raises problems of estimation, as these effects are correlated with β_2 in (6), increasing multicollinearity in the models. However, to date, there is no way of resolving this problem (Lewis & King 1999).

[6] District size ranges from district magnitude of 3 (Zamora) to 35 (Madrid).

[7] The sample is not sufficiently large to estimate the same models for those identifying with smaller parties.

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