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Heterogeneous preferences in multidimensional spatial voting models: Ideology and nationalism in Spain☆

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ABSTRACT

The empirical literature on spatial voting models usually focuses on the behavior of the average voter. However, when distance in multiple issues are evaluated simultaneously, voters may exhibit different preferences with regard to the weight they assign to each dimension. This paper analyzes the specification of the voting equation in multiple dimensions when there is variation in preferences at the individual level. I apply the model to three Spanish regions in which the political arena is split into an ideological and a national dimension (Galicia, Basque Country, and Catalonia). The model indicates that not only the average individual but also most voters are more attentive to ideology rather than to nationalism. A predictive simulation for different trade-offs between the two dimension shows the substantive relevance of individual heterogeneity.

1. Introduction

Proximity is a fundamental concept in the theory of voting behavior. In the standard spatial model (Downs, 1957), voters are assumed to cast their support for the party they feel closest to them, which is another way of saying that voters select the party that best represents them in a policy space. However, once we attempt to analyze how voters evaluate parties on several dimensions/policies at the same time – and voters usually have to (Laver and Benoit, 2006; Schofield and Sened, 2006; Poole and Rosenthal, 2007) – one natural concern arises: it is reasonable to expect that different voters will value each dimension differently – for instance, some voters may care about social more than about economic issues. This variation in "political taste" among individuals is quintessential to democratic politics, and yet the empirical analysis of spatial voting with multiple, conflicting dimensions has focused instead on the analysis of the preferences of the *representative individual* (Bartle, 2005). At the same time, several strands in the empirical and theoretical literature on issue salience and issue ownership have highlighted the consequences of diversity in political preferences at the individual level (Converse, 1962; RePass, 1971; Rabinowitz et al., 1982; Niemi and Bartels, 1985; Bélanger and Meguid, 2008). Thus, it seems reasonable to study the empirical *variation* of individual preferences over different dimensions in the framework of the spatial model of voting, following the steps already taken by the theoretical literature (Enelow and Hinich, 1984).

In this article, I study the *distribution* of political preferences in three Spanish regions with national identities. In particular, I analyze how individuals in Catalonia, the Basque Country, and Galicia value ideological proximity when they can also select among parties with different stands in the nationalist scale. The question, although local in focus, has a general appeal as it asks about whether voters are willing to sacrifice identitarian policies in exchange for a closer representation of their ideology.

As an initial step in the analysis, I replicate previous studies that estimate the spatial metric in a multidimensional political space (Beauchamp, 2008; Fantazzini and Zakharov, 2011; Henry and Mourifié, 2011). My results indicate that separability – represented by a Manhattan metric – should be preferred to integrality – a Euclidean metric. Hence, my findings support previous research by Beauchamp (2008) and Henry and Mourifié (2011) in the U.S., but contradict Fantazzini and Zakharov (2011) who report strong evidence in favor of a Euclidean metric in several European countries. With an empirical structure built around this result, I then relax the assumption of a population-wide "taste" parameter to

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capture the trade-off between ideology and nationalism. The results indicate that, while the average voter puts between 1.4 and 2.7 times more weight in ideology than in nationalism, at least 18% of voters in the Basque Country, and about 3% in Catalonia and Galicia are more attentive to the national dimension. Therefore, my results quantify the extent to which some voters renounce to the standard major political axis and focus exclusively on identitarian goals. From that point of view, the distribution of preferences I recover amends the popular image of a large fraction of the population blinded by nationalism in their political decisions.

The rest of this paper is organized as follows. In the next section (Section 2), I present a brief introduction to the topic of spatial voting in multiple dimensions. I then briefly explore the particular nuances that appear in the Spanish case in Section 2.1. In Section 3, I introduce the empirical design of this research to test the plausibility of this setup. Results are presented in 4. I draw some conclusions in Section 5.

2. Distance and preferences in multidimensional settings

The spatial model of elections is based on a simple idea: each voter is able to tell how far apart parties are from her own ideal position on a policy space, and this distance constitutes the cornerstone of her electoral decision. Thus, voters evaluate their perceived distance to each party under the theoretical expectation that, between two different parties, they will choose the one that they think is the closest to them, *ceteris paribus*. This approach has been routinely accepted for the analysis of electoral behavior when parties only compete on the ideological dimension, given how instinctive the use of the left–right scale is even for unsophisticated voters (Laver and Benoit, 2006).

In a unidimensional setting, the operationalization of *closeness* to parties is uncontroversial: the absolute value metric (the difference between the self-placement of the voter and the reported perception of each party's location), arises as the natural way to calculate distances.[1] But this is no longer true when voters have to evaluate parties on several dimensions simultaneously. In this more general scenario, the analyst is forced to specify the *metric* on which voters operate. Not only that, in multiple dimensions it is possible for different voters to have different preferences with regard to how much they care about each dimension. We shall see that these two ideas are closely related.

Consider for simplicity the decision of a single voter in a two-dimensional space. Let's denote by $x=(x^1,x^2)^T$ the voter's location on each of the two dimensions and by $x_A=(x_A^1,x_A^2)^T$ and $x_B=(x_B^1,x_B^2)^T$ the perceived location of parties *1* and *2* from the voter's perspective on issues *A* and *B*. Therefore, we would like to estimate a model in which the odds of voting for *A* relative to *B* depend, among other things, on the distance between the voter and each party. But we can define distance in several ways. For instance, we could take the distance from the voter to party *A* to be

$$d(x,x_A)=\alpha\left|x^1-x_A^1\right|+(1-\alpha)\left|x^2-x_A^2\right| \tag{1}$$

In this case, the distance to the party is the dimensionwise sum of distances weighted by a factor α that captures how much the voter cares about a particular dimension. For instance, in Equation (1), a larger α would indicate that the voter cares more about dimension *1* than about dimension *2*.

Alternatively, we could have taken the distance from the voter to party *A* to be

$$d'(x,x_A)=\sqrt{\alpha\left(x^1-x_A^1\right)^2+(1-\alpha)\left(x^2-x_A^2\right)^2} \tag{2}$$

which is closer to our own physical experience of the world, in which measure distance to an object in a straight line going from us to the object.

It is easy to see that both Equations (1) and (2) are special cases of the so-called Minkowskian ρ-metrics (Enelow and Hinich, 1984), which is given by

$$d(x,x_A)=\left(\alpha\left(x^1-x_A^1\right)^{\rho}+(1-\alpha)\left(x^2-x_A^2\right)^{\rho}\right)^{1/\rho} \tag{3}$$

and it is can be verified that the *city-block* or *Manhattan* metric corresponds to $\rho=1$ and that the *Euclidean* metric corresponds to $\rho=2$. The interpretation of α is similar for both cases: holding everything else constant, a larger α indicates that voters attach a higher value to proximity in dimension *1* relative to *2*.

It seems reasonable to think that the parameter α is not constant across the population. One would expect that not all individuals have the same preferences for the degree of representation in all dimensions, as the empirical literature has routinely indicated (Rivers, 1988; Bartle, 2005). Hence, it seems uncontroversial to suggest that, in a political space characterized by economic and non-economic dimensions such as religion, race, or nationalism, some voters will be more attentive to representation on one of those issues relative to others, which is another way of saying that the dimension with the highest penalty – the dimension voters care the most – will vary by individual (Converse, 1962). It follows then that even if two parties are equidistant from a given location under a given metric, different voters at that location may still pick different parties just because some individuals will prefer to be represented in, for instance, the economic dimension, while others will feel stronger for proximity in social policies; or maybe some voters will place higher value identitarian policies, while others will mostly favor a standard ideological program (Enelow and Hinich, 1984). However, this variation is unaccounted for in a conventional analysis that focuses on the behavior of the representative voter, because it imposes a common for the whole population.

Fig. 1 offers a graphical illustration of the ideas exposed above. Let's assume, for the sake of argument, that voters have preferences over two dimensions and that they deterministically vote for the party closest to them. I will call these dimensions nationalism (*nacl*) and ideology (*ideol*). The figure represents indifference curves for a voter with a satiation point at (0,0). In panel (a) of Fig. 1, I have represented with dashed lines three indifference curves derived from Euclidean preferences ($\rho=2$) on two dimensions, this is, points that are equidistant from (0,0) where both dimensions weigh exactly the same, so $\alpha=0.5$.

On the other hand, we could have assumed $\rho=1$ (panel (b) in Fig. 1), which implies that the voter uses a Manhattan distance with $\alpha=0.5$. In this case, distance is calculated as the weighted sum of the coordinate-by-coordinate lengths of the vector that goes from the satiation point to the party. It is convenient to remark an important difference between the two metrics: in the Manhattan case (*separable preferences*), a unit increase in the distance on one dimension has the same impact for any existing distance on the other dimensions, which allows the voters to make dimensionwise evaluations (Westholm, 1997). But this is no longer the case in the Euclidean world (*integral preferences*). However, this metric fits

[1] A different question is how to recover those positions from survey data. The existence of *projection* and *persuasion* effects (Page and Jones, 1979; Feldman and Conover, 1983) distorts the relation between the true underlying distance and the distance that is reported by respondents. Some authors have suggested using the mean of the location attributed by all respondents or by those respondents who have voted for a given party (Rabinowitz and Macdonald, 1989; Quinn et al., 1999) as a proxy for the true location of that party. However, this approach is not without criticism (Westholm, 1997).