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# Issue-salience, Issue-divisiveness and Voting Decisions\*

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## Abstract

We present a framework to analyze the relative importance of issues for the electorate. We distinguish two concepts – issue salience and issue divisiveness – and present those in the context of the multidimensional spatial model. Issue salience, which is widely studied in empirical and theoretical models, is the weight of one issue over another in a typical voter’s utility function. Issue divisiveness is the differentiation between the issues, which depends on the positions or alignments of competing parties and candidates on each issue. We show that empirical research commonly conflates salience and divisiveness, as the regression coefficients in a multiple regression of vote choice on issues reflects both the weight or salience of each issue and the distinctiveness of the two parties on each issue. We analyze the example of regional elections in the Basque province of Spain to demonstrate the mechanics and value of the approach developed. The politics of this region provide a good instance where debate over the importance of ideology and nationalism conflates salience and divisiveness.

**Keywords:** Issue-Salience; Issue-Divisiveness; Positional Issues; Basque Elections.

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# 1 Introduction

The spatial model of voting has spawned an expansive empirical as well as theoretical literature, and with good reason. The spatial model provides empirical researchers a framework within which to model voter choice and to estimate the responsiveness of voters to policy choices and of representatives to their electorates. In a setting with multiple issues, such as economic, moral, or foreign policy, this framework is used to explore which issues matter more to the electorate.

Commonly researchers conduct multiple regression analyses in which party or vote choice is a function of several issues or policy variables, and the coefficients on these variables are taken to measure the relative salience of the different policy dimensions in voters' minds (e.g., Budge and Farlie 1977, 1983; Iyengar and Kinder 2010; Ansolabehere, Rodden, and Snyder 2006; Gelman 2008). This paper demonstrates that interpretation of such analyses often conflates two factors – issue salience and issue divisiveness. The true salience of issues is the relative weight that voters place on each issue, holding constant the positions of candidates or parties on those issues. Issue divisiveness reflects the distance between candidates and parties on each of the issues, which one may think of as the distinctiveness of the choices across the various dimensions. An assessment of the relative importance of issues among the electorate depends not only on the salience of issues in voters' minds but also on the choices they are offered by parties and candidates. Some issues may have higher salience, but ultimately matter less because the parties or candidates are not distinctive on those issues. For example, one issue can be more salient for the electorate. However, if political parties hold similar positions on that issue, then this issue has small total impact when predicting vote choice. If the parties are equidistant from each other on two separate issues, but one issue has higher salience, then the higher salience issue will have a larger effect on the election outcome. As we show, this distinction is often obscured in empirical analyses and interpretations of issues and spatial voting data.

The spatial model of voting was initiated by Downs (1957) and followed by Hinich

and Ordeshook (1970), Riker and Ordeshook (1973) among many others.

In a multidimensional setting, voters are characterized as having elliptical utility functions and holding an ideal policy in each of the issue-dimensions (see Hinich and Ordeshook 1970; Riker and Ordeshook 1973). Mathematically, the location of the voters and the perceived location of the political parties, combined with the different weights or saliences assigned to each of the issues, determines individual vote choice. Specifically, the proximity between the ideal policy of the voter and the perceived position of the parties in each issue is weighted by its correspondent salience. In the spatial model of voting, voters choose the party that is closer to their ideal point, where "closeness" is measured by the described weighted proximity across all issues.

The pure spatial model of voting includes, as a requirement, that the salience or weight that each citizen assigns to an issue be equal across voters. As pointed out by Riker and Ordeshook (1973), this model does not allow some voters to care, while others do not care, about one issue. As indicated by these authors, salience can be understood as an average level of concern for each issue. Other authors assume that voters are heterogenous in terms of the number and type of issues that they consider that are more salient (RePass, 1971), or that voters differ in the level of salience of each issue (Bélanger and Meguid, 2008).

In our analysis, we interpret salience as the average concern of voters over each issue dimension which captures how society cares, on average, about one issue over another. Vote-choices are deduced from the utility comparisons across different political parties. We show that, in general, there is no clear relation between the salience of the issues and the vote-share of the parties (Amorós and Puy, 2010; Feld et al. 2014).

We use the utility comparisons of the spatial model of voting to define the probability functions of voting for one party versus another political party. As we show, these probability functions can be estimated by a multinomial logit (or probit) model. Our central contribution is that the logit or probit coefficients provide a straightforward way to isolate and to estimate the relative importance or salience of various issue dimensions in voters' preferences. We also show that the logit coefficients allow us to

decompose the dispersion in the preferences of voters over parties along the issue dimensions when issues are independent. For that, we follow the variance decomposition method that has been used, among others, to explain wage variations among individuals (Gibbons et al. 2012; Goldstein 2011). In doing so, we measure how divisive is an issue over another for the electorate.

We apply our approach to the case of Basque Regional Elections during the period 1998-2012. We examine preferences expressed in pre-electoral and post-electoral surveys of the Centro de Investigaciones Sociológicas (CIS)<sup>1</sup> for the period 1998-2012 in the Basque Regional elections. Among other questions, survey respondents indicate in a ten-point scale, the Left-Right and the Nationalist orientation of themselves and that of the political parties. We estimate issue-salience, for the two prominent issues in the region – Left-Right ideology and Nationalism.<sup>2</sup>

The elections to the Basque region government in Spain is an excellent test case for our approach for several reasons. First, it is a multi-party system in a multidimensional issue setting. As in many European regional elections, the electorate cares about and faces choices across two issue dimensions. These two issues are the traditional Left-Right and the Nationalist dimension where the later captures the degree of independence of the region from Spain. Second, there is an active political and research question about the relative importance of these issues to the electorate. Most interpretations of the politics of the region emphasize the importance of nationalism in the electorate and the deep roots of nationalism, especially because of the unique language in the region, the Spanish Civil War, the relation of the region to the Franco regime, and the ETA uprising in the 1970s (Zulaika 2000; Laitin 1995; Beck and Markusse 2008). Previous analysis of the topic by Fernández-Albertos (2002) and De La Calle (2005) indicate that the Left-Right issue, in contrast to the Nationalist issue, has a larger co-

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<sup>1</sup>An independent entity of the Ministry of the Presidency of Spain.

<sup>2</sup>As suggested by Poole and Rosenthal (1991) the legislators' positions on a wide variety of public policies are interrelated (a left-wing party, for example, is likely to support increasing the minimum wage, mandatory affirmative-action programs, and funding for health-care programs). According to these authors, the parties' policy positions can be captured with just two policy dimension.

efficient in statistical analyses predicting vote choice.<sup>3</sup> We find that even though the Left-Right issue is slightly less than two times more salient than the Nationalist issue in the preferences of voters, Nationalism generates around three times more division than the Left-Right ideology among the electorate. Therefore, Nationalism generates a deep split on the electorate but this is the Left-Right issue that voters care more about.

The relevance of our approach extends beyond regional elections, though. An extensive literature in political science, economics, and sociology, examines the relative salience of issues in election campaigns (Riker 1993; Petrocik 1996; Borre 2001). The underlying idea is that parties, during the election campaign, can benefit in terms of votes from emphasizing some issues more than others. The essence of political rhetoric and strategy is choice of issues to emphasize (salience) as well as what position to take (divisiveness). Iyengar and Kinder (2010) develop the notions of framing, priming, and agenda setting, and show that media portrayals of information about issues affects the weight of issues in people's judgments about governments and politicians. Kluger (1976) and Epstein and Segal (2000) extend this approach to the assessment of judges and the Supreme Court. Subsequent empirical analysis have tested whether competing parties emphasize the same or different issues in their political campaigns (Simon 2002; Spiliotes and Vavreck 2002; Sigelman and Buell 2004; Vander Brug 2004; Kaplan et al. 2006 and Jerit 2008).

It is worth noting an important difference between our approach and that often presented in the empirical political science literature. Many scholars estimate the emphasis on the issue from the campaigns' strategies, that is, this is either measured by the time that politicians devote to an issue or by the number of times in which an issue is mentioned in the media. This assumes that the weight given to the issues is entirely a function of the media attention to the issue and not to some underlying

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<sup>3</sup>Balcells i Ventura (2007) shows a similar pattern in Catalan Elections than Fernández-Albertos (2002) and De la Calle, (2005). These authors, however, just account for the estimated coefficients of each issue dimension in the regression.

preference of voters. Our approach differs in that we are able to estimate the weight of the issue in the voters' own preference function. It is an important, yet separate question, as to how much media attention and campaign strategies can change what voters think is important (Iyengar and Kinder 2010).

From a theoretical viewpoint, some scholars have treated issue-salience as an endogenous variable that can be strategically influenced by political parties. This phenomenon known as priming, consists in making some issues more salient through the advertising campaigns. Amorós and Puy (2013) and Blanchenay (2013) provide micro-foundations that explain why priming affects voters' preferences and, as a consequence, this affects voting decisions (see also Colomer and Llavador, 2011; Demange and Van Der Straeten, 2009; Aragonès et al. 2012; Denter 2013). Empirical analysis of these questions, however, requires a procedure which estimates issue-salience separate from the distinctiveness of the positions of the competing candidates or parties. Our contribution fills this gap.

The rest of the paper is organized as follows. Section 2 introduces the spatial model of voting. Section 3 transform the spatial model of voting into a probabilistic voting model that can be estimated with a logit model. In this section, we provide an estimate of salience, and another that measures how divisive is an issue for the electorate. Section 4 applies the proposed estimates of salience and divisiveness to the case of the Basque Regional Elections. Section 5 presents the conclusions.

## **2 The deterministic spatial model of voting**

We analyze a multidimensional pure spatial model of voting with Positional and Valence issues. The Positional issues are those that can be conceptualized in spatial terms. Examples of such issues are Ideology, which can be scaled from left to right, and Nationalism, which can be scaled from complete regional autonomy to complete dependence on a central government. The Valence issues are those in which all voters are in agreement, such as economic prosperity and growth, and for which they

hold elected officials accountable (Stokes, 1992; Ansolabehere and Snyder, 2000). We present here the development of the deterministic model of voting comparing any two parties. The model may be extended to more than two parties under the assumption of sincere voting.

Consider two Positional issues – the Ideology issue ( $X$ ) is measured by the left-right scale and the Nationalist issue ( $Y$ ) – and a valence issue.<sup>4</sup>

Each political party  $j$  has a platform  $(x_j, y_j)$ , that represents its position on the Ideology and the Nationalist issue. Consider, without loss of generality, that each of these Positional issues is located in the unit interval  $[0, 1]$ , so that  $(x_j, y_j) \in [0, 1]^2$ . Each party is also characterized by a valence parameter  $w_j \in \mathbb{R}$ .

Let  $A$  and  $B$  be two distinct political parties. For each positional issue, the more distance there is between two parties in a particular issue, the more polarized or distinct parties are in that issue. Thus, parties' polarization or distinctiveness on a given issue can be measured by their absolute distance on that issue,  $|x_A - x_B|$  and  $|y_A - y_B|$  respectively.

Each voter  $i$  has an ideal policy (or peak)  $(x_i, y_i) \in [0, 1]^2$  which indicates her most preferred policy on each Positional issue.

The preferences of voters over political parties are represented by the valence parameter plus the disutility derived from the quadratic distance between the position of the party and the ideal policy on each issue. That is,

$$U_i(j) = w_j - \alpha[x_j - x_i]^2 - \beta[y_j - y_i]^2, \quad (1)$$

where  $\alpha, \beta > 0$  are the salience parameters that measure the weights that voters assign to issue  $X$  and  $Y$  respectively. Figure 1 illustrates the indifference curves of voters over the policy space.

The utility representation of the preferences of voters over policies induces indifference curves over policies which are circles centered in the voter's ideal policy when

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<sup>4</sup>It is easy to extend the model to more Positional issues by adding additional terms.



$\alpha = \beta$  and are ellipses centered in the voter's ideal policy when  $\alpha > \beta$  or  $\alpha < \beta$ .

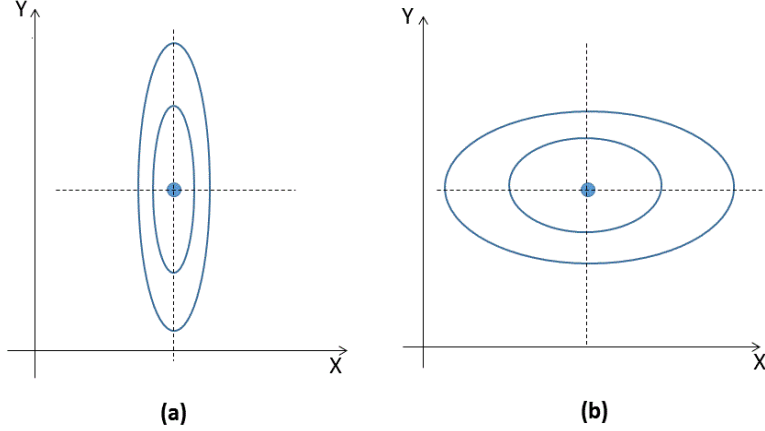


Figure 1: Voters' indifference curves. **(a)** When  $\alpha > \beta$ . **(b)** When  $\alpha < \beta$ .

When evaluating competing parties, voters assess the differential utility between party  $A$  and party  $B$ ,  $\Delta u = U_i(A) - U_i(B)$ . That is

$$\Delta u = w - \alpha[x_A - x_i]^2 + \alpha[x_B - x_i]^2 - \beta[y_A - y_i]^2 + \beta[y_B - y_i]^2,$$

where  $w = w_A - w_B$  is the net valence of party  $A$  (with respect to party  $B$ ). Simplifying the above expression yields

$$\Delta u = w - \alpha(x_A^2 - x_B^2) - \beta(y_A^2 - y_B^2) + 2\alpha(x_A - x_B)x_i + 2\beta(y_A - y_B)y_i, \quad (2)$$

which is a linear function in the ideal policy of the voters over each issue dimension,  $x_i$  and  $y_i$ . We define the following parameters

$$k_0 = w - \alpha(x_A^2 - x_B^2) - \beta(y_A^2 - y_B^2); \quad k_1 = 2\alpha(x_A - x_B) \quad \text{and} \quad k_2 = 2\beta(y_A - y_B), \quad (3)$$

and we rewrite Expression (2) as

$$\Delta u = k_0 + k_1 x_i + k_2 y_i. \quad (4)$$

A voter chooses one party over another depending on the sign of the utility differential. The optimal voting decision in the deterministic model is to vote for party  $A$  when  $\Delta u \geq 0$ , and voting for party  $B$  when  $\Delta u \leq 0$ . Those voters for whom  $\Delta u = 0$  are indifferent between the voting for party  $A$  and voting for party  $B$ .

The voters, as represented by their ideal points, are distributed over the policy space  $[0, 1]^2$ . Expression  $\Delta u = 0$  defines a line that divides the policy space into two areas. Solving for  $y_i$  when  $\Delta u = 0$  yields

$$y_i = -\frac{k_0}{k_2} - \frac{k_1}{k_2} x_i \quad (5)$$

where  $-\frac{k_1}{k_2}$  is the slope of this dividing line. Figure 2.a represents the space of voter preferences, and the line defined by  $\Delta u = 0$ . The voters whose ideal points are arrayed along that line are indifferent between party  $A$  and party  $B$ ; the voters whose ideal points lie above the line prefer party  $A$  to party  $B$ , and those whose ideal points lie below the line prefer party  $B$  to party  $A$ .

Figure 2.a represents an additional point, denoted by  $C$ , which is the intersecting point between two lines, (1)  $\Delta u = 0$  and (2) the line in between the location of party  $A$  and party  $B$ . Analytically, solving for these two equations we deduce the location of point  $C$  in the policy space:

$$\left( \frac{x_A + x_B}{2} + \frac{w(x_B - x_A)}{2(\alpha(x_A - x_B)^2 + \beta(y_A - y_B)^2)}; \frac{y_A + y_B}{2} + \frac{w(y_B - y_A)}{2(\alpha(x_A - x_B)^2 + \beta(y_A - y_B)^2)} \right), \quad (6)$$

where  $x_B - x_A < 0$  and  $y_B - y_A < 0$  imply that the higher is the positive net valence, the closer is point  $C$  to the location of party  $B$ . Notice that when net valence equals zero ( $w = 0$ ), point  $C$  coincides with the midpoint of the parties' platforms  $(\frac{x_A + x_B}{2}; \frac{y_A + y_B}{2})$ .

From a simple comparative statics exercise, when the net valence of party  $A$  in-

creases and this net valence is positive, the dividing line defined by Expression (5) moves down in a parallel way. In Figure 2.b, we show that point  $C$  then moves down (from  $C$  to  $C'$ ), and therefore, the vote-share of party  $A$  increases.

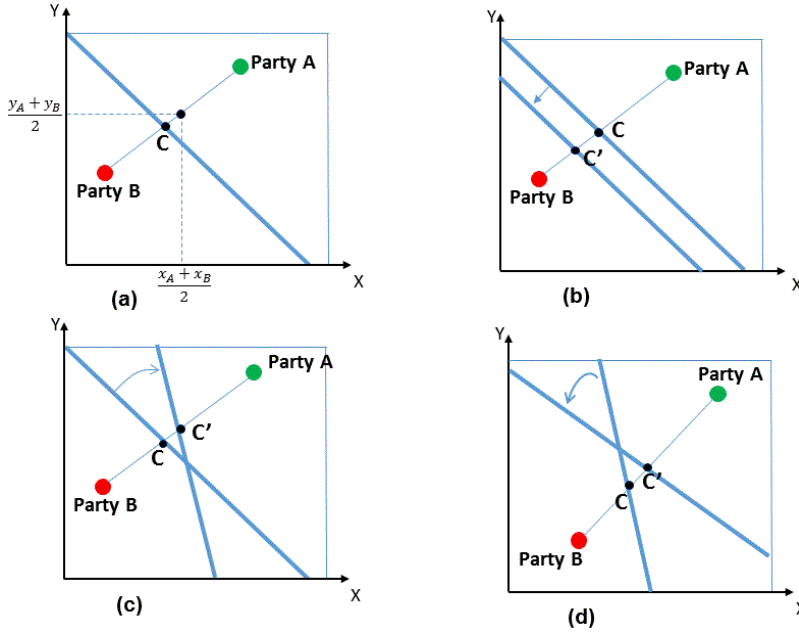


Figure 2: (a) Division of votes. (b) Net salience  $w$  increases. (c)  $\alpha$  increases. (d)  $\beta$  increases.

When the salience of issue  $X$  increases, there are two effects, the dividing line becomes steeper and point  $C$  moves up. The first effect occurs because the ideological issue becomes more salient for voters, the second effect occurs because the relative weight of valence in voters' preferences is smaller when the salience parameter  $\alpha$  increases. As a consequence, when the salience of issue  $X$  increases, there is an ambiguous effect over the vote share of each political party (see Figure 2.c). In the particular case in which net valence equals zero, higher salience of issue  $X$  implies that the dividing line rotates to the right around the midpoint in between the two political parties. Even in this case, an increase in the salience of issue  $X$  (or issue  $Y$ ) has an ambiguous effect on the vote share of each political party, since the shift in salience draws some additional

voters to a given party but it also prevents some others from voting for this party. The net effect on the vote-share of a party then rests on the particular distribution of ideal policies over the electorate. Figure 2.d shows how the dividing line changes when the salience of issue  $Y$  increases. This is again the case, that variations in  $\beta$  have an ambiguous effect over the vote share of the parties.

The above can be extended easily to a system with more than two political parties. In similar fashion to the development above, the electoral choice between any pair of parties can be characterized by the dividing lines defining the voters indifferent between that pair. The set of all dividing lines for each pair-wise comparison defines the division of the electorate into sets of voters who are closer or more proximate to each party, and thus will choose that party under the assumption of sincere voting.

Next, we describe some concepts that measure the impact of different issue-dimensions over the political parties and the electorate.

## 2.1 Relative issue-salience

The relative salience of an issue captures how much the electorate cares, on average, about one issue over another. For the sake of this analysis, we assume throughout that the relative weight of the issues may vary across voters, but the variation in the values of those weights is uncorrelated with the ideal points of the voters.

In the underlying deterministic voting model, each positional issue has a unique weight parameter in the preferences of voters. According to (1), each unit of quadratic distance between the party position and the ideal policy of an agent in issue  $X$  generates a disutility of  $\alpha$ . Likewise, each unit of quadratic distance between the party position and the ideal policy of an agent in issue  $Y$  generates a disutility of  $\beta$ . Therefore, the ratio  $\frac{\alpha}{\beta}$  measures the substitutability between the issue dimensions for an average voter. For example, if  $\frac{\alpha}{\beta}$  gives a value of 4, this means that each unit of quadratic distance in issue  $X$  generates for an average voter, four times more disutility than a unit of quadratic distance in issue  $Y$ . We can normalize this measure by taking the square

root of  $\frac{\alpha}{\beta}$ . In this way, the ratio  $\left(\frac{\alpha}{\beta}\right)^{\frac{1}{2}} = 2$  means that each unit of absolute distance on issue  $X$  generates, for an average voter, two times more disutility than a unit of absolute distance on issue  $Y$ . That is,  $\left(\frac{\alpha}{\beta}\right)^{\frac{1}{2}}$  indicates the substitutability between issue  $X$  and issue  $Y$  for the average voter.

We shall refer to  $\left(\frac{\alpha}{\beta}\right)^{\frac{1}{2}}$  as the *relative salience of issue  $X$  over issue  $Y$* . If the units in which issue  $X$  and issue  $Y$  are measured are equivalent, then the relative salience of issue  $X$  over issue  $Y$  quantifies by how much voters do care more about issue  $X$  than they do about issue  $Y$  and,  $1/\left(\frac{\alpha}{\beta}\right)^{\frac{1}{2}}$  would quantify by how much voters care more about issue  $Y$  than they do about issue  $X$ .<sup>5</sup>

The relative salience of an issue over another has an effect on parties' vote-share. When the relative salience of an issue increases (i.e.,  $\frac{\alpha}{\beta}$  increases), by Expression (5) the term  $\frac{k_1}{k_2}$  increases. This implies that the dividing line between the vote share of party  $A$  and party  $B$  becomes steeper. Besides, the location of the cutting point  $C$ , described by (6), can move up or down depending on whether the value of the term  $\alpha(x_A - x_B)^2 + \beta(y_A - y_B)^2$  increases or decreases. We then deduce that the net effect over the vote-share rests on the particular distribution of ideal policies over the electorate. Only when the electorate agrees on certain ideal policy and one of the political parties is closer to this ideal policy, we can assert that an increase in the relative salience of an issue enhances the vote share of the party over another.<sup>6</sup>

## 2.2 Issue-divisiveness

The electorate may hold distinct ideal policies on each issue dimension. The dispersion in the ideal policies of voters on each issue-dimension is measured by  $var(x)$  and

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<sup>5</sup>We should be cautious when interpreting the relative salience of one issue over another. Notice that the degree with which voters do care more about one issue over another can be affected by voter's perception over the units of measure of each issue-dimension.

<sup>6</sup>Feld et al. (2014) illustrate potential non-monotonicities in priming effects in terms of the Fourier series decomposition of the distribution of voter preferences. In a similar vein, Amorós and Puy (2010, 2013) show that different salience values can give the electoral victory to one or another political party depending on the distribution of voters.

$var(y)$  respectively, or by the corresponding standard deviations,  $s(x)$  and  $s(y)$ .<sup>7</sup> The preferences of voters over political parties not only depend on voter's ideal policies but also on parties' platforms, on issue-salience and valence. Thus,  $var(x)$  and  $var(y)$  are a partial measure of how divisive is an issue for the electorate.

When voters compare two political parties, party  $A$  and party  $B$ , we can measure how disperse are their opinions over the parties with respect to an average voter. For that, we evaluate the variance of the utility comparison between the two parties. According to Expression (2) we deduce that

$$var(\Delta u) = [2\alpha(x_A - x_B)]^2 var(x) + [2\beta(y_A - y_B)]^2 var(y) + 8\alpha\beta(x_A - x_B)(y_A - y_B)cov(x, y).$$

In the case that the ideal policies over the two Positional issues – issue  $X$  and issue  $Y$  – be independently distributed or, alternatively, their correlation be low enough ( $cov(x, y) \simeq 0$ ), the above expression can be approximated by

$$var(\Delta u) \simeq [2\alpha(x_A - x_B)]^2 var(x) + [2\beta(y_A - y_B)]^2 var(y). \quad (7)$$

In this case, the dispersion in the opinion of voters can be decomposed into two terms where each of them refers to a distinct Positional issue. Our proposed concept of issue divisiveness gives an idea of the *relative overall division* generated by an issue over another in an election. In percentage terms, the contribution of each issue dimension to the dispersion in voters' opinion is given by

$$\frac{[2\alpha(x_A - x_B)]^2 var(x)}{var(\Delta u)} + \frac{[2\beta(y_A - y_B)]^2 var(y)}{var(\Delta u)} \simeq 1.$$

We find that issue-divisiveness depends on three different parameters: i) the salience

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<sup>7</sup>We are considering that ideal policies on each issue are distributed according to some (univariate) distribution. Many electoral surveys ask respondents to located themselves on each policy dimension. Respondents' self-placement generates a distribution from which we can measure  $var(x)$  and  $var(y)$ .

of the issues,  $\alpha$  and  $\beta$ ; ii) the distinctiveness of parties' positions measured by  $x_A - x_B$  and  $y_A - y_B$  respectively; and iii) the dispersion in voters' ideal policies which is measured by  $var(x)$  and  $var(y)$ .

When we say that an issue is more divisive for the electorate, this is because each of the concepts (issue-salience, parties' positions and voters' dispersion in their ideal policies) contribute in a distinct way. Note, for example, that when an issue has low salience, or when parties' positions in the issue are very close to each other, or when the standard deviation in the distribution of ideal policies is low, that issue cannot generate strong divisiveness among the electorate.

### 3 The probabilistic spatial model of voting

In this section we transform the deterministic spatial model of voting model into a probabilistic voting model, for the sake of empirical analysis.

Consider the binary choice between voting for party  $A$  and voting for party  $B$ . The individual utility associated to voting for party  $A$  is now measured by  $U_i(j) + \mu_{ij}$  where  $\mu_{ij}$  is the realization of a random variable  $\mu_j \in (-\infty, \infty)$  which represents the additional benefits or costs derived from voting for party  $j$  (these are benefits or costs which are not captured by Positional or Valence issues). When there are two choices, party  $A$  and party  $B$ , an agent votes for party  $A$  when  $\Delta u + \mu_{iA} - \mu_{iB} > 0$  where  $\Delta u = U_i(A) - U_i(B)$ . We assume that  $\mu = \mu_{iA} - \mu_{iB}$  follows a logistic distribution. Then, the probability with which an agent, drawn randomly from the population, votes for party  $A$  over party  $B$  is measured by  $Pr(\Delta u > -\mu)$  where substituting the value of  $\Delta u$  yields

$$Pr(V = A|A \text{ or } B) = \Pr(k_0 + k_1x + k_2y > -\mu). \quad (8)$$

Notice that the probability of voting for party  $A$  over party  $B$  depends on two arguments, the ideal policy of voters on issue  $X$  and the ideal policy of voters on issue  $Y$ .

Since the dependent variable is a discrete choice between voting for party  $A$  and voting for party  $B$ , we can estimate the above probability with a logit model where the ideal policy positions of voters on each issue are the independent variables. We deduce

$$Pr(V = A/A \text{ or } B) = Pr(\mu > -xK) \text{ where } xK = k_0 + k_1x + k_2y.$$

The estimated coefficients are denoted by  $\hat{k}_1$  and  $\hat{k}_2$ .

Consider that instead of two political parties, we account for a set of  $M$  political parties where  $M = \{1, 2, \dots, m\}$  and where the individual utility associated to each political party is also measured by  $U_i(j) - \mu_{ij}$  for every  $j \in M$  where  $\mu_{ij}$  is the realization of a random variable  $\mu_j \in (-\infty, \infty)$ . Mc Fadden (1973) proves that if the corresponding unobserved values  $(\mu_1, \mu_2, \dots, \mu_m)$  are independently and identically distributed with the Weibull distribution, then for every pair of choices  $j, k \in M$ ,

$$\ln \left( \frac{\Pr(V=j/\{1,2,\dots,m\})}{\Pr(V=k/\{1,2,\dots,m\})} \right) = U(j) - U(k).$$

Since  $U(j) - U(k) = \Delta u = xK$ , once again, and in a similar fashion to the binomial model, for every pair of political parties  $j, k \in M$ , we can estimate the coefficients  $k_1$  and  $k_2$  with a multinomial logit model.

### 3.1 Estimating issue-salience

According to the underlying deterministic spatial voting model and following Expression (3), we can interpret the estimated coefficients so that

$$\hat{k}_1 = 2\alpha(x_A - x_B) \text{ and } \hat{k}_2 = 2\beta(y_A - y_B) \quad (9)$$

i.e., the coefficients  $\hat{k}_1$  and  $\hat{k}_2$  measure two times the distance of the parties across each issue multiplied by the relative salience of the issue.

Interestingly, the interpretation of the coefficients contrasts to the standard inter-



pretation that survey researchers and political psychologists have made when conducting regression analysis. In those analysis, the coefficients on these variables are taken to measure the relative salience of the policy dimensions. However, the result in Equation (9) shows that the regression coefficient consists of two factors – the true salience ( $\alpha$  or  $\beta$ ) and the difference between the parties on a given dimension. In this respect, the literature on issue salience widely misinterprets the regression coefficients. This is true for observational (e.g., survey) and experimental studies. Equation (9) further shows how to identify the salience parameter uniquely, and that doing so requires information about the perceived positions (in the voters’ minds) of the parties on the various issues.

According to Expression (9), we solve for the salience parameter (i.e., for the relative importance of various dimensions in voters’ mind). Thus, the estimated salience of each issue dimension can be deduced in a straightforward way

$$\hat{\alpha} = \frac{\hat{k}_1}{2(x_A - x_B)} \text{ and } \hat{\beta} = \frac{\hat{k}_2}{2(y_A - y_B)}. \quad (10)$$

That is, the salience of an issue is the ratio between the estimated coefficients of the logit (or probit) specification, and two times parties’ degree of polarization on that issue.

Several comments about the estimated salience parameters are in order:

First, the salience parameters  $\alpha$  and  $\beta$  are non-observable variables in the preferences of voters. Besides, the relative issue-salience is a cardinal measure for which, we do not have a specific survey question.

Second, note that even if we account for a model in which salience is an individual parameter and voters are also heterogenous with respect to this parameter, the regression model calculates the average concern.<sup>8</sup>

Third, the probabilistic model suggests that we cannot interpret the coefficients of the independent variables  $x$  and  $y$  as the salience or weight of the issues. In fact,

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<sup>8</sup>This is due to the fact that every observation which corresponds to a different voter, enters as a single draw in the likelihood function and therefore, every voter is equally weighted when solving for the estimated coefficients  $\hat{k}_1, \hat{k}_2$ .

when the underlying model of vote-choice is the spatial voting model, such coefficients are a function of parties' polarization and the salience parameter. The estimated coefficients  $\hat{k}_1$  and  $\hat{k}_2$  do not measure the marginal effects, however, according to the logit specification, the ratio of these coefficients satisfies that

$$\frac{\hat{k}_1}{\hat{k}_2} = \frac{\frac{\partial E(Y/A \text{ or } B)}{\partial x}}{\frac{\partial E(Y/A \text{ or } B)}{\partial y}}$$

where  $Y = 1$  means voting  $A$  and  $Y = 0$  means voting  $B$ . Thus,  $\hat{k}_1 > \hat{k}_2$  indicates that for the average voter<sup>9</sup>, each marginal unit of  $x$  has more impact on the expected voting decision than each marginal unit of  $y$ . Note that from this interpretation we cannot deduce a direct relation between  $\hat{k}_1 > \hat{k}_2$  and the salience of the issues. In some cases we may find that  $\hat{k}_1 > \hat{k}_2$  due to  $\alpha > \beta$ , but this is not the only reason. As an example, consider that two parties are quite similar on issue  $Y$ , quite different on issue  $X$  and the coefficients  $\hat{k}_1$  and  $\hat{k}_2$  are approximately the same. Then, according to Expression (9), we deduce that the salience of issue  $Y$  must be higher than the salience of issue  $X$ . Misinterpretation in this case consists on deducing that the salience of the two issues are about the same because  $\hat{k}_1$  and  $\hat{k}_2$  are approximately the same.

Finally, observe that when estimating salience, we should derive a positive parameter since otherwise, it makes no sense to interpret negative salience.

### 3.2 Estimating issue-divisiveness

Issue-divisiveness is measured by the variance decomposition of voters' opinion when comparing two political parties. We have shown that, in some circumstances (independence or low correlation between issues), we can decompose the variance of the differential utility  $\Delta u$  across different issues. We provide an estimate of how divisive is an issue over another for the electorate.

Even when we do not observe the dispersion in voters' opinion, our approach

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<sup>9</sup>The average voter is the one for whom  $xK$  is at its mean value. Since  $xK = \Delta u$ , the average voter is also the one for whom the distribution of  $\Delta u$  takes its mean value.

allows us to estimate this. By Expression (7), if the ideal policies over Positional issues are independently distributed or, alternatively, their correlation is low, then  $var(\Delta u) \simeq [2\alpha(x_A - x_B)]^2 var(x) + [2\beta(y_A - y_B)]^2 var(y)$ . The coefficients  $\hat{k}_1$  and  $\hat{k}_2$  can be substituted and given that there are specific survey questions about respondents' self-placement in each Positional issue, we can also substitute the values of  $var(x)$  and  $var(y)$ . Thus, an estimate of  $var(\Delta u)$  can be approximated by

$$\widehat{var}(\Delta u) \simeq (\hat{k}_1)^2 var(x) + (\hat{k}_2)^2 var(y). \quad (11)$$

The magnitude of  $var(\Delta u)$  indicates the degree of division among the electorate when evaluating two distinct political parties. Once  $\widehat{var}(\Delta u)$  is calculated, we can deduce the contribution of each issue dimension to the variation in differential utilities by solving for  $\frac{(\hat{k}_1)^2 var(x)}{\widehat{var}(\Delta u)}$  and  $\frac{(\hat{k}_2)^2 var(y)}{\widehat{var}(\Delta u)}$  respectively.

Notice that the proposed approach could be extended to more than two positional issues, provided that voters' ideal policies in those issues be independently (or close to independently) distributed.

## 4 Regional Elections in the Basque Region

Basque Parliamentary elections offer an excellent setting to exhibit the model. Politics in the region are commonly described as cleaved across two significant dimensions – the left-right or socialist-conservative dimension and the nationalist dimension, ranging from complete incorporation into Spain to complete independence of the region. There are four or five parties, depending on the year, that divide most of the electorate, and parties distinguish themselves along the two dimensions.

We use the public opinion surveys from the Centro de Investigaciones Sociológicas (CIS), an entity of the Ministry of the Presidency of Spain. The CIS selects respondents at random and the interviews are in person. We pool the pre- and post-election surveys of five election years (when available), from 1998 to 2012, yielding samples

of 2,800 respondents. The surveys ask people whether they voted and how, their political positions, their perception about the parties' positions and various sociological characteristics of the respondents.

In our analysis, we focus on five variable – Vote Preference or Choice, Nationalist Orientation, Left-Right Orientation, Basque Identity or Language, and Assessment of the Economy. Not every survey contains all the indicators of interest.

Vote Choice or Preference is the outcome of interest. The surveys branch the voting questions, asking people whether they voted (or planned to vote). Of voters (or likely voters) the survey asks for which party or coalition of parties the individual voted. Left-Right Orientation measures the ideological position of the person. "Normally when talking about politics the expressions left and right are used. On this card there are a series of boxes that go from left to right. In which box would you place yourself? The box 1 is labeled "Izquierda" for left and 10 is labeled "Derecha" for right. The second dimension of interest is Nationalism. The survey asks "In relation to the nationalist sentiment, could you tell me please where you would place yourself on a scale from 1 to 10, in which 1 means the least Basque nationalism and 10 the most Basque nationalism?" We use these questions to map out the ideological orientation of individuals. In addition, the surveys ask respondents to place the parties on the Nationalist and Left-Right scales. Most of the surveys ask whether the individual speaks Euskera fluently. Respondents also evaluate the state of the economy in the Basque country (with which we capture the valence issue). Finally, the survey includes an indicator of the size of the locality of the respondent.

The top five political parties in the region divide 95 percent of the votes and seats and have shown to be stable over the period of analysis (1998-2012). These parties are the Nationalist Basque Party PNV (with an average support of 36 percent of the votes), the Socialist Party PSE (with an average support of 22 percent of the votes), Peoples' Party PP (with an average support of 17 percent of the votes), the Left Nationalist Party renamed in different occasions HB/EH/Bildu/PCTV (with an average support of 18 percent of the votes), and the Left Union Party IU (with an average support

of 4 percent of the votes). Throughout the 35-year history of the parliament, the PNV has served as the governing party for all but 3 years (from 2009-2012). For our period of analysis, the PNV has governed in minority following the 2012's election and in coalition with other smaller parties (IU is one of them) following the 1998, 2001 and 2005 elections. During the period 2009-2012, PSE governed in minority (with the approval of PP) due to the broke down of the negotiations of PNV to form a new coalition.

The political alignment in the region reflects the issue-positions of the parties as perceived by the voters and the preferences of the voters themselves on the same issue dimensions.

First, we examine voters' perception about the position of the political parties. This provides a mapping of the party alignment in the voters' minds. Later, we turn to the distribution of voters' positions on the Left-Right dimension and in the Nationalist dimension.

Table 1 shows the average party score on the Left-Right and Nationalist dimensions. All the surveys, except for 2001, ask respondents to place the parties in the Left-Right scale from 1 to 10. Likewise, all the surveys contain the question of placing the parties in the 1 to 10 Nationalist scale. For the years 2005 and 2009, Herri Batasuna (the left nationalist party) was banned and the surveys corresponding to these election years do not give the orientation of this party in the two scales.<sup>10</sup> For the year 2005, however, the PCTV became a substitute of HB and we consider this party in this election year.

Regarding their political positions, the PNV and EH/Bildu are strongly nationalist and they are different in their Left-Right orientation, with PNV somewhat Right of Center and EH/Bildu occupying the most leftist position of the parties in the analysis (with a score of 2.1). The parties, PSE, PP and IU, hold a score below 5 in the Nationalist issue, and we classify them as Non-Nationalist parties. Among them, the PP keeps the strongest rightist position (with a score above 8.4), the PSE appears

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<sup>10</sup>This party was banned because some of its members were shown to keep ties with the armed band ETA.

closest to the centre (with a score around 4.6) and IU is a left-wing party (with a score in between 2.6 and 3.2).

We deduce two main observations from Table 1. First, the positions of the political parties over time have been very stable, there is almost no variation from year to year in their positions. Second, the parties differentiate much more cleanly along the Nationalist dimension. Along this dimension the PNV and EH/Bildu take highly nationalistic positions, locating at 8.1 and 8.7, respectively. The PP and PSE stake out similar turf at 2 and 3, respectively. Along the 10 point Left-Right scale, however, the parties are more widely dispersed: IU locates at 2, EH/Bildu at 3, PSE at 5, PNV at 6, and PP at 9.

Next, we measure voters' dispersion in their ideal policies. Table 2 and Table 3 show the average, the median and the standard deviation of respondents' self-placement in each issue dimension according to each of the CIS surveys. Two observations about the self-placement tables are in order. First, the median on each issue dimension has been very stable over time. The median is 4 in the Left-Right dimension and 5 in the Nationalist dimension for the last three electoral years. Second, the standard deviation of the Left-Right scale is smaller than in the Nationalist scale, i.e., there is more dispersion of ideal points in the Nationalist issue than in the Left-Right issue. Besides, since 1998, the standard deviation in the Nationalist issue shows an increasing trend which implies that respondents have become more disperse in terms of their Nationalist positions. In the last elections, we observe, the electorate is about two times more disperse in the Nationalist issue than in the Left-Right dimension.

We observe, therefore, that there is more agreement within the Basque electorate on the Left-Right ideology than there is on the Nationalist issue. As we have just shown in Table 1, political parties also differentiate more cleanly along the Nationalist dimension. As a result, we should expect more alignment between parties and voters in the Left-Right issue than in the Nationalist dimension. For example, consider the comparison between PSE and PNV for the 2012 election. The parties' positions on the Left-Right dimension are closer to each other, and possible, none of them are far from

the voter’s ideal position on that issue. The parties’ position on the Nationalist issue, however, are quite apart from each other and the electorate is more bipolar in this issue. Because of the polarized electorate, voters must be closer to one of the parties and far from the other. We next derive what issue is more salient for the electorate and which one generate more overall division.

#### 4.1 Estimating issue-salience

In this section, we apply our methodology to deduce an overall estimate of the salience parameters of the two Positional issues in the Basque Regional Elections, the Left-Right issue and the Nationalist issue. For that, we follow two steps.

First, we estimate the probability functions of voting for each of the parties in the Basque Regional Elections against voting for the main party in the region, Partido Nacionalista Vasco (PNV). We perform a separate analysis for each year and we compute the average value of the logit coefficients.

Second, for each regression, we estimate issue salience following Expression (10), that is, we divide the average logit coefficients by two times the perceived distance between the position of PNV and each other political party in the Left-Right and in the Nationalist dimensions.

Table 4 presents the estimated coefficients and standard errors derived from the multinomial logit where we include Positional issues, Valence issues, language and population size as independent variables. The results show a clear evidence of the effect of Positional issues and language, and highly unstable or insignificant effect for some of the years of economic assessments and community size.<sup>11</sup>

Table 5 describes the overall estimates of the salience for the two issues, the Left-Right and the Nationalist, in each election year. For the 2001 election, there is no perceived position of the parties in the Left-Right dimension. Notice how similar the salience terms are from party to party and that the salience terms are always positive

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<sup>11</sup>These estimations are interpreted in a companion paper Ansolabehere and Puy (2013) in which we evaluate the effect of language and identity over voting decisions.

and therefore, consistent with our theoretical model. In the comparison between PSE and PNV, salience has been quite stable except for 2005. In the comparison of PP and PNV, salience has been slightly more stable over time.

Consider Nationalism, the estimated salience parameters are in between .1 and .06 in almost all the comparisons. In the Left-Right dimension, the estimated salience is about three times the salience of the Nationalist issue. This implies that voters in the Basque region, on average, assigns more weight to the distance in the Left-Right dimension than they do to the distance in the Nationalist dimension, and that has been true for the past two decades. Besides, we observe that these values have been quite stable over time, except for 2005 and for the comparison between PNV and PSE in which the salience of Nationalism has been higher than the salience of the Left-Right dimension.

As with the pure spatial model of voting, the underlying utility specification of voters' preferences is such that political issues are perfect substitutes in voters' mind. The fact that the relative salience coefficient is in most of the comparisons in between 1.5 and 2 implies that on average, one unit distance in the Left-Right scale is about equivalent for voters to two units distance in the Nationalist scale. We interpret that, on average, voters care almost two times more about the Left-Right issue than they do about the Nationalist issue.

## 4.2 Measuring issue-divisiveness

We estimate how much each issue contributes to explain the dispersion in voters' opinion when comparing political parties. For that, we decompose the variance of the estimated differential utility of respondents. We then compare which issue contributes more to the variation in voters' assessment of the political parties.

First, we check the extent to which the preferences of voters across dimensions are independent or they exhibit low correlation. Table 6 shows the correlation coefficients for the two variables – the Left-Right orientation of the Basque electorate (variable  $x$ )



and the Nationalist orientation of the electorate (variable  $y$ ) —. For each pre-electoral and post-electoral survey, we find that respondents' preferences exhibit slightly negative correlation, that in no case exceed .18. The correlation has varied somewhat from year to year, but there is no clear trend of either weakening or strengthening ties between Nationalism and Left-Right ideology in the Basque electorate. The average negative correlation is .12, which means that there is a slight correlation, but there is no strong association.

Table 7 shows the decomposition across issues of the variance of the utility comparisons between pairs of parties. We follow the variance decomposition in Expression (11). The first and the second columns show the dispersion in the utility comparisons of the respondents that can be explained by the Left-Right and the Nationalist issues respectively. For example, the first value 1.21 corresponds to the estimated coefficient to the square  $\hat{k}_1^2 = (-.79)^2$  multiplied by  $var(x) = 1.93$ , where 1.93 is the variance for those respondents who declared that they intended to vote for PNV and PSE in the 2012's survey. The third column of Table 7 is a proxy to the variance of the differential utility that we deduce by adding the two decomposed terms. Finally, the last column measures the contribution of the Left-Right issue, which accounts for 30 percent of the respondents' variation in opinion over the political parties.

Several comments about the variance of the differential utilities are in order.

First, the magnitude of the estimated  $var(\Delta u)$  has substantially changed over time. It takes high values in the 2005 elections where the variance in the comparisons between PP and PNV achieves its maximum. The data reveal some facts about the political situation in the region during the 2005 elections. This election year was characterized by the highest discrepancy among the electorate. Not outstanding, we find that 2005 is the year in which the president of the Basque Government (member of PNV), presented an amendment to the Spanish Congress about the right to secede from Spain (the so called "Plan Ibarretxe"). The high division among the voters of PNV and those of PSE and PP (the statewide parties) can be due to the tensions between these factions while discussing the Plan Ibarretxe. Notice that the perceived positions of the parties

during 2005 did not varied substantially with respect to other election years. However, 2005 is the only election year in which the salience of the Left-Right issue is below that of the Nationalist issue. The high dispersion in voters' valuation over these parties can now explain why this is the only year in which the voters of PNV and PSE cared more about the Nationalist issue than they did about the Left-Right dimension.

Second, the magnitude of  $var(\Delta u)$  has decreased since 2005 up to 2012 in all the comparisons with the only exception of PNV v Bildu. No analysis is possible for 2009 owing to the banning of the far left Nationalists parties two months before the election. However, the trend from 2005 through 2012 suggests that the divisions among the parties have lessened somewhat in the region since there is less overall dispersion in voters' opinions when comparing political parties.

We deduce several comments when comparing which issue has generated more division among the electorate.

First, in all the election years and in all the comparisons between PNV v PSE and PP, we observe that the Nationalist issue has generated more division among the electorate than the Left-Right dimension. Since PNV, PSE and PP are three of the major parties in the region which represent around 75 percent of the electorate, we can assert that Nationalism is the issue that, on average, generates more division among the electorate in the Basque Regional Elections. For example, in 2012, Nationalism generated around three times more division among the electorate than the Left-Right issue. This conclusion is in coherence with the widespread opinion about politics in the region by which Nationalism is the issue generating more tensions among the Basque electorate.

Second, in the comparison between PNV and Bildu (or PCTV/EH), we find that the Left-Right ideology generates more division than the Nationalist issue. The comparison between PNV and Bildu represents around 55 percent of the electorate (in contrast to the PNV, PSE and PP that represent around 75 of the electorate). Nationalism generates less division due to the strong alignment between these two parties in the Nationalist issue. As a consequence, the dispersion in respondents' opinion over

these two parties is mostly explained by the Left-Right issue. In the comparison between PNV and IU, the Left-Right dimension is about the same or more divisive than Nationalism.

As a result, even though the intensity of preferences (or the salience) over the Left-Right ideology is around two times the intensity of preferences over the Nationalist issue, the Nationalist issue generates more overall division among the electorate. We find that in the comparisons between the main party in the region (PNV) and the two other main statewide parties (PSE and PP), the Nationalist issue generates about three times more division among the electorate than the Left-Right issue. The main reason for this is that there is more dispersion among the Basque electorate and among the Basque parties in their Nationalist positions than there is in their Left-Right positions and, consequently, Nationalism contributes more to generate division.

## 5 Conclusion

In this paper we demonstrated that the conventional interpretation of regression coefficients as measures of issue salience in fact conflates issue salience and issue divisiveness or distinctiveness among the parties. We have shown how to identify properly the effect of salience and divisiveness and how to analyze the overall effect of issues on voting and how to parse the effects of salience and divisiveness in analyzing spatial voting in multiple dimensions.

In particular, we have derived the relationship between the logit coefficients and the underlying salience parameters in the utility representation of voters' preferences. This derivation is of general use and it is helpful for understanding how salience magnifies or reduces certain positional issues over others. Previous regression analyses take the coefficients of the voters' self-location on each issue dimension, as a measure of the relative salience of the issue. We demonstrate that these analyses conflate two factors, the true salience of the issue and the distance among parties across dimensions.

We show that regression coefficients allow us to measure how divisive is an issue for

the electorate whenever issue dimensions are independent or their correlation is low. This derivation is also of general use and is helpful to understand how some issues may generate more disagreement than others among the electorate.

We use the model to clarify the nature of political schisms in the Basque Region of Spain. In particular, we have shown that voters place greater weight (salience) on Left-Right ideology than on Nationalism. That is, they care more about Ideology than Nationalism. However, that does not mean that the Left-Right dimension is the most relevant issue for the Basque electorate or that Basque regional elections are not deeply about Nationalism. Our somewhat surprising conclusion is that Nationalism matters more in Basque regional elections for two reasons. First, the parties differentiate much more cleanly along this dimension. Second, the electorate hold more disparate views on Nationalism than on Left-Right ideology. When measuring the dispersion in the preferences of voters, we find that the Nationalist issue generates about three times more division of the electorate than the Left-Right issue. As a result the electoral outcomes reflects a deep split on the Nationalist question.

That finding is of immediate import in understanding the persistence of nationalism in areas such as the Basque Region, Catalunya, Scotland, and so forth. But, that analysis is of broader value. It demonstrates how issue salience and issue distinctiveness interact to determine the way that election outcomes reflect the underlying preferences of voters and the choices that they face. The identification problem we have discovered runs throughout the extensive literature on issues and their importance in elections and governments. The findings suggest that researchers have commonly exaggerated the salience of some issues because parties and candidates differed, and underestimated the weight that voters place on other issues on which there is little division or even consensus among the parties. The model presented here offers an important and new lens which to analyze properly how much voters care about certain issues, and to differentiate that from the extent to which voters are merely reacting to deep divisions among political elites, about which the voters may care less.

It is commonplace to hear the complaint that politics sometimes ignores the real

issues or the things that voters really care about. This paper offers a refinement on that sentiment. Sometimes issues seem to be ignored by the government because, for whatever reason, the parties choose not to discuss them. Other times, however, the voters care deeply about an issue, such as financial regulation or income redistribution, but the parties do not offer a distinctive choice. In such a context, voters do not send a message to change course, because they cannot send a message. When the parties do not offer a meaningful difference, voters cannot vote along the lines of even the most important issues, and the issue becomes irrelevant in the election, not because it is not salient in the public's mind, but because no new course is offered.

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Table 1: Perceived Positions of Parties

Party	Dimension	Year				
		1998	2001	2005	2009	2012
PNV	Left-Right	6.2		6.5	6.3	6.6
	Nationalism	8.0	8.4	8.4	8.0	7.8
PSE	Left-Right	4.7		4.5	4.4	4.7
	Nationalism	3.3	3.1	3.5	3.5	3.1
PP	Left-Right	8.4		8.7	8.6	8.6
	Nationalism	2.1	2.0	1.7	1.8	1.7
EH/HB	Left-Right	2.1		2.29		2.1
PCTV/Bildu	Nationalism	8.9	8.4	8.57		8.7
IU	Left-Right	3.1		2.9	3.2	2.6
	Nationalism	4.0	4.5	4.9	4.5	4.3
EA	Left-Right	4.9		5.0	4.8	
	Nationalism	7.9	8.3	8.1	7.7	
UpyD/UA	Left-Right	7.6				6.6
	Nationalism	2.5	2.6			2.4

Table 2: Left-Right Orientations of the Basque Electorate

Average Score				
Year (Month) of Survey	Left-Right Ideology (1 to 10)			
	Average	Median	s(x)	% Missing
2012 (9)	4.04	4	1.60	16.2
2009 (3)	4.10	4	1.62	19.8
2009 (1)	4.04	4	1.46	20.1
2005 (4)	4.09	4	1.59	21.5
2005 (3)	4.25	4	1.57	19.1
2001 (5)	4.24	4	1.76	25.6
2001 (4)	4.39	5	1.83	25.2
1998 (10)	4.20	4	1.93	20.2

Table 3: Nationalist Orientations of the Basque Electorate

Average Score				
Year (Month) of Survey	Nationalism (1 to 10)			
	Average	Median	s(y)	% Missing
2012 (9)	4.98	5	3.06	7.6
2009 (3)	5.56	5	2.83	10.9
2009 (1)	5.04	5	2.90	10.5
2005 (4)	5.35	5	2.82	11.6
2005 (3)	5.64	5	2.63	9.6
2001 (5)	5.95	6	2.63	15.9
2001 (4)	5.70	5	2.69	12.9
1998 (10)	6.17	6	2.59	15.6

Table 4: Explaining Vote for Party, 1998-2012, Multinomial Logit Analysis

Year	Choice	Independent Variable				
		Left-Right $k_1(SE)$	Nationalism $k_2(SE)$	Economy b (SE)	Euskera b (SE)	Population b (SE)
2012	PSE v PNV	-.79 (.09)	-.57 (.04)	-.02 (.12)	-.98 (.24)	-.06 (.08)
	PP v PNV	1.03 (.15)	-.79 (.10)	.26 (.24)	-.88 (.56)	.15 (.14)
	Bildu v PNV	-1.33 (.08)	.17 (.04)	-.18 (.12)	.88 (.20)	.20 (.07)
	IU v PNV	-1.23 (.12)	-.46 (.06)	-.09 (.18)	-.30 (.34)	-.05 (.18)
2009	PSE v PNV	-.81 (.10)	-.82 (.06)	-.07 (.13)	-.59 (.24)	.19 (.08)
	PP v PNV	1.04 (.16)	-.77 (.08)	.12 (.20)	-1.17 (.56)	.44 (.14)
	IU v PNV	-1.54 (.16)	-.48 (.08)	.40 (.20)	-.85 (.40)	.07 (.13)
2005	PSE v PNV	-.29 (.09)	-.98 (.06)	.25 (.15)	-.88 (.24)	.10 (.12)
	PP v PNV	1.56 (.19)	-1.37 (.11)	.49 (.23)	-1.55 (.54)	.39 (.22)
	IU v PNV	-.85 (.11)	-.68 (.06)	.32 (.18)	-.24 (.26)	.18 (.14)
	PCTV v PNV	-1.37 (.11)	.13 (.07)	.58 (.16)	.75 (.25)	.19 (.12)
2001	PSE v PNV	-.44 (.08)	-.88 (.06)	.25 (.15)		.10 (.12)
	PP v PNV	.78 (.09)	-.98 (.07)	.36 (.18)		.75 (.16)
	IU v PNV	-.78 (.11)	-.63 (.07)	.26 (.21)		.56 (.21)
	EH v PNV	-.90 (.11)	.32 (.07)	.46 (.16)		-.35 (.12)
1998	PSE v PNV	-.77 (.11)	-.63 (.08)		-1.45 (.20)	.08 (.10)
	PP v PNV	.56 (.11)	-.84 (.10)		-1.17 (.20)	.10 (.12)
	IU v PNV	-1.24 (.13)	-.53 (.06)		-.50 (.22)	.46 (.14)

Table 5: Estimating Issue-Saliency, 1998-2012

Year	Choice	Left-Right	Nationalism	Relative Saliency
2012	PSE v PNV	.21	.06	1.85
	PP v PNV	.26	.06	1.99
	Bildu v PNV	.15	.09	1.25
	IU v PNV	.15	.07	1.53
2009	PSE v PNV	.21	.09	1.53
	PP v PNV	.23	.06	1.9
	IU v PNV	.25	.07	1.9
2005	PSE v PNV	.07	.1	.85
	PP v PNV	.35	.1	1.86
	IU v PNV	.12	.1	1.1
	PCTV v PNV	.16	.38	1.64
2001	PSE v PNV		.08	
	PP v PNV		.08	
	IU v PNV		.08	
	EH v PNV		0	
1998	PSE v PNV	.26	.07	1.96
	PP v PNV	.13	.07	1.34
	IU v PNV	.2	.07	1.74

Table 6: Correlation Left-Right and Nationalism

Year (Month) of Survey	Kendall's tau-b
2012 (9)	- .14
2009 (3)	- .05
2009 (1)	- .09
2005 (4)	- .1
2005 (3)	- .14
2001 (5)	- .11
2001 (4)	- .14
1998 (10)	- .18

Table 7: Estimated Issue-divisiveness, 1998-2012

Year	Choice	Left-Right	Nationalism	var( $\Delta u$ )	Left-Right%
2012	PSE v PNV	1.21	2.78	3.99	.3
	PP v PNV	2.83	5.09	7.92	.36
	Bildu v PNV	5.21	.17	5.38	.97
	IU v PNV	3.34	1.42	4.76	.7
2009	PSE v PNV	1.08	5.27	6.35	.17
	PP v PNV	2.12	4.03	6.15	.34
	IU v PNV	4.57	1.17	5.74	.8
2005	PSE v PNV	.17	6.97	7.13	.02
	PP v PNV	5.91	11.76	17.67	.33
	IU v PNV	1.64	2.04	3.68	.44
	PCTV v PNV	5.03	.06	5.09	.99
2001	PSE v PNV	.51	4.55	5.07	.1
	PP v PNV	2.02	6.16	8.18	.25
	IU v PNV	1.81	1.61	3.41	.53
	EH v PNV	2.71	.38	3.09	.87
1998	PSE v PNV	1.63	2.25	3.88	.42
	PP v PNV	1.01	4.37	5.38	.19
	IU v PNV	4.68	1.14	5.82	.8