

Prospects of Ideological Realignment(s) in the 2014 EP elections?  
Analyzing the Common Multidimensional Political Space for Voters,  
Parties, and Legislators in Europe

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**Abstract**

Given the current economic and political crisis in Europe, many argue that the 2014 EP elections shifted the electoral competition from national politics to a debate about the extent and scope of the EU level of governance. We contribute to this discussion by analyzing the European ideological space at the time of the elections. We build upon existing scaling techniques applied to social media networks and develop a new method to measure the positions of political parties and individual legislators in a multidimensional political space. We apply this method to estimate the ideological positions of candidates to the European Parliament and the sitting MPs in all 28 EU states, relying on a new dataset of social media accounts. To validate our estimates, we compare them with the aggregate perceptions of parties' positions from the Voter Study of the European Election Study 2014. Our final goal is to analyze to what extent the 2014 EP elections brought the expected changes. We achieve this by establishing the relative importance of the left-right and European integration dimensions in each country. We also examine if and why the position of parties and candidates in EP elections differs from the position of parties and legislators in national parliaments.

# 1 Introduction

The slogan of the European Parliament (EP) for the 2014 EP elections was: “This time will be different.” The reason behind this truly optimistic view was the hope that the constitutional innovation in article 17 of the Lisbon Treaty (which states that the results of the European Parliament elections should be taken into account when selecting the next Commission President) would revitalize EU democracy. The aftermath of these elections seems to justify the choice of the slogan. But this was not because of the success of these institutional innovations, which did indeed have a limited impact on the electoral process (Schmitt et al., 2015). The most obvious change that these elections brought about was in the electoral outcomes. Against the economic and political crisis in Europe and the associated debates about the future of the Eurozone, the bailout of debtor states, the austerity measures imposed by the EU, ECB and IMF, and the economic consequences of it all, the 2014 EP elections brought an unprecedented rise in the electoral share of Eurosceptic parties.

Although surprising, this outcome did not come out of the blue. Starting from the late 90’s we can note that the increased political contestation about the scope and direction of the European project brought forward a politicization of European integration (Hooghe and Marks, 2009; De Vries and Hobolt, 2012; Rovny, 2012; Van der Eijk and Franklin, 2004). This evolution gradually crystalized in what is now generally referred to as the EU dimension of political competition. This dimension has been mainly defined by the position of parties regarding the extent of European integration and the policy scope of the Union. It ranges from outright opposition to full support of EU integration processes (Bakker et al., 2012; Gabel and Hix, 2002; Hix, 1994, 1999; Hix et al., 2006; McElroy and Benoit, 2007). Even if some argued that the EU dimension is or becomes increasingly integrated in the old political conflicts (Kriesi et al., 2008; Tsebelis and Garrett, 2000; Vachudova and Hooghe, 2009; Hooghe and Marks, 2009; Marks et al., 2006), the rise of an independent EU dimension is by now mostly an uncontested phenomenon (Benoit et al., 2006; Bakker et al., 2012; Hix, 1994, 1999; Hix et al., 2006).

This development clearly challenges one key assumption of the “second-order” election model, which was for the last 30 years a central tool for the understanding of electoral competition in EP elections (Hix and Marsh, 2007; Reif and Schmitt, 1980; Schmitt, 2005; van der Eijk and Franklin, 1996). European issues now clearly play a role in shaping the outcome of the EP elections (and in some places the outcome of national elections as

well). The question, for which we seek an answer in this paper, is how important this EU dimension was at the time of the 2014 EP elections? We therefore investigate if the EU dimension is an important axis of political competition, comparable in importance with the traditional left-right axis of political competition. If this is indeed the case it would represent initial evidence that the EU dimension altered the European ideological space.

Furthermore we analyze whether the European dimension is only a characteristic of the European political space or whether we can also identify the presence of this dimension in national political spaces. Previous research acknowledged the potential of the EU dimension to be at the base of a potential realignment of the national ideological space (Van der Eijk and Franklin, 2004). There is also scattered empirical evidence that it already plays a role in shaping national politics (De Vries, 2007; Gabel, 2000; Teperoglou and Tsatsanis, 2014). But a systematic account of this possibility does not exist. This paper aims to fill this gap.

Answering the above questions is only possible by analyzing the European ideological space in its entirety at the time of the elections. Therefore we simultaneously analyze the political space as it is defined by EU-level political actors (i.e. sitting MEPs and candidates running for the 2014 EP elections) and the one defined by the members of national parliaments of EU member countries.

We build upon existing scaling techniques applied to Twitter networks (Barberá, 2015), which we extend to allow the estimation of legislators, parties and voters' positions in a common multidimensional political space. We apply this method to estimate the ideological positions of candidates to the European Parliament and the sitting MPs in all 28 EU states. To validate these estimates, we compare them with the aggregate perceptions of party positions from the Voter study of the 2014 European Election Study, showing that both sets of data are highly correlated.

Our analysis confirms the rise of the European integration dimension at both the party and the voter level in most European countries. Left-right positions still play a predominant role in structuring party competition in the national and European arenas, as indicated by the dispersion of parties' positions in this dimension and their significant role in explaining following decisions (i.e. who follows whom) on Twitter, which is consistent with the idea of EP elections as "second-order" elections. However, our analysis also identifies the European dimension as an important axis of political competition on its own right: voters in most countries are presented with substantive variation in the supply side

of electoral competition, and appear to take this issue into account when deciding what political accounts they follow on Twitter.

## 2 Theory

National politics dominated the campaigns and election results when the first popular election of the members of the European Parliament was finally organized in 1979. A quarter of a century later, in the EP election of 2004, the symptoms of second-order national elections could still be identified, if only in the democratically and electorally consolidated Western member-countries of the EU (Schmitt, 2005). As a consequence, European Parliament elections were said to be little more than second-order national elections, in which European issues did not play much of a role (Ferrara and Weishaupt, 2004; Hix and Marsh, 2007; Marsh, 1998; Norris and Reif, 1997; Reif and Schmitt, 1980). In this context most political parties converged at an EU-positive position, making the EU dimension almost irrelevant for electoral competition at domestic and European political levels (Lindberg and Scheingold, 1970; Hooghe et al., 2002; Vachudova and Hooghe, 2009). In the early 2000s, the EU dimension was thus characterized as a “sleeping giant” on the European political space (Van der Eijk and Franklin, 2004). But, starting from the 2004 EP election and even more so in the 2009 and 2014 EP elections, we note an increase in contestation and politicization along the EU dimension (as evident by the growing support for Eurosceptic parties) which is seen by many as an indication of the awakening of the “sleeping giant.”

The politicization of the EU dimension of political contestation was slow and gradual. It started in the 1990s with the debate of the Maastricht Accord of 1993, the discussions around the introduction of the Euro and the creation of the European Monetary Union, all of which started to erode the earlier support for the European Union (Eichenberg and Dalton, 2007; Hooghe and Marks, 2009; Scheuer and Schmitt, 2009). Subsequently by the mid-1990s we can note that the permissive consensus<sup>1</sup> towards the European project began to dissipate (Lindberg and Scheingold, 1970; Hooghe and Marks, 2009). It is exactly this contestation of the European project that brought forward the politicization of the European issues by the turn of the century (Van der Eijk and Franklin, 2004). To be more

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<sup>1</sup>The permissive consensus is generally referred to the period in which “public opinion was quiescent” towards the elites’ effort to push for European integration, which came to an end in the mid 90’s (Hooghe and Marks, 2009; Lindberg and Scheingold, 1970).

specific, it were mainly parties from the radical left and radical right from national opposition camps which popularized Eurosceptic stances (and polarized party competition over the EU dimension). Slowly but steadily they managed to increase the salience of the EU dimension and rendered it a relevant axis of electoral competition (De Vries and Hobolt, 2012; Rovny, 2012). This process was also marked by the failed attempt of mainstream parties to depoliticize the issue (Hooghe and Marks, 2009). As a consequence, starting from the 2004 European Parliament (EP) elections, this process fueled the rise of what is generally referred to as Eurosceptic parties (De Vries and Edwards, 2009; De Vries and Hobolt, 2012). But, even if the politicization of the European dimension is by now an uncontested matter of fact (De Vries, 2007; Kriesi et al., 2008; Hooghe and Marks, 2009), attitudes towards EU have been found in the past to be less important predictors of electoral behavior than the classical left-right dimension (De Vries et al., 2011; Hobolt and Wittrock, 2011; Hobolt et al., 2009) or even “green” issues (Tillman, 2004). Given this background, the question that remains to be answered is whether the 2014 EP elections indeed brought the expected increase in the prominence of the EU dimension in the European ideological space. Can we at the time of the 2014 EP election speak of a fully-fledged pro-anti EU political dimension that has the potential to produce a realignment of political forces on the European ideological space?

Recent developments in European politics seem to point in this direction. Over the past few years the process of European integration is said to have finally entered its ‘post-functional’ phase (Hooghe and Marks, 2009; but see already Szczerbiak and Taggart, 2008; Taggart and Szczerbiak, 2004). We are now witnessing fierce political oppositions over both the extent of European integration (the policy scope of the Union) and the allocation of resources in the Single European Market (the policy direction of the Union). Both aspects – how much Europe and what kind of Europe – are essential parts of the EU dimension of political contestation. This process was visible even before the 2014 EP elections as the EU dimension became an important aspect of party competition in some of the previous national elections. For example, in the 2012 election of members of the national parliament in Greece, the EU debate was an important axis of electoral competition: positions that parties took on this dimension seem to have had a decisive impact on their electoral fortunes (Teperoglou and Tsatsanis, 2014). The 2014 EP elections further emphasize this development when Eurosceptic parties are gaining substantial support across the EU and even manage to become the leading party in France (Front National), the UK (UKIP), Denmark (Dansk Folkeparti) and Greece (SYRIZA), while they also gained sub-

stantial support in a number of other countries (e.g. Austria, Czech Republic, Finland, Hungary, Italy, and the Netherlands).

Thus our first hypothesis is:

*(H1) The EU dimension of political competition played a substantial role in structuring the European ideological space at the time of the 2014 EP election.*

In practical terms, this implies that when estimating the policy position of parties, the EU-dimension should emerge as a second axis of political competition which is comparable in importance with the traditional left-right axis.

But even if we were to find evidence to support H1 this would not mean that the EU dimension did indeed restructure the political space across Europe. Given the multi-level character of the electoral system of the EU and its member-countries (Reif and Schmitt, 1980; van der Eijk and Schmitt, 2008), for this to have happened we would also need to find that the EU dimension has become relevant for the structuring of electoral competition at the national level. Therefore we also need to evaluate the importance of this dimension in national politics. In order to do this we will compare the policy positions yielded by analyzing EU politicians with the policy positions of national MPs. We presume that an increase in saliency of the EU dimension and in party polarization over it may lead to a realignment along this axis of electoral competition (Abramowitz and Saunders, 1998; Van der Eijk and Franklin, 2004). There is also some scattered empirical evidence of the EU dimension impacting national elections results (De Vries, 2007; Gabel, 2000; Teperoglou and Tsatsanis, 2014). But in almost all cases this dimension is by far less important than the traditional left-right dimension (De Vries, 2007; Gabel, 2000)<sup>2</sup> and there is no systematic account of these effects across the EU. Therefore our second working hypothesis is.

*(H2) The EU dimension is more important in structuring political competition in EP elections than it is in national-level politics.*

A corollary of this hypothesis is that the policy positions of national MPs are more predictive of the general left right placement of their parties than the policy position of European political elites (MEPs and 2014 EP candidates). At the same time, we expect the later to be more indicative of the pro-anti EU position of the parties.

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<sup>2</sup>The exception being Greece, where attitudes towards the EU played a substantial role in the vote against the incumbent parties (Teperoglou and Tsatsanis, 2014).

## 3 Research design

### 3.1 Estimating the policy positions of voters, parties, and legislators in the European ideological space

Testing our hypotheses requires estimates of the policy positions of individual legislators, political parties, and voters in a common ideological space. Previous studies estimate these positions using one of four different approaches. The most common method is to survey national elites or academic experts, asking them to place political actors on some pre-established dimensions (Benoit and Laver, 2007; Bakker et al., 2012). A second method extends these surveys to the whole population, aggregating their responses and sometimes weighting by the respondents' political identification (van der Eijk and Franklin, 1991; Alvarez and Nagler, 2000; van der Brug, 2001). An alternative, behavioral measure of policy positions extracts information from roll-call votes in legislative chambers (Poole and Rosenthal, 2007; Clinton et al., 2004; Hix et al., 2006). Finally, other scholars analyze the texts political parties generate – usually party manifestos (Budge et al., 1987; Gabel, 2000), but also speeches (Proksch and Slapin, 2010; Beauchamp, 2011; Diermeier et al., 2012) – using techniques of content analysis, which can rely on “hand-coding” or be computerized (Laver et al., 2003).

The choice of one or another of these procedures involves relevant methodological trade-offs. Expert surveys and estimates from roll-call votes tend to have higher external validity, but do not allow researchers to place voters on a common scale. Estimates derived from legislative speeches or manifestos also suffer from this problem, as well as the additional complication of being written in different languages. On the other hand, aggregated survey responses about perceived party positions do allow voters to place themselves on the same scale, but as we will show in our analysis these estimates are less accurate, and do not distinguish between national legislators and members of the European parliament, since respondents are only asked to place parties and not individual MPs.

To overcome these challenges, here we build upon new scaling techniques applied to social media networks (Barberá, 2015; Bond and Messing, 2015). We depart from the assumption that citizens choose to “follow” or “like” political actors that they perceive to be close to them on the relevant latent policy dimensions, holding popularity constant. These decisions are considered costly signals that provide information about citizens'



perceptions of both their ideological positions and that of political accounts, since they allow us to observe how they allocate a scarce resource – their attention. This assumption is similar in nature to what explains how roll-call votes in legislatures and campaign contributions can be scaled to compute valid ideological positions for legislators (Hix et al., 2006; Poole and Rosenthal, 2007; Bonica, 2014).

As we explain in the following section, we apply this method to the largest public social networking site, Twitter. Our approach presents several advantages. First, this method allows us to reliably estimate the policy positions of all types of actors with an active social media account, including individual legislators. Furthermore, it can be computed for any country with high rates of Twitter usage. Most importantly, it is an unsupervised method: the latent dimensions where political actors and citizens are placed are not pre-imposed by the researcher. The method identifies the orthogonal dimensions that explain most of the variance in the following decisions, and thus allows us to distinguish which of these latent spaces are substantively relevant. For example, if the European integration dimension is not relevant in a given country, the model will not be able to identify it. Finally, although we do not explore this possibility here, the method has the potential to generate real-time estimates that can change over time, and thus would allow researchers to measure how parties' positions evolve.

This series of advantages comes at the expense of one important limitation. Twitter users are not a representative sample of the population: they tend to be younger, more educated, and exhibit greater interest in politics (see e.g. Barberá, 2015, online appendix). Our results will thus reflect the perception of the “informed electorate.” However, we do not see this as a disadvantage: in fact, informed voters are possibly a better source of information about legislators' ideological positions, since they are more likely to understand the ideological stances of political actors and use that information to decide who to follow.

## 3.2 Estimation

The statistical model we estimate is similar in nature to latent space models applied to social networks (Hoff et al., 2002) and item-response theory models (see e.g. Linden and Hambleton, 1997). In political science, the most common application of this type of model is the estimation of legislators' positions based on roll-call votes (Clinton et al., 2004).



Suppose that each Twitter user  $i \in \{1, \dots, n\}$  is presented with a choice between following or not following a political account  $j \in \{1, \dots, m\}$ . Let  $y_{ij} = 1$  if user  $i$  decides to follow user  $j$  and  $y_{ij} = 0$  otherwise.  $Y$  therefore denotes the adjacency matrix of dimensions  $n \times m$  that specifies whether the user in the row follows the political account in the column. We argue that each following decision is a function of the Euclidean distance between the latent position of user  $i$  and political actor  $j$  on a latent space with  $k \in \{1, \dots, d\}$  dimensions:  $\sum_{k=1}^d \gamma_k (\theta_{ik} - \phi_{jk})^2$ , where  $\theta_{ik} \in \mathbb{R}$  is the position of user  $i$  in dimension  $k$  and  $\phi_{jk} \in \mathbb{R}$  is the position of political actor  $j$  in dimension  $k$ , and  $\gamma_k$  is a normalizing constant, specific to each dimension.

The probability that user  $i$  follows political account  $j$  is then formulated as a logit model with latent variables on the right-hand side:

$$P(y_{ij} = 1) = \text{logit}^{-1} \left( \alpha_i + \beta_j - \sum_{k=1}^d \gamma_k (\theta_{ik} - \phi_{jk})^2 \right) \quad (1)$$

where  $\alpha_i$  and  $\beta_j$  are random effects that account for the differences in the baseline probability that user  $i$  follows any political account (a proxy for his or her political interest) and that political account  $j$  is being followed (equivalent to its popularity). The higher the level of political interest and popularity of a user and a political account, respectively, and the lower the total distance between them in all the relevant dimensions, the more likely it is that the user follows the political account.

Estimation of this model is not trivial given the large number of parameters involved. [Barberá \(2015\)](#) relies on Markov Chain Monte Carlo (MCMC) methods to characterize the posterior distribution of each of these parameters. In related work, we show that correspondence analysis ([Greenacre, 1984](#)) leads to essentially identical point estimates (correlated at  $r=0.99$ ) at a much lower computational cost ([Barberá et al., 2015](#)), with the only disadvantage of not allowing us to easily compute standard errors around each individual estimate.

Correspondence analysis assumes that the columns and rows of an adjacency matrix, like the one we use in our analysis to denote following relationships between users and political accounts, are located on a latent multidimensional space. As a first step in this method, the matrix is standardized by its column and row masses, which is equivalent to adding random effects ( $\alpha_i$  and  $\beta_j$ ; see also [Bonica, 2014](#)). Then, the resulting matrix is decomposed into orthogonal components using singular value decomposition. Finally,

rows and columns are projected onto each of these planes, with their coordinates being equivalent to their ideological positions in our statistical model (see also [Greenacre, 1984](#); [Lowe, 2008](#) for a more rigorous description of this method).

Our estimation procedure is divided in two stages. First, we run correspondence analysis with the matrix of following relationships,  $Y$ , in each country in our sample. We do so to ensure that the latent space that the model is identifying corresponds to policy positions and not geographic factors. Second, we rescale the resulting estimated positions in each country to a common latent space at the European level. There are different ways to do this. One option would be to find “bridges” that served as legislators in multiple countries, and assume that their position is common. This is the most frequent approach used to locate state legislators in the US on a latent scale ([Bonica, 2014](#); [Shor and McCarty, 2011](#)). However, the number of such “bridges” in the EU is insufficient to implement this procedure. As an alternative, we rely on external information about parties’ positions and, in particular, on aggregated survey responses about voters’ perceptions of their positions on the left-right and EU dimension. For each country, we match our estimates at the party level with those from surveys, and do an affine transformation of our estimates such that their mean and standard deviation matches that of the survey.<sup>3</sup> As a result, we can now compare the estimated positions of parties across different countries.<sup>4</sup>

### 3.3 Data: social media in the 2014 EP elections.

Using the method described in the previous section, we estimate the policy positions of all candidates to the 2014 European Parliament elections and the national MPs with a Twitter account at the time of the election for all 28 EU countries. To do so, we collected a list of the Twitter profiles of these two sets of political actors. We found that a total of 2,482 out of 15,527 MEP candidates (16%) had a presence on Twitter; the number was 3,510 out of 7,193 for national MPs (49%). As expected, MPs tend to have a larger audience: their median number of followers is 1,863, whereas the median MEP candidate has 740 followers. This result is consistent with the conception of MEP candidates as “second-

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<sup>3</sup>This step does not affect the relative positions of our estimates within each country and thus does not inflate the correlation coefficients between the Twitter and survey estimates, which we report in the Results section.

<sup>4</sup>Note that we are assuming that there are no biases in scale perception that are systematically different across countries. In future versions of this paper we plan to correct for this potential issue by using the method described in [Lo et al. \(2014\)](#).

Table 1: Number of political accounts and unique followers, by country

Country	$m$	$n$	Country	$m$	$n$
Austria	114	70,684	Italy	737	1,558,127
Belgium	130	330,282	Latvia	105	77,628
Bulgaria	16	11,366	Lithuania	47	12,693
Croatia	41	22,284	Luxembourg	28	143,165
Cyprus	25	11,032	Malta	70	20,598
Czech Republic	89	114,871	Netherlands	336	897,966
Denmark	145	151,425	Poland	313	542,735
Estonia	46	12,939	Portugal	63	66,146
Finland	259	284,287	Romania	64	34,490
France	637	1,569,064	Slovakia	48	38,066
Germany	411	532,418	Slovenia	66	25,250
Greece	228	296,959	Spain	387	2,035,573
Hungary	40	47,028	Sweden	424	302,378
Ireland	167	238,797	United Kingdom	696	2,621,349

*Note:*  $m$  corresponds to the total number of MEP candidates and national MPs included as political accounts in our estimation.  $n$  is the number of unique users that follow at least one of the accounts in each country.

rank” politicians.

The next step in our data collection process was to download the list of followers for both types of accounts from Twitter’s REST API at the time of the election. Table 1 summarizes the final sample size of accounts for each country<sup>5</sup> and the number of users who follow at least one political account in each country. This table also provides an indication of the rates of Twitter usage by elites and citizens in each country: France, Italy, Spain, and the United Kingdom are the leading countries, all four with more than one million Twitter users following at least one politician.

Finally, in our analysis we will also rely on the post-electoral surveys conducted in all 28 EU countries as part of the 2014 European Election Study, which contained questions asking respondents to place the most relevant political parties in each country onto an 11-point left-right scale and an 11-point scale indicating each party’s support for more or less European integration. We will use the aggregated responses for each party for two purposes: first, to validate whether our party-level estimates are consistent with alternative measures; and second, to identify which of the dimensions that emerge from our method correspond to the survey-based left-right and EU positions, and to rescale the estimated

<sup>5</sup>The aggregated total is lower than the numbers reported above because we exclude a few cases of candidates with private Twitter accounts.

positions for each country into a common European latent policy space.

## 4 Results

### 4.1 The left-right dimension

Figures 1 and 2 display our estimates of the positions of all major parties across 25 different European countries, computed as the average of all national MPs and MEP candidates for each party, along with estimates based on aggregated survey responses.<sup>6</sup> We find that both sets of positions are highly correlated ( $r=0.81$ ). Furthermore, in most countries with 3 or more parties such as Finland, France, Germany, Italy, Netherlands, Spain or Sweden, their order matches that found in surveys. In those cases where both sources disagree, we find that our estimates appear to have higher face validity. For example, in the United Kingdom we find that UKIP has a significantly more right-wing position than the Conservative party, whereas survey respondents place them in similar positions.<sup>7</sup> Another example is Golden Dawn in Greece, identified as leftist by voters, but holding an ambiguous position in the left-right dimension according to our results. The comparison across different countries also yields similar insights: as shown in Figure 2, survey results seem to suggest that the National Front in France is not much more right-wing than conservative parties like the People’s Party in Spain. However, our results place them as the most right-wing major party in Europe by far.

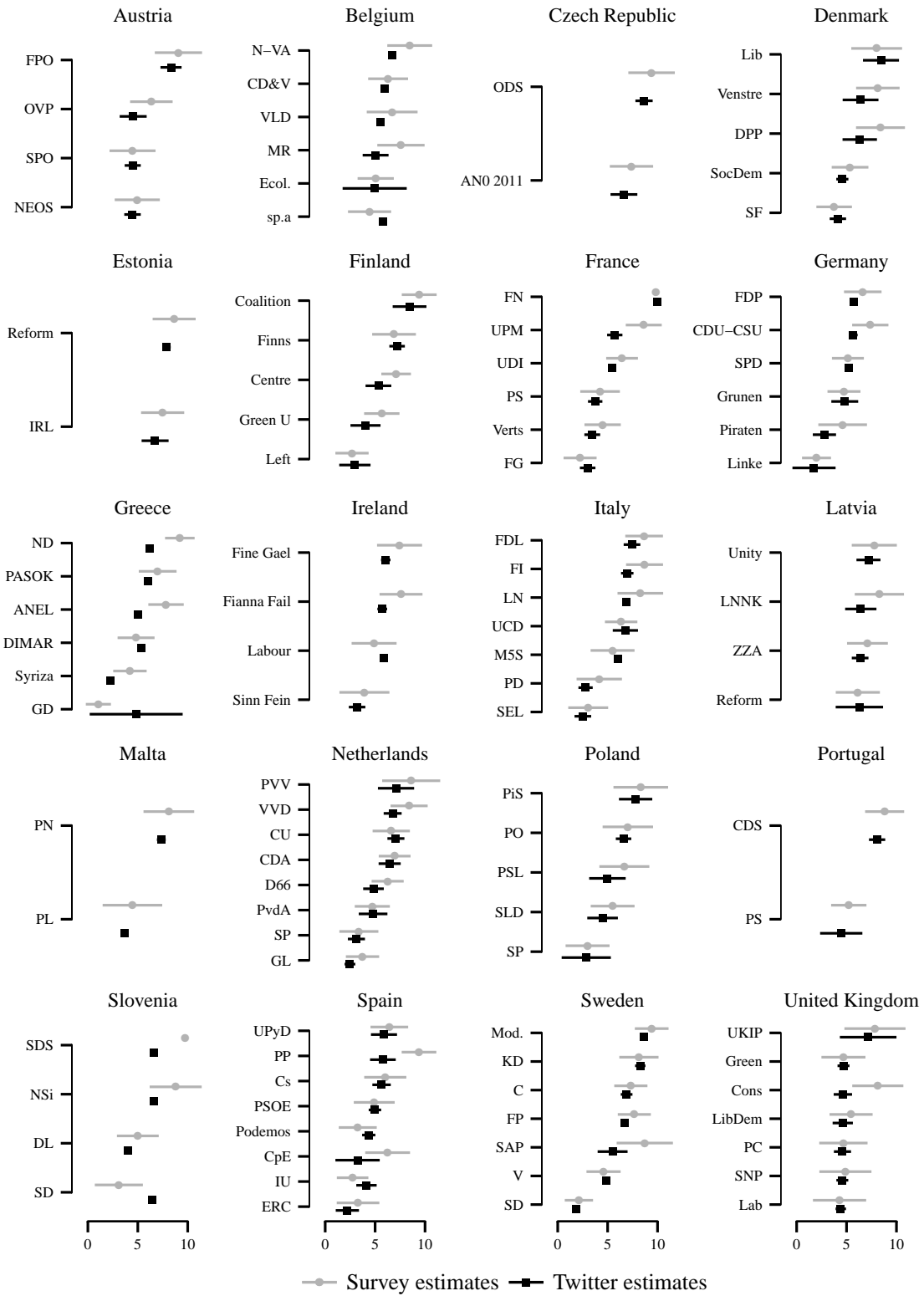
The second row of Figure 2 replicates the scatterplot in the top row, but this time we split our estimates of party positions according to how we computed them: on the left, we display estimates after aggregating MEP candidates’ positions by party; on the right, we aggregate national MPs’ positions. This analysis informs us about how the interpretation of the left-right dimension varies across electoral levels. We find that in both cases the correlation between each set of estimates and the one resulting from survey responses remains high. The values of the correlation coefficient ( $r=0.67$  and  $r=0.71$ ) are somewhat lower, but that is expected since we are aggregating a smaller number of legislators, which

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<sup>6</sup>We only include the estimates of parties with at least 3 MPs or MEP candidates who have more than 1,000 followers, which is the approximate threshold after which our method yields valid results.

<sup>7</sup>However, also note that in the UK the left-right dimension appears to capture mostly the difference between UKIP and the rest of parties, which could be an artifact of estimating these positions around the time of the European elections, where this was the dominant cleavage.

Figure 1: Ideological positions of parties in Europe (left-right dimension)





increases the noise of our estimates. This coefficient is slightly lower for MEP candidates, but still high, which is consistent with the idea of European elections as “second-order” elections, where the left-right dimension still plays an important role.

## 4.2 The European integration dimension

We now turn to examining our results for the European integration dimension, which we summarize in Figures 3 and 4. First, as in the previous case, we again find a high correlation between Twitter estimates of party positions and survey responses ( $r=0.77$ ). However, note that most of this correlation is driven by a small number of parties with differentiated positions, such as the PVV in the Netherlands, UKIP in the UK, the National Front in France, or the Sweden Democrats. With these exceptions, we find very little variation within countries in the positions of different parties on this dimension.

When we disaggregate into party positions according to their national MPs and MEP candidates, here we do find important differences. As we show in the bottom row of Figure 4, MEP candidates’ positions are much more informative about parties’ location on the EU dimension, which is consistent with the idea that this dimension plays a structuring role at the European level, but not so much at the national level.

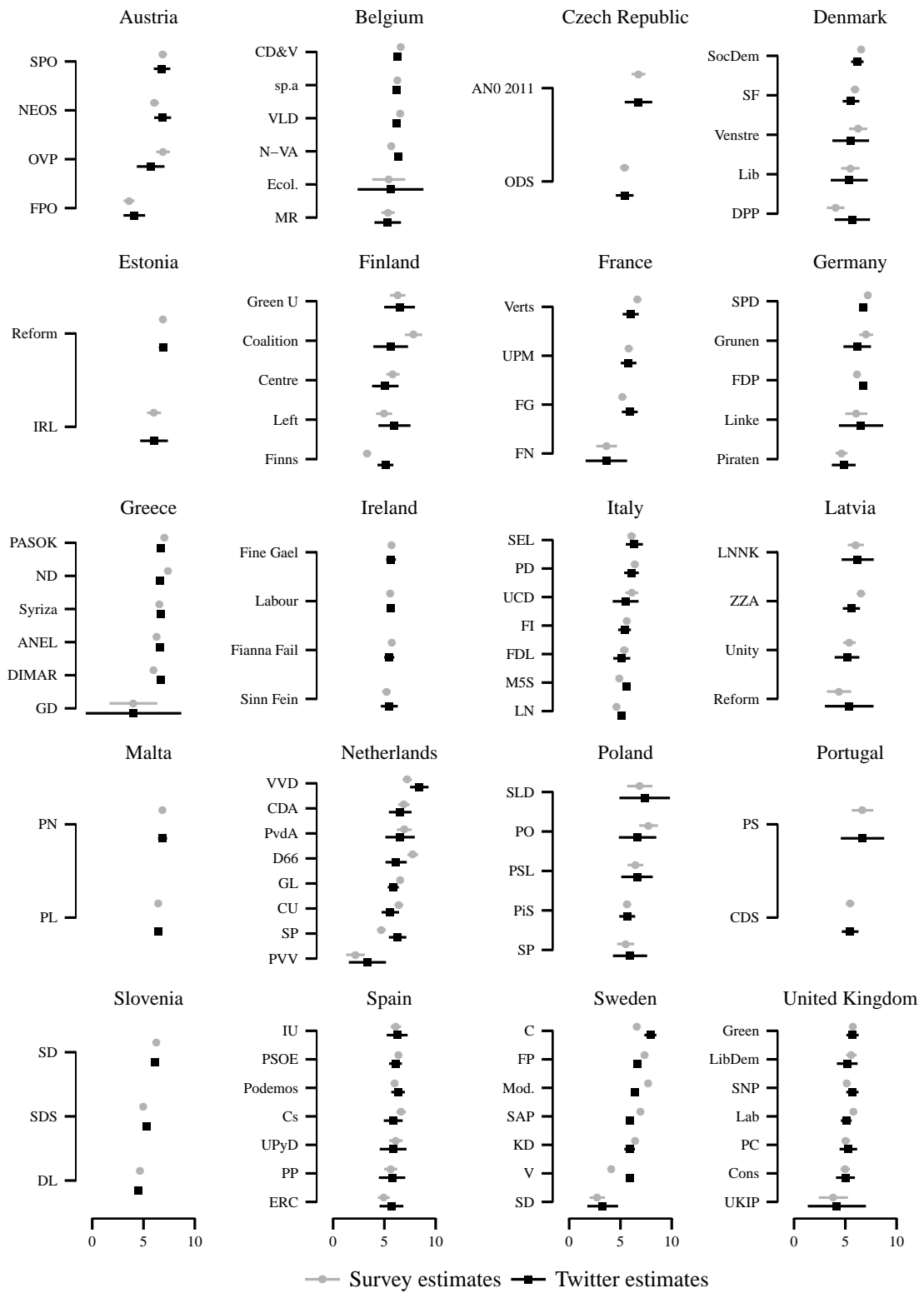
## 4.3 Ideological Realignment in the 2014 EP elections?

The analysis in the previous two sections provides suggestive evidence in support of our two hypotheses: the EU dimension appears to play a substantive role in structuring the European ideological space, and this importance appears to be greater in EP elections than in national politics. We now provide a more systematic test of these claims by quantifying the relative importance of both the left-right and EU integration dimensions across countries at each geographic level. We will adopt two complementary approaches: first, we measure the dispersion of the party positions on each dimension; second, we estimate how the performance of a predictive model of spatial following improves as new dimensions are added.

Figure 5 displays the results of our first analysis. Each bar indicates the standard deviation of the party positions estimated by aggregating the individual positions of national MPs (first row) and MEP candidates (second row). As Alvarez and Nagler (2004) point



Figure 3: Ideological positions of parties in Europe (EU dimension)





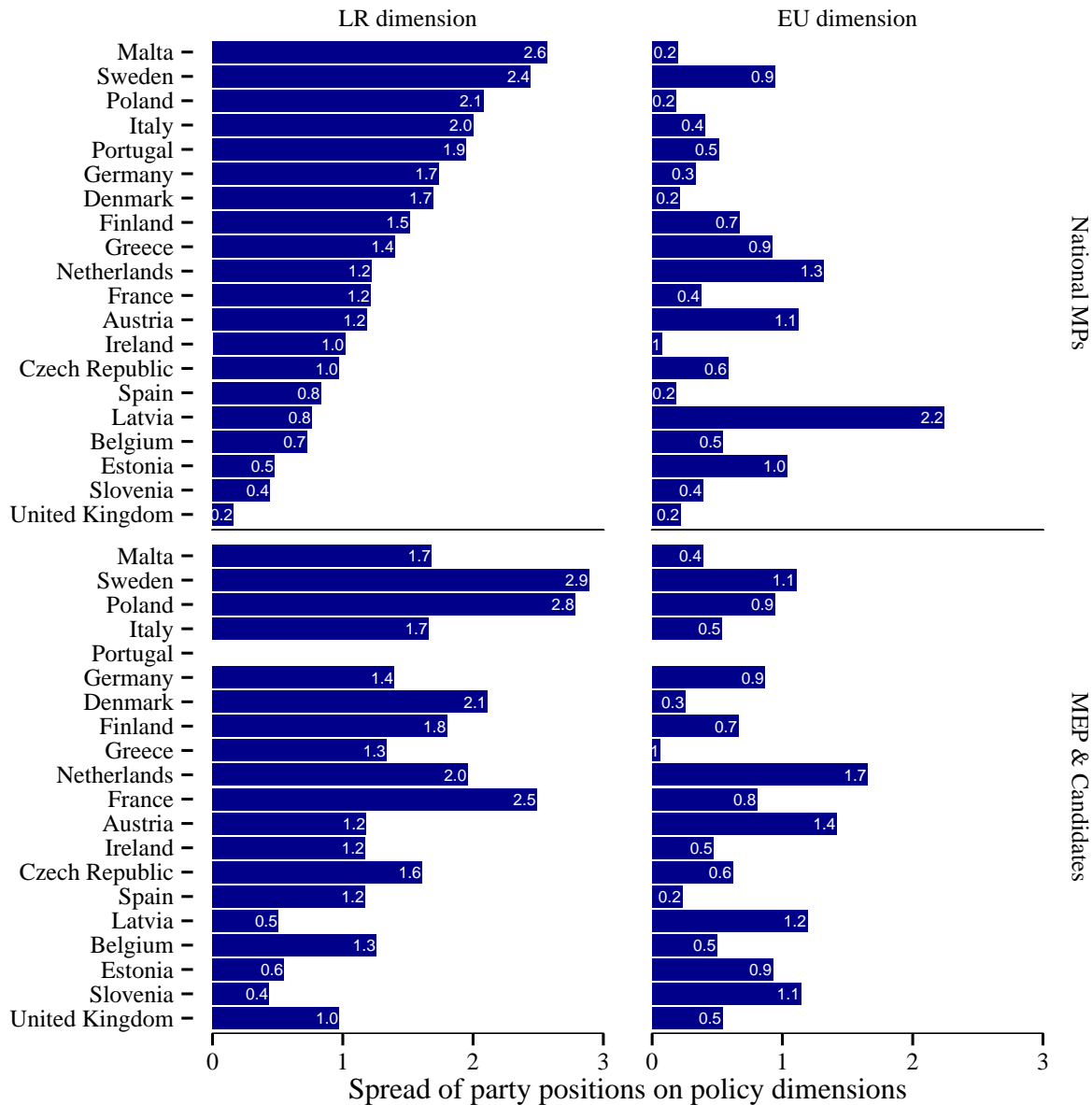
out, the dispersion of the party positions on a given issue dimension is a good proxy of their importance in a given election.<sup>8</sup> It is only when parties offer different options regarding a particular issue that voters can weigh this issue in their voting decisions. Our analysis demonstrates substantive variation in the importance of each dimension across countries and electoral levels. First, we find that the left-right dimension is more important for both national MPs and MEP candidates, which is consistent with the idea of EP elections as second-order elections. At the same time, we also find moderate levels of dispersion on the EU integration dimension, which are somewhat higher for MEP candidates than for national MPs. Most of the differences we find across countries are consistent with our expectations: the left-right dimension appears to play a greater role in countries like Malta, Sweden, Poland or Italy, where left-right voter positions have been found to be better predictors of voting preferences (see e.g. Dalton, 2008); whereas the EU dimension is potentially more important in countries where significant portions of the population oppose European integration, like Sweden, Netherlands, Austria, Greece or Latvia.

This analysis emphasizes the importance of each dimension on the supply side of political competition, but what about voters? What is the relative weight that they give to each of these dimensions in their vote choices? To approximate this aspect of their electoral behavior, we build a statistical model that allows us to assess the explanatory power of each dimension regarding their following decisions, under the assumption that these decisions are also informative about voting behavior; that is, we expect that they are more likely to vote for political actors they follow on Twitter. We divide our analysis in two steps. First, we run a logit model where the unit of analysis is each possible following decisions in a country, with dependent variable  $y_{ij} = 1$  where user  $i$  follows political account  $j$  and 0 otherwise, and with only two independent variables,  $\hat{\alpha}_i$  and  $\hat{\beta}_j$  (the estimated random effects in equation 1, which correspond roughly to the political interest of user  $i$  and the popularity of account  $j$ ). We then compute the predictive accuracy of this baseline model, which we measure as the proportion of correctly predicted following links according to this model. In the second step of our analysis, we add additional independent variables measuring the Euclidean distance on the latent space between the user and the political account in each dimension:  $(\theta_{ij} - \phi_{jk})^2$ . By computing the accuracy of these new models, we can find the proportional reduction of error (the improvement

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<sup>8</sup>Alvarez and Nagler (2004) propose the use of a different measure of party dispersion, party system “compactness”, which accounts for the standard deviation of voters’ preferences on a given dimension. Here we use a simpler measure because we already located parties on a single European-level latent space and because our interest here is only on the supply-side of party competition.

Figure 5: Relative importance of left-right and EU policy dimensions



*Note:* this figure displays the spread (standard deviation) of the average party positions in each country across the two policy dimensions we consider (left-right, on the left column, and EU, on the right column), estimated by aggregating the individual positions of national MPs (top row) and MEPs and MEP candidates (bottom row). We consider only countries with at least two parties with 3+ Twitter accounts with over 1,000 followers. (Portugal is excluded from the bottom row because it did not satisfy this requirement.)

in the performance of the model after including these new covariates), which provides us with information about the relative importance of each dimension: the more additional variance in following decisions a dimension explains, the more relevant we consider it is.<sup>9</sup> We repeat this procedure twice, once for following decisions between users and national MPs, and another time for users and MEP candidates.<sup>10</sup>

Table 2 summarizes the results of our analysis. With some caveats, which we now discuss, we find similar results to those reported in Figure 5: the left-right dimension appears to be most relevant in most countries, but the EU dimension also contributes to explaining following decisions, particularly in the case of MEP candidates. Some of the differences across countries, but not all, are consistent with our expectations. Two potential explanations for the values we find in countries like Estonia or Malta is that additional unobserved variables explain following decisions, thus limiting our ability to draw meaningful comparisons. It is also possible that the EU dimension is capturing different issues that are also correlated with positions regarding European integration. In countries like Greece or Spain, for example, new parties like Syriza or Podemos have adopted a somewhat more Eurosceptic positions while at the same time exhibiting different positions on new political dimensions.

## 5 Discussion

This paper has important theoretical, methodological and empirical implications. In theoretical terms, we propose that the growing saliency of European issues – what others have called the politicization of European integration – might have prepared the ground for a structural realignment of political parties and voters along the EU dimension of political contestation. In order to test whether this expectation confirms with reality, we apply a new method of analysis to a new kind of data. The method that we apply allows us to estimate ideological positions using Twitter networks and builds upon previous

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<sup>9</sup>Note that our statistical model by construction will yield dimensions that explain most of the variance, since that is how we identify the dimensions in the first place. This is the reason why we benchmark our full models against baseline models that already incorporate the effect of the two most important predictors of following decisions.

<sup>10</sup>We acknowledge one limitation in our analysis: given that Twitter users are not representative of the entire population, there is the potential that our inferences are biased. As we argued in Section 3, Twitter users appear to be more informed about politics. As a result, it is possible we are overestimating the importance of the EU dimension, since informed voters are more likely to pay more attention to European politics.

Table 2: Estimates of predictive accuracy of left-right and EU dimensions

Country	National MPs			MEP candidates		
	Baseline	%pre LR	%pre EU	Baseline	%pre LR	%pre EU
Austria	92.8	5.5	2.7	95.3	1.9	0.5
Belgium	94.0	10.2	4.9	94.7	2.6	3.3
Czech Republic	94.7	6.8	9.7	96.8	-1.0	3.8
Denmark	93.9	3.1	0.2	97.6	-0.5	-0.1
Estonia	83.0	56.2	8.9	88.0	3.6	-1.1
Finland	94.3	0.1	8.0	96.3	4.6	9.0
France	97.2	10.9	0.0	97.9	5.6	-0.1
Germany	96.5	2.1	4.8	97.3	0.8	1.4
Greece	93.9	4.5	0.7	95.5	2.2	0.4
Ireland	92.5	7.4	1.2	92.5	2.5	0.4
Italy	97.6	2.3	0.8	97.1	10.3	0.6
Latvia	93.3	2.9	-0.1	93.0	6.6	-0.5
Malta	90.6	17.8	1.4	91.7	13.8	-0.6
Netherlands	93.5	3.1	3.5	97.2	12.0	20.8
Poland	95.4	0.3	0.1	95.2	-0.4	0.3
Portugal	86.5	0.5	4.2	–	–	–
Slovenia	91.2	0.9	4.8	88.2	4.0	4.2
Spain	96.2	12.8	3.3	98.2	10.2	4.6
Sweden	96.1	4.5	1.5	96.6	1.2	0.3
United Kingdom	96.3	3.0	0.6	99.0	-0.1	-0.2

*Note:* this table provides an estimate of the importance of each policy dimension by displaying the proportional reduction in error (PRE) in the prediction of following links between citizens and legislators (MPs and MEP candidates) after considering additional dimensions. The first column the proportion of correctly predicted following links of a logit model that only includes number of followers (for legislators) and politicians followed (for citizens). As expected, these two variables explain most of the variation. The second and third columns indicate the reduction in the proportion of prediction errors after adding variables measuring the distance between each citizen and legislator on the left-right and EU dimensions, respectively. The greater this number, the better this dimension is explaining variance in following links. Negative numbers correspond to cases in which adding the dimension actually reduces the predictive power of the model. (Note that only countries with at least two parties with 3 or more Twitter accounts with over 1,000 followers are included.)

work by the first author (Barberá, 2015). Other than in this earlier analysis, however, we transcend the limits of national electoral systems and take the multi-level system of the European Union as our scope of reference. The new kind of data that we analyze are Twitter networks between party elites (MEPs, EP candidates and national MPs) and their followers as they were in existence at the time of the 2014 European Parliament elections. Our dataset consists of millions of following links from all the member countries of the EU (although we must admit that the density of Twitter usage differs quite a bit between these countries, rendering some national estimates more reliable than others). In terms of empirical results, we identify two basic dimensions which structure the European political space, the traditional left-right dimension and the EU dimension with its Europhobe and Europhile polar points. The meaning of these two dimensions could be nicely validated by the results of more conventional (and more expensive) nationally representative post-electoral cross-sectional surveys which were also conducted in the framework of the European Election Study 2014. Regarding substantive empirical findings, we see that the left-right dimension is still the predominant frame of political orientation and behavior. Relying on the analogy between following a Twitter account of a politician and voting for his or her party on election day, we clearly see that the left-right dimension is more powerful virtually everywhere. But there are member countries of the Union in which the EU dimension is at a strong second place, suggesting that European issues are considerably adding to the left-right based choice behavior. It does not come as a surprise that this is more clearly visible for EU political elites than for sitting national MPs.

But a structural realignment does not require a complete change of the pre-dominant frames of orientation and of the issue and ideological bases of electoral choices. Gradual changes here can produce major electoral upheavals, and lasting reorientations between voters and political parties. And of course, these processes must not be expected to extend over all of the 28 EU member countries. And they must not identify themselves at the occasion of a still largely second-order national election. It is actually more likely that structural realignments happen in times of highest political mobilization, which is still expected to occur at the occasion of national first-order elections. So while we are confident in the soundness of our methodology and the promises of our dataset, as well as in the broad results we have presented in this paper, more research will be needed to identify the “critical” spots in which structural re-alignments between politics and society in Europe are likely to occur.

We would like to share a final consideration regarding problems of endogeneity and



how to overcome those. In our discipline, the currently most fashionable strategy in that regard is without a doubt experimental research. However, there is another strategy (and we are sure there are more than one) that we have chosen to follow to some degree in the present paper: the usage of different data bases so that one can validate the findings of the other. With regard to the analysis of Twitter networks, we are just at the beginning of a fabulous new road of empirical social research which we are sure will become very prominent in the near future.

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