# Cleavage Structures and Ideological Dimensions in English Politics: Some Evidence from VAA Data 

The left-right dimension is the most common way of conceptualizing ideological difference. It is based on the traditional cleavage in society between capital and labour. But in an ever more globalised world, are the concepts of Left and Right as relevant today as they were half a century ago? Following Kriesi et al. (2006) I argue that the cleavage that exists in many European societies between "winners" and "losers" of globalisation has engendered a new ideological dimension that pits "cosmopolitans" against "communitarians" and draws on cultural issues relating to identity, rather than economic issues. I test this argument by identifying latent dimensions from opinion data generated by two Voting Advice Applications (VAAs) deployed in England in 2014 and 2015 and by mapping the positions of party supporters with respect to these dimensions. I find that in England the political space is defined by two main ideological dimensions: an economic Left-Right dimension and a cultural communitarian-cosmopolitan dimension. I also find that supporters of the newly formed United Kingdom Independence Party (UKIP) are located near the communitarian pole of the cultural dimension.

## Introduction

Ideological difference is most commonly conceptualised in terms of political dimensions. The LeftRight dimension is the most well known of these, and is the one most often used in common parlance. However, in recent years political scientists have increasingly come to talk of a twodimensional politics in Europe, defined by one economic (Left-Right) dimension, and one cultural dimension that relates to voters' and parties' positions on socio-cultural issues. The most widelycited conceptualisation of this second dimension is that of Marks et al. (2006), who have named it TAN/GAL, where TAN stands for traditionalism/authority/nationalism and GAL refers to green/alternative/libertarian. It is the aim of this paper to investigate the empirical validity of economic Left-Right and TAN/GAL by drawing from opinion data generated by two Voting Advice Applications (VAAs) deployed in England in 2014 and 2015. A further goal is to explore the extent to which these dimensions are (or are not) valid across different sections of the voting population.
"Left" and "Right" are ambiguous concepts; for Huber and Inglehart, the Left-Right dimension is "an amorphous vessel whose meaning varies in systematic ways with the underlying political and economic conditions in a given society" (Huber and Inglehart 1995, 90). Bobbio, a staunch defender of the Left-Right dichotomy, uses the equality/inequality distinction to cover cultural as well as economic matters but is left with a highly fluid concept as he himself admits (Bobbio 1996: 35). Moreover, the concepts of Left and Right have proved extraordinarily flexible over time. First coined in post-revolutionary France to distinguish supporters of the King and Church (the Right) from supporters of the French Revolution (the Left), by the twentieth century these concepts had acquired an economic significance with those on the Right supporting free-market capitalism and those on the Left supporting redistribution of wealth and defending the interests of labour. Today "Left" and "Right" are variously used to refer to both economic ideologies (capital versus labour) and cultural ideologies (social liberalism versus social conservatism).

That Left and Right in Western Europe took on an economic significance in the twentieth century is unsurprising. By then the class cleavage, i.e. that between owner and worker, had become the dominant cleavage in society. However, in their seminal essay of 1967 Lipset and Rokken identify no less than four potential societal cleavages that have structured the formation of party politics in Western Europe since the end of the eighteenth century: the other three being centre versus periphery, state versus church (or religious versus secular) and land versus industry (Lipset and Rokken 1967). In a comparison of Belgium, Canada, South Africa and Switzerland, Lijphart (1979) argues that in some societies religious cleavages still take precedence over class divisions as a source of conflict. Kriesi et al. (2006) identify a fifth societal cleavage that appeared at the end of the twentieth century and the beginning of the twenty-first: that between "winners" and "losers" of globalisation.

Given the complexities of societal cleavages in many European societies, is it not possible that
politics is rather too complex to be reduced to just one (Left versus Right) ideological dimension? Lipset (1959) warns that politics becomes especially conflict-prone when the economic (capital versus labour) cleavage reinforces a religious-secular cleavage, leaving open the (more desirable) possibility that these two cleavages may be cross-cutting, suggesting by implication the possibility of at least two independent ideological dimensions. While not all (five) cleavages identified above are relevant in all societies, it is very likely that more than one may be relevant in most. If they are cross-cutting, rather than reinforcing, they may define a multi-dimensional ideological space.

By the 1970s and 1980s, scholars were already proposing a second ideological dimension that exists in parallel to the (economic) Left versus Right dimension. Inglehart $(1977,1990)$ identified the emergence of a "new politics" based on what he terms "post-materialist values" that emerged as part of the counter-culture of the 1960s and 1970s and that began to supplant-or exist in parallel with—materialist values that were based on the imperative of economic need. "Post-materialist values" include cultural notions of gender equality, gay rights, environmental protection and tolerance of alternative lifestyles. Based on these concepts, some scholars suggest that two ideological dimensions-one economic and one cultural—would better describe the ideological space in Europe than a single all-encompassing Left-Right dimension. Thus Kitschelt suggests a libertarian-authoritarian dimension in addition to an (economic) Left-Right dimension (Kitschelt 1994, 1995), while Bobbio (1996) proposes a freedom-authoritarian dichotomy to distinguish moderates from extremists on both the Left and the Right. Marks et al. (2006), drawing strongly from Inglehart's conceptualisation, came up with the above-mentioned acronym TAN/GAL. The well-known Chapel Hill survey, carried out by scholars of the University of North Carolina, uses an economic Left-Right dimension and a TAN/GAL dimension to locate European political parties in a two-dimensional ideological space (Marks et al. 2006; Bakker et al. 2015).

The political system in the United Kingdom is usually described as a two-party system that is
defined by a single Left-Right dimension, with the Labour Party on the Left and the Conservative Party on the Right. The smaller third party, the Liberal Democrats (previously the Liberal Party), is usually placed in the middle of the spectrum or very slightly to the left of centre. Although religious and territorial issues played a major role in politics prior to the First World War, subsequently their political salience faded (Moran 1999). With the rise of the Labour Party in the first part of the twentieth century socio-economic class became the most politically salient division in society and Left and Right were seen primarily in economic terms. The Labour Party represented the working class or labour and the Conservatives, representing capital, were seen as defenders of the middle classes. In the 1960s most Britons identified themselves by class and class voting was prevalent, with a strong majority of the working classes voting Labour and most middle class voters supporting the Conservatives (Clarke et al. 2004: 40).

From the 1970s, however, patterns of class voting began to break down (Clarke et al. 2004: 41-43; Heath et al. 1991: 64) . Moreover, as the relative size of the working class declined both main parties sought to build a "winning coalition" from the burgeoning middle classes (Ford and Goodwin 2014: 128). As a result, the Labour Party shifted away from strongly redistributive policies and, following Tony Blair's election as leader in 1994, increasingly adopted businessfriendly policies and embraced the free market economy. This reduced the distance between the two main parties on the economic dimension.

The structure of British politics shifted further in the beginning of twenty-first century, as the United Kingdom Independence Party (UKIP), a eurosceptic party formed in 1991 as the antiFederalist League, began to draw votes from the other parties. Weak on economic policy, UKIP was defined more by its stance on cultural or identity issues such as Britain's relation to Europe, immigration (for which it advocated strict controls) and localism. UKIP took first place in elections to the European Parliament in 2014 and came third in terms of votes, with 12.6 percent, in the
general elections of 2015. The two-party system in the United Kingdom was further undermined by the Scottish National Party (SNP), which by 2015 had become the dominant party in Scotland, garnering 50 percent of the vote there.

These developments suggest that British politics is becoming more complex and can no longer be so easily defined by a single Left-Right dimension. While UKIP is usually defined as "right-wing", it is not defined in this way because of its economic policy, but because of its stance on immigration and other identity issues. For Ford and Goodwin (2014), UKIP draws from "left behind" voters, typically older, blue-collar workers who feel that their interests are no longer represented by the traditional parties, especially the Labour Party, which they feel has neglected its traditional working class base and has become too cosmopolitan and London-based. Essentially, they are describing voters who are "left behind" by globalisation and the changes associated with it and are bitter and resentful about their powerlessness. Indeed Kriesi et al. suggest that globalisation's "losers" more often adopt a position of "cultural demarcation", rather than demand economic redistribution, leading many of them to turn to populist, anti-immigration, anti-EU, "right-wing" parties (Kriesi et al. 2006). In an earlier work I describe the cleavage between "winners" and "losers" of globalisation as one between "communitarians" and "cosmopolitans" (Wheatley 2015). David Goodhart instead uses the terms "communitarians" and "metropolitans". While the former group (to which UKIP supporters tend to belong) reject change, prefer continuity and stability and feel that "those close to us matter more than people who are far away" ${ }^{1}$, the latter welcome change, cultural diversity and geographical mobility. While the focus of this paper is on England, the analysis of Kriesi et al. would suggest that it may be meaningful to talk about a communitarian-cosmopolitan dimension in much of Europe, especially in regions most exposed to globalisation.

The question I seek to address in this paper is how to define the ideological space in England. Is it one-dimensional or multi-dimensional? Can we talk about an economic Left-Right dimension and a

[^0]GAL/TAN dimension, as Marks et al. propose? Or should we instead talk of a new communitariancosmopolitan dimension? And where does our new insurgent party, UKIP, fit into whatever schema we deem most relevant?

In order to address these questions we draw from public opinion data generated from an online application called a Voting Advice Application (VAA), the purpose of which is to help users decide how to vote in elections. Specifically, the data is drawn from two VAAs: the EUvox VAA, which was deployed prior to elections to the European Parliament (EP) in May 2014, and WhoGetsMyVoteUK, which was deployed before the general elections a year later. The data contains users' opinions on thirty policy issues and in this paper I use Mokken Scale Analysis to identify ideological dimensions and locate users and, more specifically, party supporters on a policy space defined by these dimensions. My approach is inductive; instead of predefining ideological dimensions a priori like Marks et al., I "let the data speak for itself" and predetermine neither the number nor the nature of each dimension. Another innovation of my approach in this paper is that I focus more on how voters are aligned, rather than how political elites are aligned. While traditional approaches to locating parties in an ideological space involve elite surveys (Kitschelt et al. 1999) or manifesto analyses (Budge et al. 2001); here the focus is-to adopt a term coined by Key (1964)—the "party-in-the-electorate".

Of course, one problem we face is that VAA users are a self-selected sample that may not be representative of the population at large. To help overcome this problem, I divide the overall samples of VAA users into a number of different sub-samples, based on age, education and political interest, and perform the analysis on each subgroup separately. I also generate a sample of users than is more or less representative of the voting population in terms of vote intention. The goal of this sampling exercise is to see whether the coherence of the dimensions identified varies between the different sub-samples.

My overall findings are the following. First, two principal ideological dimensions are identified from the opinion data generated by the two VAAs, one of which is that between an economic Left and an economic Right and one of which represents the divide described above between communitarians and cosmopolitans. This second dimension is clearly distinctive from the TAN/GAL dimension proposed by Marks et al. The two dimensions covary with one another with economically right-wing voters tending to be more communitarian and economically left-wing voters tending towards the cosmopolitan end of the spectrum.

The second main finding regards the role of UKIP. Users who identified themselves as UKIP supporters in both VAAs are positioned near the communitarian pole of the communitariancosmopolitan dimension. This conforms to the hypothesis that UKIP supporters feel threatened by globalisation and seek refuge in their close community and "like-minded" people.

The third finding is probably the most dramatic. This is that amongst sub-samples of voters with relatively low political interest and younger voters, the covariances of user responses to policy issues belonging to the cultural communitarian-cosmopolitan dimension are significantly higher than corresponding covariances along the economic Left-Right dimension. Indeed amongst the cohort that shows least interest in politics, the economic Left-Right dimension is hardly a coherent dimension at all, while the communitarian-cosmopolitan dimension remains relatively strong.

The fourth and final finding is methodological. This research shows that data generated from VAAs, providing their limitations are understood and made explicit, represent a useful tool for investigating the dimensionality of the policy space. The advantage of the VAA as a tool is that it can present respondents with a relatively large number of issue statements and an identical menu of response options with which to answer them. This is likely to be arduous to implement in a
traditional face-to-face or telephone survey. The main disadvantage, of course, is that users form a self-selected, rather than a representative sample, but as I show below there are mechanisms to overcome or at least assuage these difficulties. Given that the aim of a VAA is to help voters decide which party/candidate most closely matches their policy preferences, it is unsurprising that most VAA-related literature relates to issues involving VAA design, such as the spatial models and metrics used in VAAs (Louwerse and Rosema 2014), the effects of statement selection on the advice provided (Walgrave et al. 2009), or methods for coding parties and candidates (Trechsel and Mair 2011). This research shows, however, that VAAs can also be used to research some of the core puzzles in political science, such as dimensionality.

The rest of the paper will proceed as follows. First I explain the method used for analysing the data generated by the VAAs, including identifying ideological dimensions, mapping party supporters with respect to these dimensions and analysing sub-samples of the data. I then go on to present the results of the analysis. I end the paper with a short conclusion.

## Method

As has been pointed out in the previous section, the data I use for this analysis has been generated by two VAAs deployed in the United Kingdom before the EP elections in 2014 and before the 2015 general elections. Because somewhat different questions were asked in England, Scotland, Wales and Northern Ireland, here I consider only the England dataset, which was far larger than the other three. The dataset generated from EUvox (for the EP elections) in England contains data from 60,728 users after cleaning, while the WhoGetsMyVote dataset (from the general elections) incorporates data from 17,353 users. The demographic characteristics of each group of users is shown in Table 1. Both datasets appear to demonstrate a degree of bias towards younger, more welleducated voters; this bias appears to be especially significant in the case of WhoGetsMyVoteUK.

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VAAs are online applications that enable users to compare their policy preferences with those of political parties (or election candidates) in order to help them decide how to vote. Users are presented with a number of policy or issue statements to which they can express varying degrees of agreement or disagreement. Independently, parties (or candidates) are either coded by experts or self-coded on each statement. The application then matches the user and parties (or candidates) in the form of a graphical display, which shows the user how close he or she is to each party or candidate. Both EUvox and WhoGetsMyVoteUK included thirty issue statements and users could respond with any one of the following response categories: "completely agree", "agree", "neither agree nor disagree", "disagree", "completely disagree" and "no opinion". In both VAAs, users were also invited to answer a number of supplementary questions, which included age, education, gender and (in the case of EUvox) interest in politics (very, somewhat, little or not at all) or (in the case of WhoGetsMyVoteUK) attention paid to politics (on a scale from 0 to 10 ). Further supplementary questions also asked users to name the parties (if any) they a) felt closest to, b) intended to vote for in the coming general elections and c) (for EUvox only) intended to vote for in the EP elections. For all supplementary questions, the option "I prefer not to say" was available, while for those involving the naming of parties, the options "none", "undecided" and "I do not intend to vote" were available. The datasets included the responses of users to all issue statements and supplementary questions after extensive cleaning (for details of the data cleaning process, see the online appendix).

Latent ideological dimensions were identified from users' responses to the thirty issue statements. Of course, it could be argued that the items used in the two VAAs are a product of the questionnaire designers' preconceived ideas of what are the fundamental ideological dimensions and that the dimensions "discovered" simply reflect this latent bias. The EUvox VAA included twenty-one items that were common to all EU member states (Items 1-7, 11-17 and 21-27, see Table 7 in the

Appendix), as well as nine that were specific to England. The twenty-one common items were divided into three main categories with seven items in each category: "EU" (on EU issues), "economy" (on economic left-right issues) and "society" (on TAN/GAL issues), based on the items used in the Chapel Hill Expert Survey (Bakker et al., 2015). Given that the Chapel Hill Survey is predicated on the two-dimensional model of Marks et al. (2006), supplemented with a third European dimension (Bakker et al., 2012), it is clearly true that the items were selected according to predefined notions of dimensionality. WhoGetsMyVoteUK items, on the other hand were selected very differently; they were designed to reflect England-specific issues that were politically relevant in the run-up to the 2015 elections (see Table 8 in the Appendix).

As we shall see in the next section, the dimensionality revealed from the EUvox dataset failed to reflect the latent bias inherent in the questionnaire design. Moreover, the dimensions identified from the WhoGetsMyVote dataset, which was designed according to very different principles, are virtually identical to those identified from EUvox, which is perhaps testimony to the fact that the bias made little difference to the overall findings.

Turning now to the method used for identifying dimensions from item response variables, the most commonly used method for such an endeavour is factor analysis and this author has also previously used this method on user responses to issue statements in VAAs, including in an earlier work on the England EUvox dataset (Wheatley 2015). However, van der Eijk and Rose (2015) find that when factor analysis is applied to ordered-categorical survey items (also often known as Likert items), the analysis is prone to over-estimating the number of latent dimensions (over-dimensionalisation). Emons et al. (2012) hold that Mokken Scale Analysis (MSA) is more suitable for analysing discrete questionnaire data than either principal component analysis (PCA) or confirmatory factor analysis (CFA), and that even when polychoric correlations are used in PCA and CFA (as in Wheatley 2015), the assumption within this technique of latent normal distributions may distort the results. For this
reason in this paper I use MSA to identify latent dimensions or scales from users' responses to issue statements.

MSA has already been used on ordered-categorical VAA issue statements either to map parties or to test the validity of the scales that are used to generate two-dimensional maps in VAAs (Germann et al. 2015; Germann and Mendez 2015; Wheatley 2015). In this analysis, I apply Mokken Scale Analysis for the Monotone Homogeneity Model on user responses to the thirty issue statements. I follow Emons et al. (2012) and Hemker, Sijtsma, and Molenaar (1995) in running the automated item selection procedure (AISP) consecutively, increasing stepwise by 0.05 the minimum threshold, c, for the item scalability coefficients $\mathrm{H}_{\mathrm{j}}$. The analysis generates unidimensional scales and the strength (or coherence) of each scale is defined by Loevinger's H coefficient, which measures the consistency of responses to items that belong to that scale. Following Mokken (1971) we consider a scale to be strong if $\mathrm{H} \geq 0.5$, medium if $\mathrm{H} \geq 0.4$ and weak if $\mathrm{H} \geq 0.3$. For more details about how MSA is applied, see the online appendix.

The disadvantage of MSA in comparison with CFA is that while the root mean square error of approximation (RMSEA) in CFA helps the researcher to identify and remove very similar items, MSA does not do so unless the frequency of each response to each item (i.e., level of difficulty) is very similar (in which case monotonicity violations may be flagged). First of all, therefore, we have to check that no two items are substantively similar, i.e. effectively refer to the same issue. If they do, the risk is that we give too much weight to that issue within the scale we identify, leading to a biased scale. Substantively "superfluous" items should therefore be removed.

Second, given that we are identifying ideological dimensions, the results of our analysis will be particularly sensitive to ideological biases in our datasets. Before carrying out the analysis I therefore distil out a sample of each dataset that corresponds to the voting population in terms of
political affiliation. To do this I randomly sample a number of users who expressed an intention to vote for each party that is proportional to the number of votes won by that party in the relevant election, together with a quota of convinced abstainers and undecided voters as a proxy for those who did not vote. I carry out MSA on the (reduced) datasets, rather than on the full sets of users. The total N is thereby reduced to 17,860 for EUvox and 4,568 for WhoGetsMyVoteUK.

Having identified scales (i.e. dimensions) that satisfy all of the above conditions on these datasets, I calculate the position of all users that give an opinion on the relevant items with respect to the dimensions identified. I do this by summing the scores on all items that are deemed to belong to the relevant scale (using reversed items if an item is pointing in the opposite "ideological direction" from others) and normalising the sum to produce a value of between zero and one. I then identify party supporters as those users who name as the same party a) the party they felt closest to, b) the party they intended to vote for in the forthcoming general elections and c) (in the case of EUvox) the party they intended to vote for in the EP elections. Considering only the five largest parties in England-the Conservative Party, the Labour Party, the Liberal Democrats UKIP and the Green Party-I then calculate the mean positions of each group of party supporters with respect to each dimension and —if possible -plot graphically the contour lines that enclose 50 percent of party supporters.

I then repeat the analysis on various different sub-samples of users. Using the reduced (politically representative) datasets, I first sample according to age, taking one sub-sample consisting of those aged less than 40 in May 2015 (for EUvox data this means sampling those born in 1975 or later) and one consisting of those aged 40 or more. Next, I sample according to education. From the EUvox dataset I select those who have a university education and those who do not, while from the WhoGetsMyVoteUK dataset (in which the supplementary questions are a little different), I select those who finished their education at age 20 and over and those who finished their education earlier.

Finally, I select three subsamples from both datasets on the basis of political interest/attention paid to politics. From the EUvox dataset I identify those who a) are "very" interested in politics, b) are "somewhat" interested in politics, and c) have "little" or "no" interest in politics, while from the WhoGetsMyVoteUK dataset I distinguish between those who graded themselves between 1 and 4 on a 1-10 scale in terms of attention paid to politics, from those graded 5 to 8 and finally those graded 9 or 10 .

The final step is to use the coherence (or rather incoherence) of each scale as the dependent variable and to perform a regression analysis using various demographic and political affiliation variables as independent variables. This helps us to find out whether the dimensions identified are more or less influential in aggregating issue preferences amongst certain categories of users while controlling for other possibly critical categories. I operationalise the dependent variable as the number of Guttman errors in the relevant scale for each respondent. $\quad{ }^{2}$ The regression used is a negative binomial regression, which is most appropriate for modelling count variables.

## Results

As there was an emphasis on EU-related issues in EUvox, I first identify and delete from the questionnaire any superfluous items. Three items are substantively very similar and are about the same issue, so to include them all would have given too much weight to that issue. These are Item 6 (on whether EU membership is a bad thing), Item 9 (on remaining within the EU) and Item 10 (on holding an in-out referendum on EU membership). As Item 6 is more about a judgement of the current situation than a policy and Item 10 may tap into two separate constructs (whether the EU is a good thing and whether referendums are a good thing), I drop Items 6 and 10 and retain Item 9. WhoGetsMyVoteUK covered a diverse range of issues and none could be seen as superfluous.

[^1]2 To calculate this I use the check.errors function in the R package mokken.

Analysis of both datasets reveals a two-dimensional structure. To see the issue statements that load onto each dimension see Tables 2 and 3, and refer to Tables 7 and 8 in the Appendix for the wording of each issue statement. If the item contains the suffix "_rev", this means that agreement with the item means the user is contrary to the assigned "direction" of the dimension. In both tables the value of $\mathrm{H}_{\mathrm{j}}$ is given for each item. For the EUvox dataset, the dominant dimension is a cultural one that contains ten items on EU integration, immigration, gay marriage and Islam. An economic dimension was also identified that includes five items on the free market in healthcare, state regulation of the economy, workers' rights, cutting government spending and tax cuts for the rich.
<INSERT TABLE 3>

Analysis of the WhoGetsMyVoteUK also reveals a two-dimensional solution. The dimensions identified here are very similar to the cultural and economic dimensions identified in the EUvox solution. The cultural dimension includes thirteen items on inheritance tax, wind farms, forcing young people to work for benefits, gay marriage, the role of Christianity, localism, EU membership, foreign aid, immigration, English votes for English laws and the European Convention for human rights, while the economic dimension includes nine items on spending cuts, taxing the wealthy, nationalising the railways, benefit cuts, private sector involvement in healthcare, free schools, university tuition fees, extraction of shale gas and the Trident nuclear missile system.

Overall, the outputs we obtain by analysing the two datasets are very similar. In both cases the economic dimension clearly refers to the economic Left-Right dimension with which we are familiar. However, in both cases the dominant dimension is the cultural dimension, which is of "medium" ( $\mathrm{H} \geq 0.4$ ) strength in Mokken's terminology, compared with a "weak" ( $\mathrm{H} \geq 0.3$ ) economic dimension. Interestingly, only two (Items 21 and 25) of the seven items (Items 21-27) in EUvox that
were selected to represent the TAN/GAL dimension actually load onto the cultural dimension. Issues on law and order, abortion and drug use that for Marks et al. form the backbone of the TAN/GAL dimension did not. Environmental or "green" issues, despite contributing to the " $G$ " in GAL/TAN, were found to be ambiguous; in EUvox, the controversial issue of shale gas extraction (fracking) did not load onto any dimension, while in WhoGetsMyVoteUK it was identified with the economic dimension. The issue of wind farms, on the other hand, forms a part of the cultural dimension in the WhoGetsMyVoteUK dataset. The ambiguity of green issues contra Marks et al. is also highlighted in the literature; Dalton finds that the relationship between environmental issues and economic Left-Right issues in terms of party positions has become significantly stronger in recent years (Dalton 2009).

The cultural dimension that I identify here from both datasets is therefore not the same as TAN/GAL. Instead it consists of items that are strikingly similar to the above mentioned conceptualisation of the communitarian-cosmopolitan dimension, or what Kriesi et al. identify as the salient political differences between "winners" and "losers" of globalisation, given the prevalence of items that focus on differences between the "in-group" (the community) and the "outgroup" ("others" such as immigrants, outsiders, gays and the EU). While two items in

WhoGetsMyVoteUK—on inheritance tax (Item 3) and making young people work for their benefits (Item 9) -that at first glance should belong to the economic dimension do in fact load onto the cultural dimension, these items also reflect a degree of nostalgia for the "old world" of tradition, discipline and family ties that globalisation appears to threaten.

For both datasets, the two dimensions identified correlate with one another. Aggregating the items in each scale in order to c alculate the position of all users with respect to both dimensions in the manner described in the previous section, we find that the Pearson correlation coefficient between the two dimensions is 0.487 for the EUvox dataset and 0.387 for the WhoGetsMyVoteUK dataset .

In both cases an economically left-wing position is associated with a cosmopolitan position and an economically right-wing position is associated with a communitarian position.

Let us now move on to the second stage of the analysis and plot the positions of party supporters with respect to the two dimensions. The maps, which are shown in Figure 1, plot the mean positions of party supporters (in a filled circle) and the contour lines that enclose 50 percent of party supporters. The two maps appear to show party supporters in very similar positions, although here there are one or two subtle differences. First, in the WhoGetsMyVoteUK map the position of Green Party supporters is rather more left-wing economically relative to the Labour Party in comparison with the EUvox positions. In Wheatley (2015) the EUvox position of this party was already flagged as an anomaly, given the Green Party's strong anti-austerity rhetoric, but it was suggested that many Green party supporters were protest voters, rather than hardcore leftists, and that this explained the positioning of party supporters as rather more centrist than the party itself. In this context, the position of party supporters as mapped from WhoGetsMyVoteUK seems more coherent with the party's overall position and suggests that the increased publicity given to the Green Party after the EP elections may have provided greater clarity to voters about where this party stands.

Figure 1: Party Maps
a) EUvox
b) WhoGetsMyVoteUK
<INSERT FIG 1a>
<INSERT FIG 1b>

The second—and rather more notable-discrepancy between the two maps in Figure 1 relates to the position of UKIP supporters. In WhoGetsMyVoteUK UKIP supporters appear further to the left economically than they do in EUvox. A possible explanation for this is that as UKIP support declined after the EP elections (around the time of the EP elections UKIP's opinion poll ratings in the UK as a whole averaged close to 20 percent, while UKIP's vote in the general elections was
12.6 percent), the more economically right-wing of UKIP supporters switched to the Conservatives. This would appear to be consistent with the fact that in the 2015 general elections the Conservatives were not badly damaged by the UKIP threat, as many pundits had predicted, while UKIP often performed rather well in Labour heartlands. ${ }^{3}$

I now analyse the sub-samples of both datasets that have been selected according to age, education and political interest. Here we compare measures of the overall scalability coefficient (Loevinger's H) for the different sub-samples. The results are shown in Table 4 (below). We see that for both datasets the strength (or coherence) of both scales declines when we move from older voters (40 years old or more in 2015) to younger voters (less than 40 years of age), although this trend is more marked for the economic dimension. When we move from university educated voters to less welleducated voters, we find that the strength of the economic scale decreases significantly, but the coherence of the cultural dimension remains more or less unchanged. But probably the most dramatic effects are observed when we move from voters with a high interest (or attention) in politics towards less interested (or attentive) voters. Here we observe that while both scales become weaker with decreasing interest, this decrease is far more dramatic for the economic scale in both datasets. Indeed, for the less interested (or attentive) group, the economic scale does not form a coherent scale at all in either dataset, with $\mathrm{H}<0.2$, despite the fact that the cosmopolitancommunitarian scale remains a scale of medium strength (in the case of EUvox) or weak (in the case of WhoGetsMyVoteUK). All in all, the analysis would suggest that the economic left-right scale is barely coherent as a scale amongst younger, less well-educated and, most importantly, less politically interested voters.

## <INSERT TABLE 4>

[^2]Using gender, education and interest in politics as binary predictor variables ${ }^{4}$ and age and attention to politics (the 0 to 10 scale in WhoGetsMyVoteUK) as continuous predictor variables, we now perform a negative binomial regression on both datasets with the number of Guttman errors in each scale as the dependent variable. As a second stage we augment the number of independent variables by adding identification with each of the five main parties as binary predictor variables. Table 5 lists descriptive statistics for the covariates in the negative binomial regression for EUvox, while Table 6 does the same for WhoGetsMyVoteUK. From Tables 5 and 6 we find that age and interest in/attention paid to politics is a highly significant ( $\mathrm{p}<0.01$ ) predictor of the number of Guttman errors in the economic left-right scale in both datasets. Thus, controlling for other variables, younger and less politically interested voters are significantly less coherent in their responses to items that belong to the economic dimension. Both these variables also predict the number of Guttman errors in the cultural communitarian-cosmopolitan scale, with younger and less politically interested respondents also somewhat less coherent in their responses, although their predictive power is weaker and much less significant (it is not significant at all for the WhoGetsMyVoteUK dataset when we also control for party affiliation). Lower education also seems to be a predictor of Guttman errors in both scales, although the pattern is rather less clear here with low education appearing as a stronger predictor of Guttman errors in the economic scale for EUvox and in the cultural scale for WhoGetsMyVoteUK (contradicting the findings of the previous paragraph). Gender also seems to play a role in the coherence of responses on the cultural scale, with women more coherent than men, but appears to have little impact on the coherence of the economic scale.

## <INSERT TABLE 5>

<INSERT TABLE 6>

[^3]In terms of party identification, UKIP and, to a lesser extent, Conservative identifiers tend to be less coherent on the economic scale when controlling for other factors, while Labour and Green identifiers are more coherent on this scale. All groups of party identifiers are more coherent on the cultural scale than non-identifiers, in most cases significantly so.

## Conclusion

This paper has departed from more-commonly used methods for identifying ideological dimensions and mapping political parties first by looking at the "party-in-the-electorate" (i.e. ordinary voters) and second by generating ideological dimensions inductively by identifying latent traits from voters' opinions on a set of varied issues. I should, perhaps, more accurately use the term "quasi inductively" (Germann et al. 2015) as the issue statements have been pre-determined by the researchers designing the VAA. However, the fact that very similar results are obtained from two different sets of issues statements involving very different sets of issues confirms the robustness of the findings.

In terms of methodology, this paper has shown that VAAs are a useful tool for generating data that can help us to address some of the core puzzles of political science. VAAs are ideal for investigating the dimensional structure of the political space because they contain within them a large number of issue statements to which users express an opinion and this lends itself well to dimension reduction techniques.

Analysis of both datasets suggests that two ideological dimensions define adequately the policy space in England: one economic Left-Right dimension and one cultural communitariancosmopolitan dimension. The latter is very clearly distinct from the TAN/GAL dimension identified by Marks et al. (2006). While they covary to a significant degree with economic rightists tending to
be more communitarian and economic leftists tending to be more cosmopolitan, these tendencies do not always hold and the two dimensions should be considered as separate. The identification of the communitarian-cosmopolitan dimension lends weight to the hypothesis of Kriesi et al. (2006) that politics is increasingly defined by a cleavage between "winners" and "losers" of globalisation with "losers" tending to adopt a position of cultural demarcation and to perceive "outsiders", such as immigrants and the EU, as a threat.

Ford and Goodwin (2014) infer that UKIP draw support from those voters who feel that they have "lost" in an increasingly globalised world, or -in their terms-have been "left behind". As we have seen, UKIP supporters are firmly entrenched near the communitarian pole of the communitariancosmopolitan dimension, even amongst less politically interested users. Increasingly they tend to be drawn from the economic Left as well as the economic Right, which also supports Ford and Goodwin's contention that they are often older blue-collar workers who may have voted Labour some time in the past.

The most striking finding of all is that interest in politics has a large and statistically significant impact on the coherence of the responses to the issue statements along both dimensions. Given that VAA users tend to be self-selected in terms of high political interest, this means that treating a VAA dataset as if it were representative of the population at large is likely to be problematic. However, if we rather treat VAA users has a "panel of interested citizens" then it is valid to use the data they generate to tell us about the political landscape, providing we make any selection bias explicit. Indeed ideological positions of political parties are often identified from the opinions of political elites, who are clearly far less representative of voters. In each case we have to be clear about the data we draw from and about the strengths and pitfalls of each approach.

The fact that the economic dimension is far less coherent than the cultural communitarian-
cosmopolitan dimension amongst less politically interested voters is especially striking. This suggests that among probably a majority of citizens the economic dimension is not the primary axis along which they organise their political views, but that it is the cultural communitariancosmopolitan dimension that provides the guiding role. At the same time, a subsection of English citizens—including those who have little interest in politics—remain wedded to communitarian values. These, I would suggest, are Ford and Goodwin's "left behind voters", Kriesi et al.'s "losers" of globalisation.

Another striking fact is that age seems to have a powerful and statistically significant impact on both scales, but especially on the economic scale. Amongst younger voters, the economic scale is much less coherent, even controlling for other variables. One implication of this may be that the economic left-right dimension is becoming less alient over time.

Bartolini and Mair (1990) hypothesise that the cleavages in Europe identified by Lipset and Rokkan, or at least the party systems they generated, somehow became frozen in the twentieth century. This research would suggest that the opening up of a new cleavage may have "unfrozen" them with the emergence of new "communitarian" parties such as UKIP, the Sweden Democrats and the Finns party. If an economic dimension pitting Left against Right (or labour against capital) defined the political arena in the United Kingdom and other European countries in the twentieth century, maybe it is a cultural cleavage that pits cosmopolitans against communitarians that defines politics in the twenty-first.

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## Appendix

<INSERT TABLE 7>
<INSERT TABLE 8>

Table 1: Demographic Characteristics of VAA users

|  | EUvox | WhoGetsMyVoteUK |
| :--- | :---: | :---: |
| \% Female | 36.5 | 49.3 |
| Median age | 38 | 29 |
| \% With university education* | 63.2 | 70.9 |
| * Given the slightly different supplementary questions provided in the two VAAs, this refers to the percentage with |  |  |
| university or postgraduate education in EUvox and the percentage who finished full-time education at least aged 20 in |  |  |
| WhoGetsMyVoteUK. |  |  |

Table 2: Mokken Scales Identified from EUvox Dataset

| Item | Dim 1 | Dim 2 |
| :--- | :---: | :---: |
| 1 | 0.46 |  |
| 2 | 0.38 |  |
| 3 | 0.57 |  |
| 5_rev | 0.43 | 0.38 |
| 9_rev | 0.54 | 0.37 |
| 11 |  | 0.40 |
| 13 |  | 0.35 |
| 15 |  | 0.38 |
| 16 | 0.52 |  |
| 19 | 0.41 |  |
| 21 | 0.51 |  |
| $25 \_r e v$ | 0.52 | 0.38 |
| 28 | 0.56 |  |
| $29 \_r e v$ | 0.49 |  |
| 30 |  |  |
| H |  |  |

Table 3: Mokken Scales Identified from WhoGetsMyVoteUK Dataset

| Item | Dim 1 | Dim 2 |
| :---: | :---: | :---: |
| 1 |  | 0.35 |
| 2_rev |  | 0.33 |
| 3 | 0.36 |  |
| 6_rev |  | 0.39 |
| 7_rev |  | 0.34 |
| 8_rev |  | 0.41 |
| 9 | 0.36 |  |
| 12 |  | 0.34 |
| 13 | 0.31 |  |
| 14_rev | 0.32 |  |
| 15 | 0.38 |  |
| 17 | 0.39 |  |
| 19_rev |  | 0.32 |
| 20_rev |  | 0.34 |
| 21_rev | 0.47 |  |
| 22_rev | 0.48 |  |
|  |  | 0.31 |
| 23_rev |  |  |
| 24 | 0.51 |  |
| 25 | 0.49 |  |
| 26 | 0.50 |  |
|  | 0.37 |  |
| 27 |  |  |
| 30 | 0.48 |  |
| H | 0.42 | 0.35 |

Table 4: Comparison of Samples

| Sample | H (comm.-cos.) | H (econ.) |
| :--- | :---: | :---: |
| Politically Representative (EUvox) | 0.49 | 0.38 |
| Politically Representative (WhoGetsMyVoteUK) | 0.42 | 0.35 |
| Older (EUvox) | 0.53 | 0.45 |
| Older (WhoGetsMyVoteUK) | 0.46 | 0.40 |
| Younger (EUvox) | 0.43 | 0.32 |
| Younger (WhoGetsMyVoteUK) | 0.40 | 0.33 |
| Higher education (EUvox) | 0.46 | 0.40 |
| Higher education (WhoGetsMyVoteUK) | 0.39 | 0.39 |
| No higher education (EUvox) | 0.47 | 0.31 |
| No higher education (WhoGetsMyVoteUK) | 0.37 | 0.27 |
| High political interest (EUvox) | 0.56 | 0.54 |
| High political attention (WhoGetsMyVoteUK) | 0.48 | 0.50 |
| Medium political interest (EUvox) | 0.48 | 0.33 |
| Medium political attention (WhoGetsMyVoteUK) | 0.40 | 0.27 |
| Low political interest (EUvox) | 0.38 | 0.16 |
| Low political attention (WhoGetsMyVoteUK) | 0.30 | 0.12 |

Table 5: Negative binomial regression on Guttman errors (Euvox)

|  | Dependent variable: |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Guttman erro } \\ & \text { (1) } \end{aligned}$ | rs: Economic (2) | Guttman errors <br> (3) | Cultural Scale <br> (4) |
| Gender | $\begin{array}{r} -0.018 \\ (0.012) \end{array}$ | $\begin{aligned} & 0.048^{* * *} \\ & (0.014) \end{aligned}$ | $\begin{gathered} -0.126 * * * \\ (0.009) \end{gathered}$ | $\begin{gathered} -0.133^{* * *} \\ (0.010) \end{gathered}$ |
| Age | $\begin{array}{r} -0.004^{* * *} \\ (0.0004) \end{array}$ | $\begin{array}{r} -0.007^{* * *} \\ (0.0004) \end{array}$ | $\begin{array}{r} -0.002^{* * *} \\ (0.0003) \end{array}$ | $\begin{array}{r} -0.001^{* * *} \\ (0.0003) \end{array}$ |
| Education | $\begin{gathered} -0.276^{* * *} \\ (0.012) \end{gathered}$ | $\begin{gathered} -0.200^{* * *} \\ (0.014) \end{gathered}$ | $\begin{array}{r} -0.007 \\ (0.009) \end{array}$ | $\begin{aligned} & -0.033^{* *} \\ & (0.010) \end{aligned}$ |
| Pol. int. | $\begin{gathered} -0.129^{* * *} \\ (0.016) \end{gathered}$ | $\begin{gathered} -0.131^{* * *} \\ (0.018) \end{gathered}$ | $\begin{gathered} -0.041^{* * *} \\ (0.012) \end{gathered}$ | $\begin{aligned} & -0.026^{*} \\ & (0.013) \end{aligned}$ |
| Conservative |  | $\begin{aligned} & 0.113^{* * *} \\ & (0.020) \end{aligned}$ |  | $\begin{aligned} & -0.048 * * \\ & (0.015) \end{aligned}$ |
| Labour |  | $\begin{gathered} -0.245^{* *} * \\ (0.021) \end{gathered}$ |  | $\begin{gathered} -0.124^{* * *} \\ (0.015) \end{gathered}$ |
| LibDem |  | $\begin{gathered} -0.120^{* * *} \\ (0.026) \end{gathered}$ |  | $\begin{gathered} -0.096^{* * *} \\ (0.019) \end{gathered}$ |
| Green |  | $\begin{gathered} -0.419^{* * *} \\ (0.024) \end{gathered}$ |  | $\begin{gathered} -0.206^{* * *} \\ (0.017) \end{gathered}$ |
| UKIP |  | $\begin{aligned} & 0.304^{* * *} \\ & (0.022) \end{aligned}$ |  | $\begin{gathered} -0.287^{* * *} \\ (0.016) \end{gathered}$ |
| Constant | $\begin{aligned} & 1.949^{* * *} \\ & (0.023) \end{aligned}$ | $\begin{aligned} & 2.031^{* * *} \\ & (0.028) \end{aligned}$ | $\begin{aligned} & 3.255^{* * *} \\ & (0.017) \end{aligned}$ | $\begin{aligned} & 3.362^{* * *} \\ & (0.020) \end{aligned}$ |
| Observations | 42,449 | 36,395 | 43,198 | 36,963 |
| Log Likelihood | -110,385.500 | -93, 961.350 | -177,284.100 | -151,517.200 |
| theta | 0.845*** (0.008) | 0.840*** (0.008) | 1.374*** (0.010) | 1.349*** (0.010) |
| Akaike Inf. Crit. | 220,780.900 | 187,942.700 | 354,578. 200 | 303,054.500 |

Table 6: Negative binomial regression on Guttman errors (WhoGetsMyVoteUK)

|  | Dependent variable: |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Guttman errors: <br> (1) | Economic Scale (2) | Guttman errors: <br> (3) | Cultural Scale <br> (4) |
| Gender | $\begin{array}{r} -0.021 \\ (0.019) \end{array}$ | $\begin{gathered} 0.019 \\ (0.020) \end{gathered}$ | $\begin{gathered} -0.147^{* * *} \\ (0.016) \end{gathered}$ | $\begin{gathered} -0.128^{* * *} \\ (0.017) \end{gathered}$ |
| Age | $\begin{gathered} -0.003^{* * *} \\ (0.001) \end{gathered}$ | $\begin{gathered} -0.004 * * * \\ (0.001) \end{gathered}$ | $\begin{aligned} & -0.001 * \\ & (0.001) \end{aligned}$ | $\begin{aligned} & -0.002 * \\ & (0.001) \end{aligned}$ |
| Education | $\begin{gathered} -0.099 * * * \\ (0.021) \end{gathered}$ | $\begin{array}{r} -0.035 \\ (0.023) \end{array}$ | $\begin{gathered} -0.066^{* * *} \\ (0.017) \end{gathered}$ | $\begin{aligned} & -0.057 * * \\ & (0.019) \end{aligned}$ |
| Pol. Att. | $\begin{gathered} -0.014^{* * *} \\ (0.004) \end{gathered}$ | $\begin{aligned} & -0.012^{* *} \\ & (0.004) \end{aligned}$ | $\begin{aligned} & -0.010^{* *} \\ & (0.003) \end{aligned}$ | $\begin{array}{r} -0.006 \\ (0.004) \end{array}$ |
| Conservative |  | $\begin{gathered} 0.068 * \\ (0.032) \end{gathered}$ |  | $\begin{array}{r} -0.044 \\ (0.026) \end{array}$ |
| Labour |  | $\begin{gathered} -0.194^{* * *} \\ (0.030) \end{gathered}$ |  | $\begin{gathered} -0.175^{* * *} \\ (0.025) \end{gathered}$ |
| LibDem |  | $\begin{array}{r} -0.008 \\ (0.036) \end{array}$ |  | $\begin{gathered} -0.187^{* * *} \\ (0.030) \end{gathered}$ |
| Green |  | $\begin{gathered} -0.306^{* * *} \\ (0.037) \end{gathered}$ |  | $\begin{gathered} -0.221^{* * *} \\ (0.030) \end{gathered}$ |
| UKIP |  | $\begin{aligned} & 0.282^{* * *} \\ & (0.054) \end{aligned}$ |  | $\begin{array}{r} -0.063 \\ (0.045) \end{array}$ |
| Constant | $\begin{aligned} & 2.824^{* * *} \\ & (0.041) \end{aligned}$ | $\begin{aligned} & 2.826 * * * \\ & (0.046) \end{aligned}$ | $\begin{aligned} & 3.663^{* * *} \\ & (0.033) \end{aligned}$ | $\begin{aligned} & 3.740^{* * *} \\ & (0.038) \end{aligned}$ |
| Observations | 10,170 | 9,199 | 10,038 | 9,064 |
| Log Likelihood | -36,177.440 | -32,635.680 | -43,801.790 | -39,501.330 |
| theta | 1.288*** (0.020) | 1.287*** (0.021) | 1.839*** (0.027) | 1.857*** (0.028) |
| Akaike Inf. Crit. | 72,364.870 | 65,291.360 | 87,613.590 | 79,022.670 |

Table 7: Issue Statements, EUvox

## Item no. Item

The United Kingdom should never adopt the Euro
A single member state should be able to block a treaty change, even if all the other members states agree to it The right of EU citizens to work in the United Kingdom should be restricted

There should be a common EU foreign policy even if this limits the capacity of the United Kingdom to act independently

The EU should redistribute resources from richer to poorer EU regions
Overall, EU membership has been a bad thing for the United Kingdom
EU treaties should be decided by Westminster rather than by citizens in a referendum.
The EU should impose economic sanctions on Russia, even if this jeopardises gas supplies to EU countries The United Kingdom should remain within the European Union.
The United Kingdom should hold an in or out referendum on EU membership as soon as possible. Free market competition makes the health care system function better The number of public sector employees should be reduced The state should intervene as little as possible in the economy Wealth should be redistributed from the richest people to the poorest Cutting government spending is a good way to solve the economic crisis It should be easy for companies to fire people External loans from institutions such as the IMF are a good solution to crisis situations.

When a state rescues a bank it should take control over it The top rate of income tax should be reduced further.

The government should go ahead with the exploitation of underground shale gas (fracking).
Immigrants must adapt to the values and culture of the United Kingdom
Restrictions on citizen privacy are acceptable in order to combat crime
To maintain public order, governments should be able to restrict demonstrations
Less serious crimes should be punished with community service, not imprisonment
Same sex couples should enjoy the same rights as heterosexual couples to marry
Women should be free to decide on matters of abortion
The recreational use of cannabis should be legal
Islam is a threat to the values of the United Kingdom
The United Kingdom should welcome a larger number of asylum seekers from war-torn countries.
The United Kingdom should be allowed to set quotas on the number of EU immigrants entering the country.

## Table 8: Issue Statements, WhoGetsMyVoteUK

## Item no. Item

Government spending should be cut further in order to balance the budget.
A "mansion tax" should be levied on high-value residential properties.
Inheritance tax should be abolished.
Special concessions for pensioners (e.g. winter fuel allowance, free TV licences) should only be provided to the less well-off.

The top rate of income tax should be reduced.
The railways should be renationalised.
The government should scrap what is commonly known as the bedroom tax.
Private sector involvement in the NHS should be reduced.
Young people out of work, education or training for six months should be made to do unpaid community work in order to get benefits.
The option of imprisonment should be retained for the possession of drugs for personal consumption.
To fight terrorism and other serious crimes, internet service providers and telecoms companies should keep and surrender details of users' activities if required by government agencies.

The government should allow the extraction of underground shale gas (fracking).
The government should end subsidies for wind farms.
Same sex and heterosexual couples should enjoy the same rights to marry.
England should be more confident about its Christian heritage.
The current legal entitlement of two weeks paternity leave should be increased.
For social housing, priority should be given to people whose parents and grandparents were born locally.
State schools should be able to select pupils according to ability.
Free Schools and Academies should be brought back under Local Authority control.
University tuition fees should be scrapped.
The UK should remain within the European Union.
The UK should maintain its support to developing countries through foreign aid.
The Trident nuclear weapons system should be scrapped.
The UK should be able to restrict the number of EU immigrants entering the country.
The National Health Service should give priority to British citizens.
State benefits should only be available to those who have lived in the UK for at least five years.
Only English MPs should have the right to vote on issues that only affect England.
The House of Lords should be replaced by a directly elected chamber.
Young people should be given the right to vote at the age of 16.
The UK should withdraw from the European Convention on Human Rights.


[^0]:    1 Goodhart, David, "How to close the door on an accidental mass migration", Financial Times, 24 October 2014.

[^1]:    <INSERT TABLE 2>

[^2]:    3 According to Rob Ford, "Ukip's advance was slightly larger in Labour-held seats and Labour did four points worse in the areas where Ukip advanced most, compared to a 2-point Tory drop". Rob Ford, "Where the votes switched and why: the key lessons for the parties". The Observer, 10 May 2015.

[^3]:    4 For education we create a variable with value 1 if the respondent has university education (in Euvox) or has been educated up to age 20 or over (WhoGetsMyVoteUK) and 0 otherwise; for gender the number 1 was assigned if the respondent was female, 0 if the respondent was male, while for interest in politics (Euvox), a value of 1 is assigned to those professing to be "very" or "somewhat" interested and 0 to those who say they have little or no interest.

