# Measuring the Importance of Issues to Voters \*

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Measuring how much citizens care about different policy issues is critical for political scientists, yet existing measurement approaches have significant limitations. We provide a new surveyexperimental approach for measuring the revealed importance voters attach to different positional issues, including issues not currently contested by political elites. We combine information from (i) direct questions eliciting respondents' positions on different issues with (ii) a conjoint experiment asking respondents to trade-off departures from their preferred positions on those issues. Applying this method to study the relative importance of 34 issues in the UK, we show that British voters attach significant importance to issues like the death penalty which are not presently the subject of political debate and attach more importance to those issues associated with social liberal-conservative rather than economic left-right divisions.

## Introduction

How much do citizens care about different policy issues? This is a crucial question for political scientists. Answering it can help us better understand electoral competition, since differences in party or candidate issue positions only matter for election outcomes to the extent that voters attach importance to the issue and sanction those with positions far from their own preferred position (Butler and Stokes 1974; Carmines and Stimson 1986). Learning about the importance the public attaches to different issues also enables us to better assess the quality of substantive representation (Pitkin 1967, 222–24) in democracies and identify representational deficits. A rich literature empirically evaluates representation as the degree to which the policy positions of political representatives match the positions of those they represent (Miller and Stokes 1963; Converse and Pierce 1986; Kastellec, Lax, and Phillips 2010; J. Lax and Phillips 2012; Krimmel, Lax, and Phillips 2016; Hanretty, Lauderdale, and Vivyan 2017), but to more fully evaluate representation we need to know whether such congruence happens for issues that voters care about most

<sup>\*</sup>This version: September 15, 2018

(B. D. Jones and Baumgartner 2004, 2).<sup>1</sup> This is particularly important when evaluating accounts of recent political upheavals, such as Brexit, which have been argued to result from a failure to provide voters with meaningful choices on issues they care about (G. Evans and Menon 2017).

Despite the centrality of issue importance for major debates in political science – and in contrast to the increasingly sophisticated approaches developed to measure issue attention among political elites<sup>2</sup> – there have been few recent advances regarding how to measure the relative importance of different issues to voters. This is not because this is a solved problem. Approaches currently in use suffer from severe limitations. Open-ended "most important issue" questions are the most widely used measure, but these tell us more about issues "perceive[d] as topping the national political agenda" (Johns 2010, 143) or issues that are particularly problematic (Jennings and Wlezien 2011) than about issues that are personally important to voters. They also do not measure what we often want to measure: the proportion of people who report that an issue is the most important issue is not necessarily a good guide to the average level of importance that people attach to that issue. Survey respondents have difficulty discriminating between issues when asked directly to rate their importance (Converse and Pierce 1986; Johns 2010). The resulting measures have also been criticised on psychological grounds (Bartle and Laycock 2012; Nisbett and Wilson 1977.; T. Wilson 2002). Others have attempted to infer issue importance by modelling survey respondents' observed vote choices in elections, but given the small menu of electoral choices this approach has limited ability to disentangle the effect of different issues on vote choices and cannot tell us about the importance of issues on which parties do not compete.

In this paper we provide a new survey-experimental approach for measuring the importance voters attach to different positional issues (issues where a set of policy alternatives exist and where voters vary in their preferences over those alternatives). Our approach is premised on a conception of *revealed* issue importance. We define an issue as important to an *individual* to the extent that their political choices are affected by encountering varying degrees of agree-ment/disagreement on that issue. We define an issue as important to the *electorate* to the ex-

<sup>&</sup>lt;sup>1</sup>Lax and Phillips (2012) do factor in issue importance in their study of policy representation in the United States, but measure importance by media coverage. We develop a measure of the importance of an issue to *voters*, which may or may not be reflected in media coverage.

<sup>&</sup>lt;sup>2</sup>Elite issue attention has been measured on the basis of press releases (Grimmer 2013), legislative agendas (e.g., John et al. 2013) and party manifestos (e.g., Volkens 2017).

tent that existing disagreements between citizens are capable of affecting the political choices of those citizens, on average. Our conception of issue importance is explicitly causal, which is why it makes sense to measure it with an experiment.

We show how revealed issue importance can be measured in a survey experiment by combining questions about respondents' preferred policy options with a conjoint experiment involving hypothetical candidate platforms. By asking about respondents' preferred policy options, we measure what respondents would ideally want. By presenting them with random combinations of policy options (some closer, some farther away from their preferred position) in a conjoint analysis, we can infer how they trade-off departures from their ideal point across different issues. We show how, by conditioning analysis of a conjoint experiment on individuals' stated positions, we can estimate the average relative weight voters put on deviations from their preferred point on that issue. Using this information, we develop a new measure of issue importance that reflects the relative extent to which existing population-level disagreements among citizens on different issues are capable of affecting citizens' political choices.

We apply this method to a new national survey of British voters to estimate the importance given to 34 policy issues. We thereby make a substantive contribution to our understanding of British politics. Consistent with the suggestions of studies focusing on the determinants of vote choice in the 2017 general election (Mellon et al. 2017; Curtice 2017) we find that the most important issues for the UK public are those that divide opinion along social liberal-conservative lines rather than along economic left-right lines. We are also able to show that this phenomenon includes not only currently salient issues like the UK's future relationship with the EU and migration, but also issues like the death penalty which are not the subject of elite political debate. Existing research has noted that UK public opinion on these issues is more divided than elite opinion (e.g., Heath, Jowell, and Curtice 1985; Heath et al. 1991). Our contribution is to show that the issues would therefore be highly contentious if they became the subject of national political debate. Finally, we also show how the method can be extended to produce estimates of issue importance that vary as a function of citizen characteristics. We use this to show how voters' priorities vary by age, attention to politics, gender and education.

The method we describe is applicable to any set of positional issues for which multiple ordered positions can be created. It can also be applied in different country contexts and is only moderately expensive in terms of the number of survey items it requires per respondent. Efficiently implemented, our approach does require complex randomisation procedures, but these should not pose a barrier for researchers using internet surveys.

## Approaches to measuring issue importance

In this section we discuss existing measures of popular issue importance, problems with these measures, and how our proposed approach addresses those problems. In doing so, we distinguish between approaches which treat issue importance as *reported* versus those which treat importance as *revealed*, as defined below. Our discussion is also informed by a conceptual distinction between *importance* and *salience*. Whereas an important issue is defined here as one that can affect individuals' choices, a salient issue is one where perceptible differences exist between competing parties (or candidates). For some applications, researchers may be content to focus on issues that are both important and salient. As Bartle and Laycock (2012) put it, "the requirement that voters perceive some difference between the parties' positions or performance is necessary to connect an issue to vote choice... If the issue is not 'salient', *in the sense that the parties are perceived to occupy the same position*... then the voter has no reason to be influenced by it" (681, emphasis added).

However, issues can be important without being salient: this can happen where there is elite consensus on an issue, but where voters' choices between elites would be affected were perceptible differences between elites to emerge on that issue. We argue that empirically distinguishing importance from salience is vital not just for reasons of good conceptual hygiene, but because it is otherwise impossible to investigate important substantive questions. For example, if measurements of issue importance are only available for issues which are salient, we cannot evaluate whether parties present voters with meaningful choices on all the issues that voters care about and disagree about. To conduct that evaluation, we need to be able to measure the importance voters attach to issues whether or not those issues are salient.

## Reported measures of issue importance

Some of the main measures of issue importance in the existing literature treat importance as something that is *reported*. They record an issue as important for some voter to the extent that the voter themselves *judges* it to be so. One such measure is based on survey questions where respondents' are asked directly to assign importance scores to a set of specific issues chosen by the researcher (e.g., Converse and Pierce 1986). Another reported measure is based on survey respondents answers to open-ended questions about what they consider to be the "most important issue" (MII) facing the country (e.g., Clarke et al. 2004).

These reported importance measures share the undeniable virtue of simplicity. Both are also relatively straightfoward to implement in surveys, requiring only as many items as the number of issues the researcher wishes to ask about (for the direct question) or just one item (for MII). However, they also suffer from significant shortcomings. Direct measures of importance often lack discrimination due to respondents' reluctance to explicitly label issues (which are often in the survey because they have received national media or political attention) as "unimportant" even if they care little about them personally (Converse and Pierce 1986; Johns 2010). A limitation of MII measures is that the proportion of respondents for whom a given issue was most important is not a reliable indicator of the average importance of an issue.

A more general concern with reported measures of importance – whether based on MII or direct questions – is that asking respondents to introspectively consider the relative importance of different issues and then to summarise those considerations is asking them to report "more than they can know" (Bartle and Laycock 2012). Although individuals may be good guides to their own preferences, psychological studies show that they are poor guides to the processes which act on those preferences (T. Wilson 2002; Nisbett and Wilson 1977.). They may simply "not [be] very good at judging the relative weight they attach to criteria in making decisions" (Niemi and Bartels 1985, 1219).<sup>3</sup>

The difficulty respondents have making introspective judgements on these matters may explain why issue importance measures generated from both direct and MII questions have proved

<sup>&</sup>lt;sup>3</sup>Alternately, reports about criteria may be post-hoc rationalisations of choices: previous research on candidate evaluations has found that respondents' evaluations of candidates precede, rather than follow, reasons for liking or disliking candidates (Rahn, Krosnick, and Breuning 1994).

to be of limited value in predicting voting behaviour (e.g., Niemi and Bartels 1985, 1219; Bartle and Laycock 2012). It may also explain why respondents, when answering direct or MII questions, tend to rely upon, or use as a heuristic, "how much attention a particular issue attracted during the campaign, or how heated the debate between the parties has been" (Sarlvik and Crewe 1983, 224; see also Johns 2010; Bartle and Laycock 2012). Crucially, to the extent that respondents do approach MII or direct questions in this way, their answers would reflect a combination of importance and salience, and research based on these measures cannot make a sharp distinction between the two.

#### Measuring revealed issue importance

Instead of relying on respondent introspection, others have measured the *revealed* importance of issues to voters. According to this approach, the importance of an issue to a voter is revealed by the decisions she makes when faced with objects of choice (candidates, parties, policy packages) with differing issue positions or competencies. If the voter's choices are particularly sensitive to a candidate's positions or competency on one issue, then the issue is revealed to be important. If the voter's choices are less sensitive than on other issues, the issue is less important. Put differently, an issue is important to the extent that it is *causally* efficacious, regardless of whether the voter is aware of and can report this fact. One case for a revealed approach to measuring issue importance is supported by studies in marketing, which show that measures of attribute importance based on revealed preference from conjoint experiments were better predictors of product/candidate choice than direct scores reported by respondents (Neslin 1981; Harte and Koele 1995; Van Ittersum et al. 2007).

Previous measurement strategies for revealed issue importance in political science have relied on modelling the (reported) vote choices respondents make between parties in real elections (e.g., Alvarez, Nagler, and Bowler 2000; Hellwig 2014). For example, Alvarez, Nagler, and Bowler (2000) model voters' party choice in the 1987 UK general election as a function of voters' policy distance to each of the three main parties on seven different issues. The coefficients on these issues can be interpreted as relative measures of importance. When interpreted in this way, nationalisation and defence emerged as the two most important issues, and redistribution

and crime the least.

Unfortunately, these vote-based measures of revealed issue importance are limited by their reliance on variation in the observed policy platforms adopted by parties to identify issue importance. Even in multiparty systems the absolute number of observed party platforms that voters choose between in any given election are quite small, and there is likely to be correlation across issues in the positions parties take. Even if there were many parties with varied combinations of positions, respondents' perceptions of the issue positions parties take are likely to be noisy, whether due to strategic ambiguity on certain issues on the part of parties (Bräuninger and Giger 2016) or due to projection effects (Ansolabehere and Jones 2010). Third, respondents' vote choice in elections will be substantially influenced by considerations such as party attachment and competence judgements that are distinct from the policy issues we aim to study here. All of these factors make it difficult to precisely and accurately estimate the revealed importance attached to each issue.

But relying on variation in observed electoral platforms also leads to a fourth – and crucial – limitation: if we infer issue importance based solely on voters' choices between observed party platforms it is not possible to estimate the importance voters attach to those issues which parties either don't talk about, or on which major parties adopt the same position. By virtue of the definition of salience, researchers assessing revealed issue importance using observational data have been limited to studying issues that are salient.

## An experimental approach

It is, however, possible in an experimental setting to adopt a revealed importance approach that distinguishes between importance and salience. This is because an experimental setting permits researchers to construct hypothetical policy platforms containing both salient and nonsalient issues and ask respondents to choose between these platforms. One survey experimental method which lends itself well to this kind of task, and which has become increasingly popular in political science, is conjoint analysis (Hainmueller, Hopkins, and Yamamoto 2014).

To our knowledge, conjoint analysis has not been used to identify the importance of issues. The conjoint analysis which is closest to the approach we adopt is Horiuchi, Smith, and Ya-

mamoto (2018). In that paper, the authors construct hypothetical policy bundles comprised of (random) issue positions on nine issues. Although the bundles are random, the issue positions which make up the bundle are drawn from actual party manifestos. They ask respondents to make several choices between different bundles. Compared to modeling respondents' choices between observed party platforms in an election, this conjoint experiment approach allows the researcher to observe respondent choices across a much more varied set of policy bundles and to control the information respondents receive about these bundles. The authors are thus able to more precisely and accurately identify the average effects – specifically, average marginal component effects (AMCEs) – of different policy proposals.

However, the AMCEs estimated in that paper do not measure the *importance* of issues, but rather the net effect of alternative issue positions on support for a candidate/party. This distinction can be seen most clearly if we imagine a dichotomous issue where 50% of respondents take position A and 50% take position B. If respondents' choices between policy bundles in the experiment were exclusively affected by the position offered on this issue, making it not just the most important issue but the only important issue, the estimated AMCE would still be close to zero, because the reactions of the two groups of respondents would counterbalance each other. In other words, low AMCEs do not imply a lack of issue importance. More generally, the AMCEs of a particular issue will be a function of both the importance individual respondents attach to the issue (in the sense defined above) *and* the distribution of respondent preferences on that issue.

This example also makes clear that one can only recover the average importance respondents attach to an issue from a conjoint experiment if one conditions statistical analysis on a measure of respondents' own issue positions. For measuring importance, what matters is the responsiveness of respondents' choices to divergences between their own views and the positions of candidates, and so one needs measures of respondents' own views. We therefore develop an approach for measuring issue importance as revealed through a combination of questions about respondent positions followed by conjoint analysis. Unlike existing measures of reported issue importance, our approach avoids excessive reliance on respondent introspection. Unlike existing measures of both reported and revealed importance, our approach clearly measures issue

importance as distinct from issue salience.

Our approach is not without tradeoffs. First, while the use of an experimental design tightly links the measurement strategy to the idea that issue importance should be understood as causal (and therefore to the notion of issue importance as a revealed attribute), the usual external validity tradeoffs regarding potential artificiality of the experimental environment apply. Second, it places extra burdens on the researcher: selecting a set of issues, specifying plausible alternatives on those issues, and assessing how to model voters' choices as a function of their issue positions, potentially invoking a particular theory of voting. Third, although it requires only a moderate number of survey items, it does require a reasonably large sample size. We will address these issues further as we describe our survey instrument and data analysis strategy, and in the concluding discussion.

### Survey instrument

In this section, we give details of the survey instrument we designed. We begin by describing what our respondents saw and did, before addressing general questions regarding the design of the instrument.

Most survey researchers elicit voters' *positions* on a policy issue by asking direct questions about that issue (e.g., Ahler and Broockman Forthcoming; Broockman 2016; Butler and Stokes 1969; Heath, Jowell, and Curtice 1985; Jessee 2012). These questions vary in how they record voters' positions:

- on a dichotomous scale (whether they "favour" or "oppose" a certain policy) (e.g., Jessee 2012)
- on an ordered sentiment scale (e.g., "strongly oppose" to "strongly support": Heath, Jowell, and Curtice (1985)]
- on an ordered polytomous scale using concrete policy alternatives (e.g., Broockman 2016).

Here we use ordered, concrete policy alternatives. These response options require more cognitive effort from respondents and more preparation from researchers, but using concrete policy alternatives reduces the risk that variation in observed survey responses results from differences in the way respondents use response scales rather than differences in respondents' positions (Jessee 2012; Broockman 2016).<sup>4</sup>

Respondents were told that they would be asked "questions about several areas of public policy"; that they would be presented with "a range of different policy options"; and that they should choose "the option that comes closest to your own personal preference", bearing in mind that there might not be a perfect match.

Respondents were then asked seven questions (one per screen) about their own positions on different issues ("issue questions"). These seven issues were drawn randomly without replacement from a bank of 34 issue questions. Each issue question began with a short prompt introducing the issue, and was followed by a vertical list of five different policy options. These options were ordered so that adjacent categories were in some sense "closer" to one another than non-adjacent categories. The five alternatives were presented in either 1-2-3-4-5 or 5-4-3-2-1 order, each with probability 0.5. Respondents had to select an option, and were not permitted to give a "don't know" response (see Figure 8 in the Appendix).<sup>5</sup>

After completing the seven issue questions, respondents were presented with three pairwise comparisons (one per screen) between policy bundles ("the conjoint questions"). Respondents were asked to imagine that they had to choose between two candidates. Each pairwise comparison involved three issues,<sup>6</sup> drawn randomly without replacement from the seven issues for which the respondent had previously indicated their preferred position. Each "candidate" consisted of a set of issue positions on these three issues. The positions for each candidate on each issue were drawn randomly with equal probability and independently of one another. Some respondents were therefore faced with candidates advocating the same policy position on one or more issues. Respondents were asked whether they would vote for candidate A, candidate B, or

<sup>&</sup>lt;sup>4</sup>There is of course, an important debate among political scientists concerning the extent to which respondents' answers to policy-specific questions reflect meaningful attitudes, or are the result of fleeting context-specific considerations (e.g., Converse 1964; Zaller and Feldman 1992; Achen 1975). However, recent studies suggest that a substantial portion of variation in reported issue positions is attributable to "real" – i.e., temporally stable – attitudes, even though these attitudes are often "idiosyncratic" rather than structured by a common low-dimensional ideological structure (Broockman 2016; Lauderdale, Hanretty, and Vivyan 2018).

<sup>&</sup>lt;sup>5</sup>Given our modelling strategy (see below), random responses will create the appearance that the respondent puts no weight on their position on that issue, which is likely to be true if respondents are not providing meaningful responses.

<sup>&</sup>lt;sup>6</sup>We adopted a relatively short conjoint issue bundle based on pre-testing bundles involving more issues. Many conjoints have employed larger bundles, but using attributes that were simpler than the issue prompts and positions that we presented to respondents.

whether they were "not sure" (see Figure 9 in the Appendix).

The complicated randomization structure of our experiment was chosen to balance survey cost, sample size, and breadth of issue coverage. The cost of the survey was primarily dictated by the product of the per-respondent length (10 items) and number of respondents (6070). Given that each respondent only saw three issues in their conjoint, a cost-minimising module would have only asked ordinal questions about those issues; however this survey experiment was designed to also facilitate other studies not reported in this paper, for which a greater number of ordinal items was advantageous. There is a further discussion of sample size and data sparsity in the supplemental information.

We designed the survey to cover a wide range of issues, including both issues that are important for party competition in the UK and issues that parties generally ignore. Researchers who are only interested in salient issues can identify issues by examining party manifestos and other forms of communication. It is harder to identify issues which are not salient but have the potential to be so. Since we wanted to ensure that our selection of issues covered a broad range of policy areas, we based our intial list of issues on the twenty top-level headings used by the Comparative Agendas Project (www.comparativeagendas.net). For each heading, we identified between one and three issue areas for which we could provide ordered policy positions. We drafted 42 issues and associated policy positions, before reducing the set to 34 issues which could be presented most clearly to survey respondents.

For each issue we wrote five ordered policy positions. We used five ordered policy positions rather than the seven used by Broockman (2016) in order to minimize the demands placed on respondents and to enable us to come up with credible and distinguishable alternatives for a broader range of issues. In writing these policy positions we tried to make sure that the policy status quo; any positions of the main parties, and any logical end-points, were all represented as options.<sup>7</sup>

The survey was fielded by YouGov UK from 22-31 January 2018. The 6070 respondents to our survey were selected via YouGov's sample matching algorithm from the set of 31196 respondents who took part in the 13th wave of the British Election Study, conducted online after the June 2017

<sup>&</sup>lt;sup>7</sup>Positions of particular parties are not consistently anchored to particular alternatives because we include issues where parties have no or identical positions.

election. We are therefore able to link our respondents to all variables present in the BES survey. Our module was inserted into an Omnibus survey covering a range of topics. In the appendix we provide screenshots of the module introduction page, an example issue question, and an example conjoint question as well as the full text for each issue question. YouGov provided UK population weights for the survey sample. Our analysis in the main text is based on a quasilikelihood approach using these weights, however an unweighted analysis yields results that differ negligably from what we present (Miratrix et al. 2018).

## Model

To analyse the data from our experiment, we use a model with two components. The "choice component" links each choice in the conjoint analysis to the latent utilities a respondent derives from each policy platform presented, and threshold parameters which allow for respondents to be indifferent between the two platforms. The "utility component" specifies a respondent's utility from each policy platform as a function of how much the platform departs from the respondents' preferred positions on each issue.

For the choice component, we define an ordered logistic response model for the probabilities of "I would vote for A" (*A*), "I am not sure" (*NS*), and "I would vote for B" (*B*). Given utilities for each respondent *i* for Candidate A and B of  $u_{iA}$  and  $u_{iB}$  respectively, and threshold parameters  $\gamma_1, \gamma_2$ , then:

$$log\left(\frac{p(NS) + p(B)}{p(A)}\right) = u_{iB} - u_{iA} - \gamma_1$$
$$log\left(\frac{p(B)}{p(A) + p(NS)}\right) = u_{iB} - u_{iA} - \gamma_2$$

The larger the absolute values of  $\gamma_1$ ,  $\gamma_2$ , the more likely the respondent is to be indifferent between the two platforms. If  $|\gamma_1| = |\gamma_2|$ , voters treat A and B symmetrically. If  $\gamma_1 \neq -\gamma_2$ , respondents systematically prefer either A or B due to order effects.

We could estimate a single pair of parameters  $\gamma_1$  and  $\gamma_2$  to apply to all comparisons. For diagnostic purposes we estimate separate threshold parameters according to the number of disagreements between the two hypothetical candidates. In our data, we have 130, 1811, 7055 and 9214 conjoint responses involving comparisons where 0, 1, 2 and 3 issue positions differ between the two candidates, respectively. We allow for respondents to apply different thresholds depending on the complexity of the comparison task.<sup>8</sup>

For the utility component we adopt a linear loss "spatial" model of preferences, where  $\psi_{jk}$  are the relative locations of the five policy positions k for issue j on an issue-specific policy dimension. We assume that the utility of each platform for a respondent is equal to the sum of the absolute differences between the locations of their preferred position ( $\psi_{ji}$ ) and the candidate platform positions ( $\psi_{jA}$ ,  $\psi_{jB}$ ) on the three presented issues (j = 1, 2, 3):

$$u_{iA} = -\sum_{j \in 1,2,3} |\psi_{jA} - \psi_{ji}| \qquad \qquad u_{iB} = -\sum_{j \in 1,2,3} |\psi_{jB} - \psi_{ji}|$$

The location of the first position  $(\psi_{j1})$  is fixed to zero. The locations of the remaining positions are *not* subject to an ordering constraint: the recovered locations are those that best fit the observed conjoint choices. Because the utility scale is common across issues, an issue where individuals put a lot of weight on differences between the positions will be one where the locations are widely spaced. An inconsequential issue would have  $\psi_{j1} \approx \psi_{j2} \approx \ldots \approx \psi_{j5}$ .

The parameters from the model are thus the locations of the policy positions  $\psi_{jk}$  and the response thesholds  $\gamma$ . Because the former are all on the same utility scale, the spacing of the policy alternatives  $\psi_{jk}$  on different issues indicates how much respondents penalize disagreement with their own position on that issue. However, this means that the spacing between the alternatives is directly shaped by our choices of which alternatives to provide, and so simply comparing the range of the alternatives is not a good measure of the degree to which disagreement on that issue carries significant weight with the public. A large range might simply indicate that we offered more extreme alternatives on one issue than another. We want a measure of importance that reflects the relative importance of policy disagreements that actually exist in the electorate, not the extremity of the alternatives we provided.

Thus, in order to give a simple statistic that measures the revealed importance of each issue

<sup>&</sup>lt;sup>8</sup>In particular, in cases where all three issue positions are identical, we would expect larger differences between  $\gamma_1$  and  $\gamma_2$  as the intermediate response is most sensible when faced with two identical candidates. Indeed, when respondents were faced with identical candidates in the experiment 75% of raw responses were for the intermediate "not sure" option. The remaining 25% are presumably either not paying attention, or are giving a silly answer to what appears to be a silly question. Because we model separate thresholds by difference count, these responses have no consequence for key substantive parameter estimates.

among the public, we take into account the distribution of opinion on each issue. If few respondents adopt the most extreme positions on offer, the fact that they would punish candidates who adopt those positions does not indicate that an issue is important in anything more than a trivial sense. If, however, we see respondents heavily punishing hypothetical candidates who take positions that are popular with many other members of the public, that indicates that the issue has meaningful importance. Thus, to measure the importance of each issue, we normalize according to the frequency of each type of disagreement in the population. The importance statistic we use is therefore the following function of the estimated locations of each position  $\psi_{jk}$  on the common utility scale and the proportion of respondents who report preferring that position  $\pi_{jk}$ :

$$\chi_j = \sum_{k=1}^5 \sum_{k'=1}^5 \pi_{jk} \pi_{jk'} |\psi_{jk} - \psi_{jk'}|$$

This importance statistic is the population average disutility citizens feel towards the opinions held by their fellow citizens. It captures the importance of *actually occuring* disagreements among voters to the voters themselves. Importance will be large for an issue when large numbers of citizens hold varying positions on an issue and also put a lot of weight on those disagreements in the conjoint experiment. Importance will be small either if there is little disagreement in the public on an issue or if citizens put little weight on the positions that the hypothetical candidates take on that issue (or both). We further discuss the implications of adopting this sort of measure below once we have examples to consider.

We estimate the conjoint response model by Bayesian posterior simulation, implemented in Stan (Carpenter et al. 2016), using uniform priors on all parameters.

## Results

We begin our discussion of results by performing checks on the reasonableness of our modeling approach, before focusing more directly on our estimates of issue importance among the British public.

We start by examining the parameters specifically related to the response model, which are primarily diagnostic. The parameters  $\gamma$  indicate the baseline propensity of respondents to give each of the three possible responses to the conjoint experiment. Recall that we estimate differ-

ent values of  $\gamma$  for comparisons involving 0, 1, 2 and 3 policy disagreements. Our  $\gamma_1$  estimates are -1.64, -0.86, -0.93, and -0.92 for each of these, respectively. Our  $\gamma_2$  estimates are 2.50, 0.95, 0.97, and 0.97, respectively. As we would expect, the thresholds are very widely spread for comparisons involving no policy differences, because most respondents give the intermediate response when there is no way to distinguish between two identical candidates. Overall, the values of  $\gamma_1$  are somewhat smaller in magnitude than the values of  $\gamma_2$ , indicating a mild ballot/response order effect in favour of candidate A. However, there is little difference in the parameters across comparisons involving 1, 2, and 3 policy disagreements. This is an indication that respondents are weighing up varying numbers of disagreements in a way that is consistent with our random utility model. If respondents became less responsive to candidate disagreements as the number of disagreements (and therefore complexity of the comparison) increased, we would see the threshold parameters become more extreme around zero.

Next, we can examine the estimated relative locations of the five policy positions offered for each issue. In our model, we do not strictly enforce the ordering that we intended when we designed each set of positions, so this provides an additional check on whether respondents perceive the alternatives as we expected. We estimate all five positions to be in exactly the intended ordering in 30 of 34 issues. In the remaining 4 we find a single pair of adjacent alternatives where the point estimates are in the reverse order of what we expected (see supplemental information for details). None of these position reversals are substantively large, and none are statistically significant at conventional levels. The largest posterior probability for any of the 34  $\times$  4 = 136 pairwise comparisons of adjacent positions being in a different order than we intended is 0.89. This is not due to a lack of estimation precision, the posterior probability of being in the intended order is greater than 0.975 for 110 of these 136 pairwise comparisons. In sum, respondents made choices in the conjoint as though they perceived the alternatives in the logical order we intended.

As a further check, we estimated an unrestricted preference model in which we do not assume a spatial structure to the utility function of respondents over alternative candidate positions (reported in the supplemental information). The overwhelming tendency is for respondents to evaluate the hypothetical candidates in the conjoint in a way that is consistent with a

spatial proximity-based utility function. Even without assuming spatial preferences, on average, and for most individual issues and positions on those issues, respondents are most inclined to choose candidates with the position that the respondent reported as their own, and penalise candidates deviating from that position more as the candidate moves to positions further from the respondent's own positions, in both directions.

Finally, one might worry that some of the prompts and alternatives are more or less difficult for respondents to understand simply because they are longer or shorter or are phrased in more or less accessible ways. In the appendix we show that there is no association between our measures of issue importance and the linguistic complexity of the prompt and stated positions for each issue as measured by either simple word count (which varies from about 80 to 160) or Flesch-Kincaid score (which varies from about 6 to 18).

## Estimated issue importance

Figure 1 shows our core results. It plots the estimated locations for the five positions for all 34 issues (i.e., the  $\psi_{jk}$  parameters). We label the five positions according to the designed ordering. The area of each point is proportional to the proportion of respondents choosing that alternative as their most preferred in the issue questions (numerical values are in the supplemental information). Issues are sorted from most to least important, with the estimated importance statistic and its 95% interval reported on the right panel.

Recall that the importance statistic for an issue represents the average utility weight that respondents attach to other respondents' deviations from their own preferred position on the issue, given the distribution of issue opinion in the population. To illustrate the implications of this approach, consider the example of the NHS (National Healthcare Service) Public/Private issue. As Figure 1 shows, this issue is ranked only 23 of 34 in terms of importance ( $\chi = 0.41$ ). Yet the Figure also shows that the estimated locations of the five positions for this issue are among the most widely spaced of all issues considered here: i.e., respondents very heavily penalised large deviations from their preferred positions on this issue when choosing between policy bundles in the conjoint task. The reason the NHS Public/Private issue scores only moderately on importance despite this spacing is that – as the size of the points for each position indicate – the

Death Penalty -	1	2 43 5	0.85	C Death Penalty
EU Relationship -	0	2 3 4 5	0.84	<ul> <li>EU Relationship</li> </ul>
Nuclear Forces -	0	2 3 4	5 <u>0.75</u>	- Nuclear Forces
Net Migration -	1	2 3 4 5	0.71	<ul> <li>Net Migration</li> </ul>
Foreign Aid -	1	2 3 4 •	0.69	– Foreign Aid
Cannabis -	0	2 3 4 5	0.68	– Cannabis
Strikes -	0	3 2 4 5	0.68	- Strikes
Fracking -	1	2 3 4 5	0.67	- Fracking
University Education Funding -	0	2 3 4 6	0.60	- University Education Funding
Fox Hunting	0	° 4 5	0.59	<ul> <li>Fox Hunting</li> </ul>
School Tracking -	0	32 4 5	0.56	<ul> <li>School Tracking</li> </ul>
School Language Support -	0	2 3 4 5	0.56	<ul> <li>School Language Support</li> </ul>
Offensive Speech -	1	° ° 45	0.55	<ul> <li>Offensive Speech</li> </ul>
Social Care -	0	° 3 4 5	0.54	- Social Care
Unemployment Support -	0	2 3 4 ·	<u>0.51</u>	<ul> <li>Unemployment Support</li> </ul>
Higher Tax Rate -	1	2 3 4 6	0.50	<ul> <li>Higher Tax Rate</li> </ul>
CEO Wages -	0	2 3 4 5	0.46	- CEO Wages
Armed Forces -	0	2 3 4 5	0.45	<ul> <li>Armed Forces</li> </ul>
Energy Price Regulation -	0	2 3 4 5	0.45	<ul> <li>Energy Price Regulation</li> </ul>
School Curriculum -	0	e (4 5	0.43	<ul> <li>School Curriculum</li> </ul>
Telephone & Internet -	0	2 3 4 5	0.43	<ul> <li>Telephone &amp; Internet</li> </ul>
Social Housing -	1	2 3 • •	0.42	<ul> <li>Social Housing</li> </ul>
NHS Public/Private -	1	2 3 · ·	0.41	<ul> <li>NHS Public/Private</li> </ul>
Food Production Subsidy -	1	<b>2</b> 4 •	0.41	<ul> <li>Food Production Subsidy</li> </ul>
Road Tolls -	0	° ° 4 (5	0.41	- Road Tolls
Energy Source Regulation -	1	2 34 5	0.40	<ul> <li>Energy Source Regulation</li> </ul>
Zero Hours Contracts -	•	° 3 4 5	0.40	<ul> <li>Zero Hours Contracts</li> </ul>
Land Development -	1	2 3 4 5	0.39	<ul> <li>Land Development</li> </ul>
Healthy Choices -	0	2 3 5	0.39	<ul> <li>Healthy Choices</li> </ul>
Privacy and Policing -	0	23 (4) 5	0.39	<ul> <li>Privacy and Policing</li> </ul>
Railway Ownership -	12	3 4 5	0.37	<ul> <li>Railway Ownership</li> </ul>
Bank Insurance -	0	23 4 5	0.36	<ul> <li>Bank Insurance</li> </ul>
Inflation v Unemployment -	0	2 3 4 5	0.33	<ul> <li>Inflation v Unemployment</li> </ul>
International Trade -	1	<b>3</b> 4 6	0.30	L International Trade
	_			
	0.0	0.5 1.0 1.5 2.0 2	2.5 0.0 0.4 0.8	
		Estimated Policy Alternative Locations	Estimated Importance	
		Loundation I only Alternative Locations	Loundley importance	

Figure 1: Left: estimated locations of policy positions for each issue, sorted from most to least importance. The number on each point is the designed ordering of the positions. Right: estimated importance score for each issue with 95% posterior intervals shown below the numerical value.

distribution of voter positions on this issue is very concentrated. Almost 80% of respondents personally endorsed alternatives 1 or 2 (which favour no or very limited private involvement in the NHS), while less than 5% endorsed alternatives 4 or 5 (which favour partial or full privatization of the NHS). In other words, although voters heavily penalised privatised NHS provision in the conjoint experiment, very few voters endorsed those positions. When faced with choices between the two positions that were most commonly endorsed, which each had support from about 40% of the respondents, and which roughly correspond to the Labour and Conservative party positions, respondents did not weight those differences heavily in their decisions, which is why those alternatives (1 and 2) are located closely together.

In contrast to the NHS Public/Private issue, one of the two most important issues concerns Britain's relationship with the European Union ( $\chi = 0.84$ ). This is a policy issue where voters heavily penalize disagreement with their preferred policy position (such that positions are estimated to be far apart on the utility scale) and where the distribution of voters' preferences on the issue is dispersed (such that positions far apart in the utility scale are preferred by substantial numbers of voters). It is perhaps unsurprising that Britain's relationship with the EU is one of the most important issues to British voters. The the negotiations following the UK's decision to leave the EU were at the forefront of national political debates – both in the media and among political elites – at the time our survey was fielded. The same is true for the closely related issue of net migration, which is the fourth-most important issue according to our estimates ( $\chi = 0.71$ ).

However, Figure 1 also clearly suggests that issues can be important to the public without being the subject of prominent political debate. The death penalty question has an estimated importance score ( $\chi = 0.85$ ) that is indistinguishable from that estimated for the EU issue. The finding that British voters vary in their opinion on the death penalty is not a new one, as existing research has already established that such variation exists (e.g., Heath, Jowell, and Curtice 1985; Heath et al. 1991). What is striking in this analysis is the *importance* voters attach to deviations from their preferred position on this issue, despite the fact that the death penalty (for murder) was abolished in the UK in 1969. Although the UKIP leader Paul Nuttall backed its partial reintroduction during the 2017 General Election campaign, no other significant British political party made prominent mention of this issue in their campaigns. Our results suggest that, were parties

to take up opposing positions on this issue, it would have a potential to move votes on a scale comparable to the EU issue.

Is it reasonable to have a measure of issue importance which says that the use of the death penalty is more important to the public than the public/private organisation of NHS? One might view this as evidence that our conception of importance is problematic, given that the death penalty is an issue more or less ignored in contemporary British politics while the NHS holds an almost totemic place in British life. We have two responses to this line of criticism. First, it is possible that a differently phrased NHS question, perhaps about funding levels rather than public/private organization, would have ranked much more highly because it would have induced more varied positions among respondents. We may simply have asked about a less contentious aspect of the NHS: its primarily public organisation. Second, because our definition is "importance to voters" rather than importance to elites or current political contestation and because we are trying to measure importance as distinct from salience, we should not expect to see a perfect association between our importance measure and the issues currently being contested. Our measure of importance identifies issues where there are disagreements among citizens on which basis citizens would be willing to change their vote choices. These are issues that could become major issues of political contestation, but they will not do so unless parties and candidates choose to adopt varying positions and to emphasize those positions. Indeed, one of the major lines of argument about Brexit is that it was the result of multiple decades of elites in the major UK political parties failing to take up varying positions along an increasingly severe fault line in British public opinion, leading to a political earthquake when that fault line found an outlet through UKIP and then the referendum on EU membership (G. Evans and Menon 2017). Our conception of issue importance and the resulting measurement strategy is one that can identify such fault lines before the earthquake strikes, rather than only after.

In contrast, if we compare these estimates with the open-ended most-important issue measures from the same respondents, measured six months earlier, we clearly see only the issues on the most immediate political agenda. The distribution of responses is, by the nature of a "most important" prompt, very lopsided and covers few issues. Fully 30% of (population weighted) respondents say Brexit, the EU, or variants thereof. Relatively smaller groups give responses

related to terrorism (11%), immigration (7%), the NHS (6%), or the economy/austerity (5%). There is clear indication of sensitivity to recent events: it is unlikely that terrorism would have been the second largest share had there not been three terror attacks on the UK in the four months before the survey. 13% of respondents leave the item blank. Maybe these respondents do not care about any issues, but more likely they just have difficulty answering an open-ended question. While the responses to this question clearly tell us something about which issues people think are most important, they give a relatively superficial picture that is limited to a few of the highest profile issues.

## Issue importance and ideological structure

To relate our importance scores to the major dimensions of conflict in UK politics we conduct a separate two-dimensional scaling of respondents' answers to the the ordinal issue position questions. This uses a standard item response theory scaling model for ordered responses to measure how issue positions tend to go together. The details of the model specification and identification restrictions are in the supplemental information.

The top two panels of Figure 2 summarise the results of the 2D ideological scaling model. The top-left panel shows the loading of each of our 34 issue positions on the economic left-right (x-axis) and social liberal-conservative (y-axis) dimensions, respectively. Along with the EU, issues such as the death penalty, foreign aid, net migration and support for school pupils whose first language is not English appear to be strongly associated with an underlying social liberal-conservative dimension. Those issues which load strongly on the economic left-right dimension mainly appear to concern the extent to which government should intervene in the provision of goods and services (e.g., rail privatisation, regulation of energy proces, nationalisation of telephone and internet services), although issues relating to tax and social support appear to load less heavily on this dimension. The top-right panel shows the average estimated position of respondents by reported 2017 UK general election vote. Conservative voters are on average more economically right-wing and more socially conservative than Labour voters. Liberal Democrat and UKIP voters are on average moderate on economic left-right issues, but differ strongly on the social liberal-conservative dimension (with the former highly liberal and the latter highly



Figure 2: Top left: loadings of issues on economic left-right and social liberal-conservative dimensions. Top right: average 2D position of respondents by 2017 UK general election vote. Bottom: importance of each issue as a function of the extent to which it divides the public along the economic left-right versus the social liberal-conservative dimension. conservative).

The bottom panel of Figure 2 is the purpose of the analysis in this section. It shows a clear negative association between how important each issue is and the relative degree to which each issue loads on the economic left-right ideological dimension rather than the social liberal-conservative dimension  $(\frac{\beta_{1j}^2}{\beta_{1j}^2 + \beta_{2j}^2})$ . The issues in our survey that related more to economic left-right considerations were generally estimated to be *less* important to voters. Conversely, those issues which related more to social liberal-conservative considerations tended to be *more* important to voters.

While this association is statistically sigificant in a simple regression analysis (the p-value on the slope of the regression line in Figure 2 is 0.02), the issues we included in our survey are not an independent random sample from *the population* of issues. This concept is not even well-defined. Thus, it would be wrong to claim that this is conclusive evidence that the issues that divide social liberals and conservatives in the UK are more important than those that divide economic left and right. It is possible that the particular left-right issues we asked about were not sufficiently explicit regarding benefits and overall redistribution, tending instead to focus on public versus private ownership, tax and workers rights. Perhaps there are other left-right oriented policy questions that would have been much more powerful in shaping respondents' choices, and we simply failed to ask about them. Nonetheless, of the issues that we asked about, we see a clear pattern which is consistent with arguments made by other scholars of recent UK voting behaviour (Mellon et al. 2017; Curtice 2017).

#### What is Important to Whom?

We can extend our model to allow issue importance to vary between population sub-groups. We do this by allowing the weight on the distance between the respondent's position and the candidates' positions to vary as a function of observed covariates *X*. The utilities associated with candidates A and B therefore become:

$$u_{iA} = -\sum_{j \in 1,2,3} \left| e^{\beta_j X_i} (\psi_{jA} - \psi_{ji}) \right| \qquad \qquad u_{iB} = -\sum_{j \in 1,2,3} \left| e^{\beta_j X_i} (\psi_{jB} - \psi_{ji}) \right|$$

The overall weights are constrained to be positive by using an exponential function,  $e^{\beta_j X_i}$ .

The coefficients  $\beta$  are estimated from the data under an improper uniform prior.

Table 1 shows the results of a simple application of this approach with four predictor variables: self-reported political attention (0-10 scale, mean 5.8), whether a respondent is female, age (five year increments) and whether a respondent holds a university degree (Level 4+ qualifications). All of these variables were measured by the BES at least seven months prior to our survey. In the table, we highlight issues which have significantly more positive or negative associations with each demographic variable, compared to the average issue. Comparison to the average issue is necessary because some variables are generally associated with higher or lower weight placed on the average issue. This is particularly true for attention. This is likely because high attention respondents consider candidate profiles more carefully in relation to their own policy preferences and have firmer policy preferences (Bartle 2000; Lauderdale, Hanretty, and Vivyan 2018). This general pattern is a mechanical consequence of the fact that high attention respondents are substantially less likely to choose the "I am not sure" option in the conjoint questions.

Holding the other variables constant, *older voters* care relatively more about nuclear forces, fracking, fox hunting, social care and food production subsidies. Social care directly affects older voters while fracking affects areas where older voters disproportionately live and own land. Fox hunting, UK nuclear forces, and the extent to which the UK is reliant on food imports are literally "old" issues in British politics in the sense that they were more prominantly debated decades ago.<sup>9</sup> Younger voters care relatively more about the future relationship with the EU, the extent of unemployment support, road tolls, government intervention to encourage healthy eating, and the terms of international trade. Several of these are issues that primarily affect people of working age, and the EU relationship is explicitly about the future.

Holding other variables constant, voters who are *more attentive* to politics care relatively more about the future relationship with the EU and energy source regulation, two relatively complex issues. In contrast, voters who are less attentive to politics care more about the death penalty, nuclear forces, school language support, and social care provision. With the possible exception of social care, these are relatively non-technical issues that connect more straightfor-

<sup>&</sup>lt;sup>9</sup>In the 1990s, 1980s and the early 19th to mid 20th centuries, respectively.

	Age		Attention		Degree		Female	
Death Penalty	0.02	(+)	0.02	(-)	-0.03		-0.03	
EU Relationship	-0.05	(-)	0.12	(+)	0.09		-0.38	(-)
Nuclear Forces	0.06	(+)	0.02	(-)	0.06		-0.09	
Net Migration	-0.00		0.04		-0.08		-0.26	
Foreign Aid	-0.01		0.09		0.20		-0.01	
Cannabis	0.01		0.04		0.03		-0.10	
Strikes	-0.03		0.09		0.14		0.07	
Fracking	0.03	(+)	0.12		-0.11		0.03	
University Education Funding	0.02		0.11		0.22		-0.22	
Fox Hunting	0.03	(+)	0.05		-0.34	(-)	-0.21	
School Tracking	-0.04		0.12		-0.09		-0.12	
School Language Support	-0.02		0.03		-0.10		-0.12	
Offensive Speech	-0.04		0.09		0.13		0.05	
Social Care	0.04	(+)	0.00	(-)	0.21		-0.05	
Unemployment Support	-0.05	(-)	0.06		-0.10		-0.10	
Higher Tax Rate	-0.03		0.11		0.01		-0.41	(-)
CEO Wages	0.02		0.06		0.04		-0.36	
Armed Forces	0.02		0.10		0.13		-0.04	
Energy Price Regulation	0.02		0.12		-0.11		0.07	
School Curriculum	-0.02		0.03		-0.12		0.06	
Telephone & Internet	-0.01		0.02		0.16		-0.05	
Social Housing	-0.01		0.11		0.10		-0.30	
NHS Public/Private	-0.04		0.08		-0.01		-0.25	
Food Production Subsidy	0.09	(+)	0.09		0.38	(+)	-0.17	
Road Tolls	-0.12	(-)	0.03		0.22		-0.19	
Energy Source Regulation	-0.03		0.18	(+)	0.15		0.02	
Zero Hours Contracts	-0.04		0.08		-0.00		0.29	(+)
Land Development	-0.03		0.05		-0.38		0.22	
Healthy Choices	-0.09	(-)	0.05		-0.58	(-)	-0.27	
Privacy and Policing	-0.02		0.08		0.11		0.05	
Railway Ownership	-0.03		0.12		0.12		-0.07	
Bank Insurance	0.01		0.03		0.14		-0.10	
Inflation v Unemployment	-0.01		0.03		-0.11		-0.49	(-)
International Trade	-0.11	(-)	0.12		0.42	(+)	-0.25	
Average	-0.01		0.07		0.03		-0.11	

Table 1: Coefficient estimates for variation in importance as a function of four demographic variables. Coefficients significantly higher than or lower than the average coefficient for that demographic variable across all issues are marked with (+) or (-), respectively.

wardly to political values.

The associations for the two remaining variables are weaker. Holding other variables constant, having a university degree is positively associated with caring more about food production subsidies and international trade issues, and negatively associated with caring about fox hunting, land development and the government intervention to encourage healthy eating. Women put higher weight on zero hours contracts and less weight on the EU relationship, top tax rates, and the inflation/unemployment tradeoff.

These demographic associations are non-trivial, but tend not to be strong enough to completely re-order the relative importance of issues for different groups. In the appendix we provide plots showing the predicted levels of importance of different issues as a function of each variable considered singly. These figures often show stronger relationships that the multivariate analysis here. Degree holders, for example, care much more about university funding even though there is no significant partial association shown in Table 1. This is because degree holders also tend to pay more attention to politics, and it is difficult to distinguish the effects of these two correlated variables.

## Discussion

In this paper, we have offered a new approach for measuring issue importance in the public. Our approach combines standard survey questions asking respondents to choose concrete policy positions on a number of issues with a conjoint analysis presenting respondents with hypothetical candidates who take positions on a subset of those same issues. Although both concrete ordinal policy questions and conjoint analyses have become popular recently, the combination of these two methods yields what we believe is the best available measure of the revealed relative importance of issues to voters.

There are limitations to our approach in general and our implementation specifically. Most of these are variants of the typical external validity concerns that come with any survey experiment. We rely on respondents' choices between hypothetical candidates. Because respondents know nothing else about the candidates, know they are not real, and have information about only three issues, they may pay an unrealistic amount of attention to issues they would not really care about when making real political decisions. Future research could address some of these points by, for example, embedding the candidate policy positions in a richer conjoint design where respondents also receive information about candidates' background attributes or valence characteristics. This would allow researchers to gauge the importance that voters attach to policy

issues when weighing these up against other potentially relevant attributes of candidates.

Concerning our implementation, although we chose a set of issues that was representative of the policy areas defined by the Comparative Agendas Project, we have still only studied one particular set of policy issues using a particular wording for each issue. Future work might explore different policy issues and, just as significantly, investigate how sensitive findings are to variations in the phrasing of the policy questions. As we stated earlier, we included an issue that involves the NHS, but there are many policy issues that involve the NHS, not just the issue of private versus public provision. Our approach, because it gives respondents concrete policy alternatives, can fail to provide the most important issue within a given issue area.

However, just as external validity concerns are not a good general argument against doing survey experiments, none of these limitations are good arguments for rejecting our approach to measuring issue importance, especially given the severe limitations of the alternatives. When we say an issue is important in politics, we often mean that changing something related to that issue is capable of causing people to act differently. Once we recognise that importance can be considered a causal attribute, all the arguments for using experiments to study it have their usual force. A further advantage of the experimental approach is that it allows us to identify those issues which, despite being important to the public, are not the subject of current political debate. We care about variation in issue positions that are not currently being presented to the public by political parties and candidates, but may be in the future. Armed with a method which identifies such issues in a systematic fashion, we can better understand current electoral competition and its likely future trajectory, and can better judge whether citizens are getting the policies they say that they want on the issues that they care most about.

## **Supplemental Information**

## **Policy Alternative Estimates**

When we examine the most likely alternative reversals, we do find that they general concern policy alternatives that are very subtly different. For example, on the death penalty question, we intended "The death penalty **should be available as punishment for any murder**." to be a less pro death penalty position than "The death penalty **should be the usual punishment for murder**, but should not be mandatory.", but respondents answered as though it was slightly more pro death penalty. On the question about strikes, we intended "Strikes **should be banned in the emergency services** (fire, police, and ambulance), but should be allowed in other sectors." to be the more restrictive position than "Strikes **should be banned in the emergency services** and other critical sectors (health, transport, communications, energy), but should be allowed in other sectors." On the question about individual school versus local government versus national government control over school curriculum, we intended "Local governments should set the curriculum for all subjects". As should be obvious from reading through these three examples, these are all subtle differences and in some cases our question wording may not have been optimal.

## Comparison to Standard Conjoint Analysis

It is instructive to compare our model to one where we ignore the respondents' stated positions, and simply try to estimate which candidate positions make the candidate more attractive on average, as is done in a standard conjoint survey analysis. We could use the AMCE estimation approach to do this (Hainmueller, Hopkins, and Yamamoto 2014) but for comparability, we instead modify the ordinal logistic model that we have used above. For this average marginal effect model, we specify a respondent's utility in terms of only the candidate's position:

$$u_{iA} = \sum_{j \in 1,2,3} v_{jA}$$
  $u_{iB} = \sum_{j \in 1,2,3} v_{jB}$ 

where  $v_{jA}$  represents the utility received from candidate A's position on issue *j*, and where  $v_{jB}$  represents the utility received from candidate A's position on issue *j*. Thus, each potential position that a candidate might take has some utility associated with it, which shifts the log-odds of supporting that candidate, holding constant the candidate's positions on other issues and the positions of the other candidate in the choice task.

The estimates from this model answer a question about optimal candidate positioning as opposed to what individuals in the public care most about. In Figure X, we show the estimated average voter utility (logistic scale coefficients) for each alternative that the hypothetical candidates might take on an issue. For each issue, we set the alterative that yields the highest average utility for voters to zero, and report the utility yielded by the remaining alternatives relative to this. These tend to be single peaked, or close to single peaked, indicating one or two positions that make the candidate most attractive to the average respondent. The single worst position that a hypothetical candidate could adopt is the most extreme NHS privatisation position. In contrast, the death penalty and EU issues, which rank at the top of our importance scale at the individual level, both have relatively modest average marginal effects across the full range of positions, and so candidate positioning on these issues is not as important for the total level of support that candidate would receive.

How can these issues be important to individuals but not have strong aggregate effects on support? These are issues on which individuals penalise deviations from their own positions severely, but there are citizens across the full range of positions. Thus a candidate moving from one end of the spectrum to the other trades support from some respondents for support from others, limiting the aggregate effect on candidate support. An issue can be important, but not necessarily offer easy oppurtunities for candidates to gain votes by switching positions. This is also true because candidates may not only care about which positions are most appealing to all voters on average, but may care particularly about appealing to particular subsets of voters.

#### Ordinal Scaling Model for Respondent Ideology

We use an ordered logistic response model for the choice between the five alternatives  $Y_{ij} \in \{1, 2, 3, 4, 5\}$ , as a function of two continuous latent variables  $\theta_{i1}$  and  $\theta_{i2}$ . The response model is



Figure 3: Each panel shows the relative appeal of each of the five policy alternatives for one issue, on average across respondents. Utility scales are comparable across issues.

then given by:

$$\log\left(\frac{p(Y>k)}{p(Y\leq k)}\right) = \beta_{j1}\theta_{i1} + \beta_{j2}\theta_{i2} - \alpha_k$$

The scales of the parameters are identified by the following prior assumptions:

$$\theta_{id} \sim N(0, 1) \qquad \qquad \beta_{jd} \sim N(0, \sigma_{\beta d}^2) \qquad \qquad \sigma_{\beta d} \sim N_{1/2}(0, 1)$$

In order to fix the rotation and reflection invariance of the 2D model, and thus to specify which opinion variation should be labeled as associated with the first versus the second dimension, we set constraints on the  $\beta$  parameters (Rivers 2003). These constraints do not determine the relationships between different issues, but merely serve to orient the space so that it is more easily interpretable. To fix rotation invariance, we set the loading parameters for the first dimension  $\beta_{j1} = 0$  for the EU relationship question and the net migration question. To fix reflection invariance, for the first dimension we specify that the NHS privatisation questions loads positively  $\beta_{j1} > 0$  and the regulating energy prices question loads negatively  $\beta_{j1} < 0$ . For the second dimension we specify that the future EU relationship question loads positively  $\beta_{j2} > 0$  and the increasing foreign aid question loads negatively  $\beta_{j2} < 0$ . This orientation of the latent space aligns the first dimension with the political disagreements that are typical thought of as economic left-right, and the second dimension with disagreements that are typically thought of as social liberal-conservative.

## **Unrestricted Model Estimates**

As mentioned in the main text of the paper, the linear loss spatial preference model assumes that respondents perceive the five response options as having a spatial ordering and penalise deviations from their preferred policy based on proximity with a particular functional form. In order to verify that these assumptions are reasonable, we also estimated an "unrestricted" model in which we seperately estimate the utility penalty  $v_{jkk'}$  for all possible combinations of the respondent's position k and the candidates' positions k' for each issue j. While this is a very large number of parameters to estimate, and so we cannot estimate them precisely, we can nonetheless use this unrestricted model to assess whether these utility penalties seem to broadly follow the spatial pattern assumed by the primary model. Once again, only the differences between the alternatives are identified by the data, so we set the utility of a candidate matching the respondent's position  $v_{jkk} = 0$  and estimate how respondents taking each position k penalise candidates taking all other positions  $k' \neq k$  relative to that position.

In the figures below we show the estimated utility penalties for all issues, for all candidate positions, first organized by issue and then organized by respondent position. The overwhelming tendency is for respondents to evaluate the hypothetical candidates in the conjoint in a way that is consistent with a spatial, proximity-based utility function. On average, and for most individual issues and positions on those issues, respondents are most inclined to choose candidates with the position that the respondent reported as their own, and penalise candidates deviating from that position more as the candidate moves to positions further from the respondent's own positions, in both directions. There is variation across issues in the degree to which they do so because the five alternatives vary in their substantive relative proximity as well as because of estimation uncertainty. Given these results of the unrestricted model as well as the diagnostics described above with respect to the model that assumes a spatial preference structure, we focus on the spatial proximity model estimates in the main text of the paper.



Figure 4: Each panel shows the estimated utility penalty functions for candidates taking each of the five possible positions on one issue, for each possible respondent position (black, red, green, dark blue, light blue, from alternative 1 to 5).



Figure 5: Each panel shows the estimated utility penalty functions for candidates taking each of the five possible positions on each issue, among respondents taking a particular position. Each thin line is one of the 34 issues, the thick lines are the average of these.

We can calculate importance scores based on the unrestricted model that are comparable to those discussed in the main text using the formula:

$$\chi_j = \sum_{k=1}^5 \sum_{k'=1}^5 \pi_{jk} \pi_{jk'}(-v_{jkk'})$$

On average, these are slightly greater in magnitude to those from the main model in the paper, but the difference is small because the deviations from the spatial loss we assume in the main model is a good approximation to the data. These alternative scores are correlated with those reported in the main model at 0.92, yielding very similar conclusions about the relative importance of different issues.

## Importance by Respondent Demographics

In the supplemental information we provide estimates from a covariate model that assesses the extent to which respondents who gave different open-ended responses to the most important issue question in the June 2017 British Election Study are measured as having corresponding priorities in our analysis. We divided the sample into four groups: those who gave a response indicating that the most important issue was Brexit or the EU (1884), those who said immigration (405), those who said terrorism (677), and those who gave all other responses (3104). No other groupings of respondents yielded a large enough sample to do a sub-group analysis. Those who say Brexit indeed have relatively high importance on the future relationship with the EU, but also net migration. Those who say immigration have relatively high importance on net migration, but not on the future relationship with the EU. It is reassuring to see some relationship between what people say is their most important issue and the measures that we construct from their revealed preferences, even at seven months remove. This is not a very strong test of anything however, because the measures are so clearly different in their conceptualisation and measurement.

	Brexit		Immigration		Terrorism	
Death Penalty	0.11		-0.09		-0.04	
EU Relationship	0.44	(+)	-0.03		0.26	(+)
Nuclear Forces	0.23		-0.00		0.06	
Net Migration	0.52	(+)	0.64	(+)	0.35	(+)
Foreign Aid	0.29		0.63	(+)	-0.22	
Cannabis	-0.10	(-)	-0.34		-0.05	
Strikes	0.25		0.00		0.15	
Fracking	0.16		-0.20		0.22	
University Education Funding	0.33		0.17		-0.26	
Fox Hunting	0.27		-1.10	(-)	-0.21	
School Tracking	-0.04		0.52	(+)	0.18	
School Language Support	0.23		0.31	(+)	-0.72	
Offensive Speech	0.24		0.41	(+)	0.14	
Social Care	-0.20	(-)	-0.41		-0.18	
Unemployment Support	-0.07	(-)	-0.38		-0.07	
Higher Tax Rate	0.70	(+)	-0.57		0.28	
CEO Wages	0.45		0.07		-0.26	
Armed Forces	0.27		0.31	(+)	0.10	
Energy Price Regulation	0.12		-0.09		-0.88	(-)
School Curriculum	-0.44	(-)	0.15		-0.05	
Telephone & Internet	0.42		-0.30		-0.84	
Social Housing	0.16		0.02		-0.24	
NHS Public/Private	0.38		0.01		0.19	(+)
Food Production Subsidy	0.29		-0.16		-0.48	
Road Tolls	0.31		-1.23	(-)	0.15	
Energy Source Regulation	-0.36	(-)	-0.62		-0.91	(-)
Zero Hours Contracts	0.24		-0.49		0.00	
Land Development	0.28		-0.10		0.07	
Healthy Choices	-0.06		0.29		-0.42	
Privacy and Policing	0.36		-0.79		-0.07	
Railway Ownership	0.17		-1.27	(-)	-0.12	
Bank Insurance	0.06		0.07		0.05	
Inflation v Unemployment	0.25		-0.50		0.03	
International Trade	0.25		-0.14		-0.87	
Average	0.19		-0.15		-0.14	

Table 2: Coefficient estimates for variation of importance as a function of most important issue as measured in the 2017 BES. Coefficients that are significantly less than or greater than the average coefficient for that demographic variable across all issues are marked with (-) or (+), respectively.

## Data sparsity

By randomly selecting a subset of issues for each respondent, we were able to generate data on a much larger number of issues (34) than the number of items that we asked to each respon-

dent, with average sample sizes for each of the ordinal questions of 6070  $\times$  (7 / 34)  $\approx$  1250. For the conjoint questions, the average number of respondents answering a conjoint involving any particular issue question is 6070  $\times$  (3/34)  $\approx$  536, with each of those respondents answering 3 such questions for a total of  $\approx$  1607 responses involving each issue.

Because we are interested in the relationships between different issues, it also matters that there is sufficient information about combinations of issues. In the ordinal questions, the average number of respondents answering any pair of issue questions is  $6070 \times (7/34) \times (6/33) \approx$  227. In the conjoint questions, the average number of respondents answering a conjoint involving any pair of issue questions is  $6070 \times (3/34) \times (2/33) \approx 32$ , with each of those respondents answering 3 such questions for a total of  $\approx$  97 responses. These are not large numbers and one would not want to use these data to study a single pairwise comparison of issues, or to try to study interactions of multiple items in the conjoint. However, for the analyses we conduct below, our interest is not on single pairwise comparisons but rather the full set of issues in comparison to all others, which more efficiently pools the information we get from all the combinations of issues that appear in the data.

## Prompts and Policy Alternatives

The full prompts and policy alternatives for each item are provided below. We also include plots showing that there is no association between the estimated importance scores and the word count or Flesch-Kincaid score of the prompt and alternatives.



Figure 6: Estimated importance scores for each issue as a function of two measures of prompt and alternative complexity: word count and Flesch-Kincaid score.

Issue 1: Inflation v Unemployment

Prompt: If there is a tradeoff between maintaining low inflation (stable prices) and low unemployment, what is the best balance?

Alternative 1: Low inflation should take priority over low unemployment.

Alternative 2: Low inflation should usually take priority, except where there is a risk of ex-

ceptional levels of unemployment.

Alternative 3: Inflation and unemployment should be given **equal priority**.

Alternative 4: **Low unemployment should usually take priority**, except where there is a risk of exceptional levels of inflation.

Alternative 5: Low unemployment should take priority over low inflation.

Comparative Policy Agenda Category: General Domestic Macroeconomic Issues

Issue 2: CEO Wages

Prompt: Full-time factory workers in the UK have average earnings of about £25,000 per year (£500 per week before tax). How much should the chief executive of a large British company listed on the stock exchange typically be paid in comparison to this figure?

Alternative 1: No more than **two times** this figure (£50,000 per year) Alternative 2: No more than **five times** this figure (£125,000 per year) Alternative 3: No more than **ten times** this figure (£250,000 per year) Alternative 4: No more than **twenty times** this figure (£500,000 per year) Alternative 5: **Whatever salary** company owners (shareholders) think is appropriate Comparative Policy Agenda Category: General Domestic Macroeconomic Issues

Issue 3: Higher Tax Rate

Prompt: Given that UK residents pay income tax at a rate of 40% on income from £43,000 to £150,000, which of the following comes closest to your view on the proper tax rate for incomes over £150,000?

Alternative 1: Income over £150,000 should be taxed at 40%

Alternative 2: Income over £150,000 should be taxed at 45%

Alternative 3: Income over £150,000 should be taxed at 50%

Alternative 4: Income over £150,000 should be taxed at 60%

Alternative 5: Income over £150,000 should be taxed at 80%

Comparative Policy Agenda Category: General Domestic Macroeconomic Issues

Issue 4: Privacy and Policing

Prompt: What is your view on how the UK should balance privacy with policing and antiterrorism activities?

Alternative 1: The police and the security services **should not be able to intercept or read any communications**.

Alternative 2: The police and the security services should be able to intercept and read a communication **if they can convince a judge that it would lead to serious crime being prevented**.

Alternative 3: The police and the security services should be able to intercept and read a communication **if they can convince a judge that it would lead to serious crime being prevented or criminals being arrested**.

Alternative 4: The police and the security services should be able to intercept and read a communication **if they believe that it would lead to serious crime being prevented or criminals being arrested**.

Alternative 5: The police and the security services **should be able to intercept and read any communications.** 

Comparative Policy Agenda Category: General Civil Rights, Minority Issues, and Civil Liberties

Issue 5: Offensive Speech

Prompt: What is your view on offensive/hate speech?

Alternative 1: Government **should not stop people from saying offensive things**, no matter who is affected.

Alternative 2: Government should stop people from saying things that offend people of different **races**.

Alternative 3: Government should stop people from saying things that offend people of different **races or religions**.

Alternative 4: Government should stop people from saying things that offend people of different **races, religions, or sexual orientations**.

Alternative 5: Government should stop people from saying things that offend people of different **races**, **religions**, **sexual orientations**, **or political beliefs**.

Comparative Policy Agenda Category: General Civil Rights, Minority Issues, and Civil Liberties

Issue 6: Healthy Choices

Prompt: How much should the government try to encourage individuals to make healthy choices in their lives through taxes and other incentives?

Alternative 1: The government **should not try to influence individuals to make healthy choices in their lives**.

Alternative 2: The government should encourage people to make healthy choices in their lives through information campaigns only.

Alternative 3: The government **should tax products that are harmful when consumed in any quantities**, such as cigarettes and tobacco products.

Alternative 4: The government **should also tax products that are harmful when consumed in excess**, such as soft drinks.

Alternative 5: The government should ban products that are harmful in all quantities and tax those that are harmful in excess.

Comparative Policy Agenda Category: General Health

Issue 7: NHS Public/Private

Prompt: How should the NHS be organised?

Alternative 1: There should be **no involvement of private organisations in the NHS**, and existing private healthcare providers should be nationalized.

Alternative 2: There should be **no new involvement of private organisations in the NHS**. Existing private healthcare providers should continue to operate as before.

Alternative 3: **The NHS should be partially privatized**, and public and private providers should compete on the basis of quality. The government should decide how much medical providers can charge.

Alternative 4: The NHS should be **fully privatized**, **but the government should decide how much medical providers can charge**.

Alternative 5: The NHS should be **fully privatized, and medical providers should be allowed to charge their own fees**.

Comparative Policy Agenda Category: General Health

Issue 8: Food Production Subsidy

Prompt: How should the government be involved in subsidising (financially supporting) UK food production?

Alternative 1: Food from other countries should be **taxed to discourage consumption** and government should **subsidize the production of food in this country**.

Alternative 2: Food from other countries should not face any special taxes, but the government should **subsidize the production of food in this country**.

Alternative 3: Food from other countries should not face any special taxes, but the government should **subsidize the production of essential foods in this country** (flour, eggs, butter, milk, etc).

Alternative 4: Food from other countries should not face any special taxes and the **government should not subsidize the production of food in this country**.

Alternative 5: **The UK should rely more on food from other countries** and government should support current farmers switching into other work.

Comparative Policy Agenda Category: General Agriculture

Issue 9: Zero Hours Contracts

Prompt: What is your view on zero hours contracts (contracts with no guarantee of hours or income)?

Alternative 1: Zero hours contracts **should be permitted** under whatever terms employers and employees agree to.

Alternative 2: Zero hours contracts **should be permitted**, **but employers should commit to employment hours at least one day in advance**, and pay wages when they cancel with less notice.

Alternative 3: Zero hours contracts **should be permitted**, **but employers should commit to employment hours at least one week in advance**, and pay wages when they cancel with less notice.

Alternative 4: Workers on zero hours contracts should be subject to a higher minimum wage than normal contracts.

Alternative 5: Zero hours contracts should be illegal.

Comparative Policy Agenda Category: General Labor and Employment

Issue 10: Strikes

Prompt: What is your view on strikes?

Alternative 1: Strikes **should be banned**.

Alternative 2: Strikes **should be banned in the emergency services** (fire, police, and ambulance), but should be allowed in other sectors.

Alternative 3: Strikes **should be banned in the emergency services and other critical sectors** (health, transport, communications, energy), but should be allowed in other sectors.

Alternative 4: Strikes should be allowed in all sectors, but only to improve pay and working conditions.

Alternative 5: Strikes should be allowed, whatever the reason.

Comparative Policy Agenda Category: General Labor and Employment

Issue 11: School Curriculum

Prompt: Who should decide what is taught in schools ("the curriculum")?

Alternative 1: Individual schools should decide what is taught.

Alternative 2: **Local governments should set a core curriculum**, but individual schools should decide the rest.

Alternative 3: Local government should set the curriculum for all subjects

Alternative 4: **The UK government should set a core curriculum**, but individual schools should decide the rest.

Alternative 5: The UK government should set the curriculum for all subjects.

Comparative Policy Agenda Category: General Education

Issue 12: University Education Funding

Prompt: Who should determine the cost of, and pay for, university education?

Alternative 1: The **UK government should pay for university education** for UK students who enter university.

Alternative 2: The **UK government should pay for most of the cost of university education** for UK students, aside from a fee of less than £1000 per year to be paid by the student.

Alternative 3: The **UK government should pay for some of the cost of university education** for UK students, aside from a fee of less than £3000 per year to be paid by the student.

Alternative 4: The **UK government should not pay for the cost of university education, but should provide loans** to ensure that all students are able to take up a position at university regardless of family resources.

Alternative 5: The **UK government should not pay for the cost of university education**, and students should pay for their university education through family resources and private student loans.

Comparative Policy Agenda Category: General Education

Issue 13: School Tracking

Prompt: How should schools deal with students with different levels of ability?

Alternative 1: **Schools should not select students on the basis of ability**, and should treat all students the same way.

Alternative 2: Schools should not select students on the basis of ability, but **pupils with different levels of ability in different subjects should be put into different classes for those subjects** ("setting").

Alternative 3: Schools should not select students on the basis of ability, but **pupils with** different levels of general ability should be put into different year groups ("streaming").

Alternative 4: Most schools should not select students on the basis of ability, but **selective** schools should be available for a small number of talented students.

Alternative 5: **Schools should select students on the basis of ability.** Selective schools or "grammar schools" should be available across the country.

Comparative Policy Agenda Category: General Education

Issue 14: Fracking

Prompt: "Fracking" is a process of injecting a high pressure water mixture into rock to enable the extraction of natural gas and petroleum from underground or under the seabed.

Alternative 1: Fracking should be **illegal** in the UK.

Alternative 2: Fracking should be limited to offshore drilling.

Alternative 3: Fracking should be limited to offshore and unpopulated areas.

Alternative 4: Fracking should be allowed where landowners and local councils both permit

## it.

Alternative 5: Fracking should be allowed where local landowners permit it.

Comparative Policy Agenda Category: General Environment

Issue 15: Fox Hunting

Prompt: Which of these comes closest to your view on fox-hunting?

Alternative 1: Fox hunting with hounds for pest control or sport should be allowed without restriction

Alternative 2: Fox hunting with hounds for pest control should be allowed, but fox hunting for sport should be banned.

Alternative 3: Fox hunting with hounds for pest control should be allowed, but foxes must

be shot with guns rather than killed by the hound. Fox hunting for sport should be banned.

Alternative 4: Fox hunting with guns for pest control should be allowed, but fox hunting with

## hounds should be banned.

## Alternative 5: Fox hunting should be illegal without exception

Comparative Policy Agenda Category: General Environment

Issue 16: Energy Source Regulation

Prompt: Electricity can be generated in different ways (including coal, nuclear and wind). How involved should the government be in deciding how we produce electricity?

Alternative 1: The government should leave electricity generation to the market.

Alternative 2: The government should **not subsidise any types of electricity generation, but should set targets for different types**.

Alternative 3: The government should **subsidise certain types of electricity generation over others**.

Alternative 4: The government government should ban certain types of electricity generation, and should subsidise other types of electricity generation.

Alternative 5: The government should **nationalise electricity generation and determine the types of electricity generation in use**.

Comparative Policy Agenda Category: General Energy

Issue 17: Energy Price Regulation

Prompt: Who should set energy prices?

Alternative 1: Energy companies should be able to set whatever tariffs they like.

Alternative 2: Energy companies should be able to set their own tariffs, but they should be required to let customers know if a better deal is available elsewhere.

Alternative 3: Energy companies **should be able to set tariffs, but the government should be able to cap certain rates**.

Alternative 4: The government **should set tariffs for the energy companies**. Energy companies should have to compete on the quality of service.

Alternative 5: The government **should nationalise energy companies and set its own tariffs**. Comparative Policy Agenda Category: General Energy

Issue 18: Net Migration

Prompt: Net migration is the number of immigrants who come to the UK minus the number of emigrants who leave the UK to live elsewhere. The current UK population is about 65 million

and in 2015 the level of net migration was 333,000. Which of the following figures is closest to the appropriate level of net migration into the UK per year?

Alternative 1: There should be **no net migration.** 

Alternative 2: No more than 65,000 per year (0.1% of UK population)

Alternative 3: No more than 130,000 per year (0.2% of UK population)

Alternative 4: No more than 325,000 per year (0.5% of UK population)

Alternative 5: There should be **unlimited UK net migration** 

Comparative Policy Agenda Category: General Immigration and Refugee Issues

Issue 19: School Language Support

Prompt: Many schools teach students whose first language is not English. Should such students be given support in school?

Alternative 1: Schools should not provide support for such students, and should only teach in English.

Alternative 2: Schools should not be required to provide support for such students, but should be allowed to do so. Schools should only teach in English.

Alternative 3: Schools should provide support for all students whose first language is not English, but should only teach in English.

Alternative 4: Schools should provide support for all students whose first language is not English, and should offer **bilingual teaching in some classes**.

Alternative 5: **Bilingual schools should be set up** wherever there are large communities whose first language is not English.

Comparative Policy Agenda Category: General Immigration and Refugee Issues

Issue 20: Railway Ownership

Prompt: How should railways in the UK be owned and operated?

Alternative 1: The rail network and the rail operating companies should be **publicly owned**.

## Fares should be set by the government so that they are affordable for most people.

Alternative 2: The rail network and the rail operating companies should be **publicly owned**. Fares should be set by the government to cover operating and maintenance costs.

Alternative 3: The rail network and the rail operating companies should be **in part publicly owned, and in part privately owned. Fares should be set by the government to cover operating and maintenance costs.** 

Alternative 4: The rail network and the rail operating companies should be **privately owned**.

## Fares should be set by the government to cover operating and maintenance costs.

Alternative 5: The rail network and the rail operating companies should be **privately owned**.

### Rail operating companies should set fares.

Comparative Policy Agenda Category: General Transportation

Issue 21: Road Tolls

Prompt: Which of these comes closest to your view on how we should pay for the road network? Currently the cost of the road network is paid for by general taxation rather than by charging a toll, or fee, for use of the roads.

Alternative 1: All roads should be toll roads.

Alternative 2: Motorways should be toll roads, but other roads should be free to use.

Alternative 3: New developments (new bridges, tunnels, motoroways) should be toll roads, but all other roads should be free to use.

Alternative 4: Only the most expensive new developments (bridges, tunnels, motorways) should be toll roads.

Alternative 5: No roads should be toll roads.

Comparative Policy Agenda Category: General Transportation

Issue 22: Death Penalty

Prompt: The death penalty was abolished as a punishment for murder in the UK in the 1960s. What are your views on the death penalty?

Alternative 1: The death penalty **should not be used**.

Alternative 2: The death penalty **should be available only for multiple murders**. Alternative 3: The death penalty **should be available as punishment for any murder**. Alternative 4: The death penalty **should be the usual punishment for murder**, but should not be mandatory.

Alternative 5: The death penalty **should be mandatory for murder**. Comparative Policy Agenda Category: General Law, Crime, and Family Issues

Issue 23: Cannabis

Prompt: How should cannabis be regulated?

Alternative 1: **Cannabis should be legal.** Anyone should be free to possess or sell cannabis.

Alternative 2: Cannabis should be legal. The sale of cannabis should be restricted to licensed sellers.

Alternative 3: **Cannabis use should be decriminalized.** Police should not charge individuals for possessing cannabis for personal use. Producing or selling cannabis should continue to be a criminal offence.

Alternative 4: **Cannabis should be illegal.** People possessing cannabis for personal use should be fined. People producing or selling cannabis should be sent to jail.

Alternative 5: Cannabis should be illegal. Both people possessing cannabis for personal use, and people producing or selling cannabis, should be sent to jail.

Comparative Policy Agenda Category: General Law, Crime, and Family Issues

Issue 24: Unemployment Support

Prompt: What level of support should the government provide for UK citizens of working age who are not employed?

Alternative 1: **People should be paid unemployment benefit whilst they are out of work.** This unemployment benefit should last as long as the person is unemployed.

Alternative 2: **People should be paid unemployment benefit whilst they are out of work.** This unemployment benefit should last as long as the person is unemployed, and **as long as they can show that they are actively seeking a job.** 

Alternative 3: **People should be paid unemployment benefit in their first few months out of work** only.

Alternative 4: **People should not generally be paid unemployment benefit, except where they are unable to work because of a disability or injury they got whilst working**.

Alternative 5: **There should be no unemployment benefit.** Individuals unable or unwilling to find work should be supported by family, friends, or charities.

Comparative Policy Agenda Category: General Social Welfare

Issue 25: Social Care

Prompt: Many older people require personal care and special accommodation to help them carry out everyday activities. How should we pay for this personal care?

Alternative 1: Individuals should pay all of the cost.

Alternative 2: Individuals should pay if they have more than £20,000 in savings, or a home worth more than £20,000.

Alternative 3: Individuals should pay if they have more than £120,000 in savings, or a home worth more than £120,000.

Alternative 4: **Individuals should pay if they have more than £240,000 in savings**, or a home worth more than £240,000.

Alternative 5: The government should pay all the cost.

Comparative Policy Agenda Category: General Social Welfare

Issue 26: Land Development

Prompt: Which level of government should decide how land is to be developed? Alternative 1: None – **those who own the land** should be free to decide how it is developed Alternative 2: The **immediate community** (eg a parish council or a neighbourhood forum) Alternative 3: The **local authority** (eg a county council, a borough council or a city council) Alternative 4: A **regional body** (eg the Scottish Parliament, Welsh Assembly) Alternative 5: The **national government** should set land development policy. Comparative Policy Agenda Category: General Community Development and Housing Issues

Issue 27: Social Housing

Prompt: Currently local councils and housing associations provide affordable social housing. How much social housing should there be in the UK?

Alternative 1: There should be **social housing for any UK citizen who wants it**, and the government should provide funding to construct as much social housing as necessary.

Alternative 2: Social housing **should be expanded** through additional government funding to provide housing for a larger fraction of the population.

Alternative 3: Social housing **should be maintained at its current level**, with replacement housing built when residents purchase their units through right-to-buy.

Alternative 4: Existing social housing should be privatised when residents are able to purchase it through right-to-buy, and **there should be no new social housing built.** 

Alternative 5: **All existing social housing should be privatised** by selling it off to residents or property management companies.

Comparative Policy Agenda Category: General Community Development and Housing Issues

Issue 28: Bank Insurance

Prompt: Which of the following is closest to your view on how banks and bank deposits should be insured against failure?

Alternative 1: Banks should be allowed to fail, even if it means that depositors lose money.

Alternative 2: Bank deposits should be fully insured by the government, but if banks fail they should be closed.

Alternative 3: Banks requiring government assistance in a crisis should be nationalised and then sold back into the private sector once the crisis is over.

Alternative 4: Banks requiring government assistance in a crisis should be nationalised and then kept under government control.

Alternative 5: **Banks should be nationalised** and kept under government control. Comparative Policy Agenda Category: General Banking, Finance, and Domestic Commerce

Issue 29: Nuclear Forces

Prompt: Which of the following is closest to your view on how the UK nuclear forces should be structured?

Alternative 1: The UK should **unilaterally decommission all nuclear weapons**, and no longer maintain a nuclear deterrent.

Alternative 2: The UK should **seek multilateral decommissioning of all nuclear weapons** around the world. Until that agreement is achieved, **should reduce its own stock of nuclear weapons**.

Alternative 3: The UK should **seek multilateral decommissioning of all nuclear weapons** around the world. Until that agreement is achieved, **should maintain its current stock of nuclear weapons**.

Alternative 4: The UK should just maintain its current stock of nuclear weapons.

Alternative 5: The UK should **expand its nuclear deterrent forces**.

Comparative Policy Agenda Category: General Defense

Issue 30: Armed Forces

Prompt: Which of the following is closest to your view on how the UK armed forces should be structured?

Alternative 1: The UK should **abolish its armed forces**.

Alternative 2: The UK should maintain **armed forces able to defend the country** if it is invaded. Alternative 3: The UK should maintain **armed forces able to defend the country and launch small-scale operations abroad** for peace-keeping or conflict prevention. Alternative 4: The government should maintain **armed forces able to defend the country and fight a large scale war** in another part of the world.

Alternative 5: The government should maintain **armed forces able to fight multiple large scale wars** in different parts of the world.

Comparative Policy Agenda Category: General Defense

Issue 31: Telephone & Internet

Prompt: Which of the following is closest to your view on how telephone and internet services should be provided?

Alternative 1: Telephone/internet services should be **provided by the private sector.** 

Alternative 2: Telephone/internet services should be **provided by the private sector**, but **private sectors should be made to supply rural areas if no one else will**.

Alternative 3: Telephone/internet services should be provided by a mix of private and pub-

## licly owned companies.

Alternative 4: Telephone/internet services **should be nationalised** and **the government should** 

## set prices to cover costs.

Alternative 5: Telephone/internet services should be **nationalised** and **provided for free**.

Comparative Policy Agenda Category: General Space, Science, Technology, and Communications

Issue 32: International Trade

Prompt: Which of the following is closest to your view on international trade?

Alternative 1: The UK should seek free trade with all countries in the world.

Alternative 2: The UK should seek free trade only with democratic countries.

Alternative 3: The UK should seek free trade only with countries that have similar labour rights to the UK.

Alternative 4: The UK should seek free trade agreements only with countries that have similar labour rights and wage levels to the UK.

Alternative 5: The UK should **not seek free trade agreements**, and should protect its own industries against foreign competition.

Comparative Policy Agenda Category: General Foreign Trade

Issue 33: EU Relationship

Prompt: Which of the following is closest to your view on the relationship between the UK and the European Union?

Alternative 1: The UK **should remain a member of the EU, and sign up to EU agreements we had previously opted out of**, like the single currency and the Schengen border-free area.

Alternative 2: The UK should remain a member of the EU.

Alternative 3: The UK **should be out of the EU**, **but stay part of the single market**, which includes rules allowing "freedom of movement".

Alternative 4: The UK should be out of the EU and out of the single market, but should par-

ticipate in some EU programmes (e.g., in research, education, and nuclear energy)

Alternative 5: The UK should **be out of the EU and out of the single market**, and should not participate in any EU programmes.

Comparative Policy Agenda Category: General International Affairs and Foreign Aid

Issue 34: Foreign Aid

Prompt: The UK currently gives around 0.7% of its national income to other countries in the form of aid. Many countries regard this figure as a target. Which of the following is closest to your view on foreign aid?

Alternative 1: The UK should give **no foreign aid**.

Alternative 2: The UK should give **a small amount of foreign aid** (between 0.3 and 0.4% of national income).

Alternative 3: The UK should give **the current amount of foreign aid** (0.7% of national income). Alternative 4: The UK should give **a larger amount of foreign aid** (1% of national income) Alternative 5: The UK should give **a substantial amount of foreign aid** (around 1.4% of national income).

Comparative Policy Agenda Category: General International Affairs and Foreign Aid

# Support for Policy Alternatives

	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Death Penalty	0.36	0.15	0.21	0.15	0.13
EU Relationship	0.09	0.28	0.15	0.26	0.21
Nuclear Forces	0.14	0.16	0.30	0.29	0.11
Net Migration	0.24	0.33	0.16	0.12	0.14
Foreign Aid	0.26	0.37	0.24	0.09	0.05
Cannabis	0.10	0.29	0.22	0.23	0.16
Strikes	0.14	0.10	0.20	0.37	0.19
Fracking	0.33	0.12	0.26	0.21	0.08
University Education Funding	0.20	0.19	0.27	0.24	0.10
Fox Hunting	0.08	0.09	0.09	0.21	0.52
School Tracking	0.17	0.33	0.14	0.13	0.23
School Language Support	0.20	0.22	0.41	0.10	0.08
Offensive Speech	0.44	0.05	0.06	0.24	0.20
Social Care	0.04	0.07	0.22	0.34	0.33
Unemployment Support	0.15	0.58	0.16	0.09	0.02
Higher Tax Rate	0.24	0.21	0.35	0.13	0.07
CEO Wages	0.15	0.30	0.19	0.08	0.28
Armed Forces	0.03	0.24	0.37	0.23	0.14
Energy Price Regulation	0.04	0.17	0.31	0.21	0.27
School Curriculum	0.09	0.10	0.06	0.51	0.24
Telephone & Internet	0.14	0.26	0.19	0.21	0.20
Social Housing	0.26	0.35	0.31	0.06	0.02
NHS Public/Private	0.43	0.35	0.18	0.03	0.02
Food Production Subsidy	0.23	0.28	0.31	0.15	0.03
Road Tolls	0.04	0.05	0.11	0.30	0.51
Energy Source Regulation	0.17	0.16	0.21	0.12	0.35
Zero Hours Contracts	0.09	0.09	0.27	0.11	0.44
Land Development	0.19	0.20	0.40	0.09	0.11
Healthy Choices	0.11	0.36	0.30	0.11	0.12
Privacy and Policing	0.04	0.13	0.28	0.37	0.17
Railway Ownership	0.47	0.19	0.18	0.09	0.08
Bank Insurance	0.04	0.34	0.30	0.18	0.14
Inflation v Unemployment	0.06	0.15	0.49	0.22	0.08
International Trade	0.42	0.16	0.18	0.16	0.07

Table 3: Population weighted support for each of the five policy alternatives on each issue, based on ordinal response questions.

## YouGov

We are now going to ask you questions about several areas of public policy.

In each area, we will give you a range or different policy options.

Please choose the option that comes closest to your own personal preference, although we know there might not be a perfect match.



Figure 7: Introduction to module within YouGov omnibus survey.

## YouGov

Which of the following is closest to your view on the relationship between the UK and the European Union?

- The UK should remain a member of the EU, and sign up to EU agreements we had previously opted out of, like the single currency and the Schengen border-free area.
- The UK should remain a member of the EU.
- The UK should be out of the EU, but stay part of the single market, which includes rules allowing "freedom of movement".
- The UK should be out of the EU and out of the single market, but should participate in some EU programmes (e.g., in research, education, and nuclear energy)
- The UK should be out of the EU and out of the single market, and should not participate in any EU programmes.



Figure 8: Example of an ordinal response question.

# YouGov

Now imagine that two candidates for Parliament, A and B, were asked about some of the same public policies that we just asked you about. Please look at their answers below and tell us who you would vote if this was all the information you had to go on.

Issue	Candidate A	Candidate B
Which of the following is closest to your view on how telephone and internet services should be provided?	Telephone/internet services should be provided by the private sector, but private sectors should be made to supply rural areas if no one else will.	Telephone/internet services should be provided by the private sector, but private sectors should be made to supply rural areas if no one else will.
How should the NHS be organised?	There should be <b>no new involvement</b> of private organisations in the NHS. Existing private healthcare providers should continue to operate as before.	The NHS should be <b>fully privatized,</b> and medical providers should be allowed to charge their own fees.
Which of the following is closest to your view on the relationship between the UK and the European Union?	The UK should remain a member of the EU, and sign up to EU agreements we had previously opted out of, like the single currency and the Schengen border-free area.	The UK <b>should be out of the EU, but</b> <b>stay part of the single market</b> , which includes rules allowing "freedom of movement".

Given only the information shown above, who would you vote for?

I would vote for A

I am not sure

I would vote for B



Figure 9: Example of a conjoint response question.

#### Screenshots

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