# The Emergence of Stable Political Choices from Incomplete Political Preferences [*]

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Survey research finds that citizens often give temporally unstable responses when asked their positions on policy issues, indicating a lack of 'real' attitudes on many issues. For some, this casts doubt on prominent conceptions of democracy that involve citizens making political choices based on policy considerations. In this paper, we show that despite average instability in issue opinions, voters can nevertheless make meaningful, stable multidimensional political choices based on issue considerations. We draw on a new three-wave survey of the UK public that includes repeated measurements of issue-specific opinions and of the political choices respondents make when confronted with hypothetical candidates taking positions on those issues. We show that candidate choices made after 6 months and 12 months have nearly as strong relationships to self-reported issue positions as do the candidate choices made in the same wave as those self-reports, and that choice stability is high when respondents choose between candidates who take clear and contrasting positions on the issues that respondents tend to care more about. Our findings demonstrate the mechanics underlying long-hypothesized theories of 'issue publics': stable political choices can arise from individuals making choices on the basis of the issues that they care about, even when most people lack real attitudes on many issues.

## Introduction

For half a century, the study of public opinion and political behavior has been deeply shaped by the finding that many citizens do not give stable responses to questions about their political views over time, even as their stated identification with political parties is highly stable (Converse, 1964). This finding, revealed by the first major panel studies of public opinion in the US and in numerous subsequent data collections (Butler and Stokes, 1969; Converse and Pierce, 1986; Kinder and Kalmoe, 2017), has been taken to indicate that a certain kind of understanding of democracy—where all citizens make political choices by weighing up candidates and parties in terms of their positions across the range of live political issues—is empirically untenable (Achen

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and Bartels, 2016). In addition to motivating reconsideration of the normative arguments for democracy, this empirical finding also plays a central role in justifying an identity-based view of political behavior, in which voting is primarily shaped by social identities (which tend to be stable for most people) rather than by preferences about the political choices that governments take (which are apparently not stable for many people).

In this paper we challenge that conclusion, arguing that citizens can make meaningful, stable political choices based on issue considerations even if they lack real opinions on many issues. Our argument builds on Converse's (1964) concept of "issue publics", subsets of the population who care a lot about a particular issue and form real, stable opinions on that issue. Converse speculated that members of an issue public may vote based on considerations relating to that issue, with the implication that, if enough citizens were members of issue publics then issue voting in the electorate could be widespread even if most citizens know little about most issues. Supporting this speculation, existing studies have found observational associations between issue public membership and strength of issue voting (e.g., Krosnick, 1990). Others, however, have argued that these associations are driven not by issue voting but by a common effect of partisanship on issue positions and vote choices (e.g., Brody and Page, 1972; Achen and Bartels, 2016), and that the measures used to identify issue publics are poor (Leeper and Robison, 2018).

In contrast to existing studies which study the relationship between issue considerations and vote choice at a given time point, we judge whether voters are capable of meaningful issue-based political choices by studying the *temporal stability of their political choices* as a function of issue considerations. To do so we present results from a novel three-wave panel study of UK voters. Fielded at six-month intervals, each wave of our survey measured respondents' self-reported positions on the same set of policy issues (covering 34 issues in total) and respondents' choices in candidate conjoint experiments where hypothetical candidates took positions on the same issues that respondents' had reported their own positions. Using a panel conjoint experiment to assess the stability of political choices is powerful because it eliminates the direct causal pathway between political identity and vote choice, enabling us to focus on the connection between issue preferences and vote choice. Our respondents made choices between the same two hypothetical candidates, about whom they knew only three issue positions, three times at six month

intervals. They had no other information about these candidates besides their issue positions on those three issues.

Consistent with an "issue publics" logic whereby individuals make political choices on the basis of the issues that they care about and on which they have real opinions, while ignoring other ones, we find the following. First, we show that those issues upon which respondents tend to have more stable issue opinions on average are also the issues that are estimated to receive more weight on average in a cross-sectional model of conjoint candidate choice. Second, at the individual-level, we show that candidate choices made at 6 months and 12 months distance in time have very nearly as strong relationships to self-reported issue positions as do the candidate choices made at the same time as those self-reports. Third, we show that the temporal stability of candidate choices varies depending on the nature of the presented choices: when respondents are faced with candidate choices that involve highly contrasting positions on issues which tend to be accorded high importance weight, their responses are far more stable than when they are faced with candidates who differ very little or only on low profile issues.

The results from our panel conjoint experiment speak to the narrow methodological question of the extent to which choices in these experiments are stable over time, but also to the broader question of how political scientists should connect the considerable and varied evidence on issue preferences, political identity, and vote choice. What emerges from our analysis is the clearest demonstration to date that stable political choices at the individual level (which is what we largely observe in countries like the US and UK) are compatible with citizens making their candidate choices based on policy differences, even if most citizens lack stable preferences about most political issues. The observation that many citizens express unstable issue positions on many issues does not imply that citizens do not respond to policy positions when voting. Stable candidate and party choices can arise from individuals making choices on the basis of the subset of issues that they care about, which are also the issues where they have stable positions. While this study cannot adjudicate between issue-oriented and identity-oriented explanations of political behavior in general, it does show how issue-oriented voting *can* lead to the patterns of stability and instability that we observe in public opinion and political behavior in a context where identity-oriented voting is excluded by experimental design.

**Opinion Instability, Issue Publics, and Issue Voting**

Converse (1964) exploited early mass survey data to raise major doubts about the capacity for most citizens to think about politics in terms of policy issues. Although primarily interested in whether the public's opinions on individual issues stemmed from coherent, over-arching ideologies ("belief systems" in his terminology), Converse also examined the stability of individuals' issue opinions across different survey waves, arguing that the existence of belief systems should lead to stable issue opinions. He found that, for several issue questions relating to a variety of topics – including desegregation of schools, foreign policy and state intervention in housing – the average correlation between the positions respondents reported in one wave and the next were mostly modest (Kendall's $\tau$ correlation coefficients below 0.5), and substantially lower than the over-time correlation between their responses to party identification questions ($\tau = 0.72$). From Converse's perspective, such patterns indicate that "large portions of an electorate do not have meaningful beliefs, even on issues that have formed the basis for intense political controversy among elites for substantial periods of time" (1964, 245).

These findings of modest average issue opinion stability in the US electorate inspired much subsequent political science debate. Supporting the generalizability of Converse's findings, researchers using panel surveys of voters in Britain (Butler and Stokes, 1969, Ch 8) and France (Converse and Pierce, 1986, 247-51) find similarly modest levels of average issue opinion stability, as do those studying the US electorate in more recent decades (Kinder and Kalmoe, 2017). Contrary to Converse, others argue that low stability in reported issue opinions need not indicate of a lack of real opinions in the electorate, if instability is really driven by the process of survey measurement (Achen, 1975; Lacy, 2001). It has been shown, for example, that estimated opinion stability is much higher when one 'corrects' for measurement error in survey responses through statistical modelling (Achen, 1975) or through the aggregation of individual issue items into summary indices (Ansolabehere, Rodden and Snyder Jr., 2008). These claims regarding measurement error are, however, disputed by several studies showing that the degree of issue opinion stability appears to be related to respondents' political or ideological sophistication in ways that would not be predicted by the measurement error account (Converse and Pierce, 1986; Kinder and Kalmoe, 2017; Freeder, Lenz and Turney, 2019), and that average issue opinion stability across the

electorate is at best moderate even when issue opinion items and response options are very precisely stated (Broockman, 2016; Lauderdale, Hanretty and Vivyan, 2018). Furthermore, it is not clear whether summary issue opinion indices exhibit greater temporal response stability than individual issue opinion items because they average out measurement error due to the survey instruments or due to a fundamental "lack of crystallized opinion among respondents" (Feldman, 2013).

Thus, previous research offers strong and enduring evidence that voters on average offer unstable opinions on many issues, with many researchers coming to the conclusion that this is because they lack 'real' attitudes on those issues and not because of problems with survey measurement. A number of authors have argued that given the low levels of average stability across issues, it is empirically implausible that citizens in most democracies vote in elections based on well-formed ideological considerations (Converse, 1964; Kinder and Kalmoe, 2017; Achen and Bartels, 2016). More interesting for our purposes is what political scientists have concluded about the possibility of issue voting of any form, i.e., votes cast on the basis of issue opinions, whether those opinions are ideologically organised or not. In a major recent contribution, Achen and Bartels (2016) take a strong line on this. Reviewing the implications of political science research for the prospects of traditional models of democratic policy representation and accountability, they argue that issue voting is an "illusion" (41). Like several other studies (e.g., Campbell et al., 1960; Butler and Stokes, 1969; Kinder and Kalmoe, 2017), they argue that citizens' political choices when it comes to elections are better understood as products of social group identities rather than as products of citizens weighing up considerations involving candidates' positions across different political issues.

Yet Converse (1964) did recognize that issue considerations could still structure political choices even if citizens' lacked real opinion on many issues and did not organise their opinions across issues ideologically. Converse speculated that there could be *issue publics*: subsets of the population that cared primarily about particular issues and therefore formed real, stable opinions on what government policy on that issue should be. Assigning individual respondents to issue publics based on the stability of their stated opinions on different topics, he suggested that the US public was indeed fragmented into a "plethora of narrower issue publics". Although Con-

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verse did not explicitly test whether members of issue publics made vote choices based on those issues, he speculated that they might, and subsequent research has supported this notion. For example, identifying issue publics using survey questions that elicit respondents' subjective judgement about the importance they placed on various issues, Krosnick (1990) shows that the relationship between issue positions and vote choice in Presidential elections is stronger for members of the corresponding issue public. Sarlvik and Crewe (1983) report similar findings for UK general election voting (although these results are not described using the issue public terminology), as does Gershkoff (2006) for US Presidential voting when measuring issue public membership via content analysis of open-ended ANES survey items.[1] Both Krosnick (1990) and Gershkoff (2006) argue that their results show that, through issue publics, policy considerations *can* matter in democratic elections.

All of these studies exploit observational rather than experimental variation in issue positions, and the associations detected in these studies are by no means universally accepted as evidence of issue publics theory. In part this is because those associations could be due to a number of different mechanisms, only some of which involve issue opinions *causing* vote choices (e.g., Brody and Page, 1972; Achen and Bartels, 2016; Leeper and Robison, 2018). Brody and Page (1972) label these mechanisms "policy-oriented evaluation", "projection effects" and "persuasion effects" (457). The policy-oriented evaluation process involves issue considerations causing vote choices: voters consider their own issue positions relative to those of candidates and vote for the candidates based on issue proximity. Persuasion effects occur to the extent that voters' issue positions are brought into line with those of the party they identify with, such that an association between issue proximity and voting is observed without issue proximities actually causing vote choices. Projection effects may occur in studies that measure issue proximity based on voters' own placements of parties relative to themselves, since partisan biases may lead voters to perceive a party they identify with to be closer to them on the issues they care about. Disentangling these partisan- and issue-rooted mechanisms is difficult with observational data: the choices voters make in elections are usually between candidates with distinct partisan labels who also

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[1]Several other UK studies provide evidence that issue opinions are associated with general election vote choices, although these either look at raw issue opinion items un-weighted by issue importance measures (Heath et al., 1991) or at issue opinion scales derived from several items and again un-weighted by issue importance measures (Heath, Jowell and Curtice, 1985; Heath and McDonald, 1988; Heath, Evans and Martin, 1993).

take on distinct policy platforms, voters rarely get to choose between policy platforms that vary significantly across candidates from the same party, and parties' positions are mostly stable from one election to the next.

Another concern with existing evidence concerning issue publics and voting behavior arises because of the reliance on measures of respondents' self-reported subjective issue importance. Respondents' reluctance to label an issue "unimportant" can lead to error in such measures (Converse and Pierce, 1986; Johns, 2010). The difficulties respondents' face introspectively evaluating the personal importance they place on certain issues can also lead them to instead rate issues in terms of how much attention they have received in recent elite debates or the media (Sarlvik and Crewe, 1983, 224; Johns, 2010; Bartle and Laycock, 2012).

**Issue Opinion and Political Choice**

A key implication of the 'issue publics' hypothesis is that, even though most voters lack 'real' attitudes on most issues, if most voters care about and take real positions on at least some issues they can still be making meaningful, issue-based political choices. As seen above, existing research has tested this by examining whether individuals' vote choices at a given point in time can be explained as a function of their issue considerations as weighted by self-reported subjective issue importance scores.

Here we take a different approach. We start from the premise that, just as past research judges whether voters have meaningful opinions on individual issues by studying the temporal stability of reported issue opinions, we can also judge whether voters are capable of meaningful issue-based political choices by studying the temporal stability of their political choices as a function of issue considerations. To the extent that voters make political choices based on the issue opinions that they care about – and on which they therefore hold stable opinions – then several implications follow. First, on average, voters should exhibit more stable opinions on issues that, on average, receive greater importance weight in their political choices (we call this the *stability-importance association*). Second, the functional linkage between issue considerations and political choices should remain stable. In other words, given voters' reported issue positions and the pattern of political choices that they make conditional on those positions at one time

point, we should be able to predict political choices at future time points (*choice predictability*). Finally, the stability of observed political choices should vary in predictable ways (*conditional choice stability*): choice stability should be higher when voters are choosing between candidates who take clear and contrasting positions on the issues that voters care about most (we call these *easy* political choices, because they are straightforward to make based on issue considerations alone), and lower when choosing between candidates who either fail to take clear positions on the issues voters care about or take clear positions that are very similar to one another (we call these *hard* political choices).

Figure 1 illustrates how we imagine different voters to be weighing different issues in their decision calculus. Each row of the figure is a voter, each column is an issue. Each voter only has views about some issues (shown by the presence of points in the figure) and only enters those issues into their decision calculus. Among the issues that a voter has a view about, they may weight those issues to varying degrees (shown by the relative size of the points in the figure). We have ordered the voters roughly from relatively high engagement to low engagement. The high engagement voters (e.g., voters A, B, C, D & E) are familiar with and weigh a relatively large number of issues in their decision calculus; the low engagement voters may make their voting decisions on a single issue (voters I, J, L, N, O, P & T) or lack views about all issues (voters Q, R & S).

We have similarly ordered the issues from relatively high visibility to relatively low visibility. Thus while some issues (e.g., 1 & 2) enter into the decision calculus of half of the voters, other issues (e.g., 7 & 10) enter into the decision calculus of very few voters and some issues (e.g., 9) might not enter into the decisions of any voters. By making the distinction between having views about the issues and the weight that they get in voters' decision calculus, we can make useful distinctions between issues that similar numbers of people care about, but where one receives higher weight in voters decision making than the other (e.g., 1 vs 2).

This is a perspective on issue voting that includes the extreme versions of issue voting as special cases. At one extreme is the case where most people care and know about most issues and weigh them up in their voting. At the other extreme is the case where most people care about just one issue and vote exclusively on that basis. Figure 1 depicts an intermediate case
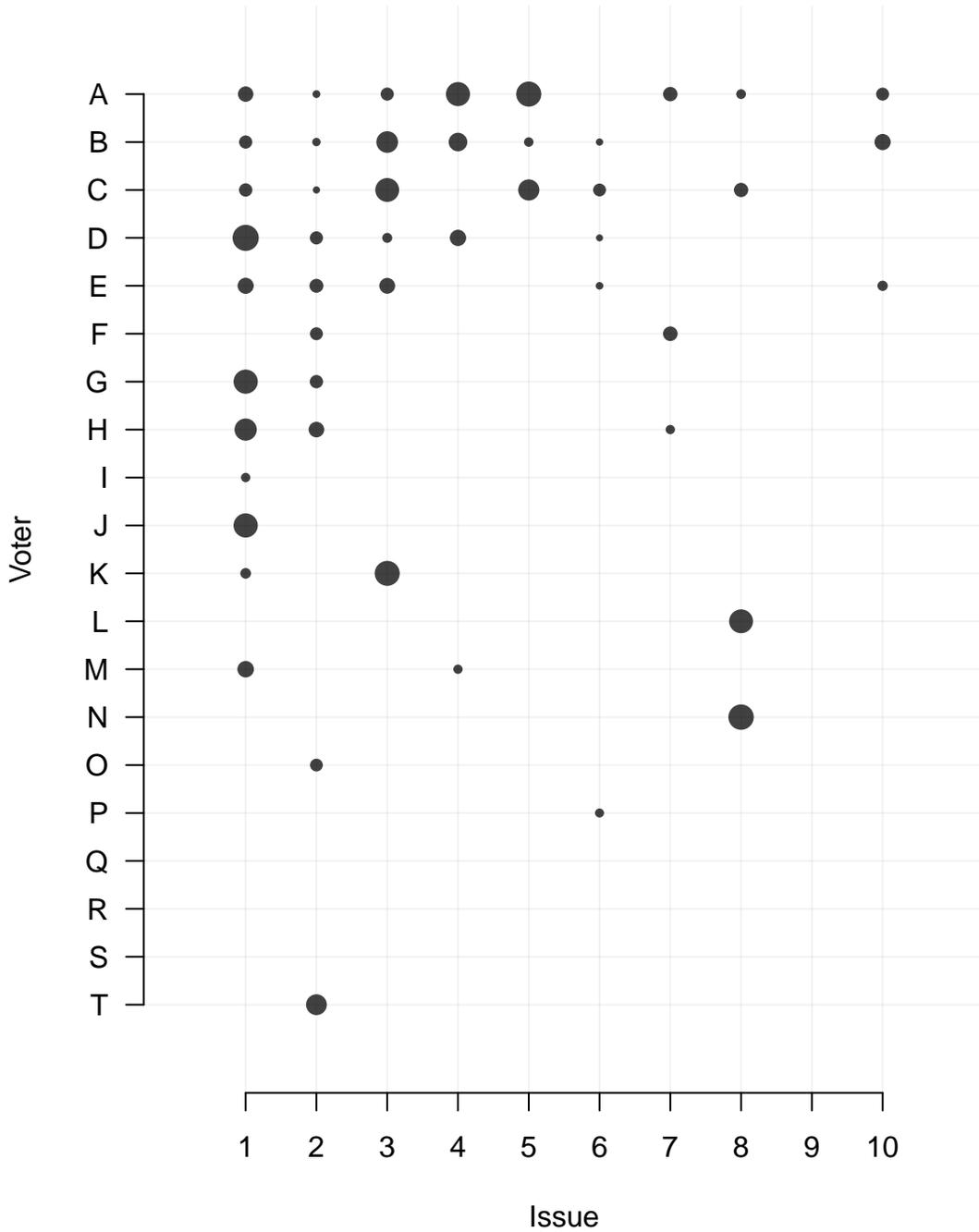
Figure 1: Illustration of how the weights (point size) placed on different issues in a voter's decision calculus for voting might vary across different voters and issues.

where some voters are highly engaged, knowledgable about many issues, and give weight to many issues in their voting calculus. Other voters are lightly engaged, know and care about few issues, and vote on the basis of only those. Thus the observed instability in issue positions arises from the many 'missing' points in the Figure, but they have no consequences for voting. Some issues have higher stability (those towards the left of the Figure) while other have lower stability, and this will tend to be associated with the weight they get in voting (though not perfectly so). This is a picture that is compatible with the existing literature, and which generates a set of further implications that we test.

To test these implications we exploit data from a panel survey with three waves carried out at six month intervals. In each wave respondents were: (1) asked to report their positions on the same set of specific positional policy issues and (2) asked to make candidate choices between pairs of hypothetical candidates who take randomized positions on some of those issues (a conjoint experiment). The issue positions of candidates were randomized in the first wave but were identical thereafter for each respondent in each subsequent wave. Thus, we observe individuals' responses to the same issue position items and candidate choice tasks over multiple time points.

The resulting data allows us to examine the stability of issue positions and issue-based political choices. Furthermore, based on respondents' observed issue opinions and observed candidate conjoint choices in one wave, we can fit a linear-loss "spatial" choice model (developed in Hanretty, Lauderdale and Vivyan (Forthcoming)) to estimate an average utility that a respondent with a given set of issue positions would receive from a candidate offering a given set of issue positions, and therefore the probability that they choose each candidate. This model allows for the average (dis)utility respondents attach to different departures from their ideal position on different issues to vary, and thus yields estimates of "revealed" (as opposed to self-reported) issue importance weights. We use the issue importance weights estimated from Wave 1 to test the *stability-importance association*. We then test *choice predictability* by examining how well political choices in one wave can be predicted based on issue positions reported in and choice model parameters estimated from a different survey wave. We can then test *conditional choice stability* by using model parameters estimated from Wave 1 to characterize choices as *easy* or

*hard*, and then examining whether the former are observed to be more stable than the latter across waves.

Studying the link between issue opinions and political choices in an experimental setting allows us to identify the effects of issues on choices more directly than has been possible in many existing studies of issue voting or issue publics. Our hypothetical conjoint candidates are defined only in terms of policy positions and, because their issue positions are randomized, often offer policy platforms distinct from UK parties. Thus partisan identity cannot jointly cause issue opinions and candidate choices in the experiment. Respondents also receive clear and explicit information about the candidates' position, leaving less room for biased perceptions of candidate positions. For these reasons, any effects of issue opinions in our experiments are unlikely to be due to persuasion or projection effects, and should instead emerge from policy-oriented evaluation of candidates.

Leeper and Robison (2018) also use a candidate conjoint experiment to study the idea of issue publics and thus, like us, are also able to rule out partisan projection and persuasion effects. But they field their conjoint questions in a single wave and test whether conjoint choices can be explained by respondent-candidate issue proximities as weighted according to respondents' subjective self-reported issue importance scores, which (as argued above) are problematic. In contrast, we study stability of conjoint choices as a function of issue positions over multiple waves. Furthermore, the linear loss "spatial" model that we use to operationalize issue voting *estimates* the average weight that respondents' attach to issues.

More generally, candidate conjoint experiments which vary large numbers of candidate attributes simultaneously and independently have become particularly common in political science in recent years (e.g., Hainmueller, Hopkins and Yamamoto, 2014; Hainmueller and Hopkins, 2015; Horiuchi, Smith and Yamamoto, 2018; Franchino and Zucchini, 2015). To our knowledge, however, political scientists have not studied the stability of candidate choices in these experiments as there are no panel studies of hypothetical candidate choices in the published literature. The reason why this is important for understanding political behavior is the same reason why the stability of self-reported issue preferences are important: they can tell us something about the extent to which these survey responses reflect real and enduring political propensities as

opposed to being flighty responses to a survey prompt. The stability of candidate choices is arguably *more* important than the stability of issue opinions because voting is the most important input of citizens into the political system. Public opinion on political issues may influence the choices of legislatures and governments under some circumstances , but which candidates are elected to those legislatures and governments does so profoundly.

It is worth being clear at this point what approach does not do. We do not identify which individuals belong to *which* issue public(s). Rather, the choice model we fit to the data estimates which issues are more or less frequently part of the set of issues that respondents care about.

**Data**

We conducted a three wave panel survey of UK respondents with waves at six month intervals in January 2018, July 2018 and January 2019. The number of respondents completing each wave was 7506, 3044, and 1650 respectively. Fieldwork was conducted by YouGov. All respondents in each wave were sampled from the respondents to previous waves, and all respondents in Wave 1 had been participants in the post-election wave of the British Election Study in June 2017. The overall level of attrition between waves was by design: YouGov used their standard sampling strategy within the respondents to the previous waves, with targets of 3000 and 1500 demographically representative respondents in the second and third waves, respectively. Because of this design, the demographic distributions of respondents to each wave are nearly identical. We provide descriptive statistics for the attrition process in the appendix.

In each wave, the survey instrument consisted of two types of question. First, respondents received seven *issue questions* which asked them to report their preferred position on each of seven positional (as opposed to valence) policy issues. Each issue question offered five different response options which had a logical ordering (the polarity of the response alternatives was randomly reversed from 1-5 to 5-1 with probability 0.5). The seven issues about which any given respondent was asked in Wave 1 were drawn at random from a 'bank' of 34 issue questions. In subsequent waves a respondent was asked about the exact same issues in the exact same order.

The bank of 34 issue questions from which we sampled was designed to include issues that were currently the subject of elite political debate in the UK and issues that were not. To ensure

reasonable issue coverage, our initial list of issues was based 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 and then reduced to a set of 34 issues which we felt could be presented most clearly and concisely to respondents. In drafting the policy positions offered as response options we endeavored to represent as options the policy status quo and the positions of the main parties where these were clear. All 34 issue questions are reported in the supplemental information.

In the second stage of the survey instrument respondents received three *conjoint questions*. In each of these conjoint questions a respondent was presented with two hypothetical Parliamentary candidates (labeled "A" and "B") defined solely in terms of their positions on three issues. For each respondent, the three issues upon which conjoint candidates took positions (in all three conjoint questions) were drawn randomly in Wave 1 without replacement from the set of seven issues about which the respondent has been asked issue questions. For each conjoint question in Wave 1, the positions that conjoint candidates adopted on each selected issue were drawn randomly and independently from the set of response options offered in the issue questions. Respondents were asked to review the candidates' positions and then to say whether they would vote for A, B, or whether they were "not sure".

Figure 2 gives a screenshot of an example conjoint question where the the three issues upon which hypothetical candidates take positions are: the degree of state intervention in food production; the future of the UK-EU relationship; and the magnitude of UK foreign aid provision. The respondent would have already been asked for their own position on all three of these issues (plus four others) in the first part of the survey. In this example, both hypothetical candidates happen to adopt identical positions on the first issue but candidate B wants a closer relationship with the EU and more foreign aid provision than candidate A. In addition to this question, the respondent would have been presented with two conjoint questions, each covering the same three issues presented in the same order but with candidates' positions on those issues varying randomly.

We stress that although the issues selected for questions and conjoint candidate position-taking were randomized at the respondent level in Wave 1, and although the issue positions taken

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 |
|---|---|---|
| How should the government be involved in subsidising (financially supporting) UK food production? | **The UK should rely more on food from other countries** and government should support current farmers switching into other work. | **The UK should rely more on food from other countries** and government should support current farmers switching into other work. |
| 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**. | 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 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? | The UK should give **the current amount of foreign aid** (0.7% of national income). | The UK should give **a substantial amount of foreign aid** (around 1.4% of national income). |

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 2: Example of a conjoint question.

by conjoint candidates were randomized for each Wave 1 conjoint question, the resulting Wave 1 issue questions and conjoint questions received by each respondent were repeated in *exactly* the same way in subsequent waves. This design means that we have substantial information about the stability of stated positions on each of the 34 issues over time, and also a large amount of information about the stability of conjoint candidate choices questions involving varying sets of issues.

**Raw Issue Opinion and Conjoint Preference Stability**

Our analysis requires assessing the correlations between ordinal response data of several kinds. A standard technique for doing so is the *polychoric correlation*. The polychoric correlation is defined as the Pearson correlation coefficient that would need to exist between two normally distributed latent variables in order to generate two observed ordinal variables, assuming a cut-point model to translate those continuous latent variables into the observed ordinal values. Polychoric correlations are implemented in a variety of statistical software and are widely used in analyzing ordered survey response scales in various social science fields.

   Analyzing response stability with interwave correlations (polychoric or otherwise calculated) makes an important and necessary assumption that is worth stating explicitly: that we are interested in stability relative to the range of opinion, not some absolute standard. This is an explicit part of the formula for the standard correlation coefficient $r$, which is covariance normalized by variance. This is often, but not always, sensible for opinion data where there is no good alternative if we want to make comparisons across issues or other response scales which are otherwise not comparable.[2] Nonetheless, it is important to remember that we are analyzing the magnitude of interwave opinion change relative to the magnitude of variation in opinion across individuals in a single wave.

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[2]The polychoric correlation is a general method that applies to any two ordinal categorical variables, regardless of whether they have the same response levels or not. This means that it "ignores" mean shifts between two waves of an identically measured variable. If everyone shifts the same distance towards positive values, the polychoric correlation will treat that as a correlation of 1. Thus, when interpreting the correlation of two waves of the same question, a large correlation is not evidence of absolute stability, but rather of relative stability across respondents. In our data there is little evidence of systematic mean shifts on the vast majority of issues.

*Stability of Issue Preferences*

In Figure 2, we present the interwave polychoric correlations between self-reported issues posi-tions of respondents who participated in all three waves of the survey. We compare these to the polychoric correlations between issues analysed in Converse (1964).[3] We make four main claims.

First, the average Wave 1 - Wave 3 correlation (0.57) is the same as the average Wave 1 - Wave 2 (0.56) and the average Wave 2 - Wave 3 correlation (0.59). This implies, as Converse observed, that little of the response volitility at the individual-level reflects lasting changes in attitudes. Second, the average correlations we find imply substantially higher levels of stability than the correlations presented in Converse (1964). The average interwave polychoric correlation for the issues analysed by Converse (1964) was 0.38, substantially lower than our average. Third, the average correlation is a poor guide to issue specific correlations, which vary considerably, and much more than Converse (1964) observed. The polychoric correlation for the most stable issue analysed by Converse (isolationism in foreign policy) is 0.53, compared to a value of 0.25 for the least stable issue (stationing troops in foreign countries). The gap between the most and least stable issue in our data is almost twice as large: the polychoric association for the most stable issue (foreign aid) is 0.84-0.87, compared to a value of 0.28-0.35 for the least stable issue (inflation versus unemployment). Finally, whilst Converse noted that party identification was far more stable than issue positions, the polychoric correlation for party identification in Converse's data (0.86) is comparable to the polychoric correlation for our most stable issues (foreign aid and the death penalty).

The fact that we are examining a sample collected by a different survey mode, asked about different issues, with a different question format, in a different country, separated by six decades leaves several avenues for understanding observed differences. The key point for our purposes here is that we do observe very high response stability for a number of issues. We investigate which kinds of issues these tend to be in more detail below.

*Stability of Candidate Preferences*

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[3]Converse (1964) reports values of Kendall's tau. We calculated the corresponding polychoric correlation using the same 1958 to 1960 wave of the ANES analysed by Converse.
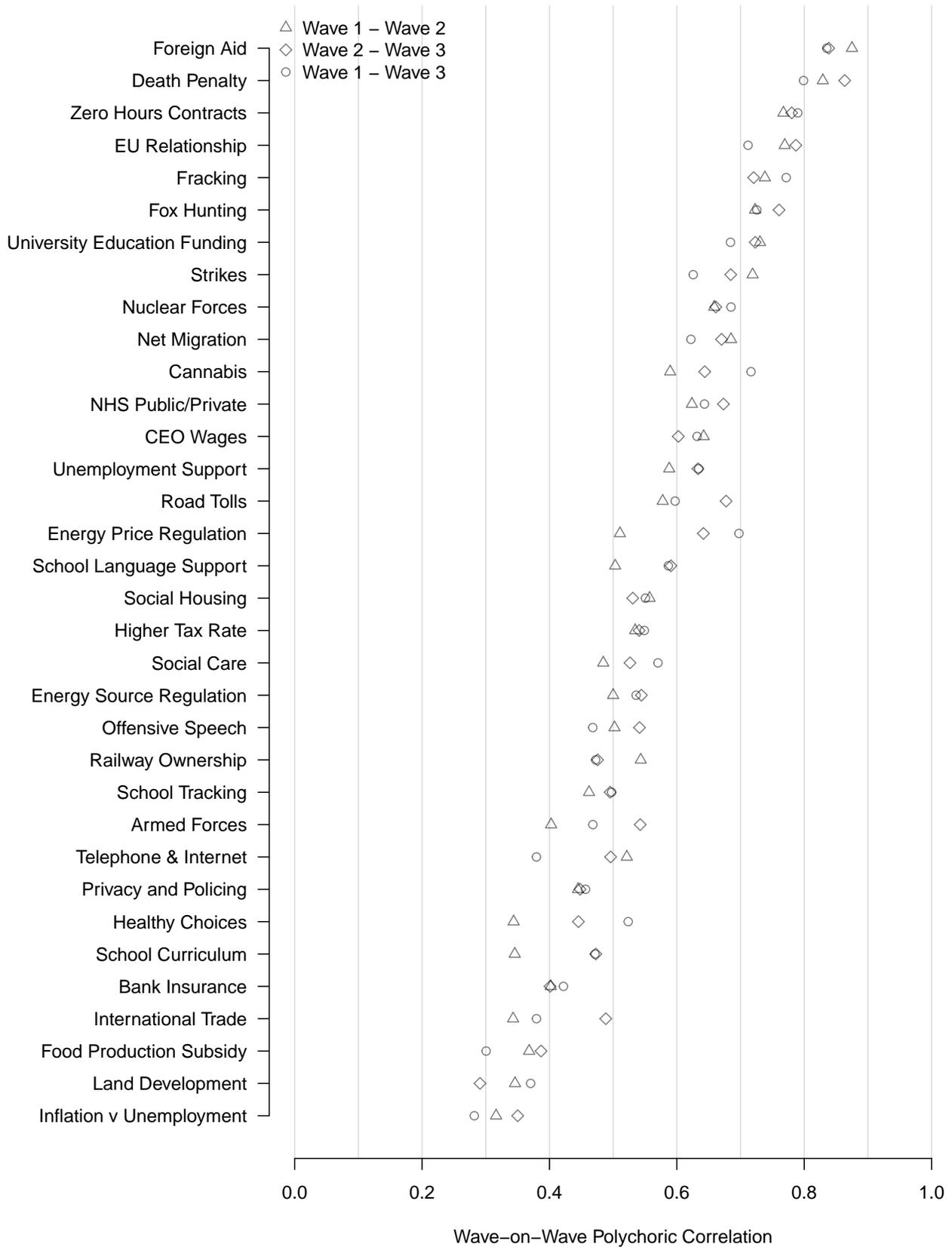
Figure 3: Polychoric correlations in self-reported issue positions between pairs of waves.

Table 1: The proportion of candidate choices in later waves (W2 and W3, columns) for respondents giving each choice option in earlier waves (W1 and W2, rows). The three response options are preferring candidate A (A), being not sure (NS), and preferring candidate (B).

|        | W2: A | W2: NS | W2: B | W3: A | W3: NS | W3: B |
|--------|-------|--------|-------|-------|--------|-------|
| W1: A  | 0.64  | 0.21   | 0.15  | 0.63  | 0.21   | 0.16  |
| W1: NS | 0.22  | 0.58   | 0.20  | 0.22  | 0.58   | 0.19  |
| W1: B  | 0.18  | 0.23   | 0.59  | 0.17  | 0.22   | 0.61  |
| W2: A  |       |        |       | 0.62  | 0.22   | 0.16  |
| W2: NS |       |        |       | 0.20  | 0.60   | 0.20  |
| W2: B  |       |        |       | 0.17  | 0.21   | 0.62  |

Candidate preferences exhibit a similar average level of stability. Table 1 shows the response transition table for candidate choices, which clearly illustrates that the correlations between Wave 1 and Wave 3 are just as strong as the correlations between Wave 1 and Wave 2 and between Wave 2 and Wave 3. Again, using polychoric correlation coefficients (on the three category candidate choice, with intermediate "I am not sure" response), we recover a Wave 1 - Wave 2 correlation of 0.56, a Wave 2 - Wave 3 correlation of 0.57, and a Wave 1 - Wave 3 correlation of 0.56. These are moderate levels of response stability, indeed we see 15-18% of respondents switching fully from supporting candidate A to B or vice versa across waves. However this is an average of all of the randomly generated candidate choices that we presented to all respondents, some of which will have involved minute differences between candidates, cross-cutting choices for respondents, or exclusively obscure issues. As we show below, the stability of candidate choice depends greatly on the details of the candidate choices presented to respondents.

**A Model for Conjoint Choice**

In order to say more about the stability of candidate choices, we need to explain the model of conjoint choice that we use, originally presented in Hanretty, Lauderdale and Vivyan (Forthcoming). This model relies on unobserved utilities of choosing candidate A or B. We describe the model here, and then use different quantities derived from it in each of the subsequent sections to test whether there is a stability-importance association, whether there is choice predictability, and whether there is conditional choice stability.

The model captures how respondents penalize candidates who deviate from the respondents' stated preferences on each issue. The choice component of the model is 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 $\gamma_1, \gamma_2$:[4]

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

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

The utility component of the model uses a linear-loss "spatial" model of preferences, where $\psi_{jk}$ are the locations of the five policy positions $k$ for issue $j$ on an issue-specific policy dimension. We assume that the utility of each candidate 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 ($j = 1, 2, 3$):

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

We estimate this model by Bayesian posterior simulation, implemented in Stan (Carpenter et al., 2016). We impose uniform priors on all parameters and report posterior means and 95% central intervals.

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[4]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.

This model can be used to generate a measure of importance for each issue. This measure reflects the extent to which respondents punish hypothetical candidates who take positions that are popular with many other members of the public. For any issue $j$, the importance score is equal to:

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

where $\pi_j k$ is the proportion of respondents who prefer the $k$th position on that issue. The measure is "the population average disutility citizens feel towards the opinions held by their fellow citizens". We first use these scores to show that preferences are more stable the more important the issue. We then go on to show how preferences are stably related to choices.

Hanretty, Lauderdale and Vivyan (Forthcoming) report several empirical checks on the reasonableness of the modelling approach, both as a prediction of individual candidate choice and as a way of measuring issue importance. Inspecting the estimated orderings of policy alteratives on each issue (which are not enforced in the estimation) suggests respondents made choices in the conjoint as though they perceived the alternatives in the logical order intended. They also estimate a 'relaxed' version of the choice model that does not impose a spatial structure on respondents' utilities over candidate positions, finding that estimates from this relaxed model are still consistent with the spatial model: "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" (15-16).

**Testing for a Stability-Importance Association**

We now test for the empirical patterns we should observe if voters make political choices based on the issue opinions that they care about - and on which they therefore hold stable opinions. As discussed above, the expectation of a *stability-importance association* is that our survey respondents should exhibit more stable opinions on issues that receive greater importance weight in political choices. To test this, we examine whether the polychoric issue opinion stability esti-
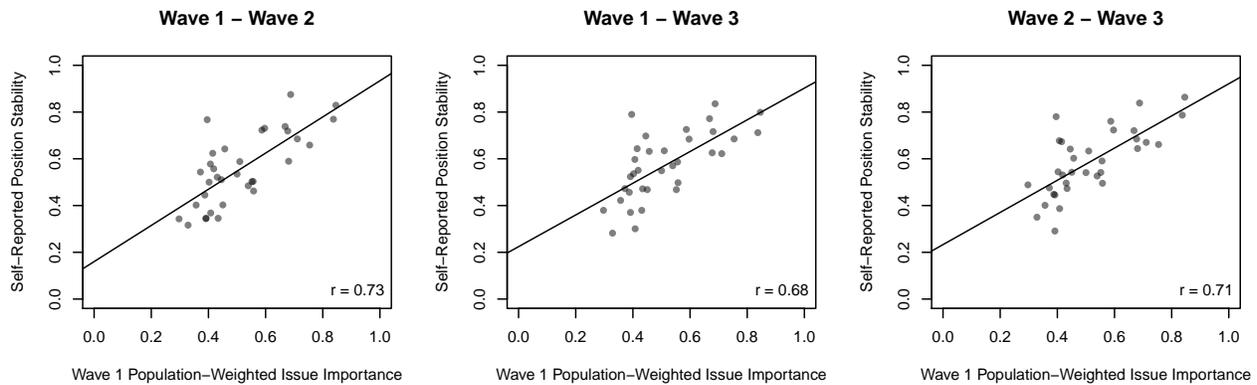
Figure 4: Self-reported issue stability (polychoric correlation) between waves 1 and 2 (left), 1 and 3 (center) and 2 and 3 (right) as a function of issue importance—the extent to which respondents punished hypothetical candidates who deviated from their positions—as measured in wave 1.

mates reported above are associated with issue importance estimates derived from the "spatial" model of respondents' conjoint choices just described.

As Figure 4 shows, this measure of issue importance is very highly correlated with the over time stability of self-reported issue positions. That is to say, the issues on which respondents heavily penalize hypothetical candidates who diverge from the respondents' stated position tend to be the same issues where respondents give similar self-reported positions six and twelve months later. We think that the most natural interpretation of these results is that the importance of political issues to candidate choice is, in significant part, a function of the extent to which respondents have well-formed positions, the kinds which are stable over time. In other words, we find evidence for an *stability-importance association* across issues.

**Testing choice predictability**

The second expectation we test is *choice predictability*: given voters' reported issue positions and the pattern of political choices they make conditional on those positions at one time point, we should be able to predict political choices at future time points

To test this we use the same choice model that enabled us to estimate importance statistics to construct predicted probabilities of choosing either candidate for each respondent. In Figure 5 we examine the extent to which the predicted response probabilities based on the Wave 1 response model and Wave 1 self-reported issue positions predict Wave 1, Wave 2, and Wave 3

candidate choices. Since these are fitted on Wave 1 responses, they necessarily fit Wave 1 choices as well as possible. For our purposes here, the most immediate point is that there is very little apparent decline in the predictive power of the model across waves. That is, when we predict which candidate a respondent will choose based on their wave 1 self-reported issue position and the general tendency of wave 1 respondents to penalize deviations in the wave 1 conjoint, we predict that respondent's waves 2 and 3 candidate choices nearly as well as their wave 1 candidate choice. We provide average log-likelihoods for the cross-wave predictions in the appendix. This is despite the fact that we are ignoring any changes in their wave 2 and wave 3 self-reported issue positions on the issues included in the conjoint. It is also despite the fact that the candidate choices are only moderately stable *on average* at the individual level (see Figure 1).[5]

**Testing Conditional Choice Stability**

The above test assesses whether self-reported positions at various points in time predict candidate choices at various points in time more or less well. Now we examine individual-level stability in the candidate choice directly, examining *conditional choice stability*. The candidate choices that respondents faced were randomly generated and therefore varied widely in how "easy" they were likely to be for a respondent. Some respondents got an easy choice, in which one candidate was clearly closer to them than the other; some respondents got more difficult choices, in which one candidate was closer on some issues but further on the others. Some respondents got high profile issues; some respondents got a mix; some respondents got only low profile issues. The question we want to ask now is to what extent the stability in candidate choices reflects this. Specifically, to what extent does the estimated 'ease' of the candidate choice in Wave 1 (in terms of issue considerations for a respondent) predict response stability across the three waves?

To test this, we model the polychoric correlation of individual candidate choice responses, using the estimated Wave 1 utility difference for each respondent as a predictor. This requires a modelling framework that allows polychoric correlations to vary as a function of

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[5]The model is somewhat overconfident where it makes very strong predictions that a candidate will be preferred, which means that some respondents are giving "not sure" respondents regardless of the candidate positions they are presented with. Hanretty, Lauderdale and Vivyan (Forthcoming) note that an exponent on the utility loss of 0.7 fits the data slightly better than the exponent of 1 that they use for their main measure, which is another way of noting that respondents are not as decisive in selecting candidates where there is an apparently very large utility difference as the model's functional form implies.
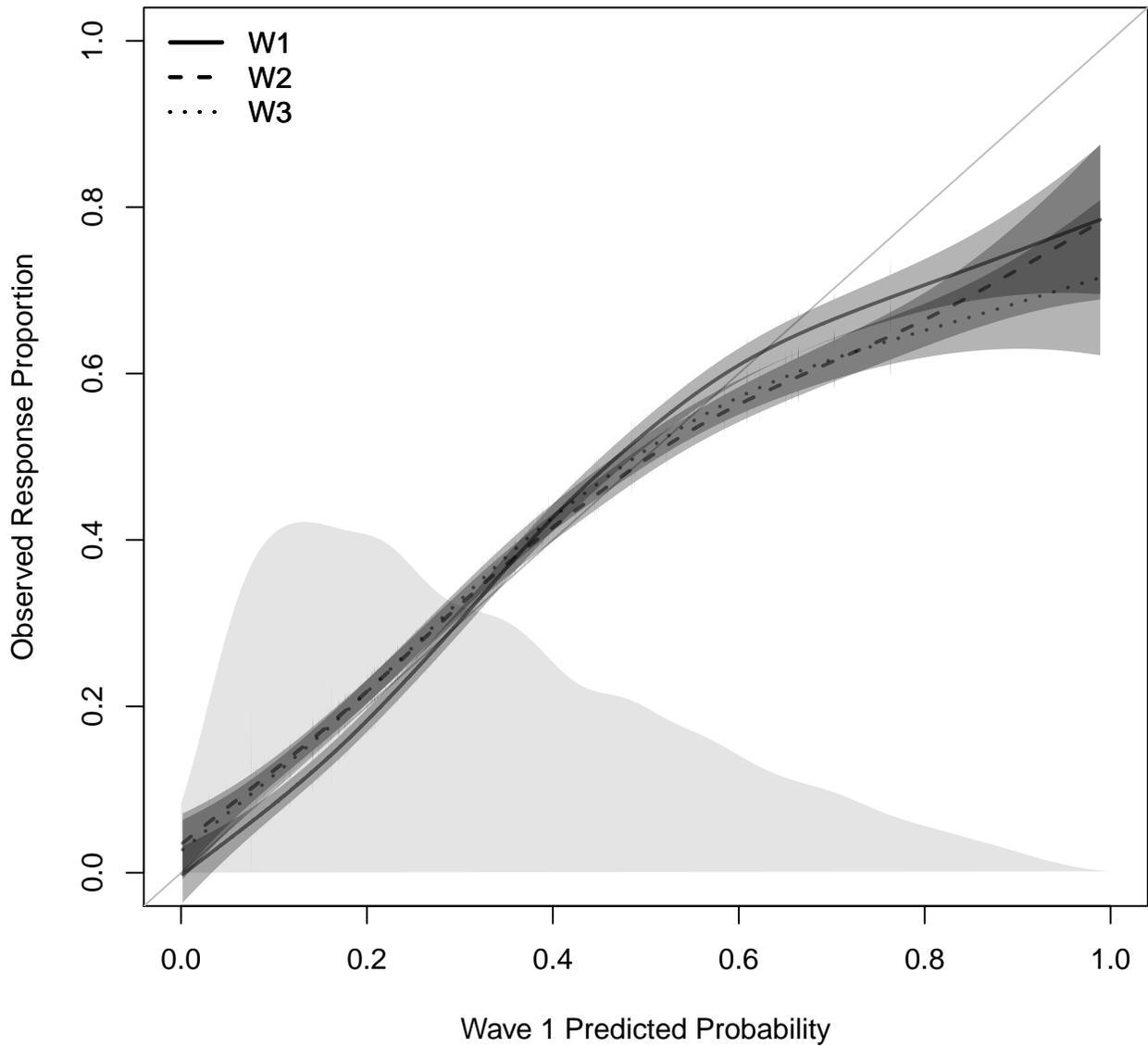
Figure 5: Observed probability of selecting a candidate in waves 1, 2 and 3 as a function of predicted response probability based on wave 1 estimates of choice model and self-reported issue position measured in wave 1.

covariates, which we describe in the appendix.

Figure 6 shows how the stability of candidate choices across waves at the individual level is powerfully predicted by whether the candidate choice was an easy choice or a difficult choice at wave 1. The ease of the choice is measured by the absolute value of the difference in utility between the two candidates estimated by fitting our conjoint choice model to the Wave 1 data. If this is large, it means that one candidate is much closer to the respondent, on the issues which respondents generally put high weight in their wave 1 candidate choices. If it is small, it either means that the issues on which the candidates differ are generally given low weight or the candidate choice generates cross-pressures for the respondent or the candidates do not differ very much at all. The estimated polychoric correlations rise from just over 0.4 for the candidate comparisons that we predict are most difficult (the respondent is likely to be close to indifferent) up to 0.8 for the comparisons that are easiest (where the candidate utility difference is about 3, on a log-odds scale).

The respondents who received relatively "easy" candidate choices achieved stability levels across the three waves comparable to the most stable individual issues, as well as the Converse party identification benchmark. Thus the final step of our analysis is to assess whether realistic candidate comparisons are likely to be comparably "easy". **Note to reader:** *We are currently coding the Conservative and Labour positions on all 34 issues. This will enable us to benchmark the utility differences in our experiment against the kinds of utility differences faced by voters in evaluating real candidates.*

## Conclusion

We have three key findings in this paper.

1. The issues on which (on average) respondents tend to penalize hypothetical candidate deviations from the respondents' positions are largely the same issues on which respondents tend (on average) to give the same self-reported positions six and twelve months later (*stability-importance association*).
2. Hypothetical candidate choices made at a distance of 6 months and 12 months have very nearly as strong relationships to self-reported issue positions as do the candidate choices
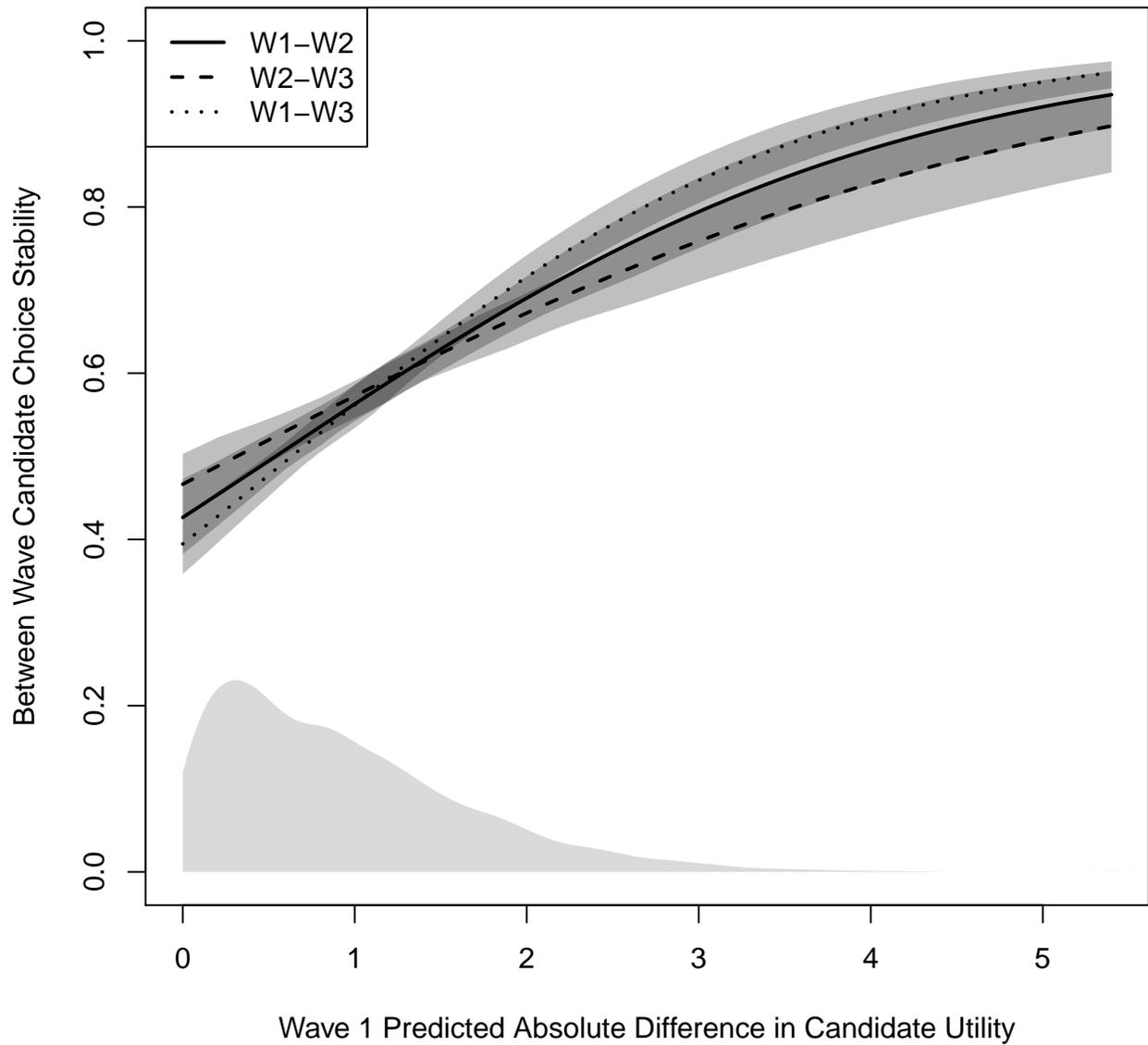
Figure 6: The stability of conjoint choice across waves as a function of the wave 1 predicted absolute difference in candidate utility. The density of absolute differences in candidate utility in the experiment is provided in grey at the bottom of the plot.

made in the same survey wave as those self-reports (*choice predictability*).

3. Hypothetical candidate choices are far more stable when they present clearer contrasts for respondents than when they do not (*conditional choice stability*).

How we interpret this depends on how we extrapolate from these findings, involving a limited set of issues and hypothetical candidates, to the broader political world. Our interpretation is that this illustrates how stability in political choices—particularly choice of party in voting—can emerge from issue voting even when many respondents lack stable issue positions on many issues. The key is that most citizens do have *some* issues where they have stable views, and that those are the issues that influence their vote choices. The set of citizens who care about a given issue are Converse's "issue publics". While our analysis does not identify and classify individual respondents into these, it does identify the varying degrees to which the public, on average, is thusly engaged with each issue.

When we ask respondents to self-report positions on unfamiliar issues, responses are unstable. But we find very high response stability on relatively familiar issues. When we give respondents hypothetical choices that involve unfamiliar issues, cross-cutting disagreements, or indistinguishable candidates, responses are unstable over time. But where we provide candidate choices with clear contrasts for respondents, we find high response stability even with a purely hypothetical candidate choice involving just three issues, no partisan or other cues, and a twelve month interval between our first and last wave. We suspect that the real political system gives even relatively inattentive voters more information about their candidate/party choices than this. Party positions tend to be very stable over time on most issues, and so whichever issues any given citizen is weighting highly, issue voting on the basis of these would lead to stable candidate/party choices.

We do not have evidence in this paper to argue *against* identity-based theories of voting behaviour. Such theories may well be able to rationalise our findings about policy preferences and votings as simply the shadows of more fundamental identity-based behaviour. We have not shown anything regarding those theories one way or the other. What we have shown is how stable political choices over parties and candidates can arise even from issue-voting, even knowing what we know about the varying and limited engagement of citizens with most political issues.

The well-established body of evidence of aggregate instability in issue positions and aggregate stability in vote choice does not imply that vote choices cannot be primarily about issues.

**Supplemental Information**

*Panel Attrition*

In this section, we report respondent demographics by panel wave. Because the attrition in our panel was by design, and respondents within each wave were sampled from those completing previous waves in order to match demographic targets, the demographic compositions of all waves are nearly identical.

Table 2: Age distribution by survey wave.

|        | Wave 1 | Wave 2 | Wave 3 |
|--------|--------|--------|--------|
| 18-25  | 0.08   | 0.08   | 0.09   |
| 25-30  | 0.05   | 0.05   | 0.04   |
| 30-35  | 0.07   | 0.07   | 0.07   |
| 35-40  | 0.09   | 0.09   | 0.09   |
| 40-45  | 0.09   | 0.09   | 0.10   |
| 45-50  | 0.12   | 0.12   | 0.13   |
| 50-55  | 0.07   | 0.06   | 0.06   |
| 55-60  | 0.09   | 0.08   | 0.08   |
| 60-65  | 0.10   | 0.10   | 0.10   |
| 65-70  | 0.13   | 0.13   | 0.12   |
| 70-75  | 0.08   | 0.08   | 0.08   |
| 75-80  | 0.03   | 0.02   | 0.02   |
| 80-85  | 0.01   | 0.01   | 0.01   |
| 85+    | 0.00   | 0.00   | 0.00   |

Table 3: Qualifications distribution by survey wave.

|  | Wave 1 | Wave 2 | Wave 3 |
| --- | --- | --- | --- |
| None | 0.19 | 0.19 | 0.20 |
| Level 1 | 0.03 | 0.03 | 0.03 |
| Level 2 | 0.19 | 0.19 | 0.18 |
| Other | 0.10 | 0.09 | 0.09 |
| Level 3 | 0.18 | 0.19 | 0.19 |
| Level 4+ | 0.31 | 0.32 | 0.31 |

Table 4: Gender distribution by survey wave.

|  | Wave 1 | Wave 2 | Wave 3 |
| --- | --- | --- | --- |
| Male | 0.46 | 0.46 | 0.46 |
| Female | 0.54 | 0.54 | 0.54 |

Table 5: Political attention (2017 BES self-report) distribution by survey wave.

|  | Wave 1 | Wave 2 | Wave 3 |
| --- | --- | --- | --- |
| 0 | 0.05 | 0.05 | 0.05 |
| 1 | 0.03 | 0.03 | 0.04 |
| 2 | 0.05 | 0.05 | 0.06 |
| 3 | 0.05 | 0.05 | 0.05 |
| 4 | 0.06 | 0.06 | 0.06 |
| 5 | 0.13 | 0.14 | 0.14 |
| 6 | 0.15 | 0.15 | 0.14 |
| 7 | 0.25 | 0.25 | 0.25 |

|     | Wave 1 | Wave 2 | Wave 3 |
| --- | --- | --- | --- |
| 8 | 0.11 | 0.10 | 0.10 |
| 9 | 0.06 | 0.06 | 0.06 |
| 10 | 0.06 | 0.06 | 0.07 |

Table 6: 2015 general election vote distribution by survey wave.

|     | Wave 1 | Wave 2 | Wave 3 |
| --- | --- | --- | --- |
| Con | 0.29 | 0.29 | 0.28 |
| Lab | 0.25 | 0.25 | 0.26 |
| LD | 0.06 | 0.06 | 0.06 |
| UKIP | 0.11 | 0.11 | 0.10 |
| Green | 0.04 | 0.04 | 0.04 |
| SNP | 0.03 | 0.03 | 0.03 |
| PC | 0.00 | 0.00 | 0.00 |
| Other | 0.02 | 0.02 | 0.01 |
| None | 0.19 | 0.20 | 0.21 |

Table 7: 2016 referendum vote distribution by survey wave.

|     | Wave 1 | Wave 2 | Wave 3 |
| --- | --- | --- | --- |
| Leave | 0.45 | 0.46 | 0.46 |
| Remain | 0.42 | 0.41 | 0.40 |
| None | 0.12 | 0.13 | 0.14 |

Table 8: 2017 general election vote distribution by survey wave.

|       | Wave 1 | Wave 2 | Wave 3 |
|-------|--------|--------|--------|
| Con   | 0.35   | 0.35   | 0.36   |
| Lab   | 0.33   | 0.32   | 0.32   |
| LD    | 0.07   | 0.07   | 0.06   |
| UKIP  | 0.02   | 0.02   | 0.02   |
| Green | 0.01   | 0.01   | 0.01   |
| SNP   | 0.03   | 0.03   | 0.03   |
| PC    | 0.00   | 0.00   | 0.00   |
| Other | 0.01   | 0.01   | 0.01   |
| None  | 0.18   | 0.19   | 0.20   |

Table 9: Polychoric correlations (P) and Kendall's tau correlations (T) in self-reported issue positions between pairs of waves (W).

| Issue | PW1W2 | PW2W3 | PW1W3 | TW1W2 | TW2W3 | TW1W3 |
|---|---|---|---|---|---|---|
| Inflation v Unemployment | 0.32 | 0.35 | 0.28 | 0.24 | 0.27 | 0.25 |
| Land Development | 0.35 | 0.29 | 0.37 | 0.29 | 0.25 | 0.30 |
| Food Production Subsidy | 0.37 | 0.39 | 0.30 | 0.27 | 0.30 | 0.23 |
| International Trade | 0.34 | 0.49 | 0.38 | 0.28 | 0.37 | 0.30 |
| Bank Insurance | 0.40 | 0.40 | 0.42 | 0.31 | 0.29 | 0.32 |
| School Curriculum | 0.35 | 0.47 | 0.47 | 0.28 | 0.37 | 0.35 |
| Healthy Choices | 0.34 | 0.45 | 0.52 | 0.28 | 0.37 | 0.44 |
| Privacy and Policing | 0.44 | 0.45 | 0.46 | 0.35 | 0.35 | 0.36 |
| Telephone & Internet | 0.52 | 0.50 | 0.38 | 0.42 | 0.39 | 0.31 |
| Armed Forces | 0.40 | 0.54 | 0.47 | 0.33 | 0.43 | 0.38 |
| School Tracking | 0.46 | 0.50 | 0.50 | 0.34 | 0.38 | 0.36 |
| Railway Ownership | 0.54 | 0.48 | 0.47 | 0.40 | 0.34 | 0.34 |
| Offensive Speech | 0.50 | 0.54 | 0.47 | 0.36 | 0.39 | 0.33 |
| Energy Source Regulation | 0.50 | 0.54 | 0.54 | 0.38 | 0.42 | 0.40 |
| Social Care | 0.48 | 0.53 | 0.57 | 0.38 | 0.42 | 0.43 |
| Higher Tax Rate | 0.53 | 0.54 | 0.55 | 0.42 | 0.42 | 0.42 |
| Social Housing | 0.56 | 0.53 | 0.55 | 0.46 | 0.45 | 0.46 |
| School Language Support | 0.50 | 0.59 | 0.59 | 0.41 | 0.49 | 0.48 |
| Energy Price Regulation | 0.51 | 0.64 | 0.70 | 0.41 | 0.52 | 0.56 |
| Road Tolls | 0.58 | 0.68 | 0.60 | 0.42 | 0.52 | 0.43 |
| Unemployment Support | 0.59 | 0.63 | 0.63 | 0.46 | 0.50 | 0.52 |
| CEO Wages | 0.64 | 0.60 | 0.63 | 0.50 | 0.46 | 0.48 |
| NHS Public/Private | 0.62 | 0.67 | 0.64 | 0.50 | 0.54 | 0.50 |
| Cannabis | 0.59 | 0.64 | 0.72 | 0.48 | 0.52 | 0.58 |
| Net Migration | 0.69 | 0.67 | 0.62 | 0.55 | 0.53 | 0.50 |
| Nuclear Forces | 0.66 | 0.66 | 0.69 | 0.54 | 0.52 | 0.54 |
| Strikes | 0.72 | 0.68 | 0.63 | 0.59 | 0.56 | 0.50 |
| University Education Funding | 0.73 | 0.72 | 0.68 | 0.58 | 0.57 | 0.55 |
| Fox Hunting | 0.72 | 0.76 | 0.73 | 0.57 | 0.61 | 0.58 |
| Fracking | 0.74 | 0.72 | 0.77 | 0.61 | 0.60 | 0.65 |
| EU Relationship | 0.77 | 0.79 | 0.71 | 0.67 | 0.69 | 0.60 |
| Zero Hours Contracts | 0.77 | 0.78 | 0.79 | 0.62 | 0.65 | 0.66 |
| Death Penalty | 0.83 | 0.86 | 0.80 | 0.70 | 0.73 | 0.67 |
| Foreign Aid | 0.87 | 0.84 | 0.84 | 0.76 | 0.75 | 0.73 |
| Average | 0.56 | 0.59 | 0.57 | 0.45 | 0.47 | 0.46 |

*Average Cross-Wave Predictive Log-Likelihood*

We can assess the relative degree to which self-reported issue positions at each wave predict candidate choices at each wave. Table 10 shows the average log-likelihood of the observed candidate choices in each wave, when predicted using the model fit on wave 1 plus the respondent issues positions reported in each wave. The final column shows the equivalent predictions from a null model that ignores self-reported positions of individual respondents, and predicts choices based on the average choices across respondents. This illustrates the finding of Figure 5 numerically. The candidate choices in a given wave are predicted better by the self-reported issue positions of respondents in that wave than they are by the self-reported issue positions of respondents in previous (or future) waves, but using positions from any of the waves predicts better than a null model that ignores respondents positions.

Table 10: The average log-likelihood for predicting the candidate choices in each wave (rows), using the self-reported issue positions from each wave (columns) or a null model.

|           | W1 Position | W2 Position | W3 Position | Null Model |
|-----------|-------------|-------------|-------------|------------|
| W1 Choice | -0.949      | -0.986      | -0.986      | -1.097     |
| W2 Choice | -1.002      | -0.953      | -0.987      | -1.096     |
| W3 Choice | -1.002      | -0.997      | -0.951      | -1.097     |

*Modelling Polychoric Correlation as a Function of Covariates*

First, we define the response model for the observed response in terms of two continuous latent variables $Y_{i1}^*$ and $Y_{i2}^*$, one for each period $t$.

Then we define these two latent variables in terms of a stable, respondent specific component $\nu_i$ and a respondent-period-specific component $\epsilon_{it}$

$$Y_{it}^* = \nu_i + \epsilon_{it}$$

$$\nu_i \sim N(0, \rho_i)$$

$$\epsilon_{it} \sim N(0, 1 - \rho_i)$$

If we model $\rho_i$ as a constant $\rho$ then we are estimating a single polychoric correlation for all respondents.

If we allow $\rho_i = \frac{exp(\beta X_i)}{1 + exp(\beta X_i)}$ to vary across respondents, either as a function of attributes of the respondent or of the issues entered into the candidate choice, we can then model how response stability depends on these characteristics. Note that while in general correlations can be negative, in this application of modelling stability we do not expect any negative correlations and so the logistic form above is a sensible parameterization.

Again, we estimate this model by Bayesian posterior simulation, implemented in Stan (Carpenter et al., 2016), imposing uniform priors on all parameters and report posterior means and 95% central intervals.

*Prompts and Policy Alternatives*

The full prompts and policy alternatives for each item are provided below.

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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 exceptional 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

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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

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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

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Issue 4: Privacy and Policing

Prompt: What is your view on how the UK should balance privacy with policing and anti-terrorism 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

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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

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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

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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

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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

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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

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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

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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

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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, motorways) 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

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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

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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

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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

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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

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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

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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

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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

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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

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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

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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 publicly 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

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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

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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 participate 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

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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

**References**

Achen, Christopher. 1975. "Mass political attitudes and the survey response." *American Political Science Review* 69(4):1218–1231.

Achen, Chrstopher H. and Larry M. Bartels. 2016. *Democracy for realists: Why elections do not produce responsive governments.* Princeton, NJ:: Princeton University Press.

Ansolabehere, Stephen, Jonathan Rodden and James Snyder Jr. 2008. "The strength of issues: Using multiple measures to gauge preference stability, ideological constraint, and issue voting." *American Journal of Political Science* 102:215–232.

Bartle, John and Samantha Laycock. 2012. "Telling more than they can know? Does the most important issue really reveal what is most important to voters?" *Electoral Studies* 31:679–688.

Brody, Richard A. and Benjamin I. Page. 1972. "Comment: The Assessment of Policy Voting." *American Political Science Review* 66:450–458.

Broockman, David. 2016. "Approaches to Studying Policy Representation." *Legislative Studies Quarterly* 41(1):181–215.

Butler, David and Donald Stokes. 1969. *Political change in Britain: Forces shaping electoral choice.* Macmillan.

Campbell, Angus, Philip E. Converse, Warren E. Miller and Donald E. Stokes. 1960. *The American Voter.* New York: John Wiley.

Carpenter, Bob, Andrew Gelman, Matt Hoffman, Daniel Lee, Ben Goodrich, Michael Betancourt, Michael A. Brubaker, Jiqiang Guo, Peter Li and Allen Riddell. 2016. "Stan: A probabilistic programming language." *Journal of Statistical Software* .

Converse, Philip. 1964. The nature of belief systems in mass publics. In *Ideology and its discontents*, ed. David Apter. New York: Glencoe Free Press.

Converse, Philip E. and Roy Pierce. 1986. *Political representation in France.* Harvard University Press.

Feldman, S. 2013. Political Ideology. In *The Oxford Handbook of Political Psychology*, ed. L. Huddy, D.O. Sears and J.S. Levy. Oxford University Press.

Franchino, Fabio and Francesco Zucchini. 2015. "Voting in a Multi-dimensional Space: A Conjoint Analysis Employing Valence and Ideology Attributes of Candidates." *Political Science Research and Methods* 3:221–241.

Freeder, Sean, Gabriel S. Lenz and Shad Turney. 2019. "The Importance of Knowing "What Goes with What": Reinterpreting the Evidence on Policy Attitude Stability." *Journal of Politics* 81(1):274–290.

Gershkoff, Amy R. 2006. How issue interest can rescue the American public phdthesis Princeton University.

Hainmueller, J., D. J. Hopkins and T. Yamamoto. 2014. "Causal inference in conjoint analysis: Understanding multi-dimensional choices via stated preferences experiments." *Political Analysis* 22(1):1–30.

Hainmueller, Jens and Daniel Hopkins. 2015. "The hidden American immigration consensus: a conjoint analysis of attitudes toward immigrants." *American Journal of Political Science* 15:529–548.

Hanretty, Chris, Benjamin E. Lauderdale and Nick Vivyan. Forthcoming. "A Choice-Based Measure of Issue Importance in the Electorate." *American Journal of Political Science* .

Heath, Anthony, Geoffrey Evans and Jean Martin. 1993. "The measurement of core beliefs and values: The development of balanced socialist/laissez faire and libertarian/authoritarian scales." *British Journal of Political Science* 24:115–158.

Heath, Anthony, Roger Jowell and John Curtice. 1985. *How Britain votes*. Pergamon Press.

Heath, Anthony, Roger Jowell, John Curtice, Geoff Evans, Julia Field and Sharon Witherspoon. 1991. *Understanding political change: The British voter 1964-1987*. Pergamon Press.

Heath, Anthony and Sarah-K. McDonald. 1988. "The demise of party identification theory?" *Electoral Studies* 7:95–107.

Horiuchi, Yusaku, Daniel Smith and Teppei Yamamoto. 2018. "Measuring voters' multidimensional policy preferences with conjoint analysis: application to Japan's 2014 election." *Political Analysis* .

Johns, Robert. 2010. "Measuring Issue Salience in British Elections: Competing Interpretations of "Most Important Issue"." *Poltical Research Quarterly* 63:143–158.

Kinder, Donald P. and Nathan P. Kalmoe. 2017. *Neither liberal nor conservative: Ideological innocence in the American public*. The University of Chicago Press.

Krosnick, Jon A. 1990. "Government Policy and Citizen Passion: A Study of Issue Publics in Contemporary America." *Political Behavior* 12(1):59–92.

Lacy, Dean. 2001. "Nonseparable Preferences, Measurement Error, and Unstable Survey Responses." *Political Analysis* 9(2):95–115.

Lauderdale, Benjamin, Chris Hanretty and Nick Vivyan. 2018. "Decomposing Public Opinion Variation into Ideology, Idiosyncrasy, and Instability." *Journal of Politics* 80(2):707–712.

Leeper, Thomas and Joshua Robison. 2018. "More Important, but for What Exactly? The Insignificant Role of Subjective Issue Importance in Vote Decisions." *Political Behavior* .
**URL:** *https://doi.org/10.1007/s11109-018-9494-0*

Sarlvik, Bo and Ivor Crewe. 1983. *Decade of Dealignment: The Conservative Victory of 1979 and Electoral Trends in the 1970s*. Cambridge: Cambridge University Press.