Measuring Ideology over Time: Sorting Out Partisan and Electoral Polarization in the American Public

Stanley Feldman, Stony Brook University
Simon Jackman, US Studies Centre, University of Sydney
Shaun Ratcliff, US Studies Centre, University of Sydney
Shawn Treier, Australian National University
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Abstract

There have been significant shifts in the electoral coalitions assembled by the Democratic and Republican parties in recent decades, with implications for how these parties govern when in office. To better understand these changes, we estimate the ideological preferences of American voters over time using the NES surveys from 1988 to 2016. We recover ideological positions of survey respondents using a measurement model, then classify these respondents in ideologue types using cluster analysis. We find a slight increase in ideologues and cross-pressured respondents and a decrease in moderates, indicating slight polarisation in the electorate, while at the same time there is evidence of substantial partisan polarisation and partisan sorting.

Introduction

Political polarization seems to be the most defining characteristic of contemporary American politics. Ironic, since US parties traditionally were not considered very ideological (the very idea of convergence to the median voter arise in the American context), and were negatively contrasted with more ideological politics of Europe (American Political Science Association 1950). Now there is widespread agreement among scholars about growing elite ideological divisions (Sides and Hopkins 2015). But while there is absolutely no disagreement over political elites (see, in particular, Poole and Rosenthal 2007), an extremely contentious debate in American politics concerns the possible polarization of the mass electorate. Those arguing for polarization note larger average differences between Democrats and Republicans on particular policy questions and ideological self-placement, while others view the electorate as holding, on average, similar policy views and reflect a constant proportion of self-identified moderates over time. It’s surprisingly easy for these opposing viewpoints to take hold; in fact, both sides were presented by the same research institution (Pew Research Center) with the same data in the starkest of competing headlines, with one report beginning “Republicans and Democrats are more divided along ideological lines — and partisan antipathy is deeper and more extensive — than at any point in the last two decades”", while the other report started”Even in an increasingly Red vs. Blue nation, the public’s political attitudes
and values come in many shades and hues” (see Pew Research Center (2014b) and Pew Research Center (2014a)).

Particularly emblematic of these disputes are the arguments put forth by A. Abramowitz and Saunders (2008), who argue that there is extensive polarisation because Democrats and Republicans are more different than ever, and M. Fiorina, Abrams, and Pope (2008), who argue there is no polarization since the entire sample has not become less moderate, just that partisan identifiers are better sorted. In these works, and in other forums Fiorina and Abramowitz talking past each other — see the debates in *Journal of Politics* (A. I. Abramowitz and Saunders 2008; M. P. Fiorina, Abrams, and Pope 2008) and *The American Interest* (Fiorina 2013; Abramowitz and Fiorina 2013). An aggravating factor is that these debates often focus on isolated policy questions or ideological self-placement, and thus lack of change in the electorate on abortion can be countered with changes on a different item. Applications of structural equation models that combine many items into one (or more) measures of ideology would be a solution, but most studies have been limited to shorter periods of time with the few questions that appear in every survey considered (see, for example, Layman and Carsey 2002). Many scholars have examined the changing role of issue preferences in regards topartisanship (as well as vote choice) (Layman and Carsey 2002; Layman, Carsey, and Horowitz 2006; Treier and Hillygus 2009; Ura and Ellis 2012; Krasa and Polborn 2014; Shafer and Spady 2014; Caughey and Warshaw 2015). We extend the time frame and the number of issue items we include in our analysis.

We seek to address all of these issues, with a few additional innovations. To better account for these deficiencies, we fit a multi-dimensional item response theory model to the the NES from 1988 to 2016. This approach broadens the argument past any particular measure without sacrificing time coverage\(^1\) and retaining a large selection of items. In this analysis, we include 21 items\(^2\), and retain observations with missing data. With a general measure of multidimensional ideology, we can then consider how the distribution of this measure changes (1) for everyone and (2) for partisans. We facilitate these comparisons by grouping respondents based on their ideological positions through cluster analysis and examine how membership in these groups change over over time. Finally, we examine partisan sorting by looking at the distribution of party identification for each ideological group.

\(^1\) Note, of the many scholars who have examined the changing role of issue preferences in regards to partisanship [see @layman:carsey:02:ref; @layman:etal:06:ref; @treier:hillygus:09:ref; @ura:ellis:12:ref; @krasa:polborn:14:ref; @shafer:spady:14:ref; @caughey:warshaw:15:ref], Caughey and Warshaw are the only ones who examine a larger number of surveys than we do, and covered a longer period of time. However, they did not estimate issue preferences at the individual level. Rather, they use data aggregated at the level of demographic groups and states, and only estimate a single latent ideological dimension, limiting the flexibility of their data to provide an understanding of shifts in public opinion and political behaviour over time; ultimately resulting in their study addressing a slightly different set of questions in an alternative way.

\(^2\) In other work, we have included more than 40.
Estimating voters’ latent ideological preferences

We are interested in obtaining a multi-dimensional measure of voters’ latent ideological preferences from the combined ANES file, using the presidential election surveys conducted between 1988 and 2016. To select items for this model, we manually sourced those items from the sample concerning policy issues (or attitudes that relate to them) that had been asked in at least three surveys, and then restricted the sample to those questions we had observations for from at least 33 per cent of the respondents from the surveys included in our model. In this paper, additional spending questions (especially ones on non-controversial topics like child care and education) and race questions beyond those regarding affirmative action or aid to blacks. By allowing for the preferences of voters and candidates to be measured in the same policy space over the almost 30 years between 1988 and 2016, the IRT model fit to these data allows for the estimation of the nature and structure of voters issue preferences, including the identification of those issues that helped shape US politics over this period of time. Additionally, as this model permits information to be taken from a larger number of issues and respondents, there is more certainty in estimates taken from these data.

We estimate the model using the `MCMCordfactanal` command in `MCMCpack` (Martin, Quinn, and Park 2011) in R (R Core Team 2016). Missing responses are retained through imputing the auxiliary latent quantity \( y^*_{ij} \) by sampling from an unconditional normal centered on the regression prediction, rather than the truncated normal draws that occur for observed values. By allowing a broader set of items from each survey, while retaining a framework of comparability with overlapping items, respondents who answered differing sets of questions are still able to be directly compared.

The two dimensions are identified by dimensions by specifying some one item to be a “reference item” for a given dimension. We restrict the question on a government spending to the first dimension by setting the discrimination parameters to 1 for this dimension, and 0 for the second, and the question on abortion was restricted to the second dimension by setting its discrimination parameters to 0 and 1 on each of the dimensions.

The dimensionality of American political ideology

The traditional conception of political ideology often involved the assumption of uni-dimensionality, with individuals can be placed on a single liberal-conservative continuum (Downs 1957 is the classic example of this). However, this has never been entirely accepted. Additional dimensions — predominantly a second dimension (Eysenck 1954; Kerlinger 1984; Middendorp 1992; Feldman and Johnston 2014), although some models conceive of three (Eysenck 1975) and four dimensions.

\[\text{In other work, we have extended this back to 1972 and included most available midterm election survey.} \]

\[\text{Note, in extending back to 1972, the government spending question does not appear in all surveys, and the abortion question changed in 1980 (although both questions were asked in 1980, so there is at least a baseline for comparison). In other work, we have substituted the jobs guarantee question for government spending, and included both abortion questions.} \]
(Heaven 1992; Baldassarri and Gelman 2008) — have been proposed to further specify the ideological space within which voters and political parties can be located. These supplementary areas of political conflict include social and moral issues (Jost et al. 2003a; Jost et al. 2003b; Feldman and Johnston 2014), liberalism and authoritarianism (Kitschelt 1994; Kitschelt 1995), and immigration and race (Jackman 1998; Layman and Carsey 2002).

Treier and Hillygus (2009), and Layman and Carsey (2002) argued that although most political elites and much of today’s political rhetoric is structured around a single dimension (see Poole and Rosenthal 2007), the mass public are not. Treier and Hillygus (2009) and Feldman and Johnston (2014) found at least two dimensions (economic and social) were the minimum required to explain voters’ latent domestic policy preferences.

Many ideological dimensions could influence voters’ political behaviour. However, it is likely only a small number are important for most voters and therefore political consequential. Following the lead of Feldman and Johnston (2014), we use two. This allows for a parsimonious explanation of political behaviour without ignoring the potential cross-cutting nature of certain issues, and the potentially different political behaviour of population subgroups. This differs with work that includes additional dimensions. Layman, Carsey, and Horowitz (2006) prefer three dimensions: economic, racial and cultural issues (see also Layman and Carsey 2002).

**The latent ideological structure**

Estimates for our discrimination parameters are shown in Figure 1. Items associated with the distribution of economic power and resources load most strongly onto the first dimension. This included questions about federal government spending for the poor, on healthcare, and other services; the role of the federal government in guaranteeing jobs and improving the social and economic position of African Americans and other minority groups. Respondents with preferences closer to what might be considered economic conservatism — opposing significant changes to existing modes of resource allocation and economic redistribution — were more likely to score highly on this dimension.

The second dimension was most strongly associated with issues concerning the importance of social equality (for women, different racial and ethnic groups, same-sex attracted people, and generally); the impact of new lifestyles on social cohesion and the benefits of traditional values; whether women should be able to obtain positions of authority in industry and government, or retain traditional domestic roles; and related to this, access to abortion, to which this dimension was anchored. Preferences related to a positive score on this dimension were more likely associated with the maintenance of traditional social norms and hierarchies. This included voters who supported traditional values and opposed new lifestyles and different moral standards (including the rights of same-sex attracted people), wanted women to remain in traditional roles, and opposed access to abortion.

5 In other work, we do explore a three dimensional model.
Figure 1: Discrimination parameters from IRT model fit to 1988-2016 ANES surveys. Each point represents the loading of the discrimination parameters of an issue item on both dimensions. The standard errors of these parameters are represented by error bars — red for social issues, blue for economic issues.
Figure 2 illustrates the distribution of ideology across time. The patterns look similar — not surprisingly, these latent variable estimates appear roughly distributed normally — but some variation can be detected. But how do we characterise these differences? What positions are “moderate”? Liberal? Conservative? Cross-pressured? It is a difficult task to actually characterize respondents and measure the degree of separateness. For example, in order to identify ideologues, moderates and cross-pressured respondents, Treier and Hillygus (2009) slice the two-dimensional space by quartiles and other percentiles, and construct a complicated interaction term between the economic and social dimensions in order to operationalize the degree of cross-pressuredness.

In this study, we classify respondents by ideology more automatically, applying cluster analysis to the average positions of the respondents. Using hierarchical clustering, we identify six groups of ideologues: Social conservatives (that appear somewhat populist, in cluster 1), a substantial Moderate group (cluster 2), cross-pressured Libertarians (cluster 3), economic liberals (somewhat populist, group 4), consistently Liberal group (predominantly social), and a consistent Conservative cluster (6). Figure 3 illustrates this process. The bottom figure is the entire dendrogram, colour-coded to the cluster breakdown where the tree is pruned (which appears in the upper left). The two-dimensional figure illustrates the correspondence between ideological positions and cluster membership. Thus in Figure 4, we can now see that the primary analysis will be identifying shifts in the density of these clusters over time.
Figure 3: Clusters of Ideology. Pruned dendrogram of hierarchical clustering, and colour coded correspondence to two dimensional ideological space. Bottom of the figure is the entire dendrogram.
Figure 4: Ideology by Year, coded by Cluster. Posterior means of respondents’ economic and social ideological positions.

**Main Results**

Figure 5 presents the change in cluster concentration over time. Most interesting is that there is clearly a discernible decrease in the Moderate (red, cluster 2) group and an increase in the largely consistent (perhaps more social) Liberal group (sky blue, cluster 5). There is a slight bump for cluster 4 (dark blue, economic Liberals), albeit a drop-off in 2016. There are also increases for the consistent Conservatives (purple, cluster 6) and Libertarians (green, cluster 5). So there is some evidence, once looking at a large array of issues simultaneously, of increased polarization.

Now consider party identification. Figure 6 repeats the representation of Figure 5, but also restricts the trends to Democrats, Republicans and Independents. First, note that a smaller proportion of both Democrats and Republicans are moderates, with the decrease for Democrats larger. Conversely, the proportion of Independents that are moderate has remained fairly constant. The decline in moderate Democrats is the result of a large increase in social liberals or consistent liberals (cluster 5), as well as economic liberals (although there is a surprising downturn in 2016). There is a noticeable increase in the proportion of Republicans identifying as Libertarians, with a slight uptick for Independents. 1996 is an outlier for Republicans as a home for consistent Conservatives, but otherwise has remained steady, with a few slight increases (such as 2016), but always above 1988 levels. Thus, the decline in moderates seems to be driven by declines among partisans gravitating toward more ideologically consistent (and more extreme) positions.
Finally, consider the distribution of partisans within each category. Figure 6 examined the percentage of, say, Republicans in each cluster at each survey. Figure 7 is the percentage of Democrats, Independents and Republicans within each cluster at each time point. The first examines whether partisans are polarizing; the second examns whether ideologically the parties have sorted out (for example, a cluster becomes increasingly defined by the party).

The patterns in Figure 7 are highly (electorally) cyclical. For instance, the shifts among Consistent Conservatives seem to be entirely related to whether Conservatives identify as Republicans or Independents in a particular electoral cycle. The is, however, a consistent declining trend of Democrats being almost 20% of all Conservatives to being almost nonexistent. We also see a similar decline amongst Libertarians. Independents constitute an increasing share of the Moderates, while the balance amongst Liberals fluctuates between Democrats and Independents, again presumably a function of cyclical changes in party ID. And again, there is a decline in the proportion of Liberals who are Republicans, although a little more surprising, since the canonical story is that Liberal Republicans left the party before the late 1980s. Overall, there are signs of partisan sorting, although the mass public of the parties have not become completely homogenized ... yet.
Figure 6: Variation in Clusters over Time, for Party Identifiers. Black lines represent all respondents (same as Figure 5), Blue lines Democrats, Gray lines Independents, Red lines Republicans.
Conclusions

There are two ways in which these preliminary results advance the discussion on polarization. First, it sets aside the limitations of focusing on one survey question or a small set of items, and largely eliminates the counterargument of “but what about this question?”, and opens the possibility of extending the analysis back to 1972. Second, it succinctly summarizes the respondents in ideological groups based on cluster analysis. This summary allows us to characterize the changes over time in the terms of the debate (i.e., “there are fewer moderates and more holders of more liberal or conservative beliefs”) without arbitrarily dividing out the space by inspection. The resulting simple analysis identifies a decline in moderates consistent with the political polarization of the mass public, but we also see that the decline in moderates is the result of partisans sorting out and becoming more ideologically consistent. Hence, there is probably stronger evidence for the partisan sorting narrative, but also an indication that partisan sorting is effecting the overall population. Most importantly, the measurement strategy employed here allows us to consider all elements of the debate.
Figure 7: Distribution of Party Identification Within Each Cluster.
References


